thirteenth Off-Campus Library Services Conference Proceedings

Sponsored by Central Michigan University Libraries and Off-Campus Programs
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PREFACE

Welcome to the Thirteenth Off-Campus Library Services Conference Proceedings. The Central Michigan University Libraries and the Central Michigan Off-Campus Programs have provided generous support of both this conference and these Proceedings. This year, the Proceedings also contains workshop and poster abstracts.

The papers, workshops, and posters included here were selected by the Program Advisory Board using a juried abstracts process. All of the contributed papers have been formatted to comply with the conference Guidelines for Preparing Manuscripts distributed to contributors. Typographical errors have been corrected and papers have been formatted for consistency, using the guidelines published in the Publication Manual of the American Psychological Association (5th ed.), APA Publication Manual Web site at http://www.apastyle.org/, and other reputable sources.

Stephanie M. Mathson

Julie A. Garrison

Editors
ACKNOWLEDGEMENTS

The Thirteenth Off-Campus Library Services Conference represents contributions of many working in this field. Thanks to all of the authors/presenters for their willingness to share their thoughts, experiences, and research on paper and for allowing Central Michigan University to publish their work for wider distribution.

Special thanks goes to Connie Hildebrand, Conference Coordinator, for all of the work she has done the past two years to plan, organize, and make this event and Proceedings a reality. This will be Connie’s last year coordinating the Off-Campus Library Services Conference as she plans on retiring from her position in 2008. We wish her all the best in her retirement and thank her for her many contributions to the Conference and to the Central Michigan University Libraries throughout the years.

Recognition goes to the Program Advisory Board members for lending their time and expertise to reviewing and selecting proposals for papers, workshops, and posters that are included in the following pages.

In addition, we would like to recognize and thank colleagues in the CMU Off-Campus Library Services department who have each contributed in their own personal ways to the conference. These include: Laurie Bellinger, Monica Craig, Thad Dickinson, Anita Gordon, Tammy Knott, Julie LaDell-Thomas, Mackie Mester, Tim Peters, Jennifer Rundels, Sharon Southwick, Cindy Worley, and student workers.
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Off-Campus Post Graduate Students’ Perceptions about Distance Library Support Services: A Case Study of Allama Iqbal Open University Libraries Network

Muhammad Arif
Allama Iqbal Open University

Khalid Mahmood
University of Punjab

Abstract
The present study is conducted to assess distance learning students’ perceptions about location and physical set up of libraries, collections, resources and services rendered at thirty four regional campuses as well as main campus libraries network of Allama Iqbal Open University (AIOU) all over Pakistan. A structured questionnaire was sent by post to 250 randomly selected students enrolled in eleven postgraduate programmes in the country during spring semester 2007. The response rate was 61.2% with 43.1% females and 56.9% males. A majority of the respondents were dissatisfied with the virtual reference services, online database facilities, Interlibrary Loan, library membership and borrowing of library material from the AIOU libraries. They were satisfied with the location and physical setup of the libraries, collections and resources of the libraries. The study revealed that most of the respondents used the libraries during workshops as well as for research purpose. The statistical analysis (t = .550, Sig. = .970) showed that there was no significant difference between the opinion of females and males. The data were analyzed by using Statistical Package for Social Sciences (SPSS) for Windows version 10.0.

Introduction

The terms distance learning, distance teaching, open learning or extended degree programme are used interchangeably for distance education (Ellison, 2000; Feasley, 1992; Jones, 2002). According to Harrod’s librarians’ glossary and reference book (2005), open learning means:

A process of teaching and learning by which students study in their own homes or local centres using materials mailed or broadcast from a central unit. Tutorial work may be handled via the central unit, or on regional basis. The emphasis is on opening up opportunities by overcoming barriers of geographical isolation, personal or work commitments, and conventional course structures, which have often prevented certain categories of people from gaining access to educational and training facilities (p. 509).

Distance education is gaining momentum day by day all over the world. According to the National Centre for Education Statistics report The Condition of Education 2004, “course enrollments in distance education have increased as well at both the undergraduate and graduate levels, increasing from 1.7 million to 3.1 million between 1997–98 and 2000–01” (Wirt, Choy, Rooney, Provasnik, Sen, & Tobin, 2004). The rapid development in this sector is due to mushrooming of private colleges and universities (Jaggannathan, Panda & Kanjilal, 2004). The enrollment trend of Allama Iqbal Open University (AIOU) in the last five years, 2002-2006, also indicates that distance education is gaining popularity in Pakistan. The course and student enrollment increased by 15% and 11% in the year 2003, 6% and 11% in 2004, 8% and 7% in 2005, and 13% and 10% in the year 2006 respectively (Allama Iqbal Open University, 2006). Wolpert (1998) states that economic and market needs of higher education are the two main driving forces of distance education. The information and communication technologies especially the Internet, continuing education and emergence of non-traditional students are also playing significant roles in promoting distance education. In the past, distance education was just considered correspondence courses. Online learning has played a pivotal role to boost up distance education in the world. Argentati (1999) also reiterates that
technological developments in the last decade, particularly the Internet and World Wide Web have created many opportunities for distance learners.

Cooper (2000) pin points that less emphasis has been given to the problems of providing library services to support distance education programmes. The rapid growth of distance education programmes in every field has created new challenges as well as opportunities for librarians. Distance learners are increasing in numbers day by day as compared to the past. Now libraries are considering providing library services to meet the needs of this unique community in new and innovative ways (Ault, 2002).

Libraries are the central organ in a university, which play significant roles in achieving the objectives of higher education (Haider, 2004). According to Yang (2005), the importance of libraries has increased due to rapid emergence of distance education in United States because the distance patrons are defined now as registered students who live at least 50 miles away from the campus.

**Allama Iqbal Open University**

The University was established in July, 1974, the second Open University in the world. The objective of the University was to provide educational opportunities through distance learning to those who cannot leave their homes and jobs. Distance education gained popularity in Pakistan due to the factors of poverty and relative deprivation of women. AIOU is a unique institution with respect to its philosophy, system, approach, functions and overall structure. The University with its main campus at Islamabad and vast network of 32 regional campuses and centres is serving its clientele all over Pakistan and in the Middle East. Different programmes are being offered from functional courses for illiterates and semi-literate to undergraduate, graduate, master degrees, M.Phil and doctoral level through distance education (Allama Iqbal Open University, 2006).

The university is employing a multidimensional methodology suited to distance learning. Text books and other reading materials are written and developed by the faculty with the help of different disciplinary experts and provided to the students for study purposes. Media support, audio and video programmes, and information technology applications are other significant aspects of the methodology at AIOU. The university also broadcasts educational programmes in collaboration with Educational Television (PTV-2) (Allama Iqbal Open University, 2003). The student and course enrollment for 2006 is 796,940 and 2,316,023, respectively (Allama Iqbal Open University, 2006, p. 75).

**AIOU Libraries Network**

Hasan (1982) explains that the library network of AIOU operates through a hierarchical system having a central library at the main campus and branch libraries located at regional campuses spread all over the country. The primary objective of the central library is to acquire, store and make available all form of recorded information relevant to the objectives of the university. The library serves students all over the country, as well as faculty, tutors and full time employees of the university. It also cooperates with other libraries in promoting the educational well being of the community. The regional libraries are located on the main campuses of the university. These libraries are serving the regional campuses at Lahore, Faisalabad, Multan, Peshawar, Quetta, Karachi, Hyderabad, Mirpur and Gilgit. The regional campus libraries serve the students, tutors and employees of the university.

It is important to explain that there are no borrowing services to the students of the university in the central library as well as in regional campus libraries. The students and tutors can only consult the libraries for reference purposes and make photocopies of required materials. Only teachers and employees of the university can avail the borrowing services whether they are working at main campus or on the regional campuses (Allama Iqbal Open University, 1986).

**Distance LIS Services in Pakistan**

A very limited literature is available in the field of library and information science in the country since its establishment. The reasons may be due to little interest of the faculty members of LIS departments,
discouragement to young writers by senior professionals and no recognition of parent organizations of the research in the country. In the limited LIS literature, the most neglected area of research is distance LIS education.

At present, the role of libraries in distance education is at infancy stage in the country. Only one article by Hasan (1982) has been written about the libraries and distance learning system in the country. It is evident from the literature that no library services standards have been framed yet for distance learning communities by the distance learning institutions or Higher Education Commission of Pakistan. The library associations of developed, as well as developing countries, like the USA, Canada, UK and India have outlined the library services standards for the distance community to meet their information needs.

The review of literature shows that distance education can be promoted only if the libraries play their vital role by employing traditional tools as well as the latest information and communication technologies to provide LIS services at the door step of distance community. Being the first study of its kind in Pakistan, it will be helpful to improve the services and infrastructure of the libraries of the universities that offer distance education.

The objectives of the study are:

- to assess students’ perceptions about location and physical set up, collection, resources and services of the central as well as regional campus libraries of AIOU.
- to suggest some measures for the improvement of library services for the distance community.

Research Methodology

Survey method of research has been employed to conduct the study. A structured questionnaire was designed and pre-tested to collect the data from the post graduate students of spring semester 2007. The tool comprised ten close ended questions, demographic information, age, gender, employment status, frequency of visit, satisfaction with location and physical set up, collection, resources and services of the libraries. A five-point Likert type scale with response categories was used to mainly get responses from the subjects of the study. Space was also provided for additional comments and suggestions at the end of the questionnaire.

Sample and Response

The questionnaire was sent by post to 250 randomly selected students enrolled in eleven postgraduate programmes all over the country during spring semester 2007. The response rate was 61.2% (153), with 43.1% (66) females and 56.9% (87) males.

Analysis and Interpretation of Data

The data collected through respondents’ surveys were analyzed and interpreted using Statistical Package for Social Sciences (SPSS) for Windows version 10.0.

The AIOU Students Learning Community

The questionnaire asked the respondents to pinpoint their programme, regional campus, age, gender and employment status.

A majority of the respondents 77 (50.3%) were the students in Master of Arts programmes while the remaining respondents, 68 and 7 (44.4% & 4.5%, respectively), were the students of Master of Science and Master of Business Administration programmes respectively.
The response rate received from the regional campuses located in Federal area, provinces of Punjab, NWFP, Balochistan, Sind and territory of Azad Jammu & Kashmir (AJK) were 59 (38.6%), 52 (34%), 22 (14.4%), 2 (1.3%), 7 (4.6%) and 11 (7.2%) as shown in Figure 1.

Figure 1. Response Rate from the Regions.

The response rate by gender was 66 (43.1%) female to 87 (56.9%) male (Table 1). A total of 152 respondents indicated their age. A majority of the respondents (i.e. 84 or 55.3%) fell in the age category of 20-30, followed by 53 (34.9%) in the age group of 31-40 and 12 (7.9%) in the age group of 41-50. Only 3 (2%) of respondents were above 50 years of age (Table 2).

Table 1

<table>
<thead>
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<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Female</td>
<td>66</td>
<td>43.1</td>
</tr>
<tr>
<td>Male</td>
<td>87</td>
<td>56.9</td>
</tr>
<tr>
<td>Total</td>
<td>153</td>
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Table 2

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<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
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<tr>
<td>20-30</td>
<td>84</td>
<td>55.3</td>
</tr>
<tr>
<td>31-40</td>
<td>53</td>
<td>34.9</td>
</tr>
<tr>
<td>41-50</td>
<td>12</td>
<td>7.9</td>
</tr>
<tr>
<td>over 50</td>
<td>3</td>
<td>2.0</td>
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<tr>
<td>Total</td>
<td>152</td>
<td>100.0</td>
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A total of 151 respondents stated their employment status (Table 3). A majority (i.e. 75 or 49.7%) of those respondents was studying full time and employed full time. The number of respondents studying full time only was 48 (31.8%); whereas, 28 (18.5%) respondents were studying full time but working part time.
Table 3

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Frequency</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Full time student</td>
<td>48</td>
<td>31.8</td>
</tr>
<tr>
<td>Full time student/ Work part time</td>
<td>28</td>
<td>18.5</td>
</tr>
<tr>
<td>Full time student/ Work full time</td>
<td>75</td>
<td>49.7</td>
</tr>
<tr>
<td>Total</td>
<td>151</td>
<td>100.0</td>
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Usage of Central and Regional Libraries

Only 80 (57.6%) respondents at regional campuses used the libraries as compared to 76 (42.4%) respondents who did not use the libraries; whereas, 92 (66.7%) respondents at the main campus of the university used the central library. (See Tables 4 and 5.) The analysis shows that the respondents were more inclined towards using the central library.

Table 4

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<th>Library Visit</th>
<th>Frequency</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Frequently</td>
<td>26</td>
<td>18.7</td>
</tr>
<tr>
<td>Occasionally</td>
<td>54</td>
<td>38.8</td>
</tr>
<tr>
<td>Never</td>
<td>59</td>
<td>42.4</td>
</tr>
<tr>
<td>Total</td>
<td>139</td>
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<th>Library Visit</th>
<th>Frequency</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Frequently</td>
<td>34</td>
<td>24.6</td>
</tr>
<tr>
<td>Occasionally</td>
<td>58</td>
<td>42.0</td>
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<tr>
<td>Never</td>
<td>46</td>
<td>33.3</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
<td>100.0</td>
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Satisfaction with Location and Physical Set up, Collection, Resources, Services of Libraries

The students were asked a comprehensive and important question that was comprised twenty four statements. A total of 144 respondents out of 250 expressed their opinion about the statements. The respondents were provided a five-point Likert type scale to show their satisfaction with the location and physical set up, collection, resources and services of the regional libraries as well the central library of the university. Descriptive statistics of respondents’ opinion about the statements with Mean-wise rank order are presented in Tables 6-9.

Satisfaction with Location and Physical Set up

The Mean-wise rank order of statements given in Table 6 shows that the respondents agreed with the statements: (1) ‘Library within easy access’ (Mean = 4.07), (2) ‘Library’s environment (noise level, heating, cooling, lighting, furniture, cleanliness, etc) is conducive to study’ (Mean = 3.97), (3) ‘Individual study carrels are adequate’ (Mean = 3.65) and (4) ‘Photocopy machine is easily accessible’ (Mean = 3.58). The respondents expressed no opinion on the statement: (5) ‘The present library building fulfills the needs of library users’ (Mean = 3.42).
Table 6

Descriptive Statistics of Satisfaction with Location and Physical Set Up

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<th>Rank</th>
<th>Statement</th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Library is within easy access</td>
<td>143</td>
<td>4.07</td>
<td>4.00</td>
<td>4</td>
<td>.98</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Library's environment (noise level, heating/cooling, lights, furniture, cleanliness, etc.) is conducive to study</td>
<td>139</td>
<td>3.97</td>
<td>4.00</td>
<td>4</td>
<td>.94</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Photocopy machine is easily accessible</td>
<td>141</td>
<td>3.65</td>
<td>4.00</td>
<td>4</td>
<td>1.11</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Individual study carrels are adequate</td>
<td>135</td>
<td>3.58</td>
<td>4.00</td>
<td>4</td>
<td>.93</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>The present library building fulfills the needs of library users</td>
<td>142</td>
<td>3.42</td>
<td>4.00</td>
<td>4</td>
<td>1.16</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = No Opinion, 4 = Agree, 5 = Strongly Agree

Satisfaction with Library Collection

The Mean-wise rank order of statements given in Table 7 shows that the respondents agreed only with the statement: (1) ‘Library’s collection is well organized and easy to find’ (Mean = 3.52). They expressed no opinion on the statements: (2) ‘Library collection is adequate for my needs’ (Mean = 3.49), (3) ‘Library collection is current and relevant’ (Mean = 3.45), (4) ‘Journal collection is adequate’ (Mean = 3.44) and (5) ‘Library provides adequate online databases’ (Mean = 3.19).

Table 7

Descriptive Statistics of Satisfaction with Library Collection

<table>
<thead>
<tr>
<th>Rank</th>
<th>Statement</th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Library’s collection is well organized and easy to find</td>
<td>141</td>
<td>3.52</td>
<td>4.00</td>
<td>4</td>
<td>1.09</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Library collection is adequate for my needs</td>
<td>144</td>
<td>3.49</td>
<td>4.00</td>
<td>4</td>
<td>1.02</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Library collection is current and relevant</td>
<td>143</td>
<td>3.45</td>
<td>4.00</td>
<td>4</td>
<td>1.01</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Journal collection is adequate</td>
<td>142</td>
<td>3.44</td>
<td>4.00</td>
<td>4</td>
<td>.93</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Library provides adequate online databases</td>
<td>140</td>
<td>3.19</td>
<td>3.00</td>
<td>3</td>
<td>1.00</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = No Opinion, 4 = Agree, 5 = Strongly Agree

Satisfaction with Library Resources

The Mean values of the statements: (1) ‘I use the library when I have an assignment’ (Mean = 3.73), (2) ‘I use library for research purposes’ (Mean = 3.59) (3) ‘Library staff is helpful, knowledgeable and competent’ (Mean = 3.54) and (4) ‘I use the library during workshops’ (Mean = 3.51), show that the respondents agreed with the libraries’ resources. (See Table 8.) They expressed no opinion on the statement: (5) ‘I use the library during exam’ (Mean = 3.21).

Table 8

Descriptive Statistics of Satisfaction with Library Resources

<table>
<thead>
<tr>
<th>Rank</th>
<th>Statement</th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I use library only when I have an assignment</td>
<td>144</td>
<td>3.73</td>
<td>4.00</td>
<td>4</td>
<td>.97</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>I use library for research purpose</td>
<td>137</td>
<td>3.59</td>
<td>4.00</td>
<td>4</td>
<td>.99</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Library staff is helpful, knowledgeable and competent</td>
<td>141</td>
<td>3.54</td>
<td>4.00</td>
<td>4</td>
<td>1.05</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>I use library during workshops</td>
<td>138</td>
<td>3.51</td>
<td>4.00</td>
<td>4</td>
<td>1.08</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>I use library during exam</td>
<td>142</td>
<td>3.21</td>
<td>3.00</td>
<td>4</td>
<td>1.04</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = No Opinion, 4 = Agree, 5 = Strongly Agree
Satisfaction with Library Services

The Mean-wise rank order of statements given in Table 9 shows that the respondents expressed no opinion on all the statements: (1) ‘Use of library catalogue is easy’ (Mean = 3.44), (2) ‘The library hours meet my needs’ (Mean = 3.33), (3) ‘Library provides Internet service’ (Mean = 3.32), (4) ‘I am satisfied with the overall quality of library services’ (Mean = 3.32), (5) ‘Library staff provides timely reference service’ (Mean = 3.10), (6) ‘Library membership process is easy’ (Mean = 2.98), (7) ‘Library staff provides reference service through Internet and e-mail’ (Mean = 2.85), (8) ‘Library borrow information material from other libraries to fulfill the needs of the students’ (Mean = 2.83) and (9) ‘Borrowing books from library is easy’ (Mean = 2.67).

Table 9

<table>
<thead>
<tr>
<th>Rank</th>
<th>Statement</th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Use of library catalogue is easy</td>
<td>144</td>
<td>3.44</td>
<td>4.00</td>
<td>4</td>
<td>1.05</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>The library hours meet my needs</td>
<td>143</td>
<td>3.33</td>
<td>4.00</td>
<td>4</td>
<td>1.15</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Library provides Internet service</td>
<td>142</td>
<td>3.32</td>
<td>3.50</td>
<td>4</td>
<td>1.17</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>I am satisfied with the overall quality of library services</td>
<td>144</td>
<td>3.32</td>
<td>4.00</td>
<td>4</td>
<td>1.08</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Library staff provides timely reference service</td>
<td>144</td>
<td>3.10</td>
<td>3.00</td>
<td>3</td>
<td>1.09</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Library membership process is easy</td>
<td>140</td>
<td>2.98</td>
<td>3.00</td>
<td>3</td>
<td>1.10</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Library staff provides reference service through Internet and e-mail</td>
<td>144</td>
<td>2.85</td>
<td>3.00</td>
<td>3</td>
<td>1.13</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>Library borrow information material from other libraries to fulfill the needs of the students</td>
<td>143</td>
<td>2.83</td>
<td>3.00</td>
<td>3</td>
<td>1.05</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>Borrowing books from library is easy</td>
<td>144</td>
<td>2.67</td>
<td>3.00</td>
<td>3</td>
<td>1.26</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = No Opinion, 4 = Agree, 5 = Strongly Agree

Opinions of the Respondents by Gender

The statistical analysis (t = .550, Sig. = .970) shows that there was no significant difference between the opinion of females and males (see Table 10).

Table 10

<table>
<thead>
<tr>
<th>Statement</th>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am satisfied with the overall quality of library services</td>
<td>Female</td>
<td>61</td>
<td>3.38</td>
<td>.550</td>
<td>.970*</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>83</td>
<td>3.28</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. *Significant at .05 level

Use of Information Sources Other than AIOU Libraries

The last question of the survey asked respondents to pinpoint sources other than those in the university libraries, which they used to fulfill their information needs. The results of the frequency distribution of the respondents (153) showed that 92 (60.1%) respondents used the Internet, 64 (41.8%) respondents used personal collections, 52 (34%) respondents used friends as resources, 50 (32.7%) respondents consulted the university faculty, 31 (20.3%) respondents received help from the university administrative staff and 17 (11.1%) respondents availed the outreach libraries services.
Additional Comments and Suggestions

Since all the questions of the survey were close ended, the respondents were asked to give their additional comments or suggestions at the end of questionnaire; 88 (57.5%) out of 153 respondents provided additional responses.

Most of the respondents requested that the university should arrange information literacy programmes about the libraries for the students. Other responses indicated that borrowing privileges should also be provided to the students and that most of the regional libraries have small collections whereas the central library has a reasonably large collection, which is not organized properly. Yet other respondents specified that the libraries’ environment is not conducive for studying due to limited furniture, space problems, odd behavior of the staff and use of mobile phones in the libraries.

The respondents requested that the libraries should provide web OPACs, virtual reference services and online databases facilities to the students.

Conclusions and Recommendations

Conclusions

The respondents were content with the location and physical set up of the libraries but they were dissatisfied with libraries services. A majority of the respondents emphasized that they should be provided virtual reference services, web OPACs of the libraries’ collections, online databases, Interlibrary Loan, and borrowing privileges from the libraries. The regional libraries lack collections according to the needs of the users whereas the central library of the university has reasonable collections but the students find it difficult to search for relevant materials. The environment in libraries is not conducive to the study due to limited furniture, space problems, odd behavior of the staff, and use of mobile phones in the libraries. Most of the respondents used the libraries for research purposes, during workshop, or for exams only.

The respondents suggested that the university should arrange information literacy programmes for the students during workshops as well as online. They also suggested that the university should send CDs for this purpose so that the students could have information about the available resources.

Recommendations

Owing to the response from the subjects of the study as well as by considering the distance library services in the countries like the USA, UK, Canada and India, the following measures should be taken immediately:

1. The Allama Iqbal Open University should immediately frame the distance LIS services standards by considering the unique requirements of their students. The same recommendations may also be sent to the Higher Education Commission (HEC) Pakistan for national standards of distance library services.
2. Web OPAC of the libraries’ collections should be available to students.
3. The online databases of the HEC digital library should also be provided to the AIOU students. For this purpose, a reasonable number of computers with Internet access should be provided in each library.
4. A toll-free telephone number for information should be provided in every library in all of the regions.
5. The libraries should be open longer hours, so that working students can contact staff at their convenience.
6. The University should establish an agreement among all the libraries as to which services may be beneficial for the AIOU students.
7. Borrowing privileges should be provided to all university students.
8. A CD for information literacy programmes should be prepared for students so that they can have information about how to access the libraries’ resources.
References


VERSOM Graphic Interface to Reference Sources:
A Project of Quinnipiac University’s Arnold Bernhard Library

Terry Ballard
Quinnipiac University

Abstract
Librarians at the Arnold Bernhard Library of Quinnipiac University were concerned with the usage levels of their electronic reference titles. They had added the titles to the library’s web page, made individual records in the online catalog, and even established links between an OPAC keyword search and a search through electronic reference titles. It was still felt that the collection was underutilized. In 2007, the Automation Librarian began a project to add one more level of access to these titles—a graphic interface that simulated the process of walking into a reference room and picking out a title. A preliminary version was loaded in the Fall of 2007, and early results indicate that it has found an audience.

Introduction

Many or most publishers of standard reference titles are making their publications available in an online format—usually accessible in an IP-recognition environment. These resources are a convenience to students and faculty, since they are available at all hours and in all locations. For this reason, they are of vital importance to schools with a distance education program. Studies that track the usage of these items show that they are somewhat underutilized. Normally, links to the titles are added in the library’s Web page, and individual titles are added to the online catalog with links to the resource. In both of these cases, particularly the OPAC links, the electronic reference titles seem to be lost in the flood of available resources.

One solution has been to create a graphic interface to the electronic reference collection that groups titles by their subjects, emulating the look and feel of visiting a physical reference room. While there is literature that discusses a concept like this, an actual example could not be found. This paper will describe how the project was conceptualized and then made into a working reality. It will show how the same thing could be replicated at any library willing to commit time to the project.

The Literature

Wilkinson and Lewis (2005) wrote a survey of the growing trend of electronic reference book publishing. Bennett and Landoni (2005) wrote that surveys of academic users found that many of these people would have used electronic reference books more if they had known of their existence. The reason for the lack of information was said to be a deficiency in promoting the resources on the part of the university, and even the librarians. Dinkelman and Stacy-Bates (2007) write about the same state of affairs, but prescribe a program of OPAC listings, library Web page links and more intensive bibliographic instruction as the cure.

There has been some literature on the concept of a graphic link to e-texts, but most of this seems to be more in theory than practice. Bates (1989), writing about the importance of browsing in information-seeking discussed the concept of creating an electronic reading room emulating a physical library: “Creating a virtual physical layout on the screen may make it easier for the searcher to think of moving among familiar categories of resources in an information retrieval system, in the same manner in which they move among resources in the actual library.” (p.419). Bates went on to write: “The physical metaphor of the library that was suggested above may facilitate such searching particularly well. For example, if the
interface can produce a picture on the screen that looks like the books on a shelf, the searcher can transfer a familiar experience to the automated system.” (p.420). Su (2005) wrote “As users seek out familiarity of print in electronic environments, the ideal e-book search interface should exploit multimedia and animation techniques to make users feel that they are almost present in the physical library and conduct searches in familiar ways with the print environments. Prior research results also suggest that the e-book system mimic the way in which users browse paper-based books” (p. 68).

The Background

Quinnipiac University is a non-sectarian institution, founded in 1929, with major programs in Physical Therapy, Occupational Therapy, Law, Business and Communications. The student body contains approximately 6000 Full Time Equivalent.

The Arnold Bernhard Library was constructed on the physical space of a previous library that had been built in the 1960’s. When it was dedicated in 2000, it seemed to be the embodiment of a twenty-first century library, with more than 100 public access computers and hundreds of Ethernet connections in the study carrels.

The library’s digital services librarian bought the rights to a handful of electronic reference books from Gale Research, including titles such as: Encyclopedia of Cancer; 10 volumes of the Business Plans Handbook; and Encyclopedia of Irish History and Culture. In most cases these were titles that duplicated books that the library provided in paper on the reference shelves. That seemed like a smart move for a university that had a growing distance education program: Give students access to reference materials even if they lived in another state or were serving in Iraq.

The Automation Librarian was asked to download Gale’s MARC records and place the individual titles in the library’s online catalog QCat, making sure that the book covers displayed in the OPAC record. This was a fairly substantial task: Each MARC record was packaged by Gale as a separate zip file, which had to be unzipped and sent up to the catalog. The 856 fields did not include the adding coding needed, in addition to IP checking, for the link to connect to the resource. The library maintained a Syndetic Solutions subscription to display book covers. It was found that the covers for these titles did not display unless the ISBN number for the paper edition displayed as the first ISN. Eventually, using several workarounds, each OPAC display included a book cover.

Because these titles were considered to be an important addition to our collection, the library took the further step of adding the individual titles to the library’s Web page. Databases are grouped into broad categories based on the major schools and colleges of the university: Health Sciences, Communications, Business and Liberal Arts. In addition, a link was added to the Gale Reference page that displayed all of the university’s electronic holdings.

This system worked fine as long as there was a relatively small number of titles. This started to break down after the library subscribed to more than 50 titles. The Web pages were getting a bit too crowded with electronic reference titles, so we stopped adding individual title links. Then the library bought a dozen or so e-reference titles from Greenwood Press. We added these to our online catalog as well. QCat is well-suited to provide access to electronic titles because it gives users the option to search only electronic titles. On the other hand, we were well aware that most users did not take advantage of this advanced feature. The net result was that these valuable resources were getting lost in a catalog of 250,000 entries.

Next, the library purchased a subscription to The American Council of Learned Societies’ collection of more than 1400 late-twentieth century titles from the University of Michigan libraries. These were also added to the online catalog, where they could be seen in the full catalog or the section just for electronic sources. Most of these would be lost in a general keyword search. The library’s Innovative Interfaces catalog defaults to a display of titles in chronological order. Because these titles are mainly from the 1970s and 1980s, they would appear past the first few screens for most topics. One helpful feature was the OPAC’s link resolver that works inside the catalog; after a keyword search is made, the
user is given the option to automatically search that topic in one of the library’s subscribed databases, and the Gale reference collection was one of those. However, staff still felt that the electronic reference sources were being underutilized.

The library’s problem was clearly an embarrassment of riches; it had developed an important collection of resources that could be used by any student on or off-campus, but the library needed something to make these works more visible.

A New Approach

The library needed something to put a greater focus on this collection, but had already used the normal avenues for linking to the material. One day it occurred to the automation librarian that it would be possible to create a visual interface with links to titles. Originally the idea was to lead the user to a page that showed an overhead map of the library’s reference department, with the general subject areas mapped out. Once the user clicked on a “range” of books, he or she would be shown a shelf of book spines. Clicking on the spine would invoke the cover of the book, and one more click would get the user into the table of contents.

In the original plan, a template would be devised using Java or XML to take a spreadsheet full of data about the titles (Title, Call number, URL and cover image location) and automatically create items on a virtual shelf. The library did not have personnel with the programming skills to do that, so various faculty members and instructional designers on campus were questioned. This led to no immediate help; most people thought this was a good idea, but nobody knew how to develop the template for loading it.

By now, the concept had a name: VERSO. This was an acronym for “Virtual Electronic Reference Source Organizer.” An alternate acronym, GUITARS, which stood for “Graphic User Interface to Automated Reference Sources,” was considered.

In January, 2007, the automation librarian was in Seattle for the American Library Association Midwinter Conference. He visited a friend who worked for Microsoft and outlined the planned project. He was told that there were people at Microsoft who could definitely make this project a reality, and that Microsoft had a division whose task it was to work with universities on project involving access to information.

The friend wrote back once during the year asking for further details, but noting came of it. It was decided that a working beta version of VERSO would be created as a summer project. More than 100 titles were chosen for the initial effort, including all Gale and Greenwood Press online titles, current titles from the American Council of Learned Societies, and Stat-Ref, a database of health sciences reference titles that included Harrison’s Medical Textbook and DSM-IV. Key government titles were chosen, including: the Statistical Abstract of the United States, Occupational Outlook Handbook, Dictionary of Occupational Titles and the CIA World Factbook.

A simplified system was set up to add call numbers. The MARC records supplied by the vendors did not include call numbers. Since all of the titles were associated with a paper book, a student assistant was hired to search OHIOLINK, Harvard, and the Library of Congress to get the call numbers associated with each title. The strategy was not to replicate a complete call number. Instead, one with enough information to place the title next to other titles on the same subject was considered to be adequate. For instance, the title The People’s Chronology was found in the OHIOLINK catalog with the call number D11 .T83 1994. For the purposes of VERSO, the library shortened that to D11. Once call numbers were found for all titles, the librarians proceeded to create the spine images. In book cataloging, each title needed to have a unique call number. That was not the case in VERSO.

Each spine image consisted of the title of the book in vertical type and the call number below in horizontal type. The templates for these came in 4 colors chosen at random. Once constructed, the naming convention was CALLNOspine.jpg. There was a fair amount of trial and error in finding the right amount
of detail for the titles. Sometimes the title needed to be shortened to avoid a description like “Maxwell’s concise dictionary of.”

A parallel collection of book cover images was created. Most of these were provided by the vendors. To maintain some standardization, a blank cover of a leather-bound volume was created. The book cover image was then pasted into that space and saved with the convention CALLNOcover.jpg.

Next came the programming that made all of these objects work together to deliver information to the user. First came a meta screen that branched off into the different subject categories. Initially, the library had envisioned an aerial view of the shelves. The librarians realized that it become a closer emulation of browsing the reference shelves if the image was shown from the ground level. A photograph of one range of our reference shelves was taken (see Figure 1). When this picture was repeated with the various subjects, it became a fairly striking view.

![Figure 1. Range of reference shelves.](image)

Originally, call number ranges were added for each section, but that was dropped in favor of general subject categories with pictorial icons. Then HTML files were created to represent the shelves with book spines. This was the most labor-intensive part of the process.

There was a hierarchy of four files working together to bring the user from the image to the book’s table of contents. In the subject range HTML, the spine image was invoked and contained a link to the HTML file for the book cover (see Figure 2). An alt entry was given for each book containing the complete title, which was sometimes abbreviated on the spine image. The coding looked like this:

```html
<a href="hd64.html"><img src="hd64spine.jpg" alt="Encyclopedia of marketing">
```
Figure 2. Image of book spines.

Clicking on the spine image would send the user to the next file which contained the book cover image (see Figure 3). The coding looked like this:

```html
<a href="the URL of the title">  
<img src="hd62acover.jpg">  
</a>

Click on the image above to access this electronic resource
```

Figure 3. Book cover.

By early July, a prototype was created with a few dozen examples. In August, permission was granted by the university’s webmaster for directory space to get a permanent home for the project. VERSO moved in to its space at http://learn.quinnipiac.edu/verso/versomain.html. Later that month, a student assistant was given the task of adding usage coding to the pages using the free coding at statcounter.com.
This allowed the librarians to track traffic at three levels: The main pages, the subject-level pages and the individual title pages.

In the days before the semester began, the link to the Gale Reference titles on the library’s Web pages was replaced with a link to VERSO. An announcement was made on the Book People mailing list, which is a forum for librarians involved in the publication of public domain books on the web. That generated a gratifying spike in the project’s usage report as librarians from all over the world took a look.

Once the key collection of 100+ titles was set up, the librarians began to look for appropriate free sites. Sources such as the Internet Public Library gave a number of links to free reference sources. Most of these were worthwhile sources, but they violated one of the basic rules for this collection. Pop-up ads were unacceptable to the project. Full view books in Google only had a handful of titles that would fit the profile. They only provide full access in two cases: If the book was published before 1923 or if an arrangement has been made with the publisher.

On the other hand, Google Books had developed a substantial collection of full-view books on historic topics. The library chose some keys subjects such as specific battles in the Civil War, and created dynamic links to those titles in Google Books. A link to full-view books about Abraham Lincoln led users to a manageable set of 114 full-view titles. As Google adds more titles, this number will grow, but the link will remain the same.

With little publicity beyond word of mouth, the first semester showed that people found the site and it was used every day. The most popular single titles were viewed 25-30 times during the semester. The only negative feedback was from a colleague in Academic Computing who was not comfortable with tilting his head to read the titles on the spines. One faculty member was so impressed with the project that he professed the belief that the library had digitized every book in the reference room and made it available online.

The Educational Component

Professor Greg Garvey from Quinnipiac University’s department of Interactive Digital Design felt that an upgrade to VERSO might be a good project for one of his design classes. In the Fall of 2007, he invited the automation librarian to present the working project to his class. They were showed the work in progress with the following wish list:

1. There should be a template to add new pages without the laborious process of creating four files by hand for each title added.
2. The library would like to save the step of clicking the spine to get to the book cover by making a mouse rollover to create a pop-up of the cover.
3. The library would like to see a search mechanism that could find data in every book, no matter which vendor supplied it. Staff realized that this was the item that was the least likely to be delivered.

Two teams of students agreed to tackle this project. In mid-December they presented their results. The most promising of the projects kept much of the visual quality of the original VERSO, but scrapped the individual spines for a list that was kept in call number order. This also had the time-saving template that was necessary for the future of the project. They were told that such a compromise might work if they could make the cover pop up as the mouse went over the links.

Having a single book spine still gives the user the experience of looking at a library shelf, and it does solve the problem of users needing to tilt their heads to read the titles. There is a good chance that the final design will incorporate much of the work done by the IDD students. The final details will be worked out in the Spring 2008 semester.
Conclusion

There is considerable evidence that electronic reference books are an important resource for academic libraries particularly those with distance education programs. In the case of Quinnipiac University, all of the standard methods were used to promote the use of these e-books: Individual links in the OPAC, OPAC links tied to keyword searches, listing on the Web page, and bibliographic instruction. Staff felt that the resources were still underutilized. By adding a graphic interface linking to the titles, it is hoped that the collection is given a greater visibility as it continues to grow. The addition of usage software to the collection allows the librarians to see how the collection is being navigated and, in particular, tells the library which titles are used the most.

It is hoped that this paper has demonstrated that a graphic interface to a library’s e-reference collection is a feasible project for any library willing to do the work. Except for the student enhancements, all of VERSO is put together with simple HTML programming, which is within the means of nearly any library.

A search of Google Images for the term “Virtual Library” drew thousands of hits, but looking over the results, these enterprises are, by and large, simply Web pages with text links to titles. As the Web 2.0 phenomenon grows and more library users find themselves in virtual worlds, it is hoped that graphic interfaces such as this become a common sight. The librarians were interested in learning if Second Life had something like VERSO. It makes perfect sense that it would, but this could not be confirmed. They did find that there is at least one substantial library in the virtual world, but no evidence can be found to show that its creators took it to the level of patrons perusing shelves and choosing books.

Since the library automation world is filled with vendors who are adding greater usability to electronic sources, it may be surmised that a product such as this will be marketed someday with a full suite of templates and automatic loads that would make it easy to use for a librarian with no programming knowledge. Until that day, the librarians at the Arnold Bernhard Library of Quinnipiac University are content to be pioneers in this area.
References


Do Off-Campus Students Still Use Document Delivery? : Current Trends

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Julie L. Hayward
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Abstract
The tremendous increase in the availability of full text electronic resources has been particularly beneficial to distance education students who do not have easy access to print collections. However Western Michigan University (WMU) has been experiencing a decrease in requests for traditional document delivery of print based materials. This article presents a case study of WMU document delivery services for the distance education community. A survey was also conducted of libraries serving distance education programs to determine whether other institutions are also experiencing a decrease in usage of document delivery. Survey results show a more universal trend toward decreasing requests for delivery of print based articles; book requests are also decreasing but not at the same rate. The article concludes with some possible reasons for the decrease in usage of document delivery for distance education.

Introduction
In recent years, one of the ways libraries have attempted to serve the needs of distance education students is through licensing as much electronic information as possible. With this emphasis on licensing electronic journals and full text resources, is delivery of print based materials still a valuable service for off-campus students? This paper will attempt to investigate this question. Our interest in this topic developed from our experience with offering document delivery of print based materials to our off-campus students and faculty at Western Michigan University (WMU). For almost twenty years, WMU has provided document delivery services using a variety of delivery methods. We have sent out books as well as journal articles in response to requests from our distance education students and faculty.

Analyzing the statistics for this service over the last several years, we have noticed a decreasing number of overall requests for print based materials. We seek to determine if these trends are unique to our situation, our students and our programs, or whether these are broader trends being experienced by other libraries, which provide document delivery services to off-campus populations. This paper will present a case study of our experiences with document delivery at WMU. We also conducted a survey in fall 2007, to gather data concerning the usage patterns and related statistics at other institutions, which provide document delivery services to distance education communities. Finally, we present some possible reasons for these trends based upon our experiences, our survey respondents, and the related literature.

Literature Review
Providing library services to off-campus students can be challenging. However digital technology has removed many of the physical barriers and has allowed library services to reach students at a distance quickly and efficiently. Technological innovations have created an environment where students can take advantage of library resources through document delivery services without ever stepping inside the library doors. In addition, technology has also produced an environment where the availability of online resources has reduced the need for document delivery services. Liu and Yang (2004) state that for distance education students, the “principle of least effort” is in effect when locating information sources; students would rather choose items that are convenient rather than higher-quality resources that may require more time to receive. Kelley and Orr (2003) reported similar results in their 2003 study, “the majority of students prefer the Web for ease of use, regardless of the quality of what they find” (p.185).
Essentially, the goal for many document delivery departments is to provide convenient services to off-campus patrons who cannot easily visit the library in person. As more libraries provide faster and efficient document delivery services, recent trends indicate the use of these services have decreased, regardless of how efficient services have become. At the University of Maryland University College, Kelly and Orr (2003) found that “students taking their courses online are more likely to use the library’s databases and are using them more often than those students taking courses face-to-face” (p.186). Many off-campus students have become proficient users of the library’s online resources. “This implies that academic libraries can meet their distance-education students’ information needs by increasing online resources and services and making them readily available to their distance-education students through better and more accessible library information systems and more effective library instruction and promotion programs” (Liu and Yang, 2004, p.34). As students become proficient at locating information resources online either through the library’s gateway or the World Wide Web, librarians have questioned whether they are locating the quality resources expected of their course of study. “Librarians need to continue to educate students about the advantages and limitations of the free Web and to work to increase the number of students using library databases to ensure a well-rounded information-literate student who is aware of and utilizes the best resources available, not just those that are quick and easy” (Kelly & Orr, 2003 p. 188).

These articles report that distance education students prefer what they can get with the least amount of effort and within the shortest possible time. So what are the implications for document delivery and does this continue to be a valuable service provided by the library? Even the fastest and most easy to use delivery systems are not likely to be able to deliver materials to students in less than a day. And considering that most libraries have greatly increased the number of electronic journals and other e-resources are these readily available materials supersed the need for delivery of print based resources?

Case Study

Western Michigan University is a student-centered research institution located in Kalamazoo, Michigan. The 25,000 students enrolled can choose from 141 undergraduate programs, 66 masters programs and 29 doctoral programs. Additionally, the university offers off-campus educational opportunities online, through compressed video or in person through the Extended University Programs department at the 8 branch campuses in the Western part of the state, located in Battle Creek, Benton Harbor-St. Joseph, Grand Rapids, Lansing, Muskegon, Holland, South Haven and Traverse City. WMU off-campus programs are primarily offered at the graduate level with approximately 90% of distance learners enrolled in masters or doctoral programs. In order to support the research needs of the off-campus community the WMU Libraries provides a document delivery service, as well as face-to-face instruction, web subject guides, electronic reserves, and other reference and research consultation services.

In September 1992, the University Libraries introduced document delivery services via fax or regular mail to off-campus patrons. Despite the fact that this was a free service and requests were mailed or faxed within 24 to 48 hours, students did not take advantage of this opportunity to the extent that was expected likely due to the time constraints of receiving materials. Students continued to rely upon their local libraries to meet their needs. The following year e-mail requests were downloaded through the OCLC review file to provide an alternative request format for patrons. As technology in this area continued to change, the University Libraries implemented the interlibrary loan management software program Clio and a web-based form to manage document delivery requests in September 2002. The University Libraries experienced steady increases in the number of requests received during these years, however it was after April 2003, and the implementation of the ILLiad and Electronic Document Delivery software that the University Libraries experienced a significant increase in requests from off-campus patrons. Use of these systems greatly increased the convenience of making requests as well as receiving articles.

In the digital environment, document delivery has become a convenient and relatively quick service for distance learners. Furthermore, sending books to off-campus patrons through the United Parcel Service (UPS) provided faster turnaround times for physical material. According to the statistics found in Table 1, document delivery materials were supplied at an all time high of 2562 and 2641 in the 2003-2004 and 2004-2005 academic years, respectively. Since that time, WMU has seen a steady and significant decrease in the number of requests received from distance learners.
Table 1

WMU Document Delivery Requests 2002-07

<table>
<thead>
<tr>
<th>Year</th>
<th>Articles</th>
<th>Books</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002/03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003/04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004/05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005/06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006/2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007/2008</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008/2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009/2010</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Technological innovations through software management programs and digital desktop delivery greatly minimized the time barriers of providing materials off-campus. However, our experiences indicate that the increasingly digital environment has also created patrons who are more self-sufficient in locating resources either through the library Web page or the Internet for themselves. Although there have been considerable changes in the number of requests received, it should also be noted that in the past two years the number of requests received through document delivery may have begun to stabilize.

During this same period, fiscal years 2002-2003 through 2006-2007, the University Libraries have also been acquiring access to a significant number of electronic resources; purchasing 3804 serial titles and 60,060 electronic books. Table 2 details the numbers of e-resources added during the five year period studied.

Table 2

Total E-Serials and E-Books Added 2002-07

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>E-Serial Titles Added</th>
<th>E-Books Added</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002-2003</td>
<td>538</td>
<td>2,029</td>
</tr>
<tr>
<td>2003-2004</td>
<td>349</td>
<td>13,415</td>
</tr>
<tr>
<td>2004-2005</td>
<td>582</td>
<td>17,149</td>
</tr>
<tr>
<td>2005-2006</td>
<td>563</td>
<td>19,227</td>
</tr>
<tr>
<td>2006-2007</td>
<td>1,772</td>
<td>8,240</td>
</tr>
</tbody>
</table>

In addition to the individual electronic journal subscriptions, WMU patrons also have access to 19,969 full text titles through aggregated databases. This tremendous increase in availability of e-resources is likely an important factor in the decreasing number of requests for document delivery. However, as shown in Table 1 article requests have mirrored the changes in the total number of requests received, while book
totals have remained fairly stable, despite the significant number of e-books acquired. When attempting to encourage off-campus students to utilize the electronic book resources, many patrons indicated their preference for receiving the hard copy through the mail.

These statistics and experiences also need to be considered in light of the trends in enrollment in recent years. Western Michigan University has experienced a decrease in off-campus enrollment during the same time period. In 2002, there were 3,295 students enrolled in off-campus programs. For the 2005-2006 academic year there were 2,920 students enrolled, a slight increase from the previous year. (See Table 3). Lower enrollments in WMU off-campus programs may also be a contributing factor to the reduced number of requests received through document delivery. Learning at a distance has been a recent trend in higher education and in many cases academic institutions are experiencing increasing enrollments in off-campus programs; WMU is not the norm. Other factors that may also contribute to the changes may be the types of programs offered at the University, the WMU Libraries’ information literacy initiatives, and the promotion/marketing of the services available to off-campus students.

Table 3

WMU Off-Campus Student Enrollments 2002-06

<table>
<thead>
<tr>
<th>Fall 2002</th>
<th>Fall 2003</th>
<th>Fall 2004</th>
<th>Fall 2005</th>
<th>Fall 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolled students</td>
<td>3200</td>
<td>3100</td>
<td>2900</td>
<td>2800</td>
</tr>
</tbody>
</table>

Survey Method

We were interested in investigating whether our experience with decreasing use of document delivery services despite improvements in speed and ease of use of the software and delivery was typical or was an anomaly. Therefore we decided to develop a survey that we could use to gather information from other libraries that offer this service to off-campus students and faculty. A web based survey with thirteen questions was developed and administered through the online survey tool Surveymonkey.com. (See the Appendix for the text of the survey questions). We were aware that it might be difficult to complete all the questions on our survey since we were asking for statistics concerning document delivery, enrollment figures for distance education programs, electronic journal subscriptions, and information in several other areas. Particularly in larger institutions one staff member may not have ready access to all of this information. We attempted to solicit respondents who would be able to answer our questions and have access to the relevant statistics. We sent announcements about the survey to two electronic distribution lists, OFFCAMP, as well as ILL-L. Through these electronic distribution lists we hoped to recruit staff members working specifically in distance education, as well as staff members in interlibrary loan departments who may be involved in document delivery services. The survey ran for approximately three
weeks in November 2007. During this time we collected 18 responses. The survey did not require respondents to answer every single question, and some of the 18 people who completed the survey did leave some answers blank, so for some questions we have a smaller set of responses.

**Survey Results**

Our 18 respondents represented a variety of types of institutions. Five respondents (28%) categorized themselves as being large institutions with over 25,000 FTE students. Another six respondents (33%) categorized themselves as falling into the medium size category with between 10,000 and 25,000 total FTE. Another five respondents (28%) categorized themselves as a small college or university with fewer than 10,000 total FTE. The remaining respondents included one community college, and one medical library within a large university.

The survey asked respondents to provide statistical information on their electronic journal subscriptions and e-book titles for the past five years as well as document delivery statistics for books and articles. We were interested in investigating whether or not there was a broader correlation between rate of increase in availability of e-resources and usage patterns of document delivery. In addition our survey asked about efforts to market off-campus library services, as well as initiatives in information literacy for off-campus populations. Our interest in these two areas was to try to determine if there were correlations between marketing and instruction efforts, and level of usage of document delivery services. Do libraries that are heavily involved in marketing services and instructing distance education students have users that request more materials?

We were also interested in the situation with regard to enrollments at our surveyed institutions. Theoretically if there are more students enrolled in distance learning programs use of services offered to them should be increasing as well. Results from the survey show that over the past five years enrollments in distance education programs for our responding institutions either held steady or increased. On average our responding institutions had an enrollment of just over 11,000 FTE in 2002, to over 14,800 students in 2007. These results are consistent with the national increase in enrollments in distance education programs in higher education.

One striking result of the survey is the tremendous increase in both the number of electronic journal subscriptions as well as electronic books libraries have made available over the past five years. Our survey asked respondents to tell us the number of electronic journal subscriptions they had in 2002 and the number they subscribe to in 2007. On average, responding institutions had 11,084 electronic journal titles in 2002, and 21,381 subscriptions to e-journals in 2007. This represents an average increase of over 93% in five years. (See Table 4). Some institutions with a smaller number of subscriptions overall reported doubling or tripling their number of e-journal subscriptions.

Increase in numbers of e-books reported was even more dramatic. Six of our responding institutions reported that they had 100 or fewer e-book titles in 2002. While in 2007 most of our responding institutions had e-book collections in the tens of thousands. In 2002, the average number of e-book titles held by our responding institutions was 11,631, while in 2007 the average number of e-books held was 61,836. This represents more than a 500% increase in e-books available to the students of these institutions.

Another area we were particularly interested in was the experience of other institutions with regard to the ratio of article to book requests. Our data show that all institutions deliver a much larger number of scanned or copied articles, than they do books. The ratio of article to book requests varied from an average of 1.89 in 2002-2003, to 2.43 in 2006-2007. The highest ratio of articles to books occurred in 2003-2004 when there were over four times more article requests than requests for books.
Of the 18 survey responses, 14 libraries were able to supply us with document delivery statistics for all of the most recent five years. Looking at averages of these figures article requests hit a definite peak in fiscal year 2003-2004, and have been on a decline since that time (See Table 5). This is surprisingly consistent with our statistics at WMU, which peaked at approximately the same time before beginning a fairly steady decline. Our experience in this regard was not unique then.

Table 5

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Number of Requests</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002/03</td>
<td>2000</td>
</tr>
<tr>
<td>2003/04</td>
<td>4000</td>
</tr>
<tr>
<td>2004/05</td>
<td>3000</td>
</tr>
<tr>
<td>2005/06</td>
<td>2000</td>
</tr>
<tr>
<td>2006/07</td>
<td>1000</td>
</tr>
</tbody>
</table>

While article requests have varied quite a bit over the survey period, book requests have surprisingly stayed nearly steady. (See Table 6). As with the experience of article requests, this result also mirrors our experience at WMU. One reason this was surprising to us was because of the reported large
increase in the number of e-books available. Since article requests have gone down at the same time that electronic journal subscriptions has increased, one would have expected the same situation with regard to electronic books. As mentioned above, our survey showed that during the five-year period studied our responding institutions increased e-book titles by more than 500%. With this huge increase in the availability of electronic books it would seem that students would have less need for delivery of physical books, but this does not appear to be the case. Perhaps the particular books students need and request for their courses and research must not be the kinds of books that libraries are making available in an e-book format. Or perhaps as we have experienced at WMU, regardless of whether or not a book is available in an e-book format some students and faculty will prefer to wait for a physical copy. Additionally, with further technological advancements in e-books in the coming years, institutions may experience a similar decrease in requests for books as has been occurring with journal article requests.

Table 6

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Number of Requests</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002/03</td>
<td>200</td>
</tr>
<tr>
<td>2003/04</td>
<td>400</td>
</tr>
<tr>
<td>2004/05</td>
<td>800</td>
</tr>
<tr>
<td>2005/06</td>
<td>600</td>
</tr>
<tr>
<td>2007/07</td>
<td>200</td>
</tr>
</tbody>
</table>

One survey respondent also commented, “We discourage sending books to patrons through the mail. We have, but we try to get the DE students to use a library closer to where they live” (November 19, 2007). Some libraries that reported very low numbers of requests for books may be similarly discouraging requests for physical books.

Our survey also asked about technology used and turnaround times for document delivery. We wanted to investigate whether institutions that had a more automated process, or faster turnaround times also had heavier usage. That also did not appear to be the case. Fourteen of our eighteen respondents reported that they provided electronic delivery of journal articles and book chapters. While eleven of the respondents also said that they had an automated system of some sort that transferred citation data from a record in a database into a request form for document delivery, thus making it unnecessary for patrons to have to type in any part of the citation for their request. Seven institutions reported that their turnaround time was 24 hours or less. Another three reported a turnaround time of two days or less. We were unable to find a correlation between turnaround times or level of automation with usage of document delivery.

Respondents of our survey were asked to share what they are doing with regard to marketing and promoting their services to distance education students; we also asked about information literacy initiatives. We wondered if institutions that put more effort into promoting their services to students would have higher usage of these services. Our data did not show a correlation in these areas however. What or how much marketing libraries are doing does not seem to have a significant effect on the numbers of requests.
coming in. Similarly, information literacy efforts do not seem to make a significant impact on the use of document delivery. Institutions that reported they were engaged in a variety of information literacy initiatives were still experiencing the same trends with regard to an overall decrease in requests.

We did not ask survey respondents to provide us with statistics regarding reference or e-reference questions from distance learners. However, one respondent commented, “We’ve noticed over the past several years that the number of items we’ve supplied to students has steadily dropped, but that the number of students who have contacted us has steadily risen! Our reasoning is that most students are finding what they need through our full text options, but since there are more distance students more of them are coming to us for those few items they can’t find online themselves” (November 27, 2007).

**Interpretation / Discussion**

It seems clear from our data that while document delivery remains a service that distance education students use, it has indeed become less heavily used by them over the past few years. Overall, the number of distance education students has increased during this time, but there is no corresponding increase in use of document delivery services. In addition, through automation and workflow improvements document delivery has gotten increasingly more convenient and fast; however, none of this has resulted in an increase in use of these services. And while many libraries report being heavily involved in marketing and instruction, these efforts do not appear to result in more users making use of document delivery services. Based on our experience and our survey data we believe there are several reasons for this trend:

1. The tremendous increase in availability of electronic journals. Our data shows that our responding institutions have made great strides in increasing the number of full text journals available to their students electronically. Libraries have subscribed to many more journal titles, and are licensing many more journal titles through aggregator services and other packages. At the same time as libraries are paying for this electronic access on behalf of their communities there has also been a huge increase in journal articles and other resources publicly available over the Internet. There simply are more books and articles available in full text electronically that users can access themselves.

2. Distance learners may feel that what you can get yourself is better than what you have to ask for someone else to get for you. Many students are becoming more self sufficient and prefer to get their research materials on their own as opposed to having to ask for help.

3. As the literature shows, many students today feel that what they are finding on the Web is “good enough” for their purposes. While the best quality resource for a paper or research project may be something that does not exist electronically, a student is likely to think that something they find themselves either on the web or in a library database in full text will serve the purpose and not look any farther.

4. It is likely that some portion of distance education students and faculty are simply not aware of the availability of document delivery services. Marketing library services to distance education students is an ongoing challenge. Libraries often put forth great efforts to make distance learners aware of all the services that are available to them; however, despite best efforts we often hear from students late in their program or even after they have graduated reporting that they were not aware of document delivery or other library services.

5. It also seems likely that some students and faculty may be aware of document delivery services available to them, but may not know how to make requests or use the service. Again, despite our best efforts at making these services accessible and easy to use some patrons are either intimidated by the technology or just do not know how to use them.

6. Instructors teaching in a distance education environment are becoming more comfortable and savvy with courseware and other technology used today for distributed learning. It may be that instructors are putting outside reading materials (book chapters, journal articles, etc.) directly into
the course site on the Web, rather than requiring students to get these materials on their own. Similarly instructors may be making more use of e-reserve systems offered by libraries in place of the students having to access books and articles needed for the class themselves.

Conclusions and Further Research

The experience at the Western Michigan University Libraries with regard to decreasing use of document delivery services appears to be the norm rather than the exception. Despite tremendous improvements in the technology to electronically deliver print based materials and the ease of requesting and receiving these materials, there has been no corresponding increase in requests. Many of the institutions responding to our survey echoed our own experience at WMU: document delivery services are still used, but the use of these services has been on a steady decline over the past few years. Requests for journal articles show a particularly steep decline while book requests have experienced only a moderate drop. Reasons for these trends are varied and include user behavior as well as increased access to books and journal articles directly through the web.

An interesting follow up to this research would be to determine if the decrease in journal article requests is more focused on undergraduates, or lower level students, or if graduate students and faculty are finding less use for document delivery as well. It may be that undergraduates are more likely to prefer the instant gratification of a full text article and not pursue any print based materials, while graduate students and faculty may be more likely to use document delivery to get more specialized or focused materials for their needs. Also, we have speculated that a major reason for the decreasing use of document delivery services is the concept of materials found easily in full text on the Internet being “good enough” for students, and distance education students in particular. In order to determine if this is in fact the case a citation analysis study could be done; has the nature of sources used by distance learners in fact changed over the past few years? Finally, it would be interesting to survey distance learners themselves to get a better sense of their perceptions of document delivery and why they do or do not use it.
References


Appendix

Trends in Document Delivery for Distance Education

Survey Questions

Please answer the following questions about document delivery operations for your distance learning community. The purpose of this survey is to investigate trends in document delivery. We appreciate your participation in this survey.

1. Please select the description that best fits your institution.
   - Community college
   - 4-year college (undergrad programs only)
   - Small college or university with graduate programs (under 10,000 FTE total)
   - Medium sized college or university with graduate programs (10,000-25,000 FTE total)
   - Large college or university with graduate programs (over 25,000 FTE total)
   - Other (please specify)

2. Approximately how many students are enrolled in your distance education programs currently, and how many were enrolled in the 2002/2003 academic year?
   - Current enrollment:
   - Enrollment figure for 2002/2003:

3. Approximately how many electronic journal subscriptions does your library have currently, and how many subscriptions did you have in 2002/2003?
   - Number of current electronic journal subscriptions
   - Number of electronic journal subscriptions in 2002/2003

4. Approximately how many e-book titles does your library have currently, and how many did you have in 2002/2003?
   - Number of current e-book titles:
   - Number of e-book titles in 2002/2003

5. Please select the three departments with the highest enrollments in your distance education programs:
   - Allied Health
   - Art / Fine Arts
   - Biology
   - Business
   - Chemistry
   - Computer Science
   - Education
   - Engineering
   - Humanities
   - Law / Legal Studies
   - Library / Information Science
   - Mathematics / Statistics
   - Music
   - Nursing
   - Other Life Sciences
   - Physics
   - Political Science
   - Psychology
   - Social Sciences
   - Social Work
   - Womens Studies
   - Other (please specify)
6. Which of the following do you offer to your distance education community as part of your information literacy program. (Please select all options that apply).
   - Face to face instruction in off-campus location
   - Embedded librarian service in courseware
   - Web based subject guides
   - Screencasts
   - Tutorials
   - Web conferencing
   - Other (please specify)

7. Which marketing activities are you using or have you used to make your distance education community aware of library resources offered to them? (Please select all options that apply).
   - Newsletters (paper or electronic)
   - E-mails to students
   - E-mails to faculty
   - Web pages
   - Posters in off-campus sites
   - Print ads in student publications
   - Orientation sessions
   - Other (please specify)

8. Please provide statistics for the number of book and article requests you have filled for your distance learning community through document delivery for the following years:
   - Book requests filled 2006-2007
   - Book requests filled 2005-2006
   - Book requests filled 2004-2005
   - Book requests filled 2003-2004
   - Book requests filled 2002-2003
   - Article requests filled 2006-2007
   - Article requests filled 2005-2006
   - Article requests filled 2004-2005
   - Article requests filled 2003-2004
   - Article requests filled 2002-2003

9. Do you offer electronic document delivery of journal articles and/or book chapters?
   - Yes
   - No
   - Comments:

10. Do you have an automated system in place that transfers citation information from a database into a request form for document delivery? (i.e. SFX or similar product)
    - Yes
    - No
    - Comments

11. What is your approximate turnaround time for delivery of articles and books for distance learning students?
    - Article delivery:
    - Book delivery:
12. Comments? Please comment on any relevant issues regarding the document delivery and/or interlibrary loan services you provide to your distance education students and faculty.

13. (Optional) If you would be willing to be contacted for follow-up to this survey, please leave your name and e-mail address.

   o Name
   o E-mail
Creation, Management, and Assessment of Library Screencasts: The Regis Libraries Animated Tutorials Project

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Abstract
The Distance Learning department of the Regis University Library is charged with providing library instruction for undergraduate and graduate students enrolled in accelerated courses offered at six distance campus locations and online. The department has created a series of animated online tutorials (i.e. screencasts) accessible via the library Website. These interactive tutorials cover basic library services and resources, and represent an effort to provide asynchronous bibliographic instruction to remote library users. This paper describes the use of screencasting software to create library tutorials and related issues including software options, production tips and techniques, and project management. In addition, the author describes the use of Google Analytics to record usage statistics and perform assessments.

Introduction

With the emergence of the Internet and online distance education, libraries have been tasked with developing new ways of delivering services to remote patrons. The past decade in libraries has seen considerable advancement in the migration of services and resources from analog print platforms to digital platforms. As evidenced by the near ubiquity of web based catalogs, subject specialized subscription databases, and electronic journals and books in academic libraries now, much of the work of academic librarianship today is done in the digital domain. As more library materials become available online, the need for flexible, portable, asynchronous library instruction increases. While the production and dissemination of remote library instruction can occur in many ways, the Regis Library is using screencasting software to accomplish this task. Screencasting software allows the producer to record a series of animated screenshots captured from the computer monitor. The screencast recording process is similar to placing a video camcorder in front of the computer monitor, and recording all the mouse movements, typing, mouse clicks, windows, programs, etc. used during the recording session. However, screencast software removes the need for external recording equipment, instead internally capturing events on the computer monitor as they occur. Nearly any use of a personal computer can be recorded, edited, and published as a Shockwave Flash (.swf) movie with accompanying audio narration using screencasting software. It is ideal for remote instruction, but can also be used for training, assessment, and usability testing. With so many students and faculty now utilizing the library via the library Website, screencasting provides a great opportunity to meet your users at the point of need.

Literature Review

The rapid emergence of the World Wide Web and online distance education during the past decade has greatly impacted academic libraries. Accordingly, research by librarians regarding how to best deliver services and instruction online has been conducted since the earliest days of the Web. At the same time, technological advancements in software and hardware have continued to provide librarians an assortment of tools to implement for remote instruction. Previous to the emergence of screencasting software, Suarez (2002) explored the use of the image editor Fireworks, the HTML editor Dreamweaver, and the Dreamweaver learning extension Coursebuilder to create web interfaces for library instruction. Shortly after, Tempelman-Kluit and Ehrenberg (2003) produced one of the earliest articles in the literature to specifically address screencasting software. At this time the term screencast had not been introduced to the library literature, and the authors refer to the technology instead as “streaming desktop video capture.” (Tempelman-Kluit and Ehrenberg, 2003, p. 89) Another early reference to screencasting
software can be found in Christopher Cox’s (2004) article comparing projects built using Camtasia Studio with previous tutorials built using streaming digital video. Cox noted that screencasting software, when compared with live video production, was less expensive, less labor intensive, and offered improved opportunity for user interaction.

The term screencasting itself was first championed by Udell (2005). Udell was an early advocate of the software’s instructional value and creator of one of the most popular online screencasts, Heavy Metal Umlaut: the Movie. The screencast explores the history of edits made to Wikipedia for the article entry referred to in the title and can be found online at http://weblog.infoworld.com/udell/gems/umlaut.html. It also serves as a good introduction to the tools, features, and user generated content of Wikipedia. Shortly after its publication to the Web, Udell (2005) noticed a growth in the number of online screencasts, and he continued to write about the evolving uses of the software.

It did not take long for the library community to introduce the term screencasting into the literature after Udell’s coronation of the word. Roberts (2005) and Notess (2005) were early adopters of the term and the technology. However, despite Udell’s and others’ efforts to insert the screencast moniker into the vernacular, a good portion of subsequent articles published in the literature since the inception of the term use the more generic phrase ‘online tutorial’ or similar to describe the same subject. Perhaps it is the fact that Udell writes primarily for an IT and software programming audience that the term has not been fully adopted into the library jargon. Complicating matters is the fact that alternate descriptors, like the phrase ‘online tutorial,’ are often used in the literature to refer to a variety of digital formats including HTML, Shockwave Flash (.swf), and streaming video. Thus, any search of the literature should take into account synonymous terms that may be applicable to screencasting and its uses.

Semantics aside, the prevalence of articles addressing online tutorials within the past decade seems to suggest that librarians are very interested in screencasting and similar technologies. Librarians who serve students enrolled in online courses will want to refer to Viggiano’s (2004) article evaluating the efficacy of interactive Web based tutorials for distance learners. Similarly, McLean and Dew (2006) have documented the varied use of tutorials of all types by distance education institutions to provide library instruction. Interest in the use of online tutorials can be seen across various library types and departments. Librarians Green, Wu, and Nolan (2006) created HTML based online tutorials for users of the library at the University of Tennessee Center for Health Sciences. Meanwhile, Driscoll (2005) discussed the use of interactive Flash based tutorials for shelving training, applying the use of tutorials for training library staff.

Among recent publications, there has also been considerable interest in formulating best practices in the application of new technologies used for instruction. Bailin and Pena (2007) discussed the use of scripts to provide structure and clarity to online tutorials. Planning and content development are integral parts of creating effective online tutorials, regardless of format. Meanwhile, Tempelman-Kluit (2006) argued in favor of new pedagogies for online tutorials in the wake of new technologies. She concludes that older pedagogies do not take into consideration interaction with the media and the multiple sensory perceptions used to comprehend content, two characteristics that are common among screencasts.

In related matters, evaluating the efficacy of online tutorials has been addressed frequently in the literature (Michel, 2001; Nichols, Scaffer, & Shockey, 2003; Bury & Oud, 2005). Similarly, the need for effective pedagogies and well planned content in online tutorials has been examined in research conducted at the Washington State University Library Instruction Department (Lindsay, Cummings, Johnson, & Scales, 2006) and the Richard Stockton College of New Jersey (Lechner, 2005). Like these predecessors, the Regis Library is currently designing and implementing tools and processes for the assessment of its own tutorials so as to provide better service to its patrons.

Building library tutorials has often been a collaborative effort, relying on technical and subject expertise held by library staff and faculty in different departments. Librarians Diel and Flett (2003) addressed this topic, providing an overview of effective practices for collaborating on tutorial projects. As screencasting software becomes increasingly used among libraries, new opportunities for inter-institutional collaboration and sharing are emerging. One example is the Animated Tutorial Sharing Project (ANTS), originally an initiative of members of the Council of Prairie and Pacific University Libraries (COPPUL) in
Canada. Recently documented in the literature by project member Carmen Kazakoff-Lane (2006), participation in the project is now open to all librarians. The project provides a repository of shared tutorials covering topics in information literacy and different subscription databases. Communication is facilitated by the use of a wiki, and a public interface is provided through the use of commercial hosting websites. The combined resources offer a great introduction to the use of screencasts in libraries, as well as providing favorable testimony to the use of social software in facilitating collaborative library work. For more information about the ANTS project, please consult the project wiki (http://ants.wetpaint.com/).

Selecting Screencasting Software

A number of commercial screencast products are available for the Windows operating system, with a more limited selection currently available for the Mac operating system. Selection of software should be done in accordance with the needs of the tutorial. The commercial software options available offer varying modes of interaction, quality of audio, accessibility features, incorporation of streaming digital video, and integration or interoperability with other Flash projects. The commercial software products offered also differ in the number and types of file formats available for publication of finished projects. Consideration should be given to selecting a software product that will meet the technical specifications of your library’s networked environment, especially when incorporating streaming video, advanced interaction, or reporting features. Several of the more popular commercial software products, including Adobe Captivate, Techsmith’s Camtasia Studio, and Qarbon Viewlet Builder offer free demo versions of the software, downloadable from the company Website. As an alternative, libraries on a budget may wish to try the freeware screencasting software Wink. While limited in the number of features it possesses when compared to the commercial products, Wink does provide basic functionality, interaction, audio, and a simple intuitive interface to work with. Documentation and links to the software can be found at the project website (http://www.debugmode.com/wink/).

Screencasting at the Regis Library

Initial efforts to develop screencast tutorials were begun by the Distance Learning department of the Regis Library during the fall semester of the 2006-2007 academic year. The Distance Learning department consists of two full time librarians, and is charged with providing library instruction to students enrolled in accelerated courses at six distance campuses and online. With limited resources at the department’s disposal, and high demand for library instruction among distance students and faculty, the department has adopted the use of screencast tutorials as a means to augment the instruction services that are offered in person whenever possible.

Based on previous experience in the department using the software Flash for Website and tutorial design, the department decided to use the Adobe Captivate screencast software because of its familiar interface and ability to be integrated into larger Flash projects. Before creating any tutorials, discussions were held within the department regarding what library resources and services should be covered in the tutorials. During this same period, the department explored other library Websites to examine content, technologies, and pedagogies used in other library tutorials. After identifying content areas of greatest importance to our target audience, a plan to develop a series of five tutorials covering navigation of the library subject guides, basic search strategies, accessing online materials, use of the statewide union catalog, and the interlibrary loan service was initiated. A decision was also made in favor of creating interactive tutorials that prompted users to mimic the steps involved to achieve the goals delineated in the tutorial. The content covered in these tutorials mirrors what is commonly covered in the most basic face-to-face library instruction sessions offered by the library. Viewed in sequence, the tutorials provide the minimum necessary instruction for students and faculty to search for and retrieve items of interest.

As work began on the construction of the tutorials, several issues related to advanced features offered by the software were encountered, as well as numerous aesthetic and usability questions. To provide an intuitive interface, standardized language and color schemes were adopted to minimize confusion among end-users, specifically in sections that prompt user interaction. To facilitate branding and product recognition, a common introduction and ending was developed and used in all five tutorials. Short 10-15 second video clip introductions featuring members of the library faculty were later added to the
beginning of each tutorial with the assistance of the library’s Media Services department. Concern arose that the video clips would dramatically increase the file size of the tutorials; however, the increase was nominal and has little impact on the rate of download and playback. The Captivate software also provides options for closed captioning of audio and slide notes, and these features were utilized in all the tutorials to provide increased accessibility. In researching the best practices involved in the creation of screencasts, the department decided to keep each tutorial as short as possible. A good rule of thumb is to break larger tutorials, covering multiple topics, services or features, into separate, smaller tutorials. For example, a single tutorial covering an article database could be divided into separate tutorials covering basic search options, advanced search options, use of the thesaurus, and so on. Shorter tutorials equate to smaller file sizes, which benefits both the end user (faster downloads) and the university (which pays for the bandwidth). The department also hypothesized that shorter tutorials were more likely to be viewed in their entirety, and thus likely to fulfill their aim. Each tutorial was reviewed by members of the library’s Web Committee to ensure the final products were error free. To help aid other Regis University librarians in the future, these practices were compiled into a single document outlining the best practices for creating and managing animated tutorials (see Appendix A).

Publicizing the Tutorials

The initial series of completed screencast tutorials was made available on the library’s Website (http://www.regis.edu/library.asp?page=research.tutorials) at the beginning of the 2007 spring semester. Shortly afterwards, an announcement was added to the news section of the library’s Website regarding the new service. The announcement was most effective in catching the attention of faculty and administration, as the Distance Learning department was contacted on several occasions by staff and faculty in other departments inquiring about the software and technology used to create the screencasts. To help bring the service to the students’ attention, an article publicizing the tutorials was included in issues of the Student Highlights newsletter published at the start of the summer and fall semesters (see Appendix B). In addition, the distribution of bookmarks publicizing the tutorials at all student representative meetings and library instruction sessions began with the start of the fall 2007 semester. Librarians providing instruction and references services are encouraged to show students the tutorials whenever possible.

More tutorials were added to the library Website during the fall 2007 semester. A library orientation tutorial introducing students to the different library departments and services was added early in the semester. Shortly after the unveiling of the orientation tutorial, a direct e-mail announcement was sent to all distance students enrolled in the College of Professional Studies, the primary student body served by the Distance Learning department, publicizing the tutorials. The e-mail announcement was followed by the addition of a series of tutorials covering nursing information resources. These tutorials were developed by Digital Systems Librarian Erin McCaffrey and Reference Librarian Jan Loechell Turner, liaison to the Rueckert-Hartman College for Health Professions. These tutorials offer an opportunity to attract a greater audience with the addition of subject specialized instruction. As done previously, announcements were made on the library Website once the nursing tutorials became available.

Making Assessments with Google Analytics

In general, the library is curious to know where the tutorials are being accessed, how frequently, and for how long. In addition, the library is interested in evaluating the usability of the tutorials and the effectiveness of the content and presentation in providing library instruction. To help answer these questions, the library has begun using Google Analytics to track usage statistics for each tutorial. Plans are also being made to initiate on-site usability testing during the 2008 spring semester.

Google Analytics is a free service that allows users to track usage statistics for their Websites. It requires creating an account, setting-up profiles for the Website(s) you want to track, and then adding nine lines of HTML code generated by Google Analytics to each web page you want to track. The code generated by Google Analytics includes references to the remotely hosted JavaScript file (ga.js) used by Google to collect data, the account number, and a reference to the JavaScript function. Most screencast software programs publish tutorials for use on the web as a shockwave flash (.swf) file, with an
accompanying HTML and JavaScript file used to render the tutorial in a web browser. Before placing the tutorial online, the published HTML file needs to be edited so it includes the analytics code.

Although the Information Technology Services (ITS) department at Regis University is currently using Google Analytics to record statistics for the university Website, using this account to track the library tutorials is not possible since the tutorial files reside on a different server and are subsequently part of a separate domain. Instead, the Distance Learning department set up and configured a separate Google Analytics account specifically for the library tutorials. At the time of the creation of the library tutorials account, it was still possible to create a profile for a single HTML page. This option is seemingly no longer possible in Google Analytics, and new accounts must reference a domain (e.g. www.youruniversity.edu or www.yourcompany.com) instead of a single Web page (e.g. http://insite.regis.edu/library/public/INTRO/Library_Intro.htm). This change in the analytics software effectively requires the user to track statistics for an entire Website instead of a single Web page. To do so, the user needs the ability to edit the default homepage for the domain as well as any other pages on the site that the user wants to collect data for. Separate profiles within a single account can be created, and filters can be used to track statistics only for pages within a specified directory, but gone is the option to create a profile for a single HTML page. This is a significant change, since many librarians involved in instruction typically have access to a limited number of pages, if any, on their library Websites.

Having created a number of individual Web page profiles before the changes in the analytics software, the Regis Library is still collecting statistics for its tutorials as single HTML Web pages. However, in using the analytics software in this respect, the author has noticed some problems with the recording of time of visit and bounce rate. Each tutorial was recording a very high bounce rate (near 100%), while average time of visit for each tutorial was well below the anticipated average. Investigating how these stats are collected unveiled two problems with the current Regis Library implementation of the analytics software. First, time of visit is recorded as the user navigates between “tagged” pages that include the analytics HTML code. Each tagged page visited is recorded as a page hit, and the time between page hits is what determines time of visit. A profile that tracks only one web page, such as those created by the author to track individual tutorials, is essentially a dead end, and offers the analytics software no opportunity to calculate an accurate time of visit. Similarly, since the analytics software records only a single instance of the code during the visit, it views the visit as a “bounce”, an immediate departure from the Website after viewing only a single web page (see Figure 1).

![Figure 1](image.png)

Figure 1. Example of data collected for single visit of .swf tutorial without integrated JavaScript calls.

Upon this revelation, the author added the analytics HTML code to the tutorials index page on the library Website, and also placed a link on each tutorial page returning the user back to the index. In doing so, the author hoped to create a navigation scheme that would cycle the user to and from the tutorials on pages that had been tagged with the analytics code. This solution did not fulfill on its initial promise, in part because the tutorial Web pages are required by the university’s Website policy to open in a new browser window. In this scenario, the end-user is as likely to simply close the tutorial window to return to the library Website as he or she would be to use the link offered on the tutorial Web page, creating another dead end scenario.

The second, and even greater problem revealed in understanding how the analytics software operates, is the fact that all interaction and time spent viewing the .swf tutorial file is not recorded by the software. Since the analytics software collects data by looking for instances of the HTML analytics code, other file types optimized for the Web (i.e. .swf) are not immediately visible to the software. To make a .swf file visible to the analytics software, the .swf file must execute a call to the JavaScript function found in the HTML code provided by Google. To achieve this, the author has explored the JavaScript capabilities
of three of the more popular commercial screencasting products: Adobe Captivate, Qarbon Viewlet Builder, and Techsmiths Camtasia. The author currently uses Adobe Captivate 3 for tutorial development. Full feature demo versions of Viewlet Builder and Camtasia, available from the company Websites, were used for comparison.

Qarbon Viewlet Builder offers the most flexibility in executing JavaScript calls without jeopardizing simultaneous navigation and interaction. JavaScript calls can be performed during the loading of each slide in the .swf file, or during interactive events like button clicks or mouse rollovers. The menus in Viewlet Builder also allow the producer to associate multiple actions with a single event. For example, a single button click could place a call to the analytics JavaScript function and also direct the user to slide 10 in the project (see Figure 2).

Figure 2. Button events menu in Viewlet Builder with designated events to execute when the button is clicked.

Adobe Captivate offers similar functionality in terms of executing JavaScript calls during interaction and loading of slides, but with restrictions on navigation (see Figure 3). If a button, click box, or slide in the tutorial is used to execute JavaScript, then the only navigation possible afterwards is to continue the tutorial by proceeding to the next slide. This is problematic though if the tutorial involves branching scenarios in which user specified navigation may not always be linear. In evaluating the Camtasia Studio screencast software, the author found only one possible means to execute JavaScript calls, with the use of hotspots associated with callouts, but this is at the expense of navigation and added interaction (see Figure 4).

Figure 3. Slide menu in Captivate with example of JavaScript call referencing function found in Google Analytics code.
Figure 4. Hotspot menu in Camtasia used to execute javascript call associated with a ‘callout’ text box.

An alternative method, supported by Viewlet Builder and Captivate is to embed an empty .swf file into the tutorial project that contains the necessary ActionScript to place the JavaScript call. ActionScript is the programming language associated with .swf files, while JavaScript is associated with Web browsers. Although limited in their interoperability, ActionScript can be used to call JavaScript functions. Using the event menus in the screencasting software, such as those described above, will automatically generate the ActionScript necessary to execute the JavaScript function. In the alternative method, the ActionScript necessary to execute the JavaScript function is written by hand and published as .swf file. The .swf file with the ActionScript is then added to the tutorial project. In applying this method, it is important to consider how the embedded ActionScript .swf file resides in the finished tutorial project. The embedded ActionScript .swf sits within the larger tutorial .swf file much like a pair of Russian nesting dolls. For the JavaScript call to be executed correctly, it needs to reference the analytics codes found on the top layer. Depending on the screencast software in use, the embedded .swf file will be placed on one or two layers below the root or parent level. To ensure that the ActionScript in the embedded .swf file is executed correctly, the ActionScript must reference either the parent or root level where the analytics code is found (see Figure 5).

Figure 5. Example of ActionScript used in embedded .swf file to generate JavaScript call.

Either approach allows the tutorial producer to collect information about user behavior within the .swf file. Each JavaScript call can be given a unique name for the purposes of tracking. For example, if there are ten buttons in the tutorial, the JavaScript call can be formatted so that a click on the first button will return a page hit for ‘button1’, a click on the second button, found later in the tutorial, will return a page hit for ‘button2’, and so on (see Figure 6.1 and 6.2). This effectively allows the creator to place markers within the tutorial to gauge how much of it is completed, what interactions are initiated, and perhaps gain insight into what content is clear and discernable and what content is not. Furthermore, since each JavaScript call is recorded as a page hit, a visit to a single web page with a .swf tutorial will no longer be recorded as a bounce, and a more accurate time of visit spent viewing the tutorial is recorded.

Figure 6.1. Example of data collected for a single visit of .swf tutorial with integrated JavaScript calls.
With the knowledge gained during testing this past semester, the author is currently editing the tutorials to include several JavaScript calls within each of the tutorials to collect more accurate bounce rates and time of visits. The revised tutorials will be uploaded in time for the start of the spring 2008 semester. Despite the inaccurate bounce rates and time of visits collected during the initial implementation of the analytics software, much of the data collected so far is still accurate and valuable. A summary of this data follows.

Summary of Data

Initial usage statistics were examined for the series of five tutorials, originally developed at the end of 2006, and which were available to library users at the time of the implementation of the Google Analytics software. The data examined is for the period from October 1, 2007 until the end of the fall semester, Dec 14, 2007 (see Appendix C). In total, the five tutorials were viewed 338 times. The tutorial delineating how to perform a subject search in the ERIC database received the most number of visits (122), while the tutorial covering the statewide Prospector catalog, was viewed the least number of times (20). It is possible that the relatively low number of visits to the Prospector tutorial is the result of familiarity with this union catalog among our students, since it includes the holdings of 23 public and academic libraries and can be accessed at any of these institutions. But the author also observes that 55% of the visits to the Prospector tutorial during this period were from students outside of Colorado, suggesting the scope of the catalog and its limitations for use by students outside the state may not be well understood. Similarly, the low number of total visits and high percentage of in-state visits to the interlibrary loan (Loan Ranger) tutorial suggest that the distance learning department could do more to publicize this service among distance students.

Slightly more encouraging are the overall statistics for new visitors. Of the 338 total visits to the five tutorials, 78.5% were from new visitors. While the tutorials may be repeated by the user as needed, the intent of the tutorials is to educate users well enough in a single viewing to become proficient in navigating the library Website and online resources. The relatively low number of repeat visitors is interpreted by the author as evidence that the size, length, and content of the tutorials are manageable for most users.

Also encouraging is the overall number of visits from out-of-state. Nearly a third of all tutorial visits were from users outside the state of Colorado, with a very small number originating overseas. The university offers a number of online degree programs, resulting in a significant number of students whose only interaction with the library is via remote access. Creating an awareness of library services and resources among this group of students is a priority of the distance learning department.

Nearly half of the tutorial visits were on a computer with a 1024x768 screen resolution. The tutorials are recorded at or near a screen resolution of 800x600 so as to be fully visible for users with older monitors or settings adjusted for visual disabilities. However, only seven of the 338 visits were on a computer with a resolution lower than 1024x768, with none of the visits being below the 800x600 resolution. In addition, 93% of all visits were done using a computer with the latest version of Adobe Flash Player. These statistics are encouraging since they suggest that most visitors have the necessary plug-in and
screen size to render the tutorials in full. These numbers could suggest that the library may be able to offer
screencasts at larger resolutions, and with more sophisticated interaction, without inconveniencing many
users in the future. However, higher resolution screenshots are larger in file size, and screencasts recorded
at a larger resolution will often end-up as larger .swf files. The size of the .swf file is still a point for
concern, since the data suggest that nearly a third of all visits were done using dial-up connection. So while
our users may have new or updated computers at their disposal, it seems a large percentage do not have
access to a high speed Internet connection.

With the integration of JavaScript calls into the .swf tutorial files, new data are being collected that
accurately record bounce rates and time of visits. These are of high interest to the author, as they will allow
for better understanding of the use of each tutorial. A high bounce rate suggests content on the initial
HTML page (or in this case, the first slide of the tutorial) does not attract the user into further interaction
and results in an immediate departure from the site. One area of exploration for the distance learning
department, after obtaining accurate bounce rates for a useful period, is to examine how effective the video
introductions at the beginning of each tutorial are in engaging the user. A high bounce rate may suggest that
the video introductions do not help establish authority and relevancy to the user. Accurate time of visits is
of great interest to the department as well, as this will help indicate how far the user has progressed within
the tutorial and what interactions were executed, while also possibly elucidating content and interactions
that are unclear or confusing.

A Few Tips for Troubleshooting

In developing tutorials, the author noted some general quirks associated with screencasting
software’s ability to render all images and actions, particularly in capturing advanced Web based
interaction. Websites using large amounts of JavaScript to execute navigation and user interaction can be
difficult to capture completely. For example, capturing drop-down or roll-over menus can be problematic,
with the recorded images often not being synchronized with the associated mouse event in the captured
recording. However, nearly all screencasting software allow for editing of slides, content, and audio after
recording, and many of the quirks encountered during recording can be corrected during post-production.

Other considerations include screen resolution and usability. A general principle in Web design is
to provide content that is rendered in full at any screen resolution. Thus, it is more practical to record
screencasts at a lower screen resolution (i.e. 800x600), rather than trying to compress images and text after
capture. Doing so will also help limit the overall file size of the published project and increase its usability.
Content in screencasts recorded at smaller resolutions is also more likely to remain legible if the project is
converted and uploaded to a video hosting site like YouTube or blip.tv.

One final consideration of importance is accessibility. While many of the commercial software
products offer accessibility features like closed captioning and slide notes rendered by adaptive software, it
is still a good idea to provide the tutorial content in alternate formats. Supplying a text based version of the
tutorial is a sound idea, and illustrates your library’s awareness of the diverse learning styles and needs of
your patrons. For an overview of the screencasting production process, consider listening to Paul Pival’s
2006 presentation at the Sirsi Dynix Institute: Show and tell the easy way: an introduction to screencasting,

Conclusion

The data collected during the initial phase of Google Analytics use suggest the tutorials are being
frequently visited by patrons in and outside the state of Colorado. Tutorials illustrating the use of the library
Website, databases, and accessing full-text articles have proven to be most popular, while tutorials covering
document delivery and interlibrary loan are less used. Creating the tutorials is not enough, as more work
needs to be done in publicizing their availability and content. As evidenced by the lower usage of some
tutorials, students may not be aware of the services covered in the tutorials. So marketing should not focus
solely on the tutorials, but should alert students to the availability of general and specialized library services
as well. As more accurate data are collected with the integration of the analytics code into the tutorial files,
the library will be able to better determine how much of each tutorial is viewed. Qualitative analysis will
also be necessary to determine the efficacy of the tutorials, and direct feedback from students and faculty will need to be solicited.
References


Appendix A

Best practices for creating and managing animated tutorials

General:

1. Aim for a balanced tutorial that is informative but not intimidating or overbearing.
2. Determine the best presentation style for the material covered (i.e. should the tutorial be interactive or a “show and tell”).
3. Before building the tutorial, create a script and “walk” through the actions or events that will be recorded to determine the exact sequence of slides.
4. If two or more persons are collaborating to build a tutorial, establish roles and delineate the responsibilities of each project member.
5. Evaluate the need for the tutorial, the most appropriate format, and the project’s compliance with the libraries’ instructional mission.

Formatting:

1. Tutorials should begin with an introduction that includes your name, a title describing the purpose/content, and a reference to the Regis Libraries.
2. Tutorials should end with instructions on how to contact the library, via the Ask Us link on the libraries’ Website.
3. Color schemes, actions, narration, and the use of call outs, highlight boxes, and other navigation elements should be consistent throughout the entire tutorial. Furthermore, consistency between tutorials is also desired.

Accessibility:

1. To accommodate multiple learning styles, tutorials should incorporate audio and text whenever possible.
2. All audio should include closed captioning.
3. All tutorials should include slide notes for increased accessibility.

Usability:

1. Whenever possible, build a menu for the tutorial that allows users to jump between sections. Short tutorials addressing a single specific topic may not require a menu.
2. The length of any tutorial should be kept as short as possible. Please keep in mind that a longer tutorial means a large file size, which will impact the amount of bandwidth consumed when the file is streamed and the time it takes to download the file.
3. Be mindful of screen resolutions when creating and playing tutorials. A tutorial that is embedded in a Web page may look different than a .swf file played in a browser. Recording slides at 790x555 is recommended.
4. Test the tutorial in multiple browsers.
Maintenance:

1. Tutorials should be reviewed by at least one library faculty or staff member who is familiar with the subject or topic covered in the tutorial before the tutorial is made available to the public.

2. Expect to make changes after the tutorial has been reviewed. A tutorial that has not been reviewed and that has not gone through any revision is likely to have errors.

3. Change is inevitable. Anticipate having to update some or all of the content in a tutorial.

4. Tutorials covering library services and materials should be hosted on the Regis campus. Questions regarding hosting on campus should be directed to Erin or Diana in Electronic Services.
Appendix B

Announcement of new library tutorials published in Student Highlights newsletter.

Library News – New Online Tutorials!

Are you flummoxed trying to navigate the Regis Libraries web page? Are you confused about the “Check for full text” links you see in library databases? Would you like to know more about Prospector or interlibrary loan services?

We now have several animated online tutorials available to help you use library resources more effectively. The tutorials are interactive, and include audio and video:

- **Library Introduction** introduces you to some of the frequently missed, yet helpful features of our Website.
- **Searching the ERIC database** demonstrates search strategies that can be used in ERIC as well as other databases.
- **Accessing Full Text Resources Online** helps demystify using Gold Rush Linker to find full-text articles.
- **The Prospector Union Catalog** shows how to request books from Colorado and Wyoming libraries and have them sent to a Regis Colorado campus location.
- **Interlibrary Loan: Using Loan Ranger** gives you the lowdown on making interlibrary loan requests. You should never have to pay for an article as a Regis student!

We plan to develop more tutorials as time goes on. Let us know if there’s something you think needs to be clarified! For access to the tutorials, go to the library web page, http://www.regis.edu/library, and click on Research Tutorials.

Questions? Contact the reference desk at 303-458-4031; 800-388-2366, ext. 4031, or library@regis.edu. 24x7 chat reference is also available by clicking on the Ask Us! icon on the library web page.
## Appendix C

Summary of select data collected from initial implementation of Google Analytics

<table>
<thead>
<tr>
<th>Tutorials</th>
<th>Library Introduction</th>
<th>Subject Searching</th>
<th>Full Text</th>
<th>Loan Ranger</th>
<th>Prospector</th>
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</thead>
<tbody>
<tr>
<td>Number of unique visits</td>
<td>103</td>
<td>122</td>
<td>59</td>
<td>34</td>
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<tr>
<td>Percentage of visits from new users (rounded to the nearest percent)</td>
<td>80%</td>
<td>82%</td>
<td>86%</td>
<td>79%</td>
<td>65%</td>
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<tr>
<td>Number of visits within the United States</td>
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<td>Number of visits within the state of Colorado</td>
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<td>76</td>
<td>28</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>Number of states contributing visitors</td>
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<td>19</td>
<td>18</td>
<td>7</td>
<td>8</td>
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<td>Percentage of in-state visits (rounded to the nearest percent)</td>
<td>66%</td>
<td>64%</td>
<td>48%</td>
<td>74%</td>
<td>45%</td>
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<tr>
<th>Browsers</th>
<th>Internet Explorer</th>
<th>Mozilla Firefox</th>
<th>Safari</th>
<th>Others</th>
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<tr>
<td>Number of visits</td>
<td>272</td>
<td>51</td>
<td>12</td>
<td>3</td>
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<tr>
<td>Percentage of total visits for all tutorials (rounded to the nearest percent)</td>
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<td>15%</td>
<td>4%</td>
<td>1%</td>
</tr>
<tr>
<td>Connection Speed</td>
<td>Unknown</td>
<td>Dial-up</td>
<td>DSL</td>
<td>Cable</td>
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<td>------------------</td>
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</tr>
<tr>
<td>Percentage of users (rounded to the nearest percent)</td>
<td>16%</td>
<td>30%</td>
<td>14%</td>
<td>30%</td>
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<tr>
<th>Flash Player</th>
<th>Version 6 or less</th>
<th>Version 7</th>
<th>Version 8</th>
<th>Version 9</th>
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</thead>
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<tr>
<td>Percentage of users (rounded to the nearest percent)</td>
<td>1%</td>
<td>2%</td>
<td>4%</td>
<td>93%</td>
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<table>
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<th>Screen Resolution</th>
<th>&lt; 1024X768 resolution</th>
<th>&gt; 1024x768 resolution</th>
<th>= 1024X768 resolution</th>
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</thead>
<tbody>
<tr>
<td>Percentage of users (rounded to the nearest percent)</td>
<td>5%</td>
<td>47%</td>
<td>48%</td>
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Aligning the Assessment Process in Academic Library Distance Education Services using the Nash Model for Improved Demonstration and Reporting of Organizational Performance

Emily F. Blankenship
East Carolina University

Abstract

Academic libraries are facing additional calls for improved accountability while the academic library distance education service environment continues a rapid pace of evolution. The Nash Model for Improved Demonstration and Reporting of Organizational Performance assists librarians in the assessment of distance education services by focusing on integrating and aligning the assessment process components of capacity, stakeholders, participation, technology, and organizational leadership to improve effectiveness and increase positive outcomes. Using the Nash Model for Improved Demonstration and Reporting of Organizational Performance, libraries can effectively align their distance education processes and services to the distance education service environment in which they operate and support. Nash Model aligned assessments for distance education services have the potential to be more successful in exhibiting and reporting assessment of their overall performance to stakeholders, therefore opening new doors to strategic opportunities and resources.

Background

In today’s competitive information services climate, academic libraries are faced with even greater challenges to retain the interest and use of library resources by students and faculty alike. Just as this issue concerns the physical library itself, the same holds true for the distance education (DE) or online library services environment. The trend away from library usage is attributed to today’s college students having begun using computers between the ages of 5 and 8. By the time the students were 16 - 18 years old the Internet appeared commonplace and students were seldom aware of a “pre-Internet” world without desktop computers, Instant Messaging, and Internet surfing in which the Net is central to their communication (Jones & Madden, 2002, p. 6). Likewise, academic faculty now place more weight on library support of DE services. According to a study of the faculty perceptions on the role of the library in distance education at Penn State in 2004, over 50% of the faculty felt the role of the library in the online environment was more significant than in the on-campus environment (Moyo & Cahoy, 2007, p. 348).

Internet use is now a staple of college students’ educational experience. On-campus students, as well as DE students, use the Internet to communicate with professors and classmates to do research using Web browsers, and for at least a small part of the time, use online library materials. Many students are also taking both on-campus and online classes concurrently. Nearly four-fifths of college students (79%) agree that Internet use has had a positive impact on their academic experience (Jones & Madden, 2002, p. 3). In addition, nearly three-quarters (73%) of college students say they use the Internet more than the physical materials in the library, while only 9% state they use the library resources more than the Internet for information searches (Jones & Madden, 2002, p. 3).

There are nearly 18,000,000 students enrolled in colleges and universities across the United States according to recent figures (Chronicle of Higher Education, 2007, p. 16) and the most recent distance education statistics (National Center for Education Statistics, 2001, p. 4) showed over 3,077,000 students enrolled in online courses with future projections showing still larger percentages of DE students. In support of this growth trend, statistics show the number of DE students more than doubled from 753,640 students formally enrolled in distance education courses in academic year 1994-95 (National Center, 1997, p. 10). As an example, the DE growth trend is reflected by the number of East Carolina University’s (ECU) enrolled DE Students. Of 25,100 enrolled students for the fall 2007 semester, “7,136 were enrolled in
distance education courses,” according to university Distance Education Coordinator M. Fleenor (personal communication, December 7, 2007). The remarkable increase in enrollment serves as a catalyst for the increasingly required demonstration and reporting of organizational performance of academic libraries.

**Library Assessment Tools Overview**

The landscape of the present day academic library setting is very similar to the setting of “for-profit” ventures. Academic libraries are often seen as prime targets for easy withdrawal of monetary support by fund starved colleges and universities who are facing the same financial burdens as many businesses. Stakeholders, whether it be legislators, parents, or students themselves are inquiring into and demanding accountability for the spending of millions of tax dollars. Conversely, many legislators are viewing DE services as academic capitalism, where less student seat time equates to fewer overhead costs and new means of gaining considerable revenue (Berg, 2002, p. 121).

As a result of the potentially volatile academic landscape, academic library services supporting distance education have developed numerous methods for assessing the quality, effectiveness, and performance of their services. According to the Association of College and Research Libraries Standards Committee, assessment has evolved to mean how well the library supports the mission and vision of the parent college or university. Also taken into critical account are the libraries’ organizational effectiveness, cost-efficiency, and service quality (Standards Committee, 2004, p. 1). By developing an affective assessment strategy, distance education service proponents will have the means to demonstrate the tangible value of distance education services to all stakeholders and to add additional services and materials (Frederiksen, 2002, p. 334).

A summary guideline for academic library distance education services is the ACRL Distance Learning Library Services Guidelines, first published in 1967 and most recently updated in 2004. The purposes of the guidelines are to provide a set of principles that libraries can draw upon to create adequate and equitable library services for distance education faculty and students (Standards Committee, 2004, p.1). The guidelines have proven to work hand-in-hand with the Nash Model for Improved Demonstration and Reporting of Organizational Performance. Both sets of resources closely entail the standard and common tools used most commonly in academic libraries to gather assessment data.

Examples of commonly used assessment tools are focus groups, online surveys, usability studies, interviews, best practices comparisons, literature reviews and online statistics (Frederiksen, 2002, p.336). An excellent example of survey assessment tool usage in a library DE service environment is found in the University College/University of Maine 2005 Off-Campus Library Services report written by Bancroft and Lowe (2006). Also, an excellent report of focus group assessment tool usage in library DE service environment is found in the College of Eastern Utah/Utah State University study written by Morrison and Washburn (2004). Additional noteworthy reports and case studies discussing the assessment of library distance education services are found in the Suggested Readings portion of this text. Last, but certainly not least, of high value to academic library service assessment teams is the customer satisfaction instrument, LibQUAL+, developed by the Association of Research Libraries in collaboration with Texas A&M University.

LibQUAL+ was initiated in 2000 as an experimental project for benchmarking perceptions of library service quality across 13 ARL libraries under the leadership of Fred Heath and Colleen Cook, then both at Texas A&M University Libraries. LibQUAL+ matured quickly into a standard assessment tool that has been applied at more than 1,000 libraries, collecting information on more than half a million library users. In 2005 the LibQual+ services were moved from Texas A&M University to an ARL facility using StatsQUAL™. Through StatsQual™ ARL continues to provide innovative tools for libraries to assess and manage their elements (Cook, Heath, Thompson, Askew, Kyrillidou, Davis, et al., 2007, p. 4).

Similar to the Nash Model for Improved Demonstration and Reporting of Organizational Performance, LibQUAL+ engages librarians in discussions with colleagues on what the findings mean for local libraries, for their locales, and for the future of libraries in general. Both tools function on the premise that closer collaboration and sharing of online and print resources will bring libraries nearer to meeting the
ever changing wants and desires of their demanding stakeholders. As the following text will explain, the Nash Model for Improved Demonstration and Reporting of Organizational Performance reveals collaboration between stakeholders and library leadership, along with faculty/staff participation and adequate “capacity” and appropriate technology can generate key service transformations and benefit academic library DE service communities around the globe.

**Alignment Components in the Distance Education Library Services Assessment Process**

As noted previously, the rapid growth of distance education programs is prompting library stakeholders to raise the number and concentration of questions in the areas of library and information services supporting distance education. Rapid technological developments are also making it more difficult for libraries to align their assessment processes with stakeholder needs in terms of organizational performance and accountability information. To learn how assessment alignment can improve outcomes, it is important to first examine the assessment process components and how they interrelate. The components and their subcomponents are shown in Figure 1.

![Figure 1. Components of the Nash Model.](image)

Assessment process alignment components consider the issues, logistics, and decisions involved with administering the assessment process and primarily focus on the choice and execution of the assessment tools and practices within the library. In order to create an effective assessment alignment within the distance education services of an academic library it is important to understand how the assessment process and its components work together to create the assessment setting. The Nash Model for Improved Demonstration and Reporting of Organizational Performance illustrates how each of the six...
assessment components are interrelated, yet can operate independently and/or collaboratively with the other components within the library service environment.

A crucial and ideally malleable component of the Nash model shown in Figure 1 is library leadership. Library leadership establishes internal support and delivers reports to stakeholders in the capacity as the primary communication connection. In such a critical position, library leadership develops and contributes to effective assessment alignment by:

- Communicating with the library stakeholders regarding the assessment needs and assessment results.
- Communicating assessment needs, priorities, and results to staff, volunteers, collaborators, partners, vendors, suppliers, etc.
- Using evidence-based decision making tools, which make use of the outcomes and knowledge obtained in the library’s assessment processes, in all future strategic planning and goal setting sessions.
- Creating confidence in the integrity of the library’s assessment practices and in the authenticity of assessment results for all stakeholders.
- Demonstrating organizational commitment to the need and importance of the library assessment processes through dedicated resources, personnel, and training.
- Holding ultimate responsibility for obtaining the needed resources to accomplish the assessment.
- Identifying, adopting and implementing innovative assessment practices or tools found outside the library that are applicable to the library’s assessment processes.

Another key element of the Nash assessment alignment model shown in Figure 1 is the stakeholder. Stakeholders ultimately determine organizational direction and provide the needs that the library must fill in order to be considered resourceful, effectual, or of worth. Stakeholders shape the assessment in terms of their values, expectations, concerns, criteria, and standards. Key stakeholders are typically identified as faculty, administrators, and students associated with online instruction (Williams, Howell, & Hricko, 2006, p.4). Stakeholders determine the assessment processes, which logically influence the other assessment alignment model elements. Stakeholder determinations also influence the basis of the library’s strategic and operational processes, and help establish the library’s definition of success.

The library can develop effective assessment process alignment with stakeholders by:

- Proactively engaging stakeholders (internally and externally) in open communication to discover their definition(s) of success and the specific type(s) of data, evidence, or knowledge needed to determine the definition(s).
- Creating a transparent assessment process for stakeholders in terms of understanding the processes, tools, and results.
- Providing all stakeholders with the opportunity to participate in the assessment process (tool selection, data collection, analysis, and reporting).
- Unreservedly committing to the assessment process (applicable to both library and stakeholders alike).
- Garnering genuine trust from stakeholders as to validity of results and leadership’s best intentions for the library through the establishment of the assessment process.

Another component of the Nash model for aligning assessment process model shown in Figure 1 is the capacity of the library to perform assessment processes. The library must have the capability (whether through its own resources or outside resources) for implementing the necessary assessment tools, practices, and processes. The library must understand the concepts of assessment and their use in library operations. If necessary, the library must develop new or identify non-library designated assessment resources suitable to the library environment that provide relevant benefit by use of the resulting data.

The library can develop effective assessment process alignment using its capacity by:
- Continuously updating the assessment skills and knowledge level of the library staff, leadership, and stakeholders.
- Conducting regular assessment skill or resources inventories to determine needed training or additional resources.
- Acquiring and allocating the assessment resources (both within and outside of the library) necessary to effectively conduct assessment within the library.
- Encompassing the mission and vision statements of the library in the development of the assessment process.
- Assuring all parties involved in the assessment process have sufficient time to allocate to the endeavor to assure quality and continued delivery of library services.

The foundation for DE existence itself, technology is the fastest growing component in the academic library distance education service assessment process. The rapid growth of the use of technology is attributed to the same driving forces that have integrated technology into all aspects of the delivery of library and information services. In essence, were it not for advances in technology, we would not have distance education or, especially, library services for distance education faculty and students.

Assessment alignment can effectively incorporate current technology by:

- Using successful technologies in combination with adequate comprehension of library service assessment.
- Applying technology to assessment processes to enhance their value (i.e., automating effective, previously manually run assessment processes).

The last component, the participation component, is frequently the most misaligned component in the assessment alignment model. Administrators and stakeholders frequently involve non-essential outside participants (via politics, persuasive personalities, etc.) or ignore the component altogether. Involving the right person or group in the assessment process may well be one of the most positive and pivotal decisions in the entire assessment process. Not allowing participation or allowing only limited participation in the full assessment process to vested parties may lead to partial or biased results. The same limited participation may also lead to a feeling of a lack of authenticity and support in the assessment process and/or outcomes. Involving disinterested, uninformed, or poorly intentioned persons or groups in the assessment process may overly complicate or invalidate the assessment process. Results of the library service distance education assessment may be skewed, resources wasted, and stakeholder capital reduced while creating an ineffective assessment process. Conversely, involving interested, informed, or well intentioned persons or groups in the assessment process may streamline the process, validate the process and results, and make effective use of resources.

The library can develop effective assessment process alignment using participation by:

- Actively encouraging stakeholder input into the assessment process design.
- Defining success before implementing the assessment process.
- Including the most qualified internal or external stakeholders or customers for each practice within the assessment process (design, implementation, analysis, and reporting or dissemination).
- Including library staff (all levels), volunteers, collaborator, etc. in the assessment process where the relationship between the group and the library’s assessment process is most direct and beneficial for both parties.
- Identifying those assessment processes, practices, and methods that add the most value to the assessment process and including key stakeholders in those activities.
- Disseminating the value, participation, and results of the assessment process to all internal and external stakeholders.
- Involving all internal and external stakeholders in celebrating the successes of assessment.
Lastly, the assessment component is the central foundation from which the library’s distance education library service assessment processes originate. The assessment component produces needed assessment or strategic information and knowledge essential to the library’s planning processes.

The library’s assessment processes can be aligned most effectively with the library administration and stakeholders’ needs and goals by:

- Designing assessment processes that most specifically address and obtain the assessment information required by library leadership and stakeholders.
- Developing multiple options for obtaining specific assessment information.
- Using assessment practices, methods, and metrics that stakeholders approve of and can easily understand and appreciate.
- Using assessment practices, methods, and metrics understood and able to be administered by staff or outside assessment providers.
- Using assessment practices, methods, and metrics appropriate for the resources available to conduct assessment.
- Creating new assessment resources and practices, if necessary, and with internal library resources; or if not possible with internal library resources, finding outside sources to fund and/or create new assessment practices.
- Focusing on the results of assessment and its usage, instead of focusing on how the process of assessment works.
- Evaluating the assessment processes of the library regularly and including the results in future assessment designs and implementations.

**Conclusion**

Academic libraries are facing added calls for improved accountability while the academic library distance education service environment continues a rapid pace of evolution. The Nash Model for Improved Demonstration and Reporting of Organizational Performance, discussed in this article, assists librarians in the assessment of distance education services by focusing on integrating and aligning the assessment process components of capacity, stakeholders, participation, technology, and library leadership to improve effectiveness and increase positive outcomes. Using the Nash Model for Improved Demonstration and Reporting of Organizational Performance, libraries can effectively align their distance education processes and services to the distance education service environment in which they operate and support. Nash Model aligned assessments for distance education services have the potential to be more successful in exhibiting and reporting assessment of their overall performance to stakeholders, therefore opening new doors to strategic opportunities and resources. This article provides a model of effective assessment alignment and demonstrates how the integral components of the assessment process and service environment are integrated and dependent on each other for effective alignment.

By using the Nash Model, the library distance education service assessment processes may:

- Provide needed data or results for future planning and decision making.
- Provide needed data or results that address stakeholders’ performance or impact questions and requirements.
- Produce more answers than questions.
- Effectively use the resources available to the assessment process.

Academic libraries that can effectively align their assessment processes to the strategic goals and information needs of stakeholders will be more successful in demonstrating and reporting assessment of their organizational performance thereby hopefully increasing access to improved opportunities and resources. Increased access will also bolster organizational capability and stakeholder confidence. As a result, academic libraries will experience greater success in remaining a viable and valued component of the higher education distance education environment in the future.
Suggested Supplemental Readings


References


Branching Out: Communication and Collaboration among Librarians at Multi-Campus Institutions

Tim Bottorff
University of Central Florida, Rosen College campus

Robbin Glaser
Troy University, Dothan campus

Andrew Todd
University of Central Florida, Cocoa campus

Barbara Alderman
University of Central Florida, Cocoa and Palm Bay campuses

Abstract
Communication and collaboration are vital aspects of 21st century librarianship, particularly for librarians in branch and regional settings who are often separated from their system colleagues by both physical distance and administrative structures. For this study, the authors conducted an exploratory survey to examine collaboration, communication, and networking behaviors and perceptions among librarians in multi-campus academic library systems. Results of this investigative study will lead to better understanding of these issues within the profession, suggest possible approaches and solutions for better models of communication and collaboration, and lay the groundwork for future research on these topics.

Introduction
Librarians at multi-campus academic institutions face special challenges and opportunities. As colleges and universities expand and improve, they naturally spread into larger geographic areas, often creating the need for library collections and services at locations that may be called “branch” (generally the preferred term in this paper), “regional,” “area,” “distant,” “remote,” “extended,” “satellite,” or any number of other terms. Whatever the terminology used, the provision of library services at branch campuses naturally creates the need for branch librarians, who are necessarily separated from their colleagues at other campuses through both physical distance and administrative structures.

The effects of this physical and administrative separation among librarians at multi-campus institutions have thus far not been studied in depth. For example, do librarians at branch locations frequently feel “isolated” from their main campus colleagues? Are librarians within such institutions utilizing new technology to improve channels of communication and collaboration? Do all librarians within multi-campus institutions have roughly equal opportunities for collaboration, networking, and professional development activities? Answering these and other questions is critical for a profession challenged with adapting to an academic landscape in which traditional methods of teaching and learning are rapidly being displaced by more decentralized and virtual approaches.

In short, this study seeks to examine issues surrounding collaboration, communication, and networking among librarians in multi-campus academic library systems. The authors combine a literature review with the results of an exploratory survey in an attempt to better understand these difficult issues, to point the way towards possible approaches and solutions for the profession, and to lay the groundwork for future research.
Literature Review

There is little in the library literature on communication, collaboration, and networking, particularly among librarians at multi-campus institutions. Therefore, this literature review includes articles written for main campus librarians as well as branch librarians.

Of the three factors, communication is the most commonly found in the general literature. Communication “provides the means for problem solving, resolving conflicts, accomplishing change, and future planning” (Echavarria, 2001, p.23). However, communication requires complete inclusion. When only some people are included in the communication loop, an atmosphere of mistrust rather than group problem solving is the result. Including everyone applies to everyday tasks as well as sharing knowledge with colleagues (Echavarria, 2001).

Another benefit of communication is that it may help alleviate a sense of isolation. Even librarians located at a main campus but physically separated from the library can feel a sense of isolation (Crockett, 2000). Reiten and Fritts comment that within a main campus, some areas of librarianship may be physically removed from the library. They suggest that “this isolation, whether real or perceived, has led to the emergence of distance learning librarianship as a distinct area of librarianship” (2006, p. 399). To make isolation less of an issue, Crockett says librarians should keep communication lines open by participating in library-wide committees and attending library meetings (2000).

Collaboration among individual librarians has received relatively little treatment in the professional literature. For the purposes of this paper, collaboration is defined as to work “closely with one or more associates in producing a work to which all who participate make the same kind of contribution (shared responsibility) or different contributions (mixed responsibility)” (Reitz, 2004, pp. 154-155). Because collaboration can foster mutual support and idea sharing, it offers a greater potential for learning than more solitary work (Echavarria, 2001). More importantly, a certain degree of collaboration is important in most librarians’ work lives because all areas of librarianship are interrelated and depend on each other to achieve the purpose of serving the public (Lorenzen, 2006).

Networking as an activity to enhance one’s career has also received relatively little attention in the literature. For the definition of networking, this paper uses “the art of developing contacts within a profession and using them to advance one’s work and career” (Reitz, 2004, p.479). Librarians have long used associations, conventions, and more recently electronic discussion lists to make contacts, exchange ideas, and form collegial relationships that benefit their careers.

A substantial number of works address issues of concern to branch libraries and librarianship. However, most of these works are focused on the provision of services to users (e.g., reference, instruction, collection development). They either omit discussion of communication, collaboration, and networking all together, or mention them only briefly. Communications was the most-often addressed issue of the three.

The Association of College and Research Libraries’ (1990) *Guidelines for Branch Libraries in Colleges and Universities* includes a section on communications:

The goal of all communications should be to assure the effective operation of the branch within the service structure…A structure which encourages the exchange of information and expertise among branch libraries is also desirable. The establishment of connections with each other and with essential centralized services is paramount to effective and comprehensive branch library service (Communications section, para. 1).

When librarians are scattered across branches, communication is generally more difficult than if all were at a main library (Tucker, 1995). At a main campus, librarians have more opportunities for conversation, both formal and casual. Having professional peers nearby can lead to innovation and progress; conversely, “being at a branch campus, one can often feel cut off psychologically as well as physically. Communications mistakes seem exaggerated, there are fewer people to bounce ideas off of, and it can sometimes make one feel lonely” (Jurkowski, 1997, p.157). As previously discussed, isolation may
be felt at main campuses as well. Reiten and Fritts (2006) describe distance learning librarians “almost as solo librarians, divorced from their colleagues, even within an institution” (p. 398-399).

Because of their physical separation, branch librarians can feel a sense of isolation unless they make a conscious effort to “maintain good open communication channels” (Fritts, 1998). Jurkowski says that to break away from that sense of isolation, he began visiting the main library once a month (1997). In a 2005 survey of 169 branch librarians, 75% reported that travel was “an important method of communication between the campuses” (Brandt, Frederiksen, Schneider, & Syrkin 2006, p.45). Jurkowski suggests talking to other librarians on the phone instead of e-mail because talking on the phone provides the opportunity for more communication than e-mail: people can “chat and try to keep up with new developments you might not hear about otherwise” (Jurkowski, 1997, p.158).

Collaboration is rarely mentioned in the branch literature, but it is essential to successful organizations. Members of successful organizations “must be willing to understand their own vested interest in the richness and complexity of both single and multiple collaborations” (Guard, 2005, p.90-91). In Brandt et al.’s 2006 survey, 55% of branch libraries reported having relationships with local academic libraries outside their system (p. 49). Buck, Islam, and Syrkin (2006) also discussed the need for more “research that explores how collaborative relationships are initiated and by whom” (p.77).

Networking as an activity to enhance one’s career is not discussed. However, participation in networks as a way of gaining networking opportunities is mentioned. Schneider’s 2002 study considered the usefulness of regional library systems for academic libraries. “Most striking,” Schneider wrote, “was the repeated statement that regional library systems offered a medium for human networking and a broader understanding of issues facing all libraries” (p.145). Another example of an organization fostering networking is the Hawaii Association of School Librarians’ Collegial Assistance Network. This organization promotes mutual assistance and sharing of ideas, which in turn may lessen feelings of isolation (Echavarria, 2001).

The branch literature does name three groups that facilitate collaboration and networking among branch and regional librarians. The first is the Regional Campus Libraries Group, which meets at the American Library Association’s Midwinter and Annual meetings and maintains an electronic discussion list, RCL-DG (http://www.tacoma.washington.edu/library/rcl/). The second is Central Michigan University’s Off-Campus Library Services biennial Conference. An electronic discussion list, Off-Camp, is also associated with this group (http://listserv.utk.edu/archives/offcamp.html) (Lebowitz, 1997). Thirdly, ACRL’s Distance Learning Section (previously the Extended Campus Library Services Section) meets at the American Library Association’s Midwinter and Annual meetings (Frederiksen, 2004).

Taken together, the existing literature on communication, collaboration, and networking in libraries points to the centrality and importance of these activities. Nonetheless, this existing literature relies mostly on anecdotes and folksy advice; quantitative studies on these topics are scarce.

**Methodology**

Issues surrounding networking and collaboration in multi-campus academic library systems are of great interest to many librarians, yet the literature is thin and studies touching on the topic are very few and far between. Therefore, the authors decided to administer an exploratory survey in an attempt to move beyond the sideways glances the topic usually attracts.

**Survey design**

In formulating the survey questions, the authors were influenced by many library research surveys, most notably that administered by Brandt et al. (2006) for their paper presented at the Twelfth Off-Campus Library Services Conference. In fact, the authors’ project might be regarded as building directly on a small portion of Brandt et al. While the Brandt et al. study was wide-reaching (investigating branch and regional library issues such as staffing, communication, reporting, funding, services, collections, and more), the authors’ study was intended to hone in on issues specifically related to communication, collaboration, and...
networking among librarians at multi-campus institutions. No other study to date has attempted to focus solely on these vital areas of concern.

The project was also influenced by a roundtable discussion at the 2007 ACRL National Conference in which the branch and regional campus librarians in attendance discussed issues of “isolation” and “inclusion” with relation to their interactions with “main” campus librarians (Bottorff, 2007). This study therefore also sought to examine this issue of “isolation,” in particular to determine whether such feelings are truly prevalent in the library profession and whether they are in fact felt more keenly by branch/regional librarians than their main campus counterparts.

The survey questions were intended to garner information in five key areas: 1) The general characteristics of respondents; 2) communication behavior and frequency; 3) participation in committees, taskforces, and training; 4) networking behavior and frequency; and 5) collaboration behavior and frequency. All of the thirty-three survey questions and answer choices are reprinted in the Appendix.

The survey questions were formulated so as to be applicable to both branch/regional librarians and to main campus librarians, because the authors intentionally sought respondents from all different types of campuses (including “main” campuses) in order to allow for more meaningful comparisons and more easily quantifiable differences between the groups. This key decision added complexity to the administration and analysis of the survey, but the effort paid off in a very rich set of data that allowed for a greater range of comparison on this topic than had yet been attempted.

Before administering the survey instrument, the authors applied for Institutional Review Board (IRB) approval for the project, chose a software product to assist in the collection and analysis of data, and conducted a small pilot test. IRB approval was quickly obtained, as the study did not collect personally identifiable information on respondents. SurveyGold, a survey software product, was chosen to assist in the electronic collection and analysis of the data because it was available through the authors’ institution and because it provided the necessary functionality for this project, including the ability to cross-tabulate between survey questions. The final survey questions were entered into the SurveyGold software and the resulting Web form was mounted to the Website of the authors’ institution. Responses to the survey were retrieved from the SurveyGold server and then stored on the authors’ computers for analysis.

Because input was sought from librarians in all types of campus configurations, the authors decided to request participation in the survey through recruitment messages posted to major, national electronic discussion lists for librarians in a wide variety of functional areas. Table 1 lists the e-mail lists that were targeted in this study, along with the major functional area(s) covered by each list.

Ultimately, a wide variety of respondents, from all types and sizes of libraries and all functional areas of librarianship, was obtained.
Table 1

Email Lists Targeted for Survey Recruitment

<table>
<thead>
<tr>
<th>Email list</th>
<th>Functional area of librarianship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archives &amp; Archivists (A&amp;A) List</td>
<td>Archives</td>
</tr>
<tr>
<td>Autocat</td>
<td>Cataloging</td>
</tr>
<tr>
<td>Bus-Lib</td>
<td>Business librarianship</td>
</tr>
<tr>
<td>CIRCPLUS</td>
<td>Circulation</td>
</tr>
<tr>
<td>EBSS (ACRL/EBSS Section)</td>
<td>Education &amp; behavioral sciences librarianship</td>
</tr>
<tr>
<td>GOVDOC-L</td>
<td>Government documents</td>
</tr>
<tr>
<td>Hospitality-Lib</td>
<td>Hospitality librarianship</td>
</tr>
<tr>
<td>ILI-L</td>
<td>Instruction and information literacy</td>
</tr>
<tr>
<td>ILL-L</td>
<td>Interlibrary loan</td>
</tr>
<tr>
<td>ILLIAD-L</td>
<td>Interlibrary loan</td>
</tr>
<tr>
<td>LIBADMIN</td>
<td>Administration</td>
</tr>
<tr>
<td>Liblicense-L</td>
<td>Electronic resources licensing</td>
</tr>
<tr>
<td>NMRT</td>
<td>New members roundtable</td>
</tr>
<tr>
<td>OCLC-CAT</td>
<td>Cataloging</td>
</tr>
<tr>
<td>Off-Camp</td>
<td>Off-campus library services</td>
</tr>
<tr>
<td>RCL-DG</td>
<td>Regional campus library services</td>
</tr>
<tr>
<td>RUSA</td>
<td>Reference</td>
</tr>
<tr>
<td>ULS-L (ACRL/Univ. Libraries Section)</td>
<td>University libraries</td>
</tr>
<tr>
<td>Web4Lib</td>
<td>Web systems in libraries</td>
</tr>
</tbody>
</table>

Limitations

An exploratory study of this type has some limitations. Respondents from electronic discussion lists are not truly randomized, and the actual response rate to the survey is not possible to determine since the number of subscribers to each list is not known and the message may have been forwarded to other lists or individual e-mail addresses without the authors’ knowledge. This study also faced challenges related to terminology and definitions, as have nearly all previous studies on branch/regional libraries. There are simply too many different campus configurations in higher education, and the provision of library services across these campuses is so complex, that it is difficult to utilize terminology that will be understood by all respondents, even though the authors endeavored to overcome this problem whenever possible.

Nonetheless, despite these and other limitations, this study unquestionably achieved its primary goal of surveying a wide swath of the library population (from many functional areas and many different campus configurations) on communication, collaboration, and networking behavior, and the results offered abundant detail for analysis and discussion.

Results

Profile of Respondents

In all, 491 responses to the study were received. Consistent with IRB guidelines, participants were not required to respond to every question, though most participants did so: All questions received at least 458 responses, and most questions received more than 470 responses.

The survey was targeted at academic librarians, particularly those at multi-campus institutions. Many of the first eight questions were designed primarily to quantify the background of respondents. The majority of respondents worked at a public institution (73%), with the remaining respondents hailing from private institutions (25%) or from “Other” institutions (2%) with mixed funding models.
Most respondents worked at institutions where the doctorate degree is the highest degree granted (67%), although responses also came from many other types of institutions: 16% marked Master’s, 13% marked Associate, 3% marked Baccalaureate, 2% marked Other, and less than 1% marked Technical/Certificate.

Respondents worked in a wide variety of professional statuses, ranging from those with faculty status and tenure (18%) or seeking tenure (21%) to those with faculty status but no option for tenure (22%) or those without faculty status (28%), as shown in Table 2 below. A sizable number of respondents (6%) chose the “Other” option, the majority of these describing a faculty-like status such as “academic professional status” or a tenure-like situation such as “continuing appointment.”

Table 2

<table>
<thead>
<tr>
<th>Professional status</th>
<th>Respondents (n = 491)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty status and tenured</td>
<td>18%</td>
</tr>
<tr>
<td>Faculty status, tenure-earning, but not yet tenured</td>
<td>21%</td>
</tr>
<tr>
<td>Faculty status, non-tenure earning</td>
<td>22%</td>
</tr>
<tr>
<td>Without faculty status</td>
<td>28%</td>
</tr>
<tr>
<td>Adjunct librarian</td>
<td>1%</td>
</tr>
<tr>
<td>Paraprofessional/support staff</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>6%</td>
</tr>
</tbody>
</table>

Similarly, answers were diverse on the question inquiring about respondents’ main/primary area(s) of professional responsibility. Participants were permitted to submit multiple responses to this question (percentages will add up to more than 100%), and the data shows that most respondents indicated more than one major area of responsibility. While the largest responses came in the Reference (56%), Instruction (47%), Collection Management (32%), Administration (21%), and Cataloging (21%) categories, significant numbers of responses were received in all major functional areas of librarianship, as presented in Table 3.

Table 3

<table>
<thead>
<tr>
<th>Area(s) of responsibility (multiple responses allowed)</th>
<th>Respondents (n = 491)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisitions</td>
<td>13%</td>
</tr>
<tr>
<td>Administration</td>
<td>21%</td>
</tr>
<tr>
<td>Cataloging</td>
<td>21%</td>
</tr>
<tr>
<td>Circulation</td>
<td>15%</td>
</tr>
<tr>
<td>Collection management</td>
<td>32%</td>
</tr>
<tr>
<td>Government documents</td>
<td>8%</td>
</tr>
<tr>
<td>Interlibrary loan</td>
<td>15%</td>
</tr>
<tr>
<td>Instruction</td>
<td>47%</td>
</tr>
<tr>
<td>Reference</td>
<td>56%</td>
</tr>
<tr>
<td>Special collections/Archives/Rare books</td>
<td>7%</td>
</tr>
<tr>
<td>Systems/Web design/Electronic resources</td>
<td>18%</td>
</tr>
<tr>
<td>Technical services</td>
<td>12%</td>
</tr>
<tr>
<td>Other</td>
<td>14%</td>
</tr>
</tbody>
</table>

Responses also varied widely on the question asking “How many degreed librarians (having a Master’s in Library Science or an equivalent degree) work at your primary workplace?” The largest categories of responses came from those with 11-20 librarians (21%) at the workplace, 6-10 librarians (21%), and 3-5 librarians (17%). See Table 4 for the full range of responses to this question.
Table 4

Number of Librarians at Primary Workplace

<table>
<thead>
<tr>
<th>Number of Librarians</th>
<th>Respondents (n = 489)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1%</td>
</tr>
<tr>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>2</td>
<td>7%</td>
</tr>
<tr>
<td>3-5</td>
<td>17%</td>
</tr>
<tr>
<td>6-10</td>
<td>21%</td>
</tr>
<tr>
<td>11-20</td>
<td>21%</td>
</tr>
<tr>
<td>21-35</td>
<td>13%</td>
</tr>
<tr>
<td>36-50</td>
<td>8%</td>
</tr>
<tr>
<td>51+</td>
<td>8%</td>
</tr>
</tbody>
</table>

Most respondents were from large institutions, with 50% coming from parent institutions with more than 20,000 students, 22% coming from institutions with between 10,000-20,000 students, and 19% coming from institutions with between 3,000-9,999 students. However, the results were more diverse when respondents were asked to indicate the number of students “on the campus you consider to be your primary workplace (i.e., where you consider your primary office to be)”: 28% marked 3,000-9,999 students, 24% marked 10,000-20,000 students, 22% marked 20,001+ students, 15% marked 1,000-2,999 students, and 12% marked 0-999 students.

One of the more crucial questions asked “At what type of library do you consider to be your primary workplace (i.e., where do you consider your primary office to be?)?” Responses to this question were eventually cross-tabulated with most other questions in the survey to determine differences among librarians at Main, Branch/Regional, and Decentralized libraries. Nearly half (44%) of respondents said they work at a Main/Primary library of a centralized library system, but significant numbers also came from librarians in Decentralized systems (27%), Branch/Regional campus librarians (17%), and from the “Other” category (11%). The “Other” responses were very diverse. The largest “Other” group indicated they worked at an institution in which there is only one library; although the survey was primarily designed to survey librarians at multi-campus institutions, responses from this group were still valuable in establishing a baseline for issues of networking and collaboration, not to mention the subjective issue of “isolation” from other librarians. Other respondents in the “Other” category worked variously in situations such as a centralized technical services unit, an outsourcing agency, a freestanding information commons, a joint-use campus for two state universities, and other variations of semi-autonomous or decentralized settings. The responses to this question are summarized in Table 5 below.

Table 5

Library Type

<table>
<thead>
<tr>
<th>Type of library at primary workplace</th>
<th>Respondents (n = 486)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main/Primary library of a centralized system</td>
<td>44%</td>
</tr>
<tr>
<td>Branch/Regional library of a centralized system</td>
<td>17%</td>
</tr>
<tr>
<td>Library in a decentralized multi-library system</td>
<td>27%</td>
</tr>
<tr>
<td>Other</td>
<td>11%</td>
</tr>
</tbody>
</table>

Cross-Tabulations

Most of the remaining questions were cross-tabulated with one or more other questions in order to more precisely analyze responses. For example, a question in the Communication section of the survey asked “How often do you go to other libraries in your system for library business?” While the overall response percentages to this question is useful and helps to establish a baseline for this question, the real point of the question was to find out whether librarians at different types of libraries (main, branch,
decentralized, etc.) answer this question differently. Therefore, in addition to presenting the overall response percentages to this question, the responses to this question are also presented when cross-tabulated against the question about library type. In this case, for example, approximately 27% of all respondents said they Frequently or Very Frequently go to other libraries in their system for library business. However, by cross-tabulating this question with the library type question it is possible to see a more nuanced reality: only 18% of Main/Primary library respondents answered Frequently or Very Frequently to this question, compared to 50% of Branch/Regional library respondents. Clearly, the way in which librarians answer this question is affected to a large degree by the type of library they work at, thus displaying the value of using this cross-tabulation method.

**Communication**

The first major section of the survey sought to quantify the amount and frequency of communication (both direct and indirect) between librarians.

When asked “How often do you go to other libraries in your system for library business?” significant differences were observed among respondents from the different library types. In essence, librarians at Branch/Regional libraries and librarians in Decentralized systems reported traveling to other libraries with a much greater frequency than did Main/Primary librarians (see Table 6 below).

Table 6

**Type of Library at Primary Workplace Cross Tabulated with Perceived Frequency Respondents Travel to Other Locations in System for Library Business**

<table>
<thead>
<tr>
<th></th>
<th>All respondents (n=484)</th>
<th>Main campus (n=215)</th>
<th>Branch campus (n=84)</th>
<th>Decentralized (n=132)</th>
<th>Other (n=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>8%</td>
<td>12%</td>
<td>1%</td>
<td>3%</td>
<td>16%</td>
</tr>
<tr>
<td>Rarely</td>
<td>29%</td>
<td>37%</td>
<td>18%</td>
<td>25%</td>
<td>26%</td>
</tr>
<tr>
<td>Occasionally</td>
<td>35%</td>
<td>33%</td>
<td>30%</td>
<td>42%</td>
<td>34%</td>
</tr>
<tr>
<td>Frequently</td>
<td>21%</td>
<td>14%</td>
<td>39%</td>
<td>24%</td>
<td>18%</td>
</tr>
<tr>
<td>Very frequently</td>
<td>6%</td>
<td>4%</td>
<td>12%</td>
<td>6%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Similar differences were found when the question was turned around to ask “How often do other librarians in the system come to your workplace for library business?” In other words, Branch/Regional and Decentralized librarians reported getting visitors from other libraries for library business with less frequency than did their Main/Primary colleagues, as presented in Table 7 below.

Table 7

**Type of Library at Primary Workplace Cross Tabulated with Perceived Frequency Librarians from Other Locations in System Travel to Respondents’ Primary Workplace for Library Business**

<table>
<thead>
<tr>
<th></th>
<th>All respondents (n=482)</th>
<th>Main campus (n=213)</th>
<th>Branch campus (n=84)</th>
<th>Decentralized (n=132)</th>
<th>Other (n=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>7%</td>
<td>4%</td>
<td>8%</td>
<td>7%</td>
<td>20%</td>
</tr>
<tr>
<td>Rarely</td>
<td>31%</td>
<td>16%</td>
<td>45%</td>
<td>41%</td>
<td>42%</td>
</tr>
<tr>
<td>Occasionally</td>
<td>34%</td>
<td>38%</td>
<td>36%</td>
<td>31%</td>
<td>22%</td>
</tr>
<tr>
<td>Frequently</td>
<td>23%</td>
<td>34%</td>
<td>10%</td>
<td>17%</td>
<td>16%</td>
</tr>
<tr>
<td>Very frequently</td>
<td>5%</td>
<td>9%</td>
<td>1%</td>
<td>4%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Respondents were asked to “estimate the distance (in miles) your workplace is from the closest other library in your system with which you regularly conduct library business.” Distance from the next closest library in the system did not seem to be a factor in respondents’ answers to the question on research and professional development opportunity or to the question on sense of isolation. However, distance did appear to be a slight factor in respondents’ overall perception of networking and collaboration opportunity: As distance from the next closest library increased, some respondents reported having less opportunity for networking and collaboration. These results are summarized in Table 8 below.

Table 8

**Distance from Next Closest Library in System**
**Cross-tabulated with**
**Overall Perception of Networking/Collaboration Opportunity**

<table>
<thead>
<tr>
<th>Distance in Miles</th>
<th>Less</th>
<th>About the same</th>
<th>More</th>
<th>N/A</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 (n=192)</td>
<td>14%</td>
<td>64%</td>
<td>18%</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>6-10 (n=40)</td>
<td>18%</td>
<td>65%</td>
<td>15%</td>
<td>3%</td>
<td>0%</td>
</tr>
<tr>
<td>11-25 (n=74)</td>
<td>23%</td>
<td>51%</td>
<td>16%</td>
<td>3%</td>
<td>7%</td>
</tr>
<tr>
<td>26-50 (n=63)</td>
<td>22%</td>
<td>62%</td>
<td>16%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>51-100 (n=54)</td>
<td>28%</td>
<td>54%</td>
<td>19%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>100+ (n=34)</td>
<td>32%</td>
<td>56%</td>
<td>12%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>N/A (n=20)</td>
<td>25%</td>
<td>55%</td>
<td>20%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Method of communication among librarians at different libraries in the system was not found to be a significant factor in respondents’ perception of opportunity for research or professional development, of opportunity for networking and collaboration, or of feeling isolated. Among all respondents, the most frequently used methods of communication were E-mail (98%), Phone (84%), and In-person visits (58%) (multiple responses were allowed). Relatively few respondents reported using newer methods of communication such as Wikis (15%), Blogs (14%), Instant messaging (14%), or Video conferencing (13%), and only 17% reported using Postal mail.

A correlation was found between “frequency of communication with librarians at other libraries in your system” and library type. Branch/Regional librarians and Decentralized librarians reported communicating with other librarians more frequently than did Main librarians, as shown in Table 9 below. For example, 71% of Branch librarians reported communicating Frequently or Very Frequently with other librarians in the system, compared to 56% of Decentralized librarians and 52% of Main librarians.

Table 9

**Library Type**
**Cross-tabulated with**
**Frequency of Communication with Librarians at Other Libraries in the System**

<table>
<thead>
<tr>
<th>Library Type</th>
<th>Never</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Frequently</th>
<th>Very frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decentralized (n=132)</td>
<td>2%</td>
<td>7%</td>
<td>35%</td>
<td>34%</td>
<td>22%</td>
</tr>
<tr>
<td>Branch/Regional (n=84)</td>
<td>1%</td>
<td>7%</td>
<td>20%</td>
<td>32%</td>
<td>39%</td>
</tr>
<tr>
<td>Main (n=214)</td>
<td>3%</td>
<td>13%</td>
<td>33%</td>
<td>35%</td>
<td>17%</td>
</tr>
<tr>
<td>Other (n=49)</td>
<td>8%</td>
<td>16%</td>
<td>33%</td>
<td>20%</td>
<td>22%</td>
</tr>
</tbody>
</table>
Those who communicate more frequently also tended to report feeling slightly less isolated. For example, among those who said they Rarely communicate with other system librarians, 36% reported feeling isolated Frequently or Very Frequently; while among those who said they Frequently communicate with other system librarians, only 15% reported feeling isolated Frequently or Very Frequently.

**Committees, Taskforces, and Training**

The next section of the instrument surveyed respondents about participation in committee work, taskforces, and training.

Most respondents (61%) reported participating in library system committees, taskforces, or workgroups Frequently or Very frequently, with Main respondents saying so with just slightly more frequency (67%) than Branch/Regional (60%) or Decentralized (55%) librarians (see Table 10 below).

**Table 10**

<table>
<thead>
<tr>
<th>Library Type</th>
<th>Never</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Frequently</th>
<th>Very frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decentralized (n=132)</td>
<td>7%</td>
<td>12%</td>
<td>28%</td>
<td>36%</td>
<td>19%</td>
</tr>
<tr>
<td>Branch/Regional (n=83)</td>
<td>2%</td>
<td>12%</td>
<td>25%</td>
<td>37%</td>
<td>23%</td>
</tr>
<tr>
<td>Main (n=215)</td>
<td>4%</td>
<td>6%</td>
<td>23%</td>
<td>38%</td>
<td>29%</td>
</tr>
<tr>
<td>Other (n=53)</td>
<td>15%</td>
<td>9%</td>
<td>23%</td>
<td>25%</td>
<td>28%</td>
</tr>
</tbody>
</table>

Among all respondents, 68% reported that their system Frequently or Very frequently includes representatives from more than one library on committees, taskforces, or workgroups.

In general, those who participate more frequently in committee work tended to report feeling slightly less isolated than those who participate less often. For example, among those who said they Frequently participate in committee work, only 8% said they Frequently feel isolated; whereas among those who said they Rarely participate in committee work, 29% said they Frequently feel isolated.

Similarly, those who participate more frequently in committees tended to report having slightly more overall opportunity for networking and collaboration. Among those who said they Frequently participate in committee work, only 17% reported having less opportunity for networking and collaboration; by comparison, among those who said they Rarely participate in committee work, 37% reported having less opportunity for networking and collaboration.

Among all respondents, 71% reported that the main barrier to participation on committees, taskforces, or workgroups (multiple responses allowed) is “lack of time due to other duties.” The next highest responses were “lack of travel funding or transportation options” (24%), “lack of administrative support” (16%), and “lack of available technology solutions” (13%). Only 14% felt that “shortage of committees or workgroups” was a significant barrier, and only 7% felt that “too much competition for committee assignments” is a factor.

Similarly, when asked “which area(s) of improvement below do you believe would most likely lead to better opportunities for participation on committees, taskforces, or workgroups within your library system?” the largest category of responses came in the “more time away from other duties” category (47%). The next highest categories (multiple responses were allowed) were “more cross-training or exchange programs” (33%), “more travel funding or transportation options” (30%), “more technology
solutions” (27%), and “more support from administration” (27%). The categories receiving the least support were “more social functions” (15%) and “more committees or meetings” (9%).

Regarding training opportunities, Main librarians reported participating in training sessions or workshops with greater frequency than Branch/Regional or Decentralized librarians. For example, 55% of Main respondents said they Frequently or Very frequently participate in training sessions, compared to 43% of Branch/Regional respondents and only 30% of Decentralized respondents.

**Networking**

The next section sought to survey respondents on their networking behavior. The authors used and supplied the following definition of networking to the survey participants: “The art of developing contacts within a profession and using them to advance one’s work and career” (Reitz, 2004, p. 479).

Branch/Regional and Decentralized librarians reported having less opportunity for networking with colleagues within their system than Main librarians. For example, 57% of Main respondents said they Frequently or Very frequently have networking opportunities with colleagues within the system, compared to 49% of Branch/Regional respondents and 38% of Decentralized respondents. See Table 11 below for more detail.

**Table 11**

<table>
<thead>
<tr>
<th>Library Type</th>
<th>Frequency of Networking Opportunities with Colleagues within System</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
</tr>
<tr>
<td>Decentralized (n=132)</td>
<td>1%</td>
</tr>
<tr>
<td>Branch/Regional (n=83)</td>
<td>1%</td>
</tr>
<tr>
<td>Main (n=215)</td>
<td>1%</td>
</tr>
<tr>
<td>Other (n=51)</td>
<td>4%</td>
</tr>
</tbody>
</table>

When asked about networking opportunities with colleagues outside their system, however, there was no significant difference in the responses by library type: Approximately 32% of all respondents said they Frequently or Very frequently have such opportunities with librarians outside their own system.

When asked about barriers to networking with colleagues within the system (multiple responses were allowed), among all respondents “lack of time due to other duties” was again the largest category (73%). The next highest categories were “lack of travel funding or transportation options” (27%), “lack of social functions” (26%), “lack of cross-training or exchange programs” (21%), and “lack of support from administration” (20%). Only 14% of respondents felt that “lack of technology solutions” is a significant barrier, and only 12% checked the option for “shortage of committees or meetings.”

Similarly, when asked which area(s) of improvement would most likely lead to better opportunities for networking within the system, among all respondents the highest category was “more time away from regular duties” (56%), followed by “more cross-training or exchange programs” (32%), “more social functions” (32%), “more travel funding or transportation options” (27%), and “more support from administration” (26%). The categories receiving the least support were “more technology solutions” (22%) and “more committees or meetings” (12%).
Collaboration

The next section surveyed respondents on their behavior regarding collaboration with other librarians. The authors used and supplied the following definition of collaboration to the survey participants: “To work closely with one or more associates in producing a work to which all who participate have shared or mixed responsibility” (adapted from Reitz, 2004, p. 154-155).

When asked “How often would you say you collaborate with colleagues at other libraries within your own library system on day-to-day tasks or responsibilities?” respondents’ answers varied. The three largest groups of aggregate responses were Occasionally (28%), Rarely (27%), and Frequently (23%), followed by Never (12%) and Very Frequently (9%). The type of library at which participants worked did not appear to play a significant role in influencing responses for this question.

A majority of respondents reported collaborating with colleagues at other libraries within their own library system on service, research, or professional development activities either Occasionally (35%) or Rarely (32%). Other respondents indicated that they Never (19%), Frequently (11%) or Very Frequently (3%) collaborated with internal colleagues for professional development activities such as research articles, conference presentations, poster sessions, and outside committee work. Aggregate data revealed similar results in regards to frequency of collaboration with colleagues outside the respondents’ library system for service, research, or professional development activities.

Perceived opportunity in terms of professional development activities seemed to be associated with such factors as the type of library, the number of degreed librarians in the primary workplace, and the frequency of communication with other librarians in their library system. Slightly more of the respondents who perceived that they had less opportunity than their colleagues hailed from Branch/Regional campus libraries (27%) or Decentralized libraries (23%) than Main campus libraries (15%) or Other types of libraries (8%). Of more significance was the fact that over half of respondents whose primary workplace had only one (56%) or two (52%) degreed librarians perceived that they had less opportunity than most of their colleagues in terms of professional development activities, as shown in Table 12 below.

Table 12

Number of Degreed Librarians
Cross-tabulated with
Perceived Professional Development Opportunity

<table>
<thead>
<tr>
<th>Number of Degreed Librarians at Primary Workplace</th>
<th>Less</th>
<th>About the same</th>
<th>More</th>
<th>N/A</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (n=2)</td>
<td>50%</td>
<td>50%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>1 (n=25)</td>
<td>56%</td>
<td>44%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>2 (n=33)</td>
<td>52%</td>
<td>39%</td>
<td>9%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>3-5 (n=79)</td>
<td>32%</td>
<td>41%</td>
<td>22%</td>
<td>1%</td>
<td>5%</td>
</tr>
<tr>
<td>6-10 (n=101)</td>
<td>18%</td>
<td>57%</td>
<td>23%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td>11-20 (n=104)</td>
<td>13%</td>
<td>65%</td>
<td>18%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>21-35 (n=61)</td>
<td>10%</td>
<td>72%</td>
<td>18%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>36-50 (n=39)</td>
<td>5%</td>
<td>74%</td>
<td>21%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>51+ (n=37)</td>
<td>11%</td>
<td>62%</td>
<td>19%</td>
<td>0%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Most respondents indicated having “about the same” amount of opportunity as their colleagues for research and professional development, regardless of their frequency of communication. However, those who answered that they communicated more frequently with other librarians in their library system tended to report having slightly more opportunity for research and professional development. For example, 24% of respondents who perceived that they communicate on a Frequent basis and 22% who communicated on a
Very Frequent basis felt that they had more opportunity than most of their colleagues in terms of research articles, conference presentations, poster sessions, and outside committee work, as compared to those who communicated Occasionally (13%), Rarely (10%), or Never (14%).

Method of communication was not a major factor in perception of opportunity for research and professional development, although those who admitted using newer methods (such as blogs, IM, and wikis) did report having slightly more research and professional development opportunity.

A majority of respondents perceived that they had about the same level of professional development opportunities as most of their colleagues regardless of distance from the next closest other library in their system.

Another factor the authors sought to measure was the respondents’ perceived overall opportunity in terms of networking and collaboration. Of those who reported having less opportunity for networking and collaboration, a higher percentage of respondents came from Branch/Regional campus libraries (29%) and Decentralized libraries (23%) than from Main libraries (15%), as seen in Table 13 below.

Table 13

Perceived Opportunity for Networking and Collaboration
Cross-tabulated with Library Type

<table>
<thead>
<tr>
<th>Library Type</th>
<th>Less</th>
<th>About the same</th>
<th>More</th>
<th>N/A</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Respondents (n=478)</td>
<td>20%</td>
<td>60%</td>
<td>17%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Decentralized (n=129)</td>
<td>23%</td>
<td>59%</td>
<td>16%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Branch/Regional (n=83)</td>
<td>29%</td>
<td>49%</td>
<td>18%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Main (n=212)</td>
<td>15%</td>
<td>65%</td>
<td>17%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Other (n=51)</td>
<td>20%</td>
<td>57%</td>
<td>18%</td>
<td>0%</td>
<td>6%</td>
</tr>
</tbody>
</table>

A relationship was found to exist between perceived networking and collaboration opportunity and the number of degreed librarians in the primary workplace. After cross-tabulation, data revealed that 62% of respondents working in libraries staffed with only one degreed librarian and 47% of respondents working in libraries staffed with only two degreed librarians felt they had less opportunity in terms of networking and collaboration, as detailed in Table 14.
Table 14

Number of Degreed Librarians
Cross-tabulated with
Perceived Networking/Collaboration Opportunity

<table>
<thead>
<tr>
<th>Number of Degreed Librarians at Primary Workplace</th>
<th>Less</th>
<th>About the same</th>
<th>More</th>
<th>N/A</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (n=2)</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>1 (n=26)</td>
<td>62%</td>
<td>35%</td>
<td>0%</td>
<td>4%</td>
<td>0%</td>
</tr>
<tr>
<td>2 (n=32)</td>
<td>47%</td>
<td>38%</td>
<td>16%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>3-5 (n=79)</td>
<td>19%</td>
<td>63%</td>
<td>14%</td>
<td>0%</td>
<td>4%</td>
</tr>
<tr>
<td>6-10 (n=101)</td>
<td>15%</td>
<td>60%</td>
<td>21%</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>11-20 (n=103)</td>
<td>15%</td>
<td>64%</td>
<td>18%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>21-35 (n=60)</td>
<td>17%</td>
<td>57%</td>
<td>23%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>36-50 (n=39)</td>
<td>13%</td>
<td>79%</td>
<td>8%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>51+ (n=36)</td>
<td>14%</td>
<td>56%</td>
<td>22%</td>
<td>0%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Another issue this survey aimed to investigate was participants’ sense of isolation in different library settings. Perceived isolation appeared to be influenced by several factors including type of library, number of librarians at the primary library, and distance from other libraries. Branch/Regional librarians (27%) and Decentralized librarians (22%) reported higher figures of Frequent or Very Frequent isolation than their Main library counterparts (14%).

The number of degreed librarians at the primary workplace seems to be strongly correlated with perceived isolation. With the exception of libraries with over 50 librarians, the fewer the number of librarians at a location, the more likely the respondent was to report feeling isolated, as presented in Table 15 below.

Table 15

Number of Degreed Librarians
Cross-tabulated with
Perceived Isolation

<table>
<thead>
<tr>
<th>Number of Degreed Librarians at Primary Workplace</th>
<th>Never</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Frequently</th>
<th>Very frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (n=2)</td>
<td>50%</td>
<td>0%</td>
<td>50%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>1 (n=26)</td>
<td>8%</td>
<td>15%</td>
<td>38%</td>
<td>31%</td>
<td>8%</td>
</tr>
<tr>
<td>2 (n=32)</td>
<td>16%</td>
<td>16%</td>
<td>44%</td>
<td>22%</td>
<td>3%</td>
</tr>
<tr>
<td>3-5 (n=79)</td>
<td>10%</td>
<td>23%</td>
<td>41%</td>
<td>19%</td>
<td>8%</td>
</tr>
<tr>
<td>6-10 (n=101)</td>
<td>15%</td>
<td>37%</td>
<td>24%</td>
<td>20%</td>
<td>5%</td>
</tr>
<tr>
<td>11-20 (n=103)</td>
<td>16%</td>
<td>40%</td>
<td>28%</td>
<td>11%</td>
<td>5%</td>
</tr>
<tr>
<td>21-35 (n=60)</td>
<td>27%</td>
<td>30%</td>
<td>28%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>36-50 (n=39)</td>
<td>15%</td>
<td>36%</td>
<td>38%</td>
<td>8%</td>
<td>3%</td>
</tr>
<tr>
<td>51+ (n=36)</td>
<td>5%</td>
<td>38%</td>
<td>38%</td>
<td>16%</td>
<td>3%</td>
</tr>
</tbody>
</table>
Distance from the next closest library appeared to be a major factor in feeling isolated from colleagues within one’s own library system only for participants at extremely remote library locations. Thirty seven percent of respondents whose primary workplace is greater than 100 miles from the nearest library in the system reported feeling isolated frequently or very frequently, as compared to other distances, such as 0-5 miles (21%), 6-10 miles (16%), 11-20 miles (23%), 26-50 miles (16%), or 50-100 miles (20%).

In two related questions, respondents were asked to identify perceived “barriers to collaboration with colleagues within your library system” and highlight areas they felt “would most likely lead to better opportunities for collaborating with colleagues.” Respondents could specify more than one answer in both questions. The most prevalent barrier to collaboration, identified by more than two-thirds (69%) of all respondents, regardless of library type, was “lack of time due to other duties.” Other perceived barriers included “lack of support from administration” (23%), “lack of cross-training or exchange programs” (22%), “lack of travel funding of transportation options” (21%), “lack of social functions” (19%), “lack of technology solutions” (13%), and “shortage of committees or meetings” (11%).

Preferred areas of improvement appeared to follow suit with the barriers identified above. “More time away from regular duties” (63%) was the highest reported area that respondents felt would most likely lead to better opportunities for collaborating with colleagues. Other areas of potential improvement identified were “more cross-training or exchange programs” (33%), “more support from administration” (30%), “more travel funding or transportation options” (24%), “more social functions” (24%), “more technology solutions” (18%), and “more committees or meetings” (11%).

Comments

The final question on the survey allowed participants to submit “any final comments about the topics covered in this survey.” More than 115 respondents (nearly one-quarter of those who took the survey) submitted additional comments, providing further indication that this is a topic of great interest and passion to many librarians. Several of the more insightful or useful comments will be quoted or touched upon in the Discussion section below.

Discussion

This study represents a leap forward in the library profession’s understanding of issues related to networking and collaboration among academic librarians at multi-campus institutions. Thus far, the library literature has devoted little attention to networking and collaboration of any kind, let alone the more complex channels of communication and sharing that occur in library systems that have spread beyond a main/primary library. Ultimately, the results of this study, combined with participant comments, may point the way towards better models of communication and collaboration among librarians of all types.

The results reveal several important areas that deserve further attention.

Library Type

The results indicate that library type does seem to be a factor in how frequently some librarians participate in activities such as travel to other libraries, committee work, training, research, professional development, networking, and collaboration. In the end, there was a lot of commonality among respondents of all types, with the data lumping towards the middle point on many questions—in other words, behaviors and perceptions of librarians at the various types of libraries were more alike than they were different.

There were, however, key differences in some areas. In general, a higher percentage of Main campus librarians reported traveling less frequently, communicating less frequently with librarians at other libraries, and participating more frequently in committee work and training. A higher percentage of Branch librarians reported traveling more often, communicating more often, feeling isolated more frequently, and having less overall opportunity for committee work, training, research, networking, and collaboration.
Decentralized librarians aligned closely with Branch librarians in most categories, although they tended to report having even less opportunity than Branch librarians for training, networking, and collaboration.

Although the hard numbers fail to illuminate the reasons behind these differences, many participants attempted to do so in their comments. Many branch/regional librarians pointed to possible reasons for their perceived lack of opportunities. One regional librarian stated: “It’s definitely a lot harder for regional/branch campus librarians to collaborate and network with our colleagues. The main campus library has lots of social activities, but it’s very hard for those of us from regional campuses to participate as it involves travel and time away from work.” One branch librarian pointed to both tangible and intangible factors:

I don’t think we can discount the difference it makes when we’re not physically in the same place with most of our colleagues. We miss out on the “watercooler” conversations that lead to collaborative relationships. Technology helps on some level, but it’s not a total replacement for the day-to-day relationships built in a workplace. Geographic distance matters too….

 Needless to say, few [main campus librarians] make the trip in our direction.

One librarian who used to work at a regional campus before moving to the main campus admitted, “On a main campus now, I do like the nearby collegiality, shared campus culture and environment, the impromptu brainstorming and access to a wider variety of resources and opportunities to collaborate with faculty outside the library.”

A number of branch librarians also expressed the feeling that main campus librarians frequently “forget” about other campuses or do not “think about… other campus libraries unless they need help or money.” Similarly, many respondents alluded to a perception that many main campus librarians are reluctant to travel to other campuses or even, in some cases, to include branch/regional librarians in meetings via teleconferencing equipment.

**Number of Librarians at Primary Workplace**

Another key finding of this study is that the number of other librarians at one’s primary workplace appears to be a factor in perception of isolation and in perceived opportunity for networking and collaboration. Generally speaking, the fewer the number of librarians at the primary workplace, the more likely the respondent was to report feeling a sense of isolation or to report having less opportunity for networking and collaboration. This correlation was particularly strong among librarians at workplaces with fewer than three librarians, or fewer than six librarians for some questions.

One branch librarian alluded to the possibility that librarians in smaller libraries may be hampered in their research and professional development activities by the need to take on more (or more varied) job responsibilities: “Something I feel needs to be examined more thoroughly is the difference in opportunities in smaller branch libraries and increased duties, and yet, we are expected to produce similar levels of service and research for tenure.”

Many other respondents expressed the idea that “technology is not always a substitute for face to face interaction” even under the best of circumstances, while one off-campus librarian commented that “networking by phone or web conferencing helps but on-campus librarians don’t always plan to include me, set up phone, connect via NetMeeting, and send handouts.” Another librarian said, “In the last year or so we have done much more with IMing and web cam, but I still feel very separate from the main branch.” Indeed, twice as many Branch librarians (27%) reported that they Frequently or Very Frequently “feel a sense of isolation from colleagues,” as compared to Main librarians (14%).

**Distance and Communication**

Several other factors were identified in the results or by participant comments. Distance from the next closest library in the system was a small factor in feelings of isolation and in overall perception of networking and collaboration opportunity, though primarily for librarians who are more than 100 miles
away from the next closest library in the system—for whom face-to-face meetings with system colleagues is rare and for whom geographic isolation is very real.

Neither frequency of communication nor method of communication was identified as a major factor in the issues examined by this study, although those who reported communicating more frequently did tend to report having slightly more opportunity for networking and collaboration, as did those who reported adopting newer forms of communication (such as blogs, IM, and wikis). The differences in these categories were not nearly as substantial, however, as those related to factors such as library type or the number of librarians at the primary workplace.

**Administrative Role**

Many respondents commented on the role of library administrators in improving networking and collaboration among system librarians. They frequently pointed to the need for more administrative support and stronger leadership on these issues. For example, one librarian said:

I believe that the greatest barrier to cross-campus collaboration and networking is library administrators who do not support their staff. One library administrator in our system forbids her staff members from participating in professional associations on work time! Most library directors in our system do not belong to professional associations, attend conferences, or publish, nor do they encourage their staffs to do so.

Several respondents alluded to administrative issues and organizational barriers by mentioning disadvantaged funding situations for branch/regional libraries in the system. For example, one regional campus librarian noted that “Competition for funds is intense between campuses… at this point, the strain of having too much to do and not enough funding on our campus has created an IMPOSSIBLE situation for research and promotion, as well as decimating our materials budget.” Another branch librarian said, “The main campus has tons of money for all kinds of things…. [whereas] our budget is sadly lacking for travel, etc., making it necessary for librarians to pay out of pocket nearly all the time.”

This animosity among campuses or branches—and administration’s role in creating or breaking down such barriers—was mentioned by several other respondents. One participant noted that “we used to have much better relations with the other campus librarians but a few individuals with administrative power have undermined that collegiality with some of their decisions and attitudes towards the other campus libraries.” And another asserted, “If someone could come up with a ‘fix-it’ to the real or perceived THEM vs. US mentality, that would go a long way to address geographical challenges.”

Abolishing the “them vs. us” mentality that is perceived to exist at some institutions may be crucial in overcoming feelings of isolation and in providing better opportunities for networking and collaboration. The means for doing so are likely institution-specific, but the results of this study suggest that many librarians are interested in playing a part if administrators are willing to have such discussions.

**Lack of Time Due to Other Duties**

One factor noted by librarians of all types was “lack of time due to other duties.” Indeed, survey respondents of all types consistently alluded to lack of time as a major barrier to greater participation in everything from training to committee work to research to networking and collaboration.

As one respondent put it, “We all wear many hats and are gaining more responsibilities all of the time. There is little time to do much besides provide good basic services.” Another respondent said, “Time is the biggest problem for me. Even though we’re a very large library, we’re stretched painfully thin. I have two full-time jobs within the library…. I regularly work 50 hours a week or more and much of my days off/weekend time is spent doing library work at home.” Another lamented: “I have too much to do, so I lack time for research, service, networking, publishing, etc.” Indeed, when asked about job responsibilities,
the average respondent checked three “major/primary” areas of responsibility, and many librarians undoubtedly have several secondary areas of responsibility as well.

A severe lack of time and the need to balance ever-increasing job responsibilities is pervasive throughout academic librarianship, and devising solutions that address these issues will not be easy. Results and participant comments to this study do indicate that many librarians may be satisfied to start with small, incremental changes that would allow more release time from day-to-day duties for the purpose of pursuing activities such as research, professional development, networking, and collaboration: These small amounts of time may pay off later in terms of increased productivity and collaboration.

Conclusion

Areas for Further Research

There is ample room for further research on the topics addressed by this study. More focused studies, investigating issues of networking and collaboration among particular types of libraries (decentralized systems, for example, seem to have some unique challenges and issues) might reveal more nuanced understanding of the topics involved.

This study found that library type and number of librarians at the primary workplace are important factors related to these topics, but future studies may wish to consider other areas, such as those identified in some of the respondent comments to this study, for example:

- Personality type (e.g., introverted vs. extroverted)
- Administrative reorganization and the addition or removal of layers of bureaucracy
- Changing standards for promotion and tenure in academic libraries
- Generational diversity
- Unionization
- Length of time in the profession

Additional research also needs to be conducted to more clearly identify solutions and strategies for coping with feelings of isolation and for improving networking and collaboration opportunities.

Branching Out: Towards Better Communication & Collaboration

Although the primary purpose of this study was investigative, the results and respondent comments do begin to point the way towards some solutions and suggestions for better networking and collaboration among librarians.

Returning to the questions posed in the Introduction: Do librarians at branch locations frequently feel “isolated” from their main campus colleagues? In this study, the majority of respondents from all library types reported feeling isolated Never, Rarely, or only Occasionally. However, there were a significant number of respondents, particularly among Branch/Regional librarians, who consistently expressed notions of feeling isolated from colleagues. For example, twice as many Branch librarians (as compared to Main librarians) indicated that they Frequently or Very Frequently feel isolated, and many Branch librarian comments spoke to aspects of this issue. On the other hand, it is important to note that approximately one out of seven Main librarians reported feeling isolated Frequently or Very Frequently as well—in other words, this issue of collegial isolation is more complex than can be explained simply by library type or distance. In any case, it is clear that more systems need to have conversations about and take actions to address perceptions of system-wide issues such as inclusion, communication, and collaboration.

Are librarians within multi-campus institutions utilizing new technology to improve channels of communication and collaboration? Most respondents to this study indicated that they rely primarily upon traditional methods of communication, such as e-mail, phone, and in-person visits. Newer forms of communication such as blogs, instant messaging, video conferencing, and wikis received far lower rates of usage. Individual librarians who reported using these newer methods of communication did report having
slightly more opportunity for research, networking, and collaboration. It is not clear whether these individual efforts to adopt more methods of communication actually translate into significantly more (or better) opportunities for communication and collaboration. Additional research may need to be conducted to determine whether library systems that adopt some of these alternative means of communication tend to have significantly more (or better) internal communication, collaboration, and networking channels.

Do all librarians within multi-campus institutions have roughly equal opportunities for collaboration, networking, and professional development activities? A majority of all respondents felt their opportunities were relatively equal to those of their colleagues, although sizable minorities disagreed. For example, higher percentages of librarians at branch locations, librarians in decentralized systems, and librarians with very few colleagues at their primary workplace reported having less overall opportunity than librarians at main/primary campus libraries. Among all factors considered in this study, library type and number of librarians at the primary workplace were the most significant factors contributing to reported levels of opportunity for collaboration, networking, and professional development activities.

Many respondents suggested that initiatives to improve collaboration, networking, and professional development among system librarians should come from the top down. Library administrators “need to make intercampus relations a priority,” wrote one respondent; another mentioned the need for a “positive cultural shift to encourage system communication.” Indeed, several participants alluded to the need for rewards and incentives to promote better collaboration and communication. One librarian wrote:

Administrators have to create a culture that rewards interdepartmental and interlibrary cooperation, collaboration, and coordination efforts or it just won’t be a priority with the rank and file. It takes effort to do this well and all effort needs to be reinforced in some way that translates into recognition or rewards by the organizational leaders.

Another respondent similarly alluded to the need for more unifying efforts on the part of library administrators:

In all, whether networking or collaboration, administrators must agree upon the necessity of allowing time and funds for all of us to participate in activities away from our own campus. A concerted effort to unite us and grant opportunities to discuss and solve problems with other institutions in our own system and outside of our own system must be undertaken. Isolation is absolutely a very real problem even though we are a part of a much larger organization. The leadership must recognize the need!

On the other hand, the need to provide time and funds for frontline librarians to become more expansive and inclusive in their approach to working with colleagues largely clashes with the reality of reduced budgets, smaller staffs, and increasingly more difficult and time-consuming job assignments.

Clearly, the way forward for the profession—the way towards better collaboration and communication among librarians in multi-campus academic institutions—will require individual effort, strong leadership, creative solutions, and additional research and investigation.
References


Appendix

Networking and Collaboration Survey

1. Please indicate the primary funding status of your parent institution:
   Public     Private     Other

2. Please indicate the highest level of degree granted by your parent institution:
   Technical/Certificate     Associate     Baccalaureate     Master’s     Doctorate     Other

3. What is the approximate number of students at your institution (including all campuses)?
   0-999     1,000-2,999     3,000-9,999     10,000-20,000     More than 20,000

4. What is the approximate number of students on the campus you consider to be your primary workplace (i.e., where you consider your primary office to be?)
   0-999     1,000-2,999     3,000-9,999     10,000-20,000     More than 20,000

5. What is your status?
   Librarian with faculty status-tenured Librarian with faculty status-tenured-track but not yet tenured Librarian with faculty status-non tenure-earning Librarian without faculty status Adjunct librarian Library paraprofessional/Support staff Other

6. What is/are your main/primary area(s) of responsibility? (Select all that apply.)
   Acquisitions     Administration     Cataloging     Circulation     Collection Management     Government Documents     Interlibrary Loan     Instruction     Reference     Special Collections/Archives/Rare Books     Systems/Web Design/Elec. Resources     Technical Services     Other

7. At what type of library do you consider to be your primary workplace (i.e., where do you consider your primary office to be?)?
   Main/Primary library of a centralized multi-library system (i.e., in which there is one main/primary library and one or more branch/regional libraries)
   Branch/Regional library of a centralized multi-library system (i.e., in which there is one main/primary library and one or more branch/regional libraries)
   A library in a decentralized multi-library system (i.e., in which there are several more-or-less autonomous libraries of more-or-less similar size/scope)
   Other

8. How many degreed librarians (having a Master’s in Library Science or an equivalent degree) work at your primary workplace?
   0     1     2     3-5     6-10     11-20     21-35     35-50     More than 50

Communication

9. How often do you go to other libraries in your system for library business?
   Never     Rarely     Occasionally     Frequently     Very frequently

10. How often do other librarians in the system come to your workplace for library business?
    Never     Rarely     Occasionally     Frequently     Very frequently

11. Please estimate the distance (in miles) your workplace is from the closest other library in your system with which you regularly conduct library business?
    0-5     6-10     11-25     26-50     51-100     More than 100     Not applicable

12. What are the usual methods of communication among librarians at different libraries in your system? (Check all that apply.)
    Blog     E-mail     In-person visit     Instant Message (IM)     Phone     Postal mail     Video conference     Wiki     Other
13. What is your frequency of communication with librarians at other libraries in your system?
   Never   Rarely   Occasionally   Frequently   Very frequently

Committees, Taskforces, and Training

14. How often do you participate in your library system’s committees, taskforces, or workgroups?
   Never   Rarely   Occasionally   Frequently   Very frequently

15. How often do system committees, taskforces, or workgroups include representatives from more than one library within your system?
   Never   Rarely   Occasionally   Frequently   Very frequently

16. How often do you participate in your library system’s training sessions or training workshops?
   Never   Rarely   Occasionally   Frequently   Very frequently

17. Which of the following (if any) listed below do you perceive are barriers to participation on committees, taskforces, or workgroups within your library system? (Select all that apply.)
   Shortage of committee or workgroup assignments   Too much competition for committee or workgroup assignments   Lack of time due to other duties   Lack of support from admin.   Lack of travel funding or transportation options   Lack of available technology solutions (e.g., blogs, IM, videoconference equipment, wikis, etc.)   Not applicable   Other

Networking. For this section, please keep in mind Joan M. Reitz’s definition of networking: “The art of developing contacts within a profession and using them to advance one’s work and career.” (ODLIS: Online Dictionary of Library and Information Science)

19. How often would you say you have networking opportunities with colleagues within your own library system?
   Never   Rarely   Occasionally   Frequently   Very frequently

20. How often would you say you have networking opportunities with colleagues outside of your own library system?
   Never   Rarely   Occasionally   Frequently   Very frequently

21. Which of the following (if any) listed below do you perceive are barriers to networking with colleagues within your library system? (Select all that apply.)
   Shortage of committees or meetings   Lack of cross-training or exchange programs   Lack of social functions   Lack of time due to other duties   Lack of support from admin.   Lack of travel funding or transportation options   Lack of technology solutions   N/A   Other

Collaboration. For these questions, please keep in mind the following definition of collaborate (adapted from Joan M. Reitz): “to work closely with one or more associates in producing a work to which all who participate have shared or mixed responsibility.” (ODLIS: Online Dict. for Library and Info. Science)

22. Which area(s) of improvement below do you believe would most likely lead to better opportunities for networking within your library system? (Select all that apply.)
   More committees or meetings   More cross-training or exchange programs   More social functions   More time away from regular duties   More support from admin.   More travel funding or transportation options   More technology solutions (e.g., blogs, IM, videoconference equipment, wikis, etc.)   Not applicable   Other
23. How often would you say you collaborate with colleagues at other libraries within your own library system on day-to-day tasks or responsibilities?
   Never  Rarely  Occasionally  Frequently  Very frequently

24. How often would you say you collaborate with colleagues at other libraries within your own library system on service, research, or professional development activities (e.g., research articles, conference presentations, poster sessions, outside committee work, etc.)?
   Never  Rarely  Occasionally  Frequently  Very frequently

25. How often would you say you collaborate with colleagues outside your own library system on service, research, or professional development activities (e.g., research articles, conference presentations, poster sessions, outside committee work, etc.)?
   Never  Rarely  Occasionally  Frequently  Very frequently

26. Thinking in terms of professional development activities (e.g., research articles, conference presentations, poster sessions, outside committee work, etc.), do you believe you have:
   More opportunity than most of your colleagues  About the same opportunity as most of your colleagues  Less opportunity than most of your colleagues  Not applicable  Other

27. How often do you feel a sense of isolation from colleagues within your own library system?
   Never  Rarely  Occasionally  Frequently  Very frequently

28. Which of the following (if any) listed below do you perceive are barriers to collaboration with colleagues within your library system? (Select all that apply.)
   Shortages of committees or meetings  Lack of cross-training or exchange programs  Lack of social functions  Lack of time due to other duties  Lack of support from administration  Lack of travel funding or transportation options  Lack of technology solutions (e.g., blogs, IM, videoconference equipment, wikis, etc.)  Not applicable  Other

29. Which area(s) of improvement below do you believe would most likely lead to better opportunities for collaborating with colleagues within your library system? (Select all that apply.)
   More committees or meetings  More cross-training or exchange programs  More social functions  More time away from regular duties  More support from administration  More travel funding of transportation options  More technology solutions (e.g., blogs, IM, videoconference equipment, wikis, etc.)  Not applicable  Other

30. Do librarians of equal rank within your system earn similar salaries, regardless of location?
   Yes  No-librarians at the main/primary library make more  No-librarians at the branch/regional libraries make more  No-each location has a different salary scale  N/A  Other

31. Do librarians at all locations within your library system undergo the same process of review for promotion and tenure decisions?
   Yes  No-librarians at main/primary library undergo a different process than branch/regional librarians  No-each location has a different process  Not applicable  Other

32. Thinking in terms of networking and collaboration, overall do you believe you have:
   More opportunity than most of your colleagues  About the same opportunity as most of your colleagues  Less opportunity than most of your colleagues  Not applicable  Other

33. Do you have any final comments about the topics covered in this survey?
Author Note

Acknowledgements

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Using Online Tutorials to Reduce Uncertainty in Information Seeking Behavior

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Abstract
Uncertainty is defined as affective symptoms of stress, anxiety and frustration when faced with an information need. Traditional face to face instruction allows sender and receiver to fulfill information needs using multiple sources, visual, auditory, tactile and verbal. Distance learners may experience high levels of uncertainty when most or all of the communication and interaction takes place in an electronic environment that does not allow for these multiple information sources. Research on face to face communication and uncertainty suggests that people attempt to reduce uncertainty by acquiring more information and also by using structured or familiar information resources. This paper suggests that many of our behavioral motivations in face to face activities would also apply in the online environment. By creating online tutorials that combine structured hierarchical instructions with familiar modes of communication we may be able to reduce symptoms of uncertainty in the library search process.

Introduction
Information seeking behavior results from a determination of an information need and the realization that there is insufficient knowledge to address that need. An information need is therefore a gap in knowledge and information seeking is the process one goes through to fill that gap (Case, 2007; Kulhthau, 1991; Choo, Detlor, & Turnbull., 1998; Choo, Detlor, & Turnbull, 2000 ). Research in psychology and neuroscience reveals a connection between affect and cognition. Thus people have affective and emotional motivations for their choice and behaviors when dealing with an information need (Kalbach, 2006). One of the behaviors most often experienced when confronted with an information problem is the feeling of uncertainty. Uncertainty as an affective condition is characterized by negative feelings of anxiety, frustration, apprehension and worry. Depending on our information need, these feelings can range from a very mild almost unconscious feeling of apprehension to considerable worry and discomfort.

Information seeking behavior has become a significant topic in library research especially as it relates to electronic environments. Education, computer science and communication theories have been used to examine various facets of the information seeking process. As communication is a way of obtaining information, the premise of this paper is that many behavioral motivations displayed in information seeking behavior may be similar whether we are communicating online or face to face. Communication researchers suggest that one method people use to avoid uncertainty is to rely on environments that are formal, structured and familiar (Hofstede, 1984). This may also be applicable to information seeking and communicating in online environments.

Many researchers agree that information seeking behavior is distinguished by the nature of the need and the tactics used to find that information. Thus there is a need to investigate ways to improve information retrieval systems such as those used to provide bibliographic instruction and to do so we must first understand the cognitive and affective experiences of those who use the systems (Oh, 2002). Off-campus students seeking information on locating library materials and using search engines are often provided bibliographic instruction or information literacy workshops. Providing this instruction by online tutorials is becoming the norm due to the availability of electronic journals and the relatively easy access to Internet technology (Vibert, Rouet, Ros, Ramond, & Deshouillieres, 2007). This paper discusses uncertainty as an information seeking experience and offers examples of ways audio and visual technologies have been
incorporated into tools used for library instruction and searching that combat the negative feelings of uncertainty.

**Literature Review**

Within the field of library and information science, uncertainty is considered a fundamental concept in explaining human behavior. Kuhlthau’s Model of the Information Seeking Process and Wilson’s Problem Solving Model suggest that uncertainty is both an affective and cognitive experience in the information seeking process. Kuhlthau’s model links uncertainty to various stages in the information seeking process and also relates it to the intensity of the task. She states that uncertainty and anxiety can be expected in the early stages of trying to find information about a particular subject or when working on a complex problem (Kuhlthau, 1993; Kuhlthau, 1991). Wilson suggests that stress associated with problem solving would vary in intensity and urgency and so would the uncertainty levels. The research of Wilson, Ford, Ellis, Foster and Spink’s—“Information Seeking and Mediated Searching: Uncertainty and its Correlates” (2002), suggests that uncertainty could be expressed in degrees in regards to the stages of the problem solving process. According to their study, levels of uncertainty may not be related to sex, age or field of study, but rather to the amount of knowledge the student has of the domain he is exploring. Their research suggests that as a user moves through the problem solving stages he will engage in specific information seeking acts to reduce uncertainty. Accordingly, uncertainty as a cognitive dimension would suggest that the more knowledge the less uncertainty, the less knowledge the more uncertainty (Wilson et al., 2002). Other researchers agree that information seeking in online environments is based on the information need and the tactics used in the search (Choo et al., 2000; Ellis, 1993). Thus a person’s level of uncertainty might be related not only to his knowledge or familiarity of the system but also his ability to recognize useful information. This corresponds with research that describes how people acquire information. Generally, there are three ways people acquire information:

- By seeking information about a well defined object;
- By seeking information about and object not defined, but will be recognized on sight;
- By acquiring information accidentally, incidentally or in a serendipitous manner (Toms, 2000).

Serendipitous searching occurs when a user with no prior intentions interacts with a node of information and acquires useful information (Toms, 2000). Serendipitous searching is also related to the discovery learning approach. Discovery learning is a theory in the field of education. It suggests that learners attempt to solve problems by interacting with the environment with limited or no instructions, a sort of “learning by doing” approach. This type of learning does not appear to be effective for novices who do not have prior knowledge of what they are learning (Charney & Reuter, 1986). Part of learning a new system is being able to recognize when any given procedure is appropriate. This kind of knowledge is often difficult to acquire without previous exposure to the system (Charney & Reuter, 1986). Some online environments offer serendipitous information searching. A Weblog, or blog on the Web, is an example of a system that might promote serendipitous searching. Weblogs are easy to use, unedited Web sites, used primarily as a quick means of sharing information. Blogs are usually created and moderated by an individual or group, for a specific purpose or on a certain topic. Users interested in the topic or purpose can post information to the site. Posting is similar to chatting; however, information can also be linked to other sources for additional information. Several libraries have used Weblogs to provide library instruction, including Prairie View A&M University and Stephen F. Austin University, but not with much success. A study conducted at Stephen F. Austin University concluded that “blogging as a means of Information Literacy instruction was at best a neutral effort (Coulter & Draper, 2006, p. 113). Many students did not collaborate or respond to the blog. Lack of knowledge about the blog was listed as one of the reasons for the failure to use the system (Coulter & Draper, 2006). The Distance Services Librarian at Prairie View A&M University created a blog as an experiment for librarians before introducing it to students. The librarian noted that there was little interest from the library staff. Staff were informed of the site but many had not used blogs previously (author’s note). Neither Prairie View University nor the Coulter & Draper study analyzed uncertainty as a factor in the lack of use of the blogs. However, the conclusions raised suggest that knowledge or lack of knowledge might be a determining factor in usage of information.
systems. This corresponds with the research of Wilson, Ford, Ellis, Foster and Spink (2002) on uncertainty. Their study discussed the possibility that knowledge of an information retrieval system could possibly promote more usage and thus more information seeking, which in turn could correlate to an individual’s affective and cognitive symptoms of uncertainty. In addition, Kuhlthau (1991) suggests that not only is prior knowledge important for reducing uncertainty, she suggests that there is a correlation between the task and information problem. Therefore, another reason for the lack of usage of Weblogs for bibliographic instruction might be that the information problem is not appropriate for the medium used.

In comparison to Weblogs, online tutorials that are created with behavioral architectural or bottom up hierarchies could be considered structured searching or the opposite of a serendipitous information retrieval system. A hierarchical, or step by step, approach would constitute a structured information retrieval system with users being directed to appropriate information. This type of instruction is also called behavioral architectural instruction. Behavioral instruction assumes that learning takes place gradually through the use of chunking of instruction combined with positive feedback. Studies have shown that behavioral instruction is especially good for managing cognitive load, and encouraging long term memory (Clark, 2007). Cognitive load is managed, because users learn gradually, tasks start out simple then progress. Thus users with very limited knowledge would experience a gradual decrease in uncertainty as they continued to follow the ascribed steps and gain more knowledge. The proposed Uncertainty Model of Information Seeking theorizes that the higher the level of uncertainty, the more likely a person will show a preference for structured information search systems. The lower the level of uncertainty the more likely the person would show a reduced reliance on formal structures and might prefer browsing or undirected searching for information gathering. The Problem/Task section of the model suggests that the task may also determine the direction of the uncertainty/information searching bar, as Kuhlthau (1991) suggested there is a correlation between task complexity and uncertainty, thus the harder the task the more uncertainty. (See Appendix.)

**Communication Research on Uncertainty**

In the field of communication the theory of uncertainty has been linked to information seeking behavior in face to face interactions and has been used to explain behaviors of individuals and social systems. Berger and Calabrese (1975) developed the Uncertainty Reduction Theory, which focuses on how human communication is used to gain knowledge and create understanding. According to this theory individuals enter into an interaction with generally a high level of uncertainty, however through communication the level of uncertainty decreases, which in turn promotes more communication (Berger & Calabrese, 1975).

According to cross cultural communication research, uncertainty can also be analyzed in social systems or groups of individuals. Uncertainty theories in communication include the concept of uncertainty avoidance. It is noted that social systems not only attempt to reduce uncertainty they try to avoid it altogether by implementing hierarchical rules and regulations. High uncertainty avoiding cultures demonstrate a preference for detailed plans and standard operating procedures (Hofstede, 1984; Gudykunst, 2001). High uncertainty avoiding cultures stress adherence on hierarchical structures within organizations and social systems. Low uncertainty avoiding cultures encourage open learning and are able to function under fewer laws and regulations. Hofstede’s research has been used to investigate the acceptance of information technology in high and low uncertainty cultures.

The theories and literature review discussed previously provide a basis for the development of online information retrieval systems that consider uncertainty as a natural experience in the information seeking process. Thus it can be theorized that information retrieval systems that use hierarchical structures and assist users in gaining knowledge of the system through use while incorporating familiar modes of communication may reduce uncertainty in information seeking behavior.
Online Tutorials

Library instruction in a classroom differs from library instruction online (Dewald, 1999). Classroom instruction is usually arranged by the faculty for a specific time, function and objective. Classroom instruction provides a means by which students can work together and access their self efficacy through interactions and feedback. The goal of the instruction is that all students in the class are learning skills and concepts that they can use in that class and hopefully on other assignments. Online instruction is created for the purpose of reaching remote library users or distance education students. Interaction is usually between the individual student and the computer, yet the goal is the same that the student will learn new skills. Online tutorials cannot take the place of the “human connection in learning (Dewald, 1999). However, face to face instruction is not always possible or appropriate. Many libraries are using audio and video desktop screen capture technology to provide a more “human” form of online instruction (Tempelman-Kluit, 2003). Sound and vision are sensory mechanisms by which we learn. Research shows that some students learn best through visual and/or auditory channels (Dewald, 1999). In addition, instructional material, which employ various mediums improve learning more than instruction that uses only one media (Smith, 2001; Gellervij, Maij, de Jong, & Pieters, 2002; Gregory, 2002; Watson, 2004). Generally people skim written text, but when sensory elements are added their interest level increases.

The Web is an excellent venue to provide screen capture tutorials for distance students, and there are several software packages that librarians can use. Screen capture technology makes use of familiar modes of communication and how people process information. Vision and sound are related to memory, which is a function of the learning process. Information processing models divide human cognition into three memory systems: Sensory memory, short term memory (or working memory), and long term memory. Sensory memory briefly stores information that comes through our senses such as our eyes and ears. That information is then processed into working memory. According to the Dual Coding theory, the basic reason that some learn better when words and pictures or graphics are combined lies in how the learner processes information in working memory (Gellervij et al., 2002).

It is important when designing tutorials that the instructional goal is clearly defined. For a three to four minute tutorial the goal might be to encourage short term memory or working memory instead of developing critical thinking skills. Thus using a system that provided hierarchical directions and instructions might be more appropriate for novice users. An example of an application of this theory is the online bibliographic instruction tutorial on the John B. Coleman Library’s website at Prairie View A&M University.

John B. Coleman Library ProQuest Tutorial

Prairie View A&M University, located in a rural part of Texas outside of Houston, is one of the oldest Historically Black Colleges and Universities (HBCU) and is the second oldest public institution of higher education in Texas. The university has an established reputation for producing engineers, nurses and educators and is ranked as one of the top colleges for African Americans. The John B. Coleman library at Prairie View A&M University was faced with developing new ways to serve the university’s increasing number of graduate school and distance education students. Face to face bibliographic instruction at the main campus is conducted regularly by the John B. Coleman Reference Department librarians. However, due to lack of staff very little instruction occurs off-campus. There is one librarian for all of the off-campus sites including the campuses in Dallas and Houston. Inadequate library service at off-campus sites is a concern of many universities, but especially HBCUs that may not have the financial resources to acquire expensive technology or the time to invest in lengthy training programs for librarians.

The students at Prairie View range from new undergraduate freshman to experienced professional educators in doctoral programs. Many of the students are from rural area and may not be experienced with the latest technology. In addition, some students are in areas where there is not a library close by and that their only source of information is the computer. It is understandable that these students would experience affective and cognitive symptoms of uncertainty when faced with using a library or searching a database. It was with this concern that the Reference Department, Electronic Resources Librarian, and the Distance Services Librarian began collaborating on ways to provide bibliographic instruction primarily for distance
learners. Because a previous attempt to use Weblogs had failed to even attract librarians, it was decided that a blog might not be the best medium. Print material and face to face instruction sessions were not effectively reaching remote students. Online tutorials seemed to offer the most efficient and cost effective alternative. Several variables were considered in the decision:

- Students’ skill levels, attitude and satisfaction;
- Asynchronous versus synchronous delivery;
- Providing instruction to students through the tutorial or assisting in the development of critical thinking skills;
- Training needed for librarians to create the tutorials;
- Modem connection, download time and technology students would need to access the tutorial;
- Topics covered in the tutorial;
- Length of the tutorial;
- Tutorial design—simple text and graphics or audio and video.

There is quite a bit of literature on creating tutorials that address the variables listed (Buck, Islam, & Syrkin, 2006; Beyth-Marom, Saporta, & Caspi, 2005; Charney & Reder, 1986; Dewald, 1999; Pival & Tunon, 2001; Sweeney, O'Donoghue, & Whitehead, 2004; Smith, 2001; Templeman-Kluit & Ehrenberg, 2003). While all of the variables are considered important, the two that are most related to this paper are the student’s skill, attitude and satisfaction and the choice of using the tutorial for either assistance in developing critical thinking or simply providing instruction. It can be argued that the librarian’s purpose should be to instill critical thinking skills and not just the mechanics of searching (Dewald, 1999), and in the future the library plans to create tutorials designed with that goal. For the first tutorial it was decided to provide simple instructions geared toward beginning library users. The Coleman library relied on the experiences of other tutorial designers, which suggest that many students are not interested in committing time to lengthy tutorials. They want quick, fast and succinct information on how to use the library (Tempelman-Kluit & Ehrenberg, 2003). In addition, a short tutorial with step by step instructions was considered to be most appropriate for novice library users who did not have access to face to face instruction.

Uncertainty was not considered as one of the variables when creating the pilot tutorial. Probably because the concept of uncertainty is seldom distinguished from other behaviors or emotions that students might have in regard to their information seeking experience. Part of the problem is that uncertainty is hard to evaluate as it is a self perception of one’s own cognition. The concept of uncertainty would relate very closely to the variable that was considered: The student’s skill, learning and satisfaction. When future evaluations are conducted uncertainty as an affective experience of the student’s information seeking process will be included in the evaluation.

After considering all the variables, the librarians decided to use Snag It and Camtasia Studio 5 software to produce interactive tutorials with desktop screen capture and voiceover narration. Snag It and Camtasia are products of Tech Smith Company; the products are easy to use and can be ordered on a free trial basis. Snag It allows users to select and capture anything on a screen; you can then add text, captions or other effects. The screen can then be sent to a file, instant messaged, or e-mailed. The file can also be sent directly to Camtasia for screencasts. Camtasia allows the addition of audio and voiceover narration; it also has some other features such as being able to draw attention to particular parts of a screen you want the viewer to look at. Camtasia can also be published in the Flash format. Thus librarians can create a tutorial on searching a database from start to finish, record the process, save the file, and have students play it using any common browser plug-in like Flash or Windows Media Player.

The first tutorial created at the Coleman library was a ProQuest tutorial for searching journal articles in the ProQuest database. Students who access the tutorial are treated to approximately four minutes of step by step instructions on searching techniques. The tutorial takes viewers from the university’s main website to the library’s homepage and proceeds to a screen of the database. The tutorial is narrated by a reference librarian who begins with a welcome and a brief explanation of what students can
expect in the tutorial. The tutorial covers searching for an article in the database, a definition of a PDF article, and how to print the article. The tutorial concludes with a reference to other tutorials students can use for additional information. The student can replay, pause, or stop the video at any time. Currently the tutorial is in the trial stage and requires students to access it using their student identification numbers. The site is posted on the library’s website under Trial Resources. In the future the tutorial might be posted on the general homepage so that all users will have access to it (http://www.tamu.edu/pvamu/library/Reference/index.html).

The tutorial’s step by step sequencing is an example of behavioral architectural instruction discussed in the literature review. The step by step instructions encourage gradual learning through the chunking of information. Voice narration throughout the sequencing provides positive feedback and familiar communication cues, so students not only see what is happening, they get feedback from the audio narration. This tutorial was created for novice users who would be expected to have stress and anxiety using the technology and also solving the information task. Thus it was important to manage the cognitive load by providing guidance and direction. Cognitive load is managed by both the sequencing of information and through the screen capture. Thus the affective symptoms of uncertainty cannot only be managed, but also according to the Dual Coding theory students are able to learn better with the combined visual and audio components. The ProQuest tutorial was the beginning of a process to research and develop tutorials for the Coleman Library. The process is not flawless and as the library develops more begins the process of evaluation uncertainty and other concepts will be explored further.

Conclusion

Online tutorials have the potential to reach students who do not have access to face to face instruction. With the availability of screen capture and audio technology, librarians are able to provide a more “human” learning experience than a simple textual interface offers. Research has indicated that information seeking is more than just a goal driven task performing activity; people have emotions, affective and cognitive behaviors that influence their search strategies. It is with this understanding that information retrieval systems can be developed that considers affective symptoms of uncertainty such as stress and anxiety. This implies continual research on the technology and the users’ experience with that technology.
References


Appendix

Uncertainty Model of Information Seeking (Brumfield 2007).
Information Literacy Successes Compared: Online vs. Face to Face

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Abstract
This paper compares the results of a comprehensive exam taken by undergraduates enrolled in face-to-face and those in online sections of a 3-credit course in information literacy. Authors discuss choosing, adapting, and implementing the comprehensive exam. Questions are mapped to the ACRL Competency Standards for Information Literacy for Higher Education to assess the effectiveness of the course. Preliminary results indicate that online students performed slightly better than their face-to-face counterparts.

Introduction

The University of Rhode Island, following the national trends and the revised accreditation standards for the New England Region, is placing added emphasis on assessing programs and courses. In addition, the University’s Faculty Senate Curricular Affairs Committee has been re-approving online courses that have the same course code as face-to-face courses requiring that they have equivalent content. Instructors of LIB120 (Introduction to Information Literacy) have been supporting the University’s efforts by adapting and implementing a comprehensive exam for all sections of the course. This has given us an opportunity to assess our LIB 120 program. It has also given us a way to compare scores in the face-to-face and online sections to support our claim during the re-approval process that students in the different formats learn the same content and achieve comparable outcomes.

LIB120 is a three-credit, full semester course for undergraduates offered by the University Libraries. The course was first offered in the fall semester of 1999 and became an elective in the General Education Program in 2001. Demand for the course has grown to the extent that it is a regular offering each fall and spring semester with six to seven sections of 25 students each, plus one to two sections in the summer semester offered as an asynchronous distance learning course delivered via WebCT. The course covers research techniques, focusing heavily on library use but also addressing the Web and non-scholarly research needs. It also deals with information issues including plagiarism, copyright, and freedom of information.

The comprehensive exam was administered for two semesters to the face-to-face sections and for one summer session to the online students. We then compared the results to answer a simple question: Are the two course formats equivalent?

Literature Review

Recent literature on the equivalency question provides no simple answers. Not surprisingly, there are many variables that affect any results, and the debate over the “No Significant Difference Phenomenon” (Russell, 2008, p. 1) continues. Many studies measured student satisfaction and evaluations of teaching, and those that measured achievement did so in various ways with different populations and content, so this sampling of articles provides only broad similarities to our situation. None of the studies considered focused on a course in information literacy.

In a study at the University of Missouri (Summers, Waigandt, & Whittaker, 2005) that looked at differences in achievement as well as satisfaction among students in an introductory undergraduate statistics course for nurses offered online and face-to-face, authors predicted there would be significant differences based on student and instructor characteristics. But based on cumulative test scores in the
classes (three exams and a final), there was no real difference in students’ knowledge of statistics. However, students in the online sections expressed more dissatisfaction than classroom students even with the same instructor. The authors cited instructor interactions, course discussions, requirements and grading, even though these were identical between the formats. The only difference was that the instructor was not present for the online delivery.

Authors of another study (Hyllegard & Burke, 2002) argued that online courses should be compared with face-to-face courses in classrooms enhanced with instructional technology. Thirty courses at Borough of Manhattan Community College were analyzed, eighteen online and twelve in technology-enhanced classrooms. Results were based on aggregated key academic outcomes: Course GPA, pass rates, and withdrawal rates. Results showed that GPAs were statistically the same. However, the pass rate was lower in online course, and the online drop-out rate was much higher. There was wider difference in grading with a much higher rates of As and Withdrawals in the online sections while the face-to-face sections had a more traditional distribution of grades.

Older studies say there is no significant difference, that students score the same. Russell (2001) compiled research that shows no significant difference between online and traditional courses in an extensive bibliography. After some criticism of the methods used in the studies (Bennet, Gregg, & Green, 2001), and for not accounting for technology (Summers et al., 2005), Russell published the No Significant Difference Phenomenon Website to augment and update studies comparing formats (Russell, 2008). Now included in the database are studies that show significant differences and that account for technology and other variables.

Researchers at Michigan State University (Brown & Liedholm, 2002) studied students in a Principles of Microeconomics course offered live, and in hybrid and virtual formats. Students in the hybrid sections met live one out of three weekly class hours using the balance of time on the same course materials as the virtual students who also saw video of the instructor’s lectures to the live classes. Results were based on the total number of correct answers on all exams. After accounting for student variables, the authors found that virtual students scores were lower, especially on more complex economic questions. They concluded that direct student-teacher interaction is important, that online students spend less time on the course than traditional students, and that higher GPA and ACT scores as well as a higher number of credits taken affect the scores positively.

A study that compared students in matched face-to-face and online sections of Principles of Economics courses offered at three different universities (Coates, Humphreys, Kane, & Vachris, 2004) found that online students scored significantly lower on the Test of Understanding College Economics (TUCE) standardized test than students in face-to-face sections. However, using statistical models to account for many variables (including student self-selection, financial aid, having a friend who took an online course, and class ranking), researchers concluded that students who self-select an online course tend to get better scores, as do upperclassmen.

Graduate students do seem to fare better in the online environment. Fifty-two students with close demographics in two sections of a graduate course in teacher leadership, one online and one face-to-face, showed no significant difference in grades (Warren & Holloman, 2005). Student portfolios were graded by outside evaluators and assessed on a 7-point likey scale. Part of a study at GVSU College of Education compared student work in online and face-to-face graduate education courses and found no significant difference between formats (Topper, 2007). The authors used common assessments and evaluated student work products based on completeness, professional growth, analytical thinking, and consideration of classroom technology. There were equal percentages of "Distinguished" and "Proficient" categories of student work.

The University of Rhode Island LIB120 Comprehensive Exam

After eight years, more than a dozen instructors, and over 1200 students, we wanted to find out if the LIB120 curriculum, as it has developed, produces students who attain our learning outcome goals for the course. A pre- and post-test developed in-house was administered by some instructors from 1999.
2004. Those results were tabulated and analyzed in 2005-2006 (Burkhardt, 2007). While they gave some indication of student learning outcomes, the test emphasized skills mastery rather than concepts mastery. The final portfolio project that each student creates as a semester project serves as another assessment tool, but the results of those projects have not yet been globally examined. These first assessment efforts netted informative local results but cannot be compared to student successes at other institutions. The ability to compare our results with others and the requirements of the New England Association of Schools and Colleges (NEASC) accreditation standards make it clear that a regional or national comprehensive test instrument is needed.

In our search for an appropriate assessment instrument, we examined three likely prospects: Project SAILS (2008), the ETS (Educational Testing Service, 2007) Information and Communication Technology test, now called iSkills, and the Bay Area Community Colleges Information Competency Assessment Project (2004). At the time we did our research, Project SAILS was not available, as the creators had taken a year off to assess their results. The ETS exam posed a number of problems for us. First, their initial instrument was in Beta testing; a vetted version was not available in the timeframe we needed it. Second, the version we looked at targeted students graduating from college. This test appeared to be too advanced for students who took our introductory course. Third, the administration of the exam was fairly costly and we did not have the flexibility to add this cost to our already strained budget. Fourth, the information collected would not remain in our hands for our use.

The Bay Area Assessment proved to be a better fit for our needs. It is an instrument developed by a group of California librarians at Community Colleges in the San Francisco Bay area. Questions were developed by the librarians while phrasing and format were overseen by a professional test-writer. The exam was field tested and the results examined; a number of questions were revised as a result of this analysis. Each question was mapped to the appropriate ACRL Information Literacy (IL) Competency Standard(s), so a close examination of student learning outcomes for individual standards was possible (Association of College and Research Libraries, 2007). (See the Appendix for general description of ACRL IL Standards.) The instrument's questions map to ACRL Standards 1, 2, 3 and 5. Our semester project for LIB120 assesses outcomes mapping to Standard 4. We felt the combination of these two assessments provided the best feedback on student learning outcomes set for the course.

The instrument proved to be a better fit for us because:

- The Bay Area Exam was available online, along with its history and development;
- It was offered for use by others, free of charge, with attribution to its creators;
- We were permitted to adapt the instrument to meet our local needs;
- The information collected could be analyzed by us, and the information remained in-house for further and future use;
- The exam targeted students at the end of two year programs at community colleges and seemed to test for learning outcomes in keeping with our goals for LIB120.

Early in our evaluation process it was decided that the exam would have to be modified to fit the course, rather than the instructors "teaching to the exam." Since the exam as written covered the basics of information literacy accurately and effectively, major changes were not expected. LIB120 instructors met several times during the summer of 2006 to examine each question and agree on any changes. It was necessary to alter some of the questions to make the exam relevant to the LIB120 students. The obvious first change to the exam was cosmetic -- questions illustrating screen captures from a catalog needed to be illustrated with images from the catalog that the students had been using. This was easily done, and, while it required minor rewriting of the questions, it was possible to keep both format and order to make it easier to compare results with the national test. Similarly, questions relating to institutional policy had to be altered to fit the policy at our institution. Again, this change was essentially cosmetic, and would not invalidate the question for national comparison.

Other questions were more difficult to adjust. LIB120 instructors selected different possible answers for some multiple choice questions, using examples discussed during the course of the semester. New quotations from which students were to draw a conclusion were selected for one question. The entire
exam was put into the WebCT exam format, which caused some questions to be organized differently to accommodate the requirements of the computer software. Our goal was to maintain the same number of each type of question to accommodate different learning styles and to maintain the number of questions that mapped to each ACRL IL Standard. It is our hope that we will be able to compare our results with other institutions nation-wide, even though we have altered the exam to some extent.

We tried to anticipate problems that might arise in giving a final exam via WebCT. We produced a paper copy of the exam, just in case the computers crashed at an inopportune moment. We had IT assistants on hand to address any hardware issues. We required students to take the exam in the classroom during their regularly scheduled exam time. This eliminated the possibility that someone other than the LIB120 student was taking the exam. It also eliminated problems students might encounter while taking the exam elsewhere--computer failure, login difficulties, questions, and so on.

Once the exam was adapted for our purposes it was given to students of LIB120 classes offered during the Fall Semester of 2006, as the final exam for the class and 151 students took the exam. The exams for each section of the course were graded by their instructor. In addition, the exams were stripped of their identifying information and sent to an e-mail account where a faculty member compiled the results for analysis.

During the analysis, questions for which less than 70% of the students got the correct answer were flagged. At LIB120 instructor’s meetings during the spring of 2007 these questions were re-examined and adjusted where appropriate. The entire exam, its administration, and the outcomes were discussed as well. It was determined to administer the exam again during the Spring semester of 2007, to vet the revised questions and to allow some comparative analysis.

The exam was administered as the final exam for the Spring 2007 sections of LIB120 and 141 students took the exam. Again, exams were graded by the instructors of each section and the results were sent to the e-mail inbox for compilation and analysis. Although we had altered the exam slightly, we decided that the changes were not major and the results of the two semesters could be compared.

During the summer session of 2007, two sections of LIB120 were taught online, using the WebCT classroom management system. The class is offered completely online, with no face to face contact. These sections are relatively small, to accommodate the online format. As there are only two sections offered, the total number of students taking the online version of LIB120 is small. The instructors for the summer sessions agreed to administer the test (already available in a WebCT format) to their classes as the final exam and the results for the two sections were analyzed as in previous semesters.

We felt it would be instructive to compare the results for the online students with the results for the face-to-face students. Even though the total number of online students was small, we felt that even preliminary results of a comparison between the two class formats would be instructive if not conclusive.

### Reviewing the Data

A total of 23 students in two online sections took the LIB120 comprehensive exam in the summer 2007 semester. On average, these students scored 85.8% on the exam; this is higher than average test scores for both the fall 2006 (75%) and spring 2007 (80.1%) semesters, representing an over ten percentage point increase from the exam’s first administration. When the scores were examined in light of ACRL’s Information Literacy Competency Standards, summer students likewise performed better than others in each standard except Standard 1. For the summer sections the percentage of Standard 1 questions answered correctly dropped 3.3% when compared with fall 2006. However the summer scores for Standard 1 increased when compared to spring 2007 scores. Looking at summer 2007 alone, students achieved the best results with questions mapping to Standard 1. Standard 3 represented the lowest percentage of questions answered correctly by students studying online at 74.3% (see Figure 1).
Figure 1. Standards comparison.

There were several notable increases in summer semester student performance when compared with fall 2006 and spring 2007 averages. These improvements, which include eight questions with over 10% point increases over the fall and spring average, mostly represent Standards 2 (4 questions) and 5 (4 questions). Most of these questions asked students for objective or fact-based answers rather than higher order interpretive reasoning.

One question in particular demonstrated a notable increase in the percentage of students who answered it correctly in the two summer sections. This question, which addresses Standards 1 and 2, was answered correctly by 57.6% of students on average for the fall 2006 and spring 2007 semesters; in the summer sections, an average of 87% of students answered correctly. Because the summer data set is quite small in comparison to that of the fall and spring, it will be interesting to see if this 29.4% average increase remains consistent with future scores for summer classes.

While there were several marked improvements in summer 2007 scores, there were also four questions that dropped at least 20% from their fall/spring average. Questions answered correctly less often by the online sections mapped to Standards 1 (3 questions), 2 (3 questions), 3 (3 questions) and 5 (2 questions). These questions asked students to perform a variety of skills, including matching tasks to steps in the research process, and identifying an appropriate Website for a research question, providing rationale for their choice, and citing their electronic source properly. Four questions seemed to present difficulties to students regardless of the format of the class.

It should be noted that the small number in the data set for the online sections of LIB120 tends to exaggerate the increase and decrease in the percentage of students who got the answer right or wrong. These small numbers make calculations of statistical significance unreliable.
A comparison of the percentage of questions answered correctly across college level/year within the spring 2007 semester (a data set of 155 scores) shows very consistent numbers, while the summer semester’s small data set shows more notable differences. The highest average score in spring was achieved by students in their senior year (80.9%), while the lowest average, the juniors, was merely a percentage point lower. Juniors scored highest in the summer sections (90.8%), with sophomores the lowest at 73.6%, demonstrating a notable point spread. Again, the data set for summer sections is too small to draw any meaningful conclusions relating performance on the comprehensive exam with college level/year.

Conclusion

Overall, the LIB120 students who took the online comprehensive final exam performed at least as well, and perhaps a bit better, as their counterparts in the face-to-face sections. This may be, in part, due to the high number of seniors taking the online version of the course. This would correspond with findings from at least one other study (Coates et al., 2004). It is also possible that students who self-select an online course do so because they are familiar with and confident in the use of the technology involved. This might give them an advantage over students in the face-to-face sections who might not be as familiar/confident with WebCT (online) test taking.

Students in both class formats seem to have difficulty with some of the same questions. Those questions have been flagged for further discussion among the LIB120 instructors. The small data set for the online sections of the class results in the exaggeration of the gains or losses in the percentage of correct answers for individual questions. This makes our information inconclusive for the time being.

At this time we are unable to use standard statistical methods to compare the two class formats with any reliability. However, the preliminary data seem to indicate that the online students achieve the learning outcome goals set for the course, and they seem to do as well as the students in the face to face sections. We will continue to collect data from both the online and the face-to-face classes, with the goal of making statistical comparison possible in the future.
References


Russell, T. L. (2001). The no significant difference phenomenon: A comparative research annotated bibliography on technology for distance education: As reported in 355 research reports, summaries and papers. [S.l.]: IDECC.


Appendix

ACRL Information Literacy Competency Standards for Higher Education

Standard 1: The information literate student defines and articulates the need for information.

Standard 2: The information literate student accesses needed information effectively and efficiently.

Standard 3: The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

Standard 4: The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

Standard 5: The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

(Association of College and Research Libraries, 2007)
The Subject Specialist Librarian’s Role in Providing Distance Learning Services

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Abstract
Subject specialist librarians play a role in providing resources and services to distance students. The authors surveyed subject librarians and distance librarians, examining how and to what extent subject librarians provide service to distance learners.

Introduction
The Guidelines for Distance Learning Library Services (ACRL, 2004) state that it is the responsibility of the originating post-secondary institution to meet the teaching, learning, and research needs of distance students and distance faculty. Within the institution, the library has primary responsibility for distance learning library services. While the Guidelines include a section that outlines the role and activities of the librarian-administrator or distance librarian, subject specialist librarians also are identified as participants in providing resources and services to distance clientele.

Subject specialist librarians, or subject librarians, perform multiple activities in academic libraries. Traditionally these have included reference, instruction, collection development, and liaison with faculty and students within academic departments. While these broad activities have not changed markedly in several decades, the technologies librarians use to accomplish these assignments have undergone significant diversification. At the same time, the library clientele base has changed from primarily residential to a mix of residential students and distance students. The professional literature includes many articles pertaining to subject specialist librarians, and the literature discussing the development of distance learning library services is extensive. However, few articles focus on subject specialist librarians who participate in providing distance learning services.

The authors’ research was based on a survey of subject librarians and distance librarians, examining how and to what extent subject specialist librarians provide services to distance students and faculty. The primary research question was, what is the role of subject librarians in providing distance learning services? The methodology used was a survey distributed to academic librarians whose assignments or job titles are subject specialist librarians and/or distance librarians, with the commonality being service to distance students and distance faculty. The survey population was reached via electronic lists or e-mail LISTSERVS. Messages were sent to librarians subscribing to electronic lists in social science, humanities, and science/technology disciplines, as well as to a list for distance librarians.

Findings from the study will contribute to the understanding of subject librarians’ current practice in serving distance learners. Findings will also inform the library community about additional approaches to support the scholarly and information needs of distance students and faculty.

Literature Review
Smith (1974) characterized the subject specialist librarian as having “considerable specialized knowledge and a strong clientele orientation” (p. 76). The subject specialist librarian builds collections and maximizes the use of them through reference assistance and subject guides.

Articles relating to subject specialists often mention changes in the nature of job responsibilities. Pinfield (2001) noted that subject librarians increasingly emphasize liaison with library users and advocacy of the collections, and more recently, assessment of teaching quality. White (1999) reported on trends in subject specialist positions based on an analysis of job announcements published during the 1990s. The
majority of announcements listed reference, bibliographic instruction, and collection development as job responsibilities. While White cited 13 mentions of “outreach” as a job responsibility, there were no specific references to distance users. Feldmann (2006) discussed issues and trends that are changing the subject librarian’s role in academic libraries. Using new technologies and tools such as “VR, IM, blogging, podcasts and Wikis” are ways for subject librarians to provide quick answers to the current generation of students. There is no mention of distance learning in the White, Pinfield, and Feldmann articles.

The distance librarianship literature includes brief mention of subject librarians, often in conjunction with instruction opportunities. Caspers (2000) reported that distance librarians conduct general reference, and refer specialized questions to subject librarians. She emphasizes the importance of distance librarians keeping subject librarians informed about distance education developments so subject librarians can serve distance learners.

Dewald, Scholz-Crane, Booth, and Levine (2000) discussed the distance librarian role with teaching instructors in selecting pedagogical objectives for information literacy in the online setting. Buehler, Dopp, Hughes, and Thompson’s (2001) perspective is that “it takes a library to support distance learners” (p. 8). They specifically note that the subject librarian pairs with the distance librarian to prepare course-specific resources.

**Methodology**

For the purposes of this research study, the authors have defined a subject specialist as a librarian with specialized knowledge and experience who provides bibliographic instruction, reference service, collection development, and liaison to faculty and students in one or more academic disciplines or subjects. Subject librarians work with residential campus-based students and with distance students. A distance librarian, who often has coordinator responsibilities, specializes in the administration of distance library services. The distance librarian provides instruction, reference assistance, and document delivery, and in some instances develops library collections or serves as liaison to academic departments. Distance library services support students enrolled in college or university courses and programs offered away from a main campus or in the absence of a traditional campus. Courses may be delivered via the Internet, through course management systems, face-to-face, or other ways.

The authors’ research is based on two surveys conducted concurrently in fall 2007. One study population, subject librarian practitioners, was asked to respond to the survey based on their level of activity with distance learners. The other population, distance librarians, was asked to report on the knowledge of subject librarians’ work with distance learners at their institution.

Research questions for the study included: What distance learning library services are being performed by subject specialists? How do subject specialists and distance learning librarians collaborate in providing these services? To what degree are subject librarians and distance librarians engaged in course planning and assessment? What changes do both librarian populations anticipate will occur in the future that affect distance users?

The authors identified services or activities in which subject librarians might participate in serving distance learners. One multi-part question asked these librarians to indicate how frequently they use particular technologies to support distance learners. Several questions intended to gain background information related to distance learning programs. The researchers asked both survey populations how they see the role of subject librarians changing in the provision of services and resources for distance learners.

The survey instrument consisted of 14 questions, some with multiple parts. Eight questions were partially close-ended, offering the opportunity to mark suggested responses. Six questions were completely open-ended. All but one question provided an option for respondents to expand the answer or add comments. The survey was submitted to the University’s Institutional Review Board for required approval. Following approval, survey questions were formatted using Flashlight Online software to create the test instrument.
An e-mail message was sent on December 10, 2007 to four electronic discussion lists: EBSS-L, LES-L, STS-L, and OFFCAMP. EBSS-L, with 560 subscribers, is an electronic mailing list for education and behavioral science librarians. LES-L reports 335 members and is aimed towards Literature in English. The focus of STS-L with 1,176 members is science and technology librarians. The OFFCAMP list membership is primarily distance librarians, with 691 subscribers. All four electronic lists are affiliated with sections of the Association of College and Research Libraries division of the American Library Association.

The e-mail message served as a cover letter, outlining the research study and inviting subject librarians and distance librarians to participate. The message provided links to two versions of the survey, one for subject librarians and one for distance librarians. The survey questions were identical with one exception, that distance librarians were given the opportunity to mark “uncertain” as one of the response options. After the original survey deadline date had passed, a second e-mail message was posted on the four discussion lists indicating that the deadline was being extended. The survey was closed as of December 21, 2007.

The survey was anonymous as it did not ask questions that could identify individuals, institutions, or e-mail addresses. When each Web survey was submitted, the data were sent to a secure server operated by Flashlight Online. Both raw and compiled data were collected and made available to the researchers. The researchers later analyzed the raw data.

Results

In response to the e-mail message seeking participation in the survey, 122 surveys were submitted through the Flashlight Online Web link. One hundred surveys were submitted through the link for subject librarians, while 22 surveys were sent through the distance librarians’ link. Below is a summary of the questions asked in the survey and the answer results. Some survey results are presented in table format. Many respondents used the optional comments boxes to expand on their responses. A synopsis of these comments is included. For each survey question, responses from subject librarians are provided first, followed by responses from distance librarians. Percentage figures were tabulated, although the results occasionally do not add up to 100% due to rounding.

Services or Activities

Q1. [subject librarians’ survey] Mark all of the following services or activities you as a subject librarian provide to distance learners or faculty at your institution. (See Table 1.)

Q1. [distance librarians’ survey] Mark all of the following services or activities that subject librarians at your institution provide to distance learners or faculty. (See Table 1.)

Table 1

<table>
<thead>
<tr>
<th>Services and Activities</th>
<th>Subject Librarians</th>
<th>Distance Librarians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference – subject specific, often in-depth</td>
<td>94%</td>
<td>82%</td>
</tr>
<tr>
<td>Reference – general</td>
<td>88%</td>
<td>86%</td>
</tr>
<tr>
<td>Liaison/outreach with faculty or students in an assigned subject area or academic discipline</td>
<td>88%</td>
<td>68%</td>
</tr>
<tr>
<td>Collection development/management – print or electronic</td>
<td>81%</td>
<td>82%</td>
</tr>
<tr>
<td>Instructional design (such as tutorials or course modules)</td>
<td>61%</td>
<td>64%</td>
</tr>
<tr>
<td>Web page design/updating</td>
<td>59%</td>
<td>55%</td>
</tr>
<tr>
<td>Document delivery</td>
<td>18%</td>
<td>18%</td>
</tr>
<tr>
<td>Electronic reserves</td>
<td>11%</td>
<td>18%</td>
</tr>
</tbody>
</table>
Subject librarians were given the opportunity to describe additional services or activities they provide to distance students and faculty. Respondents cited travel to branch campuses or centers, conducting workshops or library instruction sessions onsite or through live interactive video, and activities related to course management software. Two subject librarians mentioned embedded presence in courses via CMS software. One librarian indicated involvement with projects and grantsmanship. Another reported frequent interaction with scholars worldwide through co-authoring of publications.

Several distance librarians noted that subject librarians at their institutions also provide bibliographic instruction. One respondent stated that nearly all interaction with distance students is carried out by the distance librarian, while subject librarians are responsible only for phone reference services and collection development activities. Two distance librarians reported that subject librarians troubleshoot access problems with document delivery and e-reserves, both of which are handled by different units in the library.

**Instructional Information or Research Support**

Q2. [subject librarians’ survey] How often do you as a subject librarian use the following to support distance learners? (See Table 2.)

### Table 2

<table>
<thead>
<tr>
<th>SUPPORT METHODS FOR DISTANCE LEARNERS</th>
<th>FREQUENTLY</th>
<th>OCCASIONALLY</th>
<th>NOT AT ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web pages for distance learners on library Website</td>
<td>31%</td>
<td>45%</td>
<td>24%</td>
</tr>
<tr>
<td>Course- or discipline-specific Web pages</td>
<td>41%</td>
<td>40%</td>
<td>19%</td>
</tr>
<tr>
<td>Tutorials or learning modules</td>
<td>22%</td>
<td>59%</td>
<td>20%</td>
</tr>
<tr>
<td>Subject or research guides</td>
<td>57%</td>
<td>37%</td>
<td>6%</td>
</tr>
<tr>
<td>Course-specific guides</td>
<td>34%</td>
<td>47%</td>
<td>19%</td>
</tr>
<tr>
<td>Print handouts</td>
<td>18%</td>
<td>42%</td>
<td>40%</td>
</tr>
<tr>
<td>Online FAQs</td>
<td>12%</td>
<td>40%</td>
<td>48%</td>
</tr>
</tbody>
</table>

Many of the subject librarian responses related to online methods that provide instructional information or research support for distance learners. A subject librarian reported sending PDFs of handouts to distance learners. Some subject librarians participate in discussion lists within course management systems. One reported that discipline-specific support is limited to subject guides.

Q2. [distance librarians’ survey] How often do subject librarians use the following to support distance learners at your institution? (See Table 3.)

### Table 3

<table>
<thead>
<tr>
<th>SUPPORT METHODS FOR DISTANCE LEARNERS</th>
<th>FREQUENTLY</th>
<th>OCCASIONALLY</th>
<th>NOT AT ALL</th>
<th>UNCERTAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web pages for distance learners on library Website</td>
<td>41%</td>
<td>27%</td>
<td>18%</td>
<td>14%</td>
</tr>
<tr>
<td>Course- or discipline-specific Web pages</td>
<td>24%</td>
<td>52%</td>
<td>14%</td>
<td>10%</td>
</tr>
<tr>
<td>Tutorials or learning modules</td>
<td>32%</td>
<td>55%</td>
<td>9%</td>
<td>5%</td>
</tr>
<tr>
<td>Subject or research guides</td>
<td>36%</td>
<td>50%</td>
<td>5%</td>
<td>9%</td>
</tr>
<tr>
<td>Course-specific guides</td>
<td>18%</td>
<td>32%</td>
<td>36%</td>
<td>14%</td>
</tr>
<tr>
<td>Print handouts</td>
<td>18%</td>
<td>27%</td>
<td>50%</td>
<td>5%</td>
</tr>
<tr>
<td>Online FAQs</td>
<td>14%</td>
<td>57%</td>
<td>24%</td>
<td>5%</td>
</tr>
</tbody>
</table>
One distance librarian indicated that subject librarians keep distance librarians in the loop about new resources in the field through subject-specific Websites.

**Use of Technologies**

Q3. [subject librarians’ survey] How often do you as a subject librarian use the following technologies to support distance learners? (See Table 4.)

Table 4

*Technologies Used by Subject Librarians – Subject Librarian Responses*

<table>
<thead>
<tr>
<th>TECHNOLOGIES</th>
<th>FREQUENTLY</th>
<th>OCCASIONALLY</th>
<th>NOT AT ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chat</td>
<td>21%</td>
<td>38%</td>
<td>41%</td>
</tr>
<tr>
<td>Embedded chat (e.g. Meebo)</td>
<td>15%</td>
<td>24%</td>
<td>61%</td>
</tr>
<tr>
<td>Instant Messaging (IM)</td>
<td>16%</td>
<td>25%</td>
<td>59%</td>
</tr>
<tr>
<td>Skype or other Voice Over Internet Protocol software</td>
<td>2%</td>
<td>6%</td>
<td>92%</td>
</tr>
<tr>
<td>Text messaging</td>
<td>2%</td>
<td>8%</td>
<td>90%</td>
</tr>
<tr>
<td>Twitter/Pownce/Microblogging</td>
<td>0%</td>
<td>2%</td>
<td>98%</td>
</tr>
<tr>
<td>Photo sharing sites (Flickr, etc.)</td>
<td>1%</td>
<td>8%</td>
<td>91%</td>
</tr>
<tr>
<td>Blogs</td>
<td>8%</td>
<td>31%</td>
<td>60%</td>
</tr>
<tr>
<td>DVD/CD-ROM</td>
<td>5%</td>
<td>16%</td>
<td>78%</td>
</tr>
<tr>
<td>Streaming video</td>
<td>5%</td>
<td>16%</td>
<td>79%</td>
</tr>
<tr>
<td>Video conferencing</td>
<td>2%</td>
<td>19%</td>
<td>79%</td>
</tr>
<tr>
<td>Live satellite TV</td>
<td>2%</td>
<td>10%</td>
<td>88%</td>
</tr>
<tr>
<td>Screencasts</td>
<td>5%</td>
<td>26%</td>
<td>69%</td>
</tr>
<tr>
<td>Web browser extensions</td>
<td>2%</td>
<td>11%</td>
<td>87%</td>
</tr>
<tr>
<td>Wikis</td>
<td>9%</td>
<td>21%</td>
<td>70%</td>
</tr>
<tr>
<td>Podcasts</td>
<td>4%</td>
<td>11%</td>
<td>85%</td>
</tr>
<tr>
<td>Video podcasts</td>
<td>3%</td>
<td>12%</td>
<td>85%</td>
</tr>
<tr>
<td>RSS feeds</td>
<td>3%</td>
<td>30%</td>
<td>67%</td>
</tr>
<tr>
<td>Social networking (e.g. MySpace, Facebook, LinkedIn)</td>
<td>2%</td>
<td>28%</td>
<td>70%</td>
</tr>
<tr>
<td>Bookmark sharing/management (e.g. Del.icio.us, Furl, ma.gnolia.com)</td>
<td>3%</td>
<td>11%</td>
<td>86%</td>
</tr>
<tr>
<td>Electronic newsletters to distance students or faculty</td>
<td>10%</td>
<td>31%</td>
<td>59%</td>
</tr>
<tr>
<td>Online presentation (e.g. slideshare.net, Breeze)</td>
<td>6%</td>
<td>20%</td>
<td>73%</td>
</tr>
<tr>
<td>Virtual Worlds (Second Life, etc.)</td>
<td>0%</td>
<td>2%</td>
<td>98%</td>
</tr>
<tr>
<td>E-mail</td>
<td>76%</td>
<td>23%</td>
<td>1%</td>
</tr>
<tr>
<td>Telephone</td>
<td>56%</td>
<td>41%</td>
<td>3%</td>
</tr>
</tbody>
</table>
One subject librarian reported using virtual reference that includes screen sharing/pushing. Another is creating a Wiki. One respondent indicated that chats, blogs, and podcasts are handled by other staff within the library.

Table 5

Technologies Used by Subject Librarians – Distance Librarian Response

<table>
<thead>
<tr>
<th>TECHNOLOGIES</th>
<th>FREQUENTLY</th>
<th>OCCASIONALLY</th>
<th>NOT AT ALL</th>
<th>UNCERTAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chat</td>
<td>18%</td>
<td>32%</td>
<td>45%</td>
<td>5%</td>
</tr>
<tr>
<td>Embedded chat (e.g. Meebo)</td>
<td>14%</td>
<td>23%</td>
<td>55%</td>
<td>9%</td>
</tr>
<tr>
<td>Instant Messaging (IM)</td>
<td>14%</td>
<td>36%</td>
<td>45%</td>
<td>5%</td>
</tr>
<tr>
<td>Skype or other Voice Over Internet Protocol software</td>
<td>0%</td>
<td>9%</td>
<td>82%</td>
<td>9%</td>
</tr>
<tr>
<td>Text messaging</td>
<td>0%</td>
<td>27%</td>
<td>59%</td>
<td>14%</td>
</tr>
<tr>
<td>Twitter/Pownce/Microblogging</td>
<td>0%</td>
<td>5%</td>
<td>82%</td>
<td>14%</td>
</tr>
<tr>
<td>Photo sharing sites (Flickr, etc.)</td>
<td>0%</td>
<td>14%</td>
<td>73%</td>
<td>14%</td>
</tr>
<tr>
<td>Blogs</td>
<td>5%</td>
<td>32%</td>
<td>55%</td>
<td>9%</td>
</tr>
<tr>
<td>DVD/CD-ROM</td>
<td>0%</td>
<td>27%</td>
<td>64%</td>
<td>9%</td>
</tr>
<tr>
<td>Streaming video</td>
<td>5%</td>
<td>23%</td>
<td>64%</td>
<td>9%</td>
</tr>
<tr>
<td>Video conferencing</td>
<td>5%</td>
<td>18%</td>
<td>68%</td>
<td>9%</td>
</tr>
<tr>
<td>Live satellite TV</td>
<td>0%</td>
<td>5%</td>
<td>86%</td>
<td>9%</td>
</tr>
<tr>
<td>Screencasts</td>
<td>9%</td>
<td>18%</td>
<td>59%</td>
<td>14%</td>
</tr>
<tr>
<td>Web browser extensions</td>
<td>0%</td>
<td>18%</td>
<td>59%</td>
<td>23%</td>
</tr>
<tr>
<td>Wikis</td>
<td>9%</td>
<td>0%</td>
<td>82%</td>
<td>9%</td>
</tr>
<tr>
<td>Podcasts</td>
<td>0%</td>
<td>23%</td>
<td>73%</td>
<td>5%</td>
</tr>
<tr>
<td>Video podcasts</td>
<td>0%</td>
<td>14%</td>
<td>77%</td>
<td>9%</td>
</tr>
<tr>
<td>RSS feeds</td>
<td>9%</td>
<td>32%</td>
<td>55%</td>
<td>5%</td>
</tr>
<tr>
<td>Social networking (e.g. MySpace, Facebook, LinkedIn)</td>
<td>9%</td>
<td>32%</td>
<td>50%</td>
<td>9%</td>
</tr>
<tr>
<td>Bookmark sharing/management (e.g. Del.icio.us, Furl, ma.gnolia.com)</td>
<td>5%</td>
<td>23%</td>
<td>50%</td>
<td>23%</td>
</tr>
<tr>
<td>Electronic newsletters to distance students or faculty</td>
<td>10%</td>
<td>29%</td>
<td>48%</td>
<td>14%</td>
</tr>
<tr>
<td>Online presentation (e.g. slideshare.net, Breeze)</td>
<td>0%</td>
<td>52%</td>
<td>38%</td>
<td>10%</td>
</tr>
<tr>
<td>Virtual Worlds (Second Life, etc.)</td>
<td>0%</td>
<td>5%</td>
<td>86%</td>
<td>9%</td>
</tr>
<tr>
<td>E-mail</td>
<td>82%</td>
<td>14%</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td>Telephone</td>
<td>73%</td>
<td>23%</td>
<td>0%</td>
<td>3%</td>
</tr>
</tbody>
</table>
Q3. [distance librarians’ survey] How often do subject librarians use the following technologies to support distance learners at your institution? (See Table 5.)

One distance librarian responded that subject librarians use Elluminate and Wimba for VOIP synchronous training, and will utilize Tegrity for Webcasts in the near future. Another reported that subject librarians are using Skype on a test basis, and that distance students could make use of this technology.

Course Management Software

Q4. [subject librarians’ survey] How often do you as a subject librarian use course management software (e.g. Blackboard, WebCT, Angel, Moodle, or Sakai) to reach distance students? (See Table 6.)

Table 6

<table>
<thead>
<tr>
<th>Course Management Software Used – Subject Librarian Response</th>
<th>FREQUENTLY</th>
<th>OCCASIONALLY</th>
<th>NOT AT ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor the course as an associate instructor or observer</td>
<td>12%</td>
<td>42%</td>
<td>45%</td>
</tr>
<tr>
<td>Participate in discussion boards/threaded discussions</td>
<td>8%</td>
<td>41%</td>
<td>51%</td>
</tr>
<tr>
<td>Post links to course- or discipline-specific guides</td>
<td>22%</td>
<td>40%</td>
<td>38%</td>
</tr>
<tr>
<td>Prepare a digital course pack (linked bibliography)</td>
<td>9%</td>
<td>30%</td>
<td>61%</td>
</tr>
<tr>
<td>Contribute to the preparation of a digital syllabus (i.e. locate relevant articles, locate permanent/persistent links, add links to articles)</td>
<td>13%</td>
<td>29%</td>
<td>58%</td>
</tr>
<tr>
<td>Include subject librarian contact information</td>
<td>52%</td>
<td>29%</td>
<td>19%</td>
</tr>
<tr>
<td>Link to subject librarian Web page</td>
<td>33%</td>
<td>39%</td>
<td>28%</td>
</tr>
<tr>
<td>Link to specific course resources recommended by the subject librarian</td>
<td>27%</td>
<td>36%</td>
<td>36%</td>
</tr>
<tr>
<td>Answer course management system-related questions from students</td>
<td>16%</td>
<td>30%</td>
<td>54%</td>
</tr>
</tbody>
</table>

Three subject librarian respondents indicated that subject librarians are striving to be included as players in course management systems. Another posts interactive quizzes about the library’s online resources within the CMS. One developed subject-based tutorials posted on Blackboard for use by all students, both distance and residential. Another subject librarian reported that research papers from online students are reviewed by librarians to assess information literacy skills. One respondent reports holding virtual office hours in the chat room of the course management system.

Q4. [distance librarians’ survey] How often do subject librarians use course management software (e.g. Blackboard, WebCT, Angel, Moodle, or Sakai) to reach distance students? (See Table 7.)
Table 7

*Course Management Software Used – Distance Librarian Response*

<table>
<thead>
<tr>
<th>COURSE MANAGEMENT SOFTWARE</th>
<th>FREQUENTLY</th>
<th>OCCASIONALLY</th>
<th>NOT AT ALL</th>
<th>UNCERTAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor the course as an associate instructor or observer</td>
<td>18%</td>
<td>41%</td>
<td>36%</td>
<td>5%</td>
</tr>
<tr>
<td>Participate in discussion boards/threaded discussions</td>
<td>14%</td>
<td>55%</td>
<td>27%</td>
<td>5%</td>
</tr>
<tr>
<td>Post links to course- or discipline-specific guides</td>
<td>27%</td>
<td>41%</td>
<td>23%</td>
<td>9%</td>
</tr>
<tr>
<td>Prepare a digital course pack (linked bibliography)</td>
<td>5%</td>
<td>41%</td>
<td>41%</td>
<td>14%</td>
</tr>
<tr>
<td>Contribute to the preparation of a digital syllabus (i.e. locate relevant articles, locate permanent/persistent links, add links to articles)</td>
<td>5%</td>
<td>50%</td>
<td>27%</td>
<td>18%</td>
</tr>
<tr>
<td>Include subject librarian contact information</td>
<td>32%</td>
<td>27%</td>
<td>32%</td>
<td>9%</td>
</tr>
<tr>
<td>Link to subject librarian Web page</td>
<td>23%</td>
<td>27%</td>
<td>45%</td>
<td>5%</td>
</tr>
<tr>
<td>Link to specific course resources recommended by the subject librarian</td>
<td>23%</td>
<td>45%</td>
<td>18%</td>
<td>14%</td>
</tr>
<tr>
<td>Answer course management system-related questions from students</td>
<td>14%</td>
<td>41%</td>
<td>27%</td>
<td>18%</td>
</tr>
</tbody>
</table>

One distance librarian reported that subject librarians have prepared interactive Web tutorials for specific courses. While one distance librarian indicated that subject librarians are just beginning to become embedded in courses, another indicated using course management software, although subject librarians at her library do not.

**Collaborative Activity**

This section of the survey consisted of four open-ended questions.

**Q5. [subject librarians’ survey]** As a subject librarian supporting distance learners, comment on your collaborative activity with your institution’s distance librarian.

One subject librarian indicated frequent collaboration with the distance librarian in preparing welcome messages sent to all distance learners. Another responded that the two librarians design tutorials, screencasts, and Web pages, and conduct research to determine the content for the distance learner Web page. A subject librarian reported co-teaching instruction sessions using various software systems and tele- or video-conferencing. Another subject librarian reported pairing with the distance librarian to conduct face-to-face presentations for distance cohorts at remote sites. A number of respondents answered that the distance librarian is often the first point of contact, followed by referrals to subject librarians as needed.

More than one-fourth of subject librarian respondents indicated that their library does not have a position called “distance librarian” or “distance librarian coordinator.” Several reported they serve as both subject librarian and distance librarian. Several others indicated that their subject librarians are expected to serve all students whether they are distance or residential. In a number of cases there is little collaboration between subject librarians and distance librarians due to the organizational structure of the library.

**Q5. [distance librarians’ survey]** Comment on subject librarians’ collaborative activity with you as a distance librarian.
One distance librarian respondent reported that subject librarians direct distance learners to the
distance librarian regardless of the specific discipline or subject. Another stated that subject librarians assist
distance learners but expect the distance librarian to be the main contact. A distance librarian replied that
the two librarians team teach for orientations, while another cited collaboration on a subject-based tutorial
for distance learners. One distance librarian indicated that with the merger of reference services, serving
distance students became everyone’s responsibility.

Q6. [subject librarians’ survey] As a subject librarian supporting distance learners, comment on
your collaborative activity with instructional designers within your library.

A subject librarian respondent reported collaboration with instructional media staff on podcasts,
and collaboration with instructional technology staff to post and manage Websites. Another respondent
reported collaboration on tutorials, and planned to collaborate on creating a space in Second World. One
subject librarian replied that the instructional designer position is new, and anticipates collaborative work
with tutorials. Another subject librarian relies on instructional designers to implement her ideas.

One respondent from a small institution reported working with outsourced contractors for Website
design and course management systems. Another replied that although instructional designers are in the
same building, there is little collaboration. One subject librarian collaborates with another subject
specialist who is experienced with WebCT.

Q6. [distance librarians’ survey] Comment on subject librarians’ collaborative activity with
instructional designers within your library.

One distance librarian reported that two subject librarians work extensively with instructional
designers in the library with Blackboard courses. Another replied that subject librarians make up the
instruction design team that develops and maintains courses. A distance librarian reported there are
resource design collaborations between subject librarians and instructional designers. One replied that
increasing collaboration brings good results for all.

Q7. [subject librarians’ survey] As a subject librarian supporting distance learners, comment on
your collaborative activity with instructional designers external to the library.

A respondent reported that subject librarians meet with instructional designers to discuss
collaboration related to distance learners’ reference needs. Another reported frequent collaboration with the
E-learning Center in delivery and design approaches. A subject librarian commented that the library
benefits from sharing space with instructional designers in the Faculty Assistance Center for Teaching.

One subject librarian has worked with an instructional designer to develop a customizable online
tutorial that can be tailored for distance learners. Another has regular conversations with designers, who
were “at first surprised by my interest but now understand what the library can do to support distance
learning.” A subject librarian stated that the instruction team brings in IT people for training and technical
assistance.

Q7. [distance librarians’ survey] Comment on subject librarians’ collaborative activity with
instructional designers external to the library.

A respondent indicated two subject librarians will teach an online information literacy course for
distance learners, and have collaborated with the Outreach School instructional designers on course
development. Another reports some interaction with the graduate school instructional designers.
A distance librarian said subject librarians collaborate with instructional designers on development of
pretest/posttests for several disciplines as well as an online orientation for doctoral students.

One distance librarian replied that young subject librarians are more likely to apply training from
instructional designers. Another reported some limited collaboration has occurred, but vacancies in the
instructional design office have created an uncertain future. A distance librarian reported that instructional design is the province of the teaching faculty.

Q8. [subject librarians’ survey] As a subject librarian supporting distance learners, comment on your collaborative activity with instructional/teaching faculty.

One subject librarian collaborates with instructors to create modules within the courseware and offers online quizzes in Blackboard. A respondent reported that faculty include her on management pages so she can maintain contact with students regarding their research. Another indicated a semester-long collaborative effort to provide technical and bibliographical support. One subject librarian respondent has worked with faculty to provide live and recorded video and Web-based presentations to distance learners.

One subject librarian collaborates on a daily basis with teaching faculty to find content resources pertinent to their course. Another collaborates on assignments and information competence instruction. One subject librarian reported excellent support for both on- and off-campus instruction, with many request for class visits, so much so that the librarians cannot keep up physically with the demand for services. Another respondent stated that faculty tend to contact the distance librarian first rather than the subject librarian. Another subject librarian reported creating online instruction, course Wiki, and chat sessions for distance learners.

A number of subject librarians reported that collaboration varies by department or individual faculty members. One subject librarian has created Web pages and tutorials for instruction with faculty, but observed that distance faculty have not expressed interest in these. Several subject librarians also remarked on the difficulty of making and keeping contact with adjunct faculty.

Q8. [distance librarians’ survey] Comment on subject librarians’ collaborative activity with instructional/teaching faculty at your institution.

One distance librarian characterizes collaboration as ranging from excellent to nearly non-existent, depending on the department and individual faculty member. That respondent added that communication with adjuncts, especially online instructors, is particularly difficult. According to another distance librarian, subject librarians have plenty of contact with on-campus faculty, but see distance faculty as the responsibility of the distance librarian. Another distance librarian stated collaborative activity is “not as much as it should be…the idea of being integrated with the instructional side is really foreign to some.”

Course Assessment

Q9. [subject librarians’ survey] How often do you as a subject librarian participate in course assessment of distance courses? (See Table 8.)

Table 8

<table>
<thead>
<tr>
<th>COURSE ASSESSMENT</th>
<th>FREQUENTLY</th>
<th>OCCASIONALLY</th>
<th>NOT AT ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop objectives/outcomes for course</td>
<td>6%</td>
<td>16%</td>
<td>78%</td>
</tr>
<tr>
<td>assessment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Help design course assessment instrument</td>
<td>5%</td>
<td>16%</td>
<td>78%</td>
</tr>
<tr>
<td>Participate in data collection for the course</td>
<td>6%</td>
<td>13%</td>
<td>81%</td>
</tr>
<tr>
<td>Participate in data analysis</td>
<td>5%</td>
<td>8%</td>
<td>87%</td>
</tr>
<tr>
<td>Share in writing of assessment reports</td>
<td>3%</td>
<td>9%</td>
<td>87%</td>
</tr>
</tbody>
</table>

One subject librarian has developed learning goals and objectives for online distance courses. Two report evaluating the library instruction part of the course. Another subject librarian reported the library does its own assessment.
Q9. [distance librarians’ survey] How often do subject librarians at your institution participate in course assessment of distance courses? (See Table 9.)

Table 9

Course Assessment – Distance Librarian Response

<table>
<thead>
<tr>
<th>COURSE ASSESSMENT</th>
<th>FREQUENTLY</th>
<th>OCCASIONALLY</th>
<th>NOT AT ALL</th>
<th>NOT AT ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop objectives/outcomes for course assessment</td>
<td>0%</td>
<td>32%</td>
<td>50%</td>
<td>18%</td>
</tr>
<tr>
<td>Help design course assessment instrument</td>
<td>0%</td>
<td>27%</td>
<td>55%</td>
<td>18%</td>
</tr>
<tr>
<td>Participate in data collection for the course</td>
<td>0%</td>
<td>27%</td>
<td>55%</td>
<td>18%</td>
</tr>
<tr>
<td>Participate in data analysis</td>
<td>0%</td>
<td>23%</td>
<td>59%</td>
<td>18%</td>
</tr>
<tr>
<td>Share in writing of assessment reports</td>
<td>0%</td>
<td>18%</td>
<td>64%</td>
<td>18%</td>
</tr>
</tbody>
</table>

One distance librarian indicated that course assessment of distance courses is her responsibility, which includes developing assessment questions, collecting data, and analyzing feedback. Another respondent said they are just getting started on assessment.

Inter-Institutional Collaboration

Q10. Mark all of the types of inter-institutional collaboration in which your library participates. (See Table 10.)

Table 10

Inter-Institutional Collaboration

<table>
<thead>
<tr>
<th>INTER-INSTITUTIONAL COLLABORATION</th>
<th>SUBJECT LIBRARIANS</th>
<th>DISTANCE LIBRARIANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document delivery</td>
<td>88%</td>
<td>82%</td>
</tr>
<tr>
<td>Chat reference</td>
<td>53%</td>
<td>41%</td>
</tr>
<tr>
<td>Consortial purchasing of print or electronic materials</td>
<td>88%</td>
<td>91%</td>
</tr>
<tr>
<td>Shared online catalogs</td>
<td>59%</td>
<td>59%</td>
</tr>
</tbody>
</table>

One subject librarian reported collaborative collection development projects, digital projects, and sharing of methods on information literacy.

A distance librarian indicated there is collaborative instruction at sites with more than one university offering distance courses. Another mentioned a memorandum of understanding with state community colleges that will provide assistance to distance learners.

Changing Role of the Subject Librarian

Q11. How do you see the role of subject librarians changing in the provision of services and resources offered for distance users?

One subject librarian stated that subject librarians must continue to move toward a proactive model of service provision, reaching out to students who may not have a persistent connection to school. Another called for providing service “at the point of need, including subject-specific service.”

A subject librarian commented that many students can be considered both distance and face-to-face, since some courses have elements of both and some students take both types of courses. That
respondent added that the distinction is not important, and that “we help who we can using whatever tools we have available.” Similarly, another stated that “all students are distance in the age of the Web portal.” Another subject librarian argued that there will “continue to be a blurring of artificial lines between distance librarians and subject librarians, and that institutions will realize that distance and residential students need the same resources and services.”

Another subject librarian suggested that there will be more targeted Web pages for distance users, “along with the usual IM, chat, and other virtual assistance options.” One respondent indicated the hope that subject librarians would become more embedded in course development “with a more obvious presence.”

A subject librarian indicated that more coordination and planning is needed. Another called for assistance with instructional design and the pedagogy of online learning.

One distance librarian stated that librarians with subject expertise should reach out to distance learners. Another distance librarian said “we have ten diverse programs and I can’t be an expert in all of them. Having the subject librarians involved would really lead to better services and better instruction for our students.”

New technologies will change the role of subject librarians, according to one distance librarian. Another called for more embedded presence in courses for beginning students and providing more online synchronous courses.

Q12. Additional comments related to the survey

A subject librarian commented, “We are just getting on board with distance learning, and all librarians haven’t learned everything yet, hence the numerous ‘occasionally’ choices made on the survey.” Another librarian stated that her institution does not have a distance education program. Another subject librarian said that some of their Web-based services, such as subject guides and tutorials, do not distinguish between on-campus and distance students.

One distance librarian respondent stated that at smaller schools, job responsibilities of distance librarians may not differ significantly from subject librarians. She explained that most of the librarians at her institution have some subject responsibilities irrespective of their other duties or job titles. The librarian further stated that her institution is seeing a large increase in hybrid classes, blurring the boundaries between online and “on ground” courses. She added that nearly all students benefit from “distance services” and that many distance learning services may soon be “normal” services.

**Background Information**

Q13. Mark all of the broad academic disciplines for which your institution offers distance academic degree programs that your library supports. (See Table 11.)

Table 11

<table>
<thead>
<tr>
<th>Academic Distance Degree Programs</th>
<th>SUBJECT LIBRARIANS</th>
<th>DISTANCE LIBRARIANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities</td>
<td>58%</td>
<td>64%</td>
</tr>
<tr>
<td>Social Science</td>
<td>82%</td>
<td>95%</td>
</tr>
<tr>
<td>Science/Technology</td>
<td>78%</td>
<td>64%</td>
</tr>
</tbody>
</table>

Q14. Please indicate the electronic list from which you received this survey. (See Table 12.)
Table 12

Electronic List from which Survey was Received

<table>
<thead>
<tr>
<th>ELECTRONIC LIST</th>
<th>SUBJECT LIBRARIANS</th>
<th>DISTANCE LIBRARIANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBSS-L (Education &amp; Behavioral Science Section)</td>
<td>42%</td>
<td>5%</td>
</tr>
<tr>
<td>LES-L (Literature in English Section)</td>
<td>6%</td>
<td>0%</td>
</tr>
<tr>
<td>OFFCAMP (Off-Campus)</td>
<td>11%</td>
<td>95%</td>
</tr>
<tr>
<td>STS-L (Science &amp; Technology Section)</td>
<td>42%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Discussion and Conclusion

The authors note limitations to the study. More than one-fourth of subject librarians indicated there was not a position in their library designated as distance librarian or that they also served as distance librarian. While survey questions did not ask whether each library had a separate distance librarian position, this information became apparent from responses regarding collaboration between subject librarians and distance librarians. Job responsibilities may vary for subject librarians serving distance learners in institutions without a position designated as distance librarian. This may not be an important limitation to the study as job responsibilities vary in nature due to the size of the institution, number of distance students, organizational structure, and so forth. A second limitation to the study was that a low number of distance librarians responded to the survey, making it difficult to generalize the findings to all distance librarians. Another limitation relates to the geographic characteristics of the survey population. The survey was posted to four electronic mailing lists affiliated with the Association of College and Research Libraries division within American Library Association. Because subscribers to the electronic mailing lists are primarily from U.S. academic libraries, survey results cannot be generalized to subject librarians in other countries.

Findings revealed that subject librarians continue to perform traditional responsibilities to support distance learners and faculty: subject-specific and general reference, liaison/outreach in assigned subject areas, and collection development. Survey results found that well over half of the subject librarians reported instructional design or Web page design/updating as a responsibility. Few subject librarians are responsible for electronic reserves or document delivery.

Subject librarians use the following to support instructional information or research support to distance learners, in order of decreasing frequency: subject or research guides, course- or discipline-specific Web pages, course-specific guides, Web pages for distance learners, tutorials or learning modules, print handouts, and online FAQs.

Few of the newer technologies show significant usage by subject librarians. The only technologies used frequently by more than 10% of subject librarians are chat (21%), embedded chat (15%), and instant messaging (16%). However, survey respondents indicated frequent e-mail usage (76%) and frequent telephone usage (56%).

Subject librarians are using course management software to a limited extent to distance learners. Fifty-two percent of respondents frequently include subject librarian contact information in course management systems. Thirty-three percent of respondents frequently link to the subject librarian Web page, while 27% frequently link to specific course resources.

The extent of subject librarian collaboration with distance librarians, instructional designers, and teaching faculty varies. As noted earlier, more than one-quarter of the subject librarian respondents reported there is no distance librarian position at their library. Also, few subject librarian respondents reported frequent participation, or even occasional participation, in assessment of distance courses.

What will be the role of the subject librarian in serving distance users in the future? The Environmental Scan 2007 prepared by the Research Committee of the Association of College and Research Libraries (2008) offers some predictions. The Scan lists trends and the top ten assumptions that define the
future of academic and research libraries and librarians. The assumptions are provided in ranked order. The second assumption reads: “The skill set for librarians will continue to evolve in response to the changing needs and expectations of the population they serve” (p. 9). The eighth assumption reads: “Online learning will continue to expand as an option for students and faculty – both on campus and off – and libraries will gear resources and services for delivery to a distributed academic community” (p. 18). Responses from survey participants appear to support these assumptions. As one subject librarian stated, “all students are distance in the age of the Web portal.” Another subject librarian said the job responsibilities of subject librarians and distance librarians will continue to blur, and more institutions “will realize that distance and non-distance students need the same resources and services.”
References


Using WebCT, Wiki Spaces, and ePortfolios for Teaching and Building Information Literacy Skills

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Abstract
Librarians, as service providers, are always looking for innovative ways of using technology for designing and improving information systems that allow teaching and building of information literacy skills. Online learning and teaching tools offered teacher librarians undreamed of opportunities to enhance face-to-face information literacy instruction. The paper describes the librarian’s research, discoveries, and experience with using WebCT Campus Edition and Vista, ePortfolios, and Wikis to deliver online information literacy instruction as part of fully-online, Web-enhanced, or hybrid courses. Models of librarian/faculty partnership and collaboration are also illustrated.

The Beginning

Southern Connecticut State University School of Information and Library Science started offering online courses at the end of the 1990’s. The course management system the University was using was WebCT Campus Edition (CE). Graduate students and future librarians had the opportunity to be part and experience the online learning process at the student’s end. WebCT allows students to share discussion ideas, and, by providing a shared file space, it supports online collaboration, learning communities, and knowledge building. The ease and convenience of WebCT’s tools and features helped students efficiently manipulate large amounts of information, effectively deal with the complexity of graduate studies tasks, assignments, and projects, and also collaborate and learn from their peers. This experience uncovered for future librarians the learning possibilities and unique teaching opportunities that WebCT offers for information literacy instruction.

Using WebCT for Information Literacy Instruction

WebCT/CE: Course Menu Component with Web Link to Library Resources

The Reference/Instruction Librarian at Three Rivers Community College (TRCC) was thrilled by the opportunity to use WebCT/CE for information literacy instruction. Together with a dedicated and enthusiastic group of nursing faculty, the librarian collaborated at creating and implementing a Nursing Information Literacy Program for the Associate Degree in Nursing Program which prepared students to enter the profession as registered nurses. The project was built on the systematic design of instruction model, which consists of a “set of interrelated parts, all of which work together toward a defined goal” (Dick, Carey, & Carey, 2005, p. 1). Focusing on student learning outcomes, nursing faculty and the librarian conducted a front-end analysis of the nursing program in order to identify instructional goals “congruent with learner characteristics, learning and performance contexts and tools available” (Dick et al., p. 14). After identifying instructional goals, the planning continued with conducting instructional analysis, analyzing learners and contexts in order to write performance objectives. At that point in the process, assessment instruments were developed which were paired with an instructional strategy and instructional materials. After the instruction took place, formative evaluation of instruction was designed and conducted. The last steps taken, based on the findings, were revising instruction and designing and conducting summative evaluation.

The Nursing Information Literacy Program had three components. The first component, the Nursing Information Competencies, founded on the Association of College and Research Libraries (ACRL) Information Literacy Standards for Higher Education (2004) were designed progressively for each level of instruction covering the two years of study. Based on the information competencies, the Information
Literacy Activities consisted of face-to-face physical and online library tours, nursing and medical library database search demonstrations, and point-of-need (course-integrated) library sessions. The third component of the information literacy program was the Nursing Information Gateway, a Web page on the library’s Website, offering library modules tailored for each nursing course and consisting of relevant faculty/librarian targeted nursing print and online resources, research guides, citation style guides, and library services.

In 2004 nursing faculty started using WebCT/CE as an on-ground course enhancement. The librarian had the opportunity to introduce a Library Resources component as part of the nursing WebCT course menu, which offered students a link to the Nursing Information Gateway. Students needed to access the Library Resources component, click on the link in order to view the Nursing Information Gateway (see Figure 1) and select their course library module (see Figure 2). The embedded librarian was offered the status of teacher assistant, and was allowed to participate and guide the discussion forums related to the use of the Nursing Information Gateway resources for library research, class assignments, and projects. The librarian was also individually assisting students through the internal e-mail tool. Managing and guiding the discussion forums gave the librarian the opportunity to enforce the knowledge and skills taught during the face-to-face library activities sessions, to evaluate students’ information literacy skills, and to offer quick intervention and feedback. Observing students’ behavior in regard to searching tools and strategies, quality of sources and evaluating information sources, empowered the librarian to adjust and more effectively tailor the content of the face-to-face library instruction sessions in order to address students’ specific information needs.

Figure 1. Nursing Information Gateway Web page.
WebCT/Vista: Online Library Course

At the end of 2004 WebCT/Vista 3.0 was implemented for the twelve Connecticut Community Colleges (CCC). A much improved course management system, WebCT/Vista added new teaching, learning, and administrative capabilities, and also improved student learning outcomes assessment. The librarian was given the opportunity to be a member of the WebCT/Vista Implementation Team and of the Teaching and Learning Workstream. As the only librarian in the team, the librarian’s main task was to research and demonstrate the possibilities and opportunities that WebCT/Vista offered for library usage, at a time when the demand for library presence in courseware was high. The librarian’s research questions were:

- How WebCT/Vista can be used by libraries, librarians, and students for effective teaching and learning of library resources and research?
- What design and delivery tools could be used by librarians to ensure effective and efficient information literacy instruction?
- What learning tools students could use for effective learning of library resources and information literacy skills?
- How does WebCT/Vista support the Seven Principles for Good Practice in Undergraduate Education?

Based on 50 years of research on good teaching and learning in American colleges and universities, Chickering and Gamson (1987) demonstrate that good practice in undergraduate education encourages contact between students and faculty, develops reciprocity and cooperation among students, encourages active learning, gives prompt feedback, emphasizes time on task, communicates high expectations, and respects diverse talents and ways of learning. “Together they employ six powerful forces in education: activity, expectations, cooperation, interaction, diversity, and responsibility” (para. 6).

The librarian first experimented with the creation of an online course in WebCT/Vista for the First Year Experience (FYE) students. At that point in time, TRCC had a FYE Information Literacy Program in place. The program was the result of close collaboration between FYE faculty and the librarian. The program had three components: Information Literacy Competencies, Library Activities, and Library Assignments. FYE faculty considered it necessary for their students to efficiently use the sections of the

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**Figure 2. Nursing 226 library module.**

NURSING 226

Information Resources

- Library of Congress Class R: Medicine
- Reference Materials
- Books and Videos
- Magazines and Journals
- Associations and Organizations
- Online Catalog
- Online Databases (articles)
- General Web Resources
- Subject-specific Web Resources
- Other Resources

- Additional Research Tools
- CINAHL Database Search Guide
- PsycINFO Database Search Guide
- APA Citation Style Guide

- Services
- Ask a Librarian (assistance from a virtual librarian)
- Ask Your Librarian
physical library and the Library of Congress Classification System. They also required students to use the
library online catalog and general databases, such as Expanded Academic ASAP and LexisNexis Academic
Universe, as search tools for class assignments and projects. Evaluating information sources and using
quality library resources were emphasized. Other topics covered were plagiarism and how to avoid it and
documenting outside sources by using proper citation styles. The program was offered in two sessions. In
order to evaluate students’ information literacy skills, two assignments were given after the physical library
tour and after the library online tour and database search demonstrations. The assignments were corrected
by the librarian and some of the faculty gave extra credit to their students for completion of the library
assignments.

ACRL recommends that “The library services offered to the distance learning communities should
be designed to meet effectively a wide range of informational, bibliographic, and user needs” (ACRL, para.
9). One of the services emphasized is “a program of library user instruction designed to instill independent
and effective information literacy skills while specifically meeting the learner-support needs of the distance
learning community” (2004). In order to design the FYE online library course, the librarian used the
WebCT/Vista tools such as the calendar, syllabus, assignments, discussion forums, chat/whiteboard, and
media library. The description of the course contents is available in Figure 3. The Discussion Forums listed
five topics to be discussed by the entire group: library’s Website resources, searching the online catalog,
searching Expanded Academic ASAP database, searching LexisNexis Academic Universe database, and
evaluating information sources criteria. By using the enhanced Discussions features in WebCT/Vista, the
librarian could add instructions to each topic and easily guide and manage the discussions, which supported
active learning, student/student and student/librarian interaction. The librarian could also limit discussions
to specific time periods, emphasizing the time-on-task principle. A learner tool that enhances collaboration
and peer learning is the Media Library. As WebCT/Vista supports sharing content across course and
institution boundaries, the Media Library Collection allowed multiple FYE groups to share images of their
activities and collaboration, and also share their feedback.

The Chat/Whiteboard tool has a new interface in WebCT/Vista “which makes it easier and more
intuitive to accompany real-time chat sessions with simultaneous whiteboard or slide-show presentations”
(Connecticut Community Colleges, 2004, p. 3). The real-time text-based communication and the use of the
whiteboard are efficient instructional tools and can transform the Chat Room into an information literacy
learning laboratory. The librarian can post virtual office hours on the course’s calendar. During the virtual
office hours, the chat room allows the librarian to work synchronously with small groups of students or
with individuals, which supports student/librarian and also direct instruction and differentiated library
instruction.

Merrill (2003) defines direct instruction as “a subset of instructional situations in which there is
some instructor or instructional agent that is not only providing information but also monitoring the
instructional activities of the student and providing guidance and feedback as appropriate” (p. 1160).
Closely related and founded on direct instruction, differentiated instruction is defined as “changing the
pace, level, or kind of instruction you provide in response to individual learners’ needs, styles, or interests”
(Heacox, 2002, p. 5). The teacher can differentiate the teaching content, the process of teaching, and the
product, the results of learning. When applying differentiated instruction, the teacher becomes a facilitator
who provides and prescribes differentiated learning opportunities, organizes students for learning, and uses
time flexibly. In a supportive differentiated classroom differences are accepted, personal responsibility for
learning is promoted, it is acknowledged that students learn at different rates, building feelings of personal
competence and confidence in learning is supported, the creative spirit is nurtured and everyone’s work is
honored (Heacox, 2002, pp. 11-13).
As the whiteboard in WebCT/Vista supports image uploading and annotation, PowerPoint and Web page slide shows, the librarian can create a virtual library of instructional tools such as individual images or slide shows on the use of Boolean operators, examples of concept maps, screenshots with examples of online catalog and database search methods, or APA and MLA citation style examples. These tools can be used for demonstrations during the chat sessions, efficiently allowing the librarian to serve students with different levels of information literacy skills and competencies. TRCC’s student population included a large percentage of non-traditional students who had not been in school for a number of years and needed to be reoriented to academia. An image about using the logical operator “and” could be used with a student who was unfamiliar with the use of Boolean operators. A much more advanced student interested in learning how to use the Advanced Search in the Expanded Academic ASAP database could be shown a screenshot illustrating a complex string search that searched multiple search fields and used different Boolean operators at one time. The system creates archive logs for all chat rooms and the whiteboard software in WebCT/Vista also creates archive logs and can archive snapshots of whiteboard sessions for future viewing and printing, that further supports differentiated library instruction. As TRCC was revising and reorganizing its FYE program, the FYE online library course was not implemented.

**Figure 3. WebCT/Vista FYE online library course contents.**

As the whiteboard in WebCT/Vista supports image uploading and annotation, PowerPoint and Web page slide shows, the librarian can create a virtual library of instructional tools such as individual images or slide shows on the use of Boolean operators, examples of concept maps, screenshots with examples of online catalog and database search methods, or APA and MLA citation style examples. These tools can be used for demonstrations during the chat sessions, efficiently allowing the librarian to serve students with different levels of information literacy skills and competencies. TRCC’s student population included a large percentage of non-traditional students who had not been in school for a number of years and needed to be reoriented to academia. An image about using the logical operator “and” could be used with a student who was unfamiliar with the use of Boolean operators. A much more advanced student interested in learning how to use the Advanced Search in the Expanded Academic ASAP database could be shown a screenshot illustrating a complex string search that searched multiple search fields and used different Boolean operators at one time. The system creates archive logs for all chat rooms and the whiteboard software in WebCT/Vista also creates archive logs and can archive snapshots of whiteboard sessions for future viewing and printing, that further supports differentiated library instruction. As TRCC was revising and reorganizing its FYE program, the FYE online library course was not implemented.

**WebCT/Vista: Library Learning Modules**

The learning modules in WebCT/Vista enhance the student learning experience. Online students can save the contents of a learning module, “facilitating offline studying and archival of important class
material” (Connecticut Community Colleges, 2004, p. 1). Students can also print the content of the learning module for offline review. Using the WebCT/Vista learning module tool for library instruction was an exciting and rewarding experience as it easily allowed the librarian to prove the value of library learning modules as indispensable components of fully-online, Web-enhanced, or hybrid courses. Laverty et al. (2003) describe the establishment of a Learning Technology Team at Queen’s University and offer examples of instructional teams at Indiana University-Purdue, University of Southern California, and Arizona State University. The authors emphasize the importance of multidisciplinary teams working together and how “bringing people together with varying perspectives and competencies has the potential to create a dynamic working environment” (p. 21). As the result of close collaboration between a FYE faculty member, the Director of Distance Learning, and the librarian, a FYE library learning module was created. It became part of the FYE online course offered at that time at TRCC.

The three members of our multidisciplinary team started by planning the content of the library learning module based on the student learning outcomes established by the faculty member. Through an exchange of e-mail messages the librarian and the faculty member created the library module content. The Director of Distance Learning was consulted along the way in regard to the creation and uploading of different material formats.

In comparison with the FYE library online course discussed above, the FYE library learning module offered a few improvements. Instead of having to select specific databases from a list, the students had direct access to the Expanded Academic ASAP and LexisNexis Academic Universe databases through the proxy server, which helped them be more efficient and save time. The library learning module also included a Ask a Librarian link which offered students access to the services of their librarian or of a virtual librarian, through InfoAnytime, a 24/7 service, for the time when the library was closed (see Figure 4). The embedded librarian was given the status of teacher assistant. The librarian managed and directed the usage of the resources in the library module and the discussion forums, provided direct and differentiated instruction through the chat room/whiteboard tool, and used the FYE blog and the internal e-mail tool for information literacy instruction.

Table of Contents for

FYE Library Learning Module

1. FYE Information Literacy Program
   1.1. First Year Experience Information Competencies
   1.2. First Year Experience Library Activities
2. FYE Library Resources
   2.1. How to Take Notes
   2.2. How to Paraphrase
   2.3. What is Plagiarism and How to Avoid It
   2.4. Periodicals: Scholarly versus Popular
   2.5. Academic Search Premier Database
   2.6. LexisNexis Academic Universe Database
   2.7. FYE Search Tips
   2.8. Citing in APA Format
   2.9. Citing in MLA Format
3. Other Library Resources
   3.1. Library Website
   3.2. Online Catalog
   3.3. All Library Databases
   3.4. Request a Library Card
   3.5. Request Interlibrary Loan Materials
4. Ask a Librarian
   4.1. Ask Your Librarian
   4.2. Ask a Virtual Librarian 24/7

Figure 4. WebCT/Vista FYE library learning module.
The internal e-mail tool in WebCT/Vista proved to be instrumental for providing direct and differentiated library instruction. Chickering and Ehrmann (1996) stated that the “biggest success story in this realm has been that of time-delayed (asynchronous) communication. With the new media, participation and contribution from diverse students become more equitable and widespread” (p. 3). The use of e-mail asynchronous communication in WebCT/Vista can effectively address the diverse needs of students with diverse learning styles, or of students who have work and family responsibilities and can not attend the chat sessions.

Blogs could also be used as efficient tools for information literacy instruction in WebCT/Vista. A subject-specific blog inside the library learning module can support specific course content or assignment needs. The FYE library learning module blog shows a bite-session illustrating one of the online catalog search methods, a required skill for the FYE library assignment 1 (see Figure 5).

<table>
<thead>
<tr>
<th>TUESDAY, JANUARY 10, 2006</th>
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<tbody>
<tr>
<td>Searching the Online Catalog: The Simple or Combined Search</td>
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The Simple or Combined Search in the Online Catalog allows you to specify your search terms, select a type of search such as Keyword, Title, Author, etc., and indicate a limit for your search.

This is how the Simple Search works:

1. Select the type of search from the drop-down menu in the "Find results in" box. Read the instructions for the type of search you selected.

2. Type the search terms in the "Find it" box.

For example, you are looking for information on the impact of divorce on children. If you do a Keyword Search, you type "divorce +children." If you do a Command Search, you type "divorce AND children."

At this point in your search you can select a limit by clicking on the "Simple Limit" or on the "Limits" button. You can also select the number of records per page.

3. Click on the "Search" button to start your search.

On the results page the items are arranged in decreasing relevance order, the most relevant items being located at the top of the results list.

Figure 5. FYE Search Tips blog entry.

The discussion forum was taken to a different level in the FYE library learning module. The discussion forums in WebCT/Vista proved to be a powerful tool for students to develop critical thinking skills, which are indispensable for them as astute consumers of information in this age of information overload. The discussion tool also proved to efficiently support cooperative learning and learning communities. Chaffee (2004) states that “Critical thinking is the cornerstone of higher education, the
A hallmark of an educated person” (p. XI). A critical thinker is thinking actively, carefully exploring situations, thinking independently, viewing situations from different perspectives, and discussing ideas in an organized way (Chaffee, p. 71). Johnson, Johnson and Smith (1991) define cooperative learning as:

> The instructional use of small groups so that student’s work together to maximize their own and each other's learning. Considerable research demonstrates that cooperative learning produces higher achievement, more positive relationships among students, and healthier psychological adjustment than do competitive or individualistic experiences. (para. 2)

In order to participate in cooperative learning and in order to be members of learning communities, students are required to be “open-minded, knowledgeable, mentally active, curious, independent thinkers, skilled discussants, insightful, self-aware, creative, and passionate” (Chaffee, p. 39-40). Students also need to construct arguments and evaluate the value of others’ arguments. The study of the dynamics of students’ behavior in the discussion forums helped the librarian to realize that the Discussion tool in WebCT/Vista could be taken to a superior level and be used to educate students to become creative thinkers and knowledge builders.

Based on the idea that in this age “the health and wealth of societies depend increasingly on their capacity to innovate”, Scardamalia and Bereiter (2003) defined knowledge building as “the production and continual improvement of ideas of value to a community, through means that increase the likelihood that what the community accomplishes will be greater than the sum of individual contributions and part of a broader cultural efforts” (p. 1370). Scardamalia and Bereiter further showed the distinction between learning and knowledge building.

> Learning is an internal, unobservable process that results in changes of belief, attitude, or skill. Knowledge building, by contrast, results in the creation or modification of public knowledge – knowledge that lives ‘in the world’ and is available to be worked on and used by other people. (p. 1371)

Knowledge building is centered on the collective cognitive responsibility which implies that all group members are responsible for their contribution to the success of the group effort (Scardamalia, 2002). For example, the FYE students were organized in four learning communities researching four topics related to searching the Expanded Academic ASAP database: Subject Search, Relevance Search, Keyword Search, and Advanced Search. The four groups were asked to conduct searches, discuss and provide conclusions under their learning community topic about the most effective use of the assigned search method. Each student in the learning community was supposed to conduct at least three searches, to discuss the findings on the Discussion board, and to participate in the creation of the group conclusions. After the group conclusions were listed, the class was required to discuss and provide conclusions for the fifth topic on the Discussion board, “What is the most effective way of searching the Expanded Academic ASAP database?”

The librarian offered assistance by guiding, directing, and offering prompt feedback. The entire group concluded that, depending on the information available and on the search goals, the Subject search worked best when one had a broad research topic and needed to narrow it down; the Relevance search mode worked best when one had a defined topic and was looking for the most relevant articles; the Keyword search retrieved the most current articles first and was best used when searching for current information on a topic; the Advanced search in Expanded Academic ASAP was found to be efficient and powerful when one knew the title of the article, the author, the publication date, or the publication title. The librarian, faculty, and the Director of Distance Learning also created WebCT/Vista library learning modules for the nursing, early childhood education, ethics, and psychology online, hybrid, and Web-enhanced courses. Figure 6 illustrates the contents of the Psychology library learning module.
Similar to the Macro-Level Library Courseware Involvement method described by Shank and Dewald (2003), the librarian and the Distance Learning Director also collaborated and created a Core library learning module. The Core library learning module contained direct access to the online catalog, the main general databases, the database search guides, the APA and MLA citation style guides, the library card and interlibrary loan online forms, and also offered access to the services of the librarian and of a virtual librarian, through InfoAnytime 24/7 service. The module was placed by the courseware administrator in a shared space. Faculty could access, upload, and place the Core library learning module in their course menu.

**Using ePortfolios for Information Literacy Instruction**

Another enlightening and rewarding experience for the librarian was the addition of a library research component to the ePortfolios for Nursing 108 students. The ePortfolios software used was created by the Connecticut Distance Learning Consortium (CTDLC). Because they support students in exercising reflective learning, ePortfolios were enthusiastically received in the academic environment and considered “models of technological innovation” (Goldsmith, 2006, p. 1). Lorenzo and Ittelson (2005) state that e-Portfolios:

…allow students to demonstrate competencies and reflect upon the experiences, documenting academic preparation and career readiness. Creating ePortfolios enables students to enhance their learning by giving them a better understanding of their skills, as well as where and how they need to improve to meet academic and career goals. (abstract)
The authors assessed ePortfolios case studies from a few American colleges and universities. CTDLC’s ePortfolios platform, which was included in the assessment, is described as being student-centered, customizable, and reflective.

TRCC Nursing 108 program introduces students to the nursing curriculum, nursing roles and skills required in the profession of nursing. The ePortfolios system used by the Nursing 108 students allowed them to create portfolios for academic and career use, helping them to maintain their plan of study and to share their work with faculty, career counselors, and the librarian. Starting with 2004 the librarian offered a two hour and a half library face-to-face class to Nursing 108 students. The class was divided in two sessions: a lecture about the physical library and a tour and an online nursing and medical databases search demonstration session. The first session included information about the Library of Congress Classification System Class R and instruction on distinguishing between scholarly, popular, and trade publications. The second session offered instruction about plagiarism and documenting outside sources in APA format. Students also learned to access and use the resources on the Nursing Information Gateway and the Nursing 108 library learning module, both available in their WebCT/Vista Web-enhanced course.

The librarian was invited to create a library component for the ePortfolios used by the students. The library research project required Nursing 108 students to find information on the TRCC’s research theme such as “health and metamorphosis”, “nursing and water issues”, or “health and connections.” The faculty member and the librarian designed a library ePortfolio, one of the ePortfolios that Nursing 108 students were required to create and provide for evaluation.

For the completion of the library ePortfolio students were asked to search for a scholarly article on the research topic they were studying. The library ePortfolio consisted of a copy of a scholarly article and a word document describing the library databases the student used to search for the article and the search methods and techniques that he/she employed. The word document also included student’s reflection on the content of the article. When the library ePortfolio was completed, the student sent a guest invitation to the librarian who could access it and read the article and the reflection document. The librarian provided a written evaluation to both the student and the faculty member. Two examples of the librarian’s evaluation follow.

I am glad that you accessed the nursing/medical databases through the Nursing Information Gateway. Your instructors and I created this resource to make your research easier and efficient. You found a scholarly article, as your instructor requested, and you applied very good search techniques by using Boolean (logical) operators, the nesting technique, and by limiting by date range.

I am glad that you used Medline to search for your article because this is a new database in our collection. Using synonyms for the word "metamorphosis", such as "change", or "transformation", or "transfiguration", would have retrieved more articles on your topic.

Nursing 108 ePortfolios gave the librarian unique opportunities to evaluate the quality of the information found by students, the efficiency of search strategies and methods taught in the face-to-face library session, and to assess the level of information literacy skills. The amount of work was considerable, but, as Dick, Carey, and Carey (2005) demonstrated in their study about the systematic design of instruction model, “instruction is designed not for one delivery, but for use on as many occasions as possible with as many learners as possible. Because it is reusable, it is worth the time and effort to evaluate and revise it” (p. 9).

This project also strengthened the librarian/faculty and student/librarian collaboration and provided direct and differentiated library instruction to students. The assessment and evaluation allowed the librarian to adjust and improve the content and teaching methods of the face-to-face library instruction classes.
Using Wikis for Information Literacy Instruction

Bejune (2007) analyses the phenomenon of Wikis in libraries and demonstrates how Wikis have been adopted to support a variety of collaborative activities within the libraries. The author considered Wikis within the framework of computer-supported cooperative work (CSCW), identified thirty-three library Wikis and developed a classification with four categories: (1) collaboration among libraries; (2) collaboration among library staff; (3) collaboration among library staff and patrons; and (4) collaboration among patrons (p. 26).

This section of the paper describes a Wiki used at the University of Rhode Island for an education course as a collaboration tool between the librarian, the faculty member, and the students. The library component of the Wiki is designed to help students efficiently complete the research work for one of the course’s research projects. The faculty member, a strong supporter of instructional opportunities offered by Web 2.0 software, selected Wikispaces Website to enhance his EDC 102 course. Wikispaces, an Internet service which offers public, protected, and private space, is available at http://www.Wikispaces.com. Among other features, Wikispaces allows for new page creation, for the use of visual and text editors, linking pages, and the inclusion of images, files, blogs, and RSS feeds. The librarian was invited to create a library component on the Wikispaces Web page in order to support students’ research for the Current Issues in American Public Education project.

During face-to-face meetings the faculty member and the librarian established the library research learning outcomes for the final project. Students were required to create a group mind/concept map for their research topic. Each member of the group was required to find two editorials/essays, one scholarly article from a journal, one analysis article from a magazine or reputable newspaper, and one ERIC Digest. The librarian created a search tips document, and used SnagIt to design short guides for searching Opposing Viewpoints, Academic Search Premier and ERIC databases. These research tools were placed on the EDC 102 Wikispaces page, under Library Resources for the project (see Figure 7). The librarian offered EDC 102 students two face-to-face library sessions. In the first session students were taught to create a mind/concept map on the No Child Left Behind Program. Students then organized in six groups, selected a topic of interest related to current American public education issues, and created a group mind/concept map. The topics selected were: school funding, extracurricular activities, school safety, sex education, dress code, and diversity. Also during the first library session, students were taught to search the Opposing Viewpoints and Academic Search Premier databases to find viewpoints, essays, and journal and magazine articles on their research topics. Students were also introduced to the ERIC database and they learned to search for ERIC Digests on their research topic. The librarian demonstrated the use of the Library Resources component on the Wikispaces page. The second library session was a hands-on session. Students worked on their research and the librarian and faculty member offered individual assistance.

Each group of students uploaded the mind/concept map created during the first library session on their Wikispaces page, and every member of the group contributed summary research ideas and the five required articles. Their group research culminated with a PowerPoint presentation made in front of the class. The librarian and the faculty member evaluated students’ research results and analyzed the data. Future meetings will allow assessment of student learning outcomes, restructuring and adjusting of face-to-face library instruction and redesigning of the Library Resources component on the Wikispaces page. Wikispaces tools such as discussion rooms, blogs, or file sharing spaces support active learning, student/student collaboration and student/faculty/librarian interaction. Future EDC 102 groups will have access to the work of the current group, and will have the chance to use this knowledge as a foundation for discovering new sources of information, for adding innovative ideas, and creating new knowledge.
Conclusion

The results of the librarian’s research work proved that the use of WebCT course management, ePortfolios, and Wikis was beneficial for online information literacy instruction. They demonstrated the necessity of library presence in the online learning environment and also strengthened the position of librarians as partners, team members, and collaborators in the education/instruction process. Besides supporting the Seven Principles for Good Practice in Undergraduate Education, allowing the application of efficient learning theories such as direct instruction, differentiated instruction, and knowledge building, online course management systems, ePortfolios, and Wikis encourage collective cognitive responsibility, a necessity in today’s information age. The future improvement of course management tools such as discussion forums, file sharing spaces, and the chat/whiteboard tool will offer even more complex possibilities for information literacy instruction, student/student and student/faculty/librarian interaction and collaboration. The research on the use of tutorials, RSS feeds, Webcasts, and podcasts with courseware and Wikis is at the beginning stages and can open a myriad of opportunities for providing library instruction and other library services in the online environment.
References


Abstract

Subject guides are often used as an alternative to in-person library instruction for distance education students. However, when students are not on-campus it can be difficult to assess if they are getting all of the relevant information they need. In an organization that serves students located across the United States and even outside of the country, a method was needed to assess the effectiveness of library information provided to distance learners on specific topics. The William F. Harrah College of Hotel Administration at the University of Nevada, Las Vegas, offers a number of on-campus and distance education courses, including classes taught at a satellite campus in Singapore. With diverse course offerings via distance education the conventions and exhibitions subject area was chosen as a case study. Often referred to as M.I.C.E., the study of meetings, incentives, conventions and exhibitions in a hospitality context is a major sub-discipline within the Hotel College. After researching different approaches to studying the effectiveness of subject guides, a virtual focus group was chosen to gather feedback from students. This paper will demonstrate how focus groups can be created and how the information gathered can be used to increase effectiveness of subject guides. Readers will discover effective techniques and pitfalls for using virtual focus groups in conjunction with subject guides assessment.

Introduction

Academic libraries must strive to meet the needs of all their students and faculty regardless of where they are located. As distance education programs become more popular, care should be taken to ensure that all patrons are being served, not just the ones in the library building. Subject guides are often used as an alternative to in-person library instruction for distance education students. However, when students are never on campus it can be difficult to assess if they are getting all the relevant information that they need. After researching different approaches to studying the effectiveness of subject guides, a virtual focus group was selected as a method to gather feedback from the students.

The Association of College and Research Libraries (ACRL) Guidelines for Distance Learning Library Services recommend that the librarian-administrator should assess the library’s support for distance learning. One suggested method of assessment is to ask focus groups to comment on their experiences (ACRL, 2007). Using focus groups becomes problematic when the students and faculty are not located on-campus, much less the same continent. In September 2006, the William F. Harrah College of Hotel Administration at the University of Nevada, Las Vegas opened a satellite campus in Singapore. When it is 9:00 a.m. in Singapore, it is 5:00 p.m. the night before in Las Vegas! How was the hospitality librarian going to connect with these students? Realizing that the university was not going to finance a trip to Singapore for library resource assessment, a virtual focus group method was chosen to determine if students were getting the information they need.
Literature Review

Subject guides, also known as pathfinders, have been used in libraries for many decades to suggest locally available resources on a specific topic to patrons. Reeb and Gibbons describe them as, “annotated bibliographies of reference materials, Web sites, databases, and journals within a specific discipline” (Rebb, 2004, p. 123). According to Dunsmore, “it seems that reading lists, booklists or printed guides developed alongside reference services, and for many years were used in readers’ advisory activities” (Dunsmore, 2002, p.138). As libraries became comfortable with the Internet, they began to move many of their materials online, including their pathfinders. In 1999, Morris and Grimes surveyed academic librarians and found that 88% of respondents had Internet-based subject guides (Morris, 1999, p. 213). By 2004, Courtois, Higgins and Kapur (2005) reported that, “Nearly all academic libraries provide access to subject guides on their web sites” (p. 188).

Despite so many libraries reporting the use of subject guides, few librarians were assessing the usefulness of the guides for patrons. Courtois Higgins and Kapur (2005) noted that...“Little is known... in terms of user satisfaction with guides” (p. 188). Vileno (2007) reported that, “Until 1996, little had been published on the subject of pathfinders and even less was based on research” (p. 448). Her article “From Paper to Electronic, the Evolution of Pathfinders: A Review of the Literature” assessed library literature written about pathfinders. After an overview of historic literature she focused on writings from the last 10 years, and found that many of her questions were left unanswered. Nevertheless, she felt that “Increasing client input could make pathfinders more relevant, more useful in the information literacy process and easier to promote” (Vileno, 2007, p. 448).

Dunsmore also reviewed literature relating to online subject guides in her article, “A Qualitative Study of Web-Mounted Pathfinders Created by Academic Business Librarians.” In addition to an examination of the literature, she did a content analysis of online business pathfinders (Dunsmore, 2002). She observes that, “Subject guides have a long history within the library environment, but have not received much attention despite the considerable time and effort that goes into their creation” (Dunsmore, 2002, p. 152).

Jackson and Pellack (2003) were, “concerned about the major time commitments involved,” in the creation of online subject guides (p. 319). In, “Internet Subject Guides in Academic Libraries: An Analysis of Contents, Practices, and Opinions”, they analyzed subject guides in four subject areas from 112 ARL libraries. They also surveyed the same institutions to supplement their analysis, concluding that subject guides do reflect unique resources. However, they were concerned about the quality of the subject guides saying,

... many of the links found in this study indicate that quality of information is still a problem, even in guides created by librarians. Quality and value are judgment calls; however, many of the ARL guides seemed to link to anything that might be potentially of value to a user. The result can be a hodgepodge of cluttered pages. (p. 325)

Reeb and Gibbons (2004) found evidence indicating “that students do not relate well to subject guides” (p. 123). Their article, “Students, Librarians, and Subject Guides: Improving a Poor Rate of Return” explored the perceptions of subject guide usefulness for both librarians and students. They discussed multiple studies summarizing that, “In spite of the intrinsic value of the library subject guides – surveys, usability and usage evidence indicate that students fail to connect with them” (Rebb & Gibbons, p. 126). Nevertheless the authors did not advocate abandoning the subject guide, instead they advocated:

To affect student learning, a librarian must meet the student on the student’s experiential terms. Once a connection is established, then the librarian can bring the student to a place of broader knowledge, awareness of content, and greater information literacy. (Rebb & Gibbons, p. 128)

Librarians at George Washington University felt that their guides were heavily used by students, based on Web statistics which showed the guides being accessed 147,000 times in one year (Courtois et al., 2005). However, after surveying students who used the guides, the librarians found that 40% of
respondents rated the guides as “Not Helpful” or “A Little Helpful” (Courtois et al., p. 193). The authors were able to make some changes to the guides based on survey feedback, but planned, “additional exploration through focus groups and other means in order to find a solution” (Courtois et al., p. 195).

Morris and Grimes wrote two articles on subject guides, “A Great Deal of Time and Effort: An Overview of Creating and Maintaining Internet-Based Subject Guides” and “A Comparison of Academic Libraries’ Webliographies.” In each article they used the same survey instrument to assess, “…how many libraries currently provide Internet-based subject guides to their patrons, how librarians choose which sites to include on the guides, and how librarians maintain those sites” (Morris & Grimes, 1999, p. 213). The earlier article concluded that, “While the guides may be helpful to patrons, many librarians are unable to say with certainty how they’re being used because their libraries do not actively monitor the sites” (Morris & Grimes, p. 216). In fact, the authors found that only 44% of respondents kept usage statistics about subject guides (Morris & Grimes). This percentage did not seem to improve with time, because in their updated 2001 article the authors revealed that, “The results suggest that academic libraries devote much manpower to the development and maintenance of webliographies, but relatively little is done to monitor their use by patrons” (Morris & Grimes, 2001, p. 75).

Subject guides are an efficient way to provide lists of resources to distance education students, but from the literature review it is clear that further study is needed to gauge their effectiveness. The preceding authors used surveys, content analysis, and usability tests to assess subject guides. Dean took additional approaches to gathering feedback from users. His article, “The Public Electronic Library: Web-Based Subject Guides”, described an in-depth grant-based project to “…provide library access to biotechnology resources on the Internet” (Dean, 1998, p. 82). In this article, Dean focused on user evaluation of guides, including hands-on exercises, focus groups, and evaluating users’ prior expectations. Although most librarians will not have as many resources or time to devote to such a project, they might be able to gather ideas from his descriptions on how to implement user assessment on a smaller scale.

Focus groups have been used for over a century now to gather qualitative feedback. Primarily used in the marketing and advertising fields, they gained popularity in libraries during the 1990s. A good overview of recent literature about library focus groups is Walden’s (2006) article, “Focus Group Interviewing in the Library Literature: A Selective Annotated Bibliography 1996-2005.” His article places focus groups in historical perspective, lays out the process to conduct focus groups, and provides citations to 25 articles about subject groups arranged by topic.

Many articles describe how to conduct traditional focus groups within the library setting. Johnson’s (1996) chapter in the Tell IT! Manual described when focus groups are a good choice for assessment, how to execute them, and provided examples of using the technique (p.176). A helpful inclusion is her example of a training process to introduce the focus group technique to librarians. Goulding’s (2007) article, “Joking, Being Aggressive and Shutting People Up: The Use of Focus Groups in LIS Research”, provided a concise outline of how to set up a focus group and discussed how to deal with the data collected. Olson (2006) provided a brief overview of how to make focus groups more effective in her article, “Making Marketing Materialize: 10 Pointers for Better Focus Groups.”

Glitz (1997) provided insight into the establishment of focus groups in her article, “The Focus Group Technique in Library Research: An Introduction.” The article discussed the drawbacks and benefits of focus groups, as well as highlighting the use of focus groups in health science libraries. Glitz (1998) delved deeper into focus groups in her book, Focus Groups for Libraries and Librarians, which is a thorough resource for those looking for information on how to establish a focus group for use in assessing library services.

Many authors have written about using focus groups in their libraries. Becher and Flug’s (2005) article, “Using Student Focus Groups to Inform Library Planning and Marketing” and Wilson-Matusky’s (2006) article, “Implications of Using Focus Groups to Improve Library Services”, both discussed using focus groups to gather users’ feedback about the library and its services. Some librarians have used focus groups to explore the effectiveness of their Websites; for example, “User Perceptions of the Library’s Web Pages: A Focus Group Study at Texas A&M University” explored patrons’ opinions of the library’s
Website (Crowley, 2002), while “Web Page Design and Successful Use: A Focus Group Study” (Leighton, 2003), used focus groups to uncover the usability of design elements. Crowley (2002) explains, “Designers of Web pages cannot assume that features that are understood in one culture will work in another. Focus groups are a very useful tool to investigate how a local community will understand and use Web pages” (p. 210).

The literature has shown focus groups are an effective method to gather qualitative feedback from users, but it is unrealistic to expect distance education students to come to the library to provide feedback. Institutions have approached this dilemma in various ways with some librarians actually going to where their students are. In “Don’t Ask Unless you REALLY Want to Know! Tapping Branch Campus Library Users’ Perceptions with Focus Group Interviews” (Scott, 1991), librarians from Georgia College held four focus groups at three locations that served distance education students away from the main campus. Overall they found, “In terms of using the focus groups as a vehicle to establish qualitative information about the branches, the conclusion is highly positive” (Scott, 1991, p. 236). Morrison and Washburn (2004) also discuss taking focus groups to distance education students in their article, “Taking Assessment on the Road: Utah Academic Librarians Focus on Distance Learners.” They describe their methodology and some of the obstacles to conducting focus groups with distance learners, concluding that, “The focus groups were extremely productive and informative” (p. 340).

Literature outside of librarianship has shown an increase in the use of virtual or online focus groups (VFG or OFG), which can be used to reach people without having to be physically present in their location. In 2001, Casey Sweet outlined the difference between virtual focus groups and traditional focus groups in her article, “Designing and Conducting Virtual Focus Groups.” The article provided a blueprint for the creation of a virtual focus group and included tips on avoiding technological problems. She concluded, “Results from online groups depend on the expertise and qualifications of the professional who is conducting them” (Sweet, 2001, p.54). Murray (1997) explored the use of virtual focus groups with health research. He found that, “The use of VFGs has provided valuable research data that could have not been readily obtained using other methods and from participants whom I could not have otherwise hoped to gather together for discussions without considerable expense” (p. 548). “Using Internet Discussion Boards as Virtual Focus Groups” provided another example of a VFG, this one studying migraines in perimenopausal women. Moloney (2003) found, “Using Internet discussion boards is a feasible way to collect focus group data, and can be a cost-effective and time-saving way to conduct research” (p. 285).

As technology improves it becomes easier to reach students virtually. Librarians have noted this and are beginning to incorporate virtual focus groups into their assessment plans. In Vogel’s (2001) brief article, “An Online Impact Assessment Tool for Research Information: Some Preliminary Concepts”, she described online focus groups as a methodology and includes some limitations. Thomsett-Scott’s (2006) article, “Web Site Usability with Remote Users: Formal Studies and Focus Groups”, provides an overview, “of how the traditional usability techniques of focus groups and formal usability studies could be extended to studies involving off-campus users” (p. 517). The article provided insight into how online and traditional focus groups differ and guidelines on how to set up an online focus group. Chase and Alvarez’s (2000) article, “Internet Research: the Role of the Focus Group,” also provided information on the differences between online and traditional focus groups and included an easy-to-read chart that outlined the differences in the process for both types of focus groups.

The literature revealed that assessment of subject guides has been lacking. More research needs to be done concerning the library’s ability to meet patrons’ needs. Focus groups are an established method for gathering qualitative information and providing an approach for the assessment of subject guides. Virtual focus groups have increasingly been used to gather feedback from users at distant locations, although fewer case studies have been written describing how virtual focus groups can be used to assess any library service. This study ties together the need for subject guide assessment with the process of using virtual focus groups to gain qualitative feedback that can be used for the assessment and improvement of subject guides.
Challenges

The ACRL Guidelines for Distance Learning Library Services (2004) indicate that Libraries need to “meet the students’ needs in fulfilling course assignments” and “accommodate other informational needs of the distance learning community as appropriate” (Resources sec., para. 1). Although the University Libraries at the University of Nevada, Las Vegas (UNLV) strives to meet these guidelines, actual evaluation to ensure the guidelines are being met has been lacking. The following case study presents a project to solve this gap in evaluation by using virtual focus groups to gather feedback about subject guides from distance education students in the hospitality field.

Due to the constraints in classrooms and an increasing number of courses being offered as online or hybrid (in-person and online), many of the students in the William F. Harrah College of Hotel Administration (Hotel College) at UNLV do not come to campus. As of 2006, the college enrolled 2,674 students with the majority of the students enrolled in some type of distance education class (Fall 2007 Fact Book, p. 68). Distance Education courses for on-campus students create a challenge of connecting students with library resources. Anecdotally, many students are not aware of the services and resources offered at the University Libraries, nor are they aware of the latest changes to access materials they may have used in the past. Many students do not know that they have access to a librarian with subject expertise in the hospitality industry. Too often students tend to rely upon the Internet, their peers or the information given to them by their professors, instead of pursuing library resources. This method of information dissemination proves to be problematic if those with whom they consult are not well-informed about research strategies for their subject area or if they are given incomplete information. How does the library overcome this challenge, especially for distance education students who are not on-campus regularly or at all? What type of research or information are students seeking? Are their research needs currently met through the Libraries’ resources, or if not, where are they locating their information? Can the library provide access to what the researchers need? How are the students accessing the information? What are their preferences for accessing the information? How would they prefer to learn about the services and resources offered for their discipline? Is the information accessible to users with a variety of skill sets and languages? What type of infrastructure exists to support off-campus students? What is the available staffing to support off-campus users?

The hospitality industry, web services and systems librarians investigated those challenges by researching the use of online tools and reviewing the types of questions that the hospitality librarian received via e-mail from students. It became clear from the types of questions that students did not know where to begin their research, what resources were available to them, how to access the resources, or how to effectively use resources to locate required information. A subject guide was created to effectively address those challenges. The hospitality librarian selected the topic for the subject guide because of its uniqueness, the number of requests from students and faculty about the topic, and the number of online courses offered. M.I.C.E, or meetings, incentives, conventions/congresses, exhibitions/events, is the term adopted by the hospitality industry professionals to categorize the industry. This narrow topic would serve as a test case for creating subject specific guides by allowing the librarians to gather feedback on its usefulness from a specific group of distance education students.

The UNLV librarians were already discussing improving and standardizing the look of existing subject guides. The LibGuides software was evaluated and selected. The LibGuides software allows librarians to integrate Web 2.0 technologies along with library resources for promotion and instruction. This software was selected for its ease of use, relatively low cost, and compatibility with other interfaces. Built-in features like polls, rating systems, comments and chat will allow for improved assessment of the guides. The ability to promote subject guides through popular applications like Facebook and MySpace, will increase the visibility of library resources, and hopefully increase usage.

The decision to add specific types of content to subject guides was determined by anecdotal feedback from other users and creative ideas found through other colleagues. It was also influenced by the capabilities of the LibGuides software. The hospitality industry librarian selected the most useful online databases for identifying research for the M.I.C.E. field. The databases included journal articles, market research reports and electronic books. The top research journals and trade publications (according to faculty
and other industry professionals) for the industry were also identified by the hospitality industry librarian for inclusion in the subject guide. Access restrictions to databases and other resources were also clearly explained in the guide. A tutorial was included to teach users how to access and effectively search for journal articles and print resources. Relevant Websites were selected based on potential usefulness to researchers, the quality of the content and the timeliness of the information given. Websites stored in a Del.icio.us account were imported into the guide. News feeds from relevant trade journals were added to display current industry headlines. Links to other helpful resources were also included, such as citation style guides, resource evaluation guides, and search strategy guides. New library resources related to the hospitality discipline were added to the subject guide via an RSS feed, ensuring that they will be continually updated. Contact information for the subject librarian and an online chat widget encouraging instant messaging were included to ensure students had several ways to contact a librarian for further help.

The hospitality librarian assessed subject guide usage by distance education students through information from online polls, resource usage statistics and by collecting anecdotal evidence from e-mails. However, additional information was needed to ensure that the M.I.C.E subject guide was effectively helping students get started with research. A virtual focus group was selected as the ideal method for collecting qualitative feedback about the M.I.C.E. subject guide. Focus groups can connect users in a wide variety of locations. Focus groups also aid in the collection of in-depth perceptions, observations, and suggestions that could be used to improve the subject guide. Participating in a focus group is a relatively easy method for users to understand, with only a small learning curve needed for participation.

**Implementation**

It is essential for distance education students to have the tools to effectively find available library resources in their field. Both the needs of the librarians who create these tools and the needs of the students who use the tools need to be taken into account during assessment. There are approximately 1,700 students enrolled in distance education courses within the Hotel College for the spring 2008 semester (J. Osterman, personal communication, January 2, 2008). The Hotel College is expanding internationally as well as domestically, increasing enrollment in existing courses and developing new tracks or majors. There is a greater need on providing access to information online and in various formats to accommodate researchers who are not located within Las Vegas. This growth can also be attributed to attention from outside community users, so the need to clearly define the types of services and resources available has become even more urgent. The reputation of the University Libraries will be affected by how well it can address the current need for connecting users with resources. Creating a positive relationship with users through education and access is one of the keys to fulfilling not only the ACRL Guidelines for Distance Learning Library Services, but also the vision of the UNLV Libraries as being “a model for the new academic library—bringing people and information together in innovative ways” (University Libraries, 2005, p. 1).

Several factors were considered in the creation of a virtual focus group for the assessment of the M.I.C.E. subject guide. In addition to studying the literature about focus groups and virtual focus groups, local aspects were considered. Careful consideration was undertaken to create the process listed below and the first virtual focus group will be held in early 2008. Results from this focus group will be reported at the Distance Education Conference in April.

To begin the process of creating a virtual focus group, a pre-screening survey will be given to potential focus group participants (see Appendix A). The pre-screening survey will be posted by the Chair of the Tourism and Convention Administration Department in the online course management software (WebCampus) for the relevant courses. The hospitality librarian will also post an invitation to take the survey on the College’s student listserv in hopes of attracting additional participants. The survey will allow librarians to select participants based on their familiarity with UNLV Libraries’ resources and services and their technical abilities to attend a virtual focus group using chat software. An attempt will be made to select users from a variety of experience levels that represent the diversity of users within the Hotel College. After the selection of participants has been made, a set of instructions will be sent (see Appendix B). A USB flash drive will be offered as an incentive for participation in the virtual focus group.
Initially, only one session will be necessary for the focus group, but future sessions with additional students will be held to see if attitudes towards subject guides change over time. It is anticipated that the focus group will take approximately 25 minutes to complete. A chat room will be created using the GoogleTalk application. A chat room was chosen over a discussion board because chat rooms allow for privacy and are an easy way for the moderator to easily facilitate the discussions about the questions posed to the participants (see Appendix D). Most UNLV students are familiar with the chat technology. Several chat clients were reviewed for the project, including Yahoo!, Meebo, and GoogleTalk. GoogleTalk was selected because it will allow the librarians to create anonymous identities, capture chat logs for review, and allow participants to view and share links. Anonymous identities and passwords will be created (student 1, student 2, etc.) to protect the privacy of each participant. The systems librarian will serve as moderator because she is the least invested in the outcome of the virtual focus group and she possesses excellent typing skills. Each question will be numbered and typed in bold so that the students can easily identify the question; additionally this will aid in the compilation of data at the end of the session. No time limits will be given for questions to ensure that participants can expand upon answers to questions that have the most significance to them. The moderator will explore discussion generated from questions in order to collect unanticipated information that may develop as a result of the responses received. A practice session with the assistance of student workers will be conducted prior to the actual focus group to identify and eliminate potential challenges.

**Important Variables**

To conduct successful virtual focus groups, there are some important variables to take into consideration before you conduct your first online session:

- **Computer hardware and software:** Not all computers are created equal. Don’t expect that all group members will be using state of the art technology. Computer hard drives can and do crash. Have a backup computer in case this happens to you.
- **Network connections:** Try to remember that not everyone is using a fast Internet connection. Some people still use modem technology. Plan on response time being slower than anticipated.
- **Moderator’s keyboarding speed:** The moderator needs to be a proficient typist to keep up with the questions. She should expect and be able to handle multiple and simultaneous requests from the focus group members.
- **Instructions for connection problems:** Provide directions ahead of time to the group members on what to do if their chat session is dropped.
- **Telephone and e-mail contact information:** Don’t forget to give the participants instructions on how to contact the moderator. A group member might have an issue and need to reach you.
- **The ability to backup online discussion transcripts:** Test the backup feature for the software. Be familiar with how to read the transcript log files before your session. The transcripts will be used in the analysis of the sessions.
- **Test software in advance:** To avoid any unpleasant surprises, test all programs well in advance of the meeting time.
- **Browser checks for software compatibility:** Not all browsers are compatible with all programs. Do your homework so you know what areas might be problematic.

**Conclusion**

Subject guides have been the tool of choice for reaching out to UNLV’s distance education students. They serve as roadmaps for getting started with library resources and are readily available online to reach students. Subject guides represent a wide variety of resources and services available to students, even those who are off-campus. Additionally, they are potentially cost-effective and can be updated quickly when sources change or are added to the collection. Subject guides are useful tools for librarians trying to reach off-campus students, but it has been unclear if students have found them as successful.
As the distance education population in the hospitality college grows and as programs encompass students from even more distant locations, it has become increasingly important to get feedback to know that students are being supported by subject guides. UNLV Libraries places a high priority on assessing the effectiveness of library services and resources, which is reflected in the strategic plan and through the appointment of a librarian with half of her time dedicated to assessment. These factors coupled with the desire to meet the ACRL Distance Education guidelines have prompted UNLV librarians to measure the effectiveness of subject guides for students.

One weakness of this case study is that qualitative data cannot be applied to other libraries because this study will collect specific localized information. However, the process of implementing a virtual focus group can be used by other libraries to discover the needs of their own communities. This article has emphasized demonstrating to others how to create a virtual focus group as opposed to reporting findings from UNLV. This case study will fill a niche in the assessment of subject guides, which has been sparsely studied so far.

Although it can be time-consuming to plan for virtual focus groups, the ability to reach distance education students makes it worth the effort. The qualitative data gathered through our focus groups will be used to improve the ability for hospitality students both on- and off-campus to find quality resources. Librarians will repeat the focus group throughout the year to continually gather feedback to use to improve not only the M.I.C.E. Industry subject guide, but also to provide a benchmark for best practices for all library subject guides.
References


Appendix A

M.I.C.E. Pre-Screening Survey

The UNLV Libraries would like to invite you to participate in a survey to gather feedback concerning the effectiveness of the M.I.C.E. (Industry Meetings, Incentives, Conventions or Conferences, Exhibitions or Events) Where to Start Guide.

The purpose of this study is to gather information on the use of subject guides by distance education students in the hospitality field. The information collected will be used to improve the effectiveness of the MICE subject guide in the future. After the survey you may elect to participate in a more in depth study of the MICE subject guide, which will require attendance in a virtual (online) focus group.

You are being asked to participate in the study because you are a distance education student enrolled in a hospitality course being taught via WebCampus.

Your participation in this survey is voluntary. You may refuse to participate in this study or any part of this study. You may withdraw at any time without prejudice to your relations with the university. You are encouraged to ask questions about this study at any time.

If you volunteer, you will be asked to fill out a short survey. The survey should take about 5 minutes to complete. Participation in the survey is confidential. Although a summary report of all results will be created, your answers will not be tied to any personally identifiable information. All records gathered from the survey will be stored online in a password protected folder at UNLV for at least 3 years after the completion of the study. After this time the information gathered will be destroyed.

There are no benefits to your participation in the survey. There will be no compensation for the completion of the survey. There are risks involved in all research studies, but this study includes only minimal risks.

Contact Information:

If you have any questions or concerns about the study, you may contact Lateka Grays (702) 895-2137.

For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact the UNLV Office for the Protection of Research Subjects at (702) 895-2794.

Clicking yes below signifies that you are over the age of 18, that you have voluntarily decided to participate in this survey, and that you consent to having your anonymous responses included in the reported results. If you do not agree to any of these terms please click no below and you will be taken out of the survey.

Thank you.

1. Have you used library subject guides before? If yes, please indicate which ones below. If no, please indicate why not below.
   Yes
   No
   Other (please specify)

2. Have you used library databases for class research? If yes, please indicate which ones below. If no, please indicate why not below.
   Yes
   No
   Other (please specify)

3. Have you used library online tutorials? If yes, please indicate which ones below.
If no, please indicate why not below.
Yes
No
Other (please specify)

4. Have you ever contacted a librarian for help with research at the UNLV Libraries?
Yes
No

5. If yes, how did you contact him? (Check all that apply)
   Instant Messaging or Chat Reference
   E-mail
   In-person at one of the Research & Information Desks
   Telephone

6. Have you worked with the UNLV Libraries’ Hospitality Librarian on a research project?
Yes, please add additional comments below.
No, please add additional comments below.
Other (please specify)

7. Are you interested in receiving a free flash drive? Participate in a 25 minute online chat to answer a few questions to help the library measure the usefulness of online subject guides for research. Your contribution will not only help your peers but help in the creation of better research tools for the entire University.

   If Yes, please give your name and e-mail address in the box below. Your information will only be used to contact you about the focus group information.

   If No, please check this box

   Other (please specify)

8. Please indicate:
   Male
   Female

9. What is your current standing at UNLV?
   Freshman
   Sophomore
   Junior
   Senior
   Graduate, please indicate below how long you have been taking classes at UNLV.
   Other (please specify)

10. Which distance education class(es) are you currently taking?
    TCA 383, Meeting Planning
    TCA 488, Special Events
    TCA 489, Meetings & Events Coordination
    TCA 490, Festival & Event Management
    Other (please specify)

11. Have you previously taken other online classes? If yes, please indicate which class(es) below:
    Yes
    No
    Other (please specify)
12. Are you currently taking any classes on the UNLV campus? If yes, please indicate which class(es) below:
   Yes
   No
   Other (please specify)
Appendix B

Instructions for Focus Group Participants

Thank you for agreeing to participate in the UNLV Libraries online virtual focus group. Your responses will allow us to help improve the resources and services offered to distance students like yourself. We appreciate the time that you have agreed to provide in order to assist the University Libraries.

1. Please read the attached consent form.
2. Please go to this link (http://talkgadget.google.com/talkgadget/popout) to access the GoogleTalk chat room.
3. If you have never chatted using (IM) instant messaging please review this Website (http://www.google.com/support/talk/bin/topic.py?topic=1186) prior to the focus group.
4. If you have never chatted using (IM) instant messaging please review chat etiquette at this page (http://tinyurl.com/3dchww) prior to the focus group.
5. Please log-in 5 to 10 minutes early to ensure that everything is working properly.
6. Your chat login will be ______________ and your password is _______________
7. All questions from the Moderator will be typed in bold.
8. The moderator’s log-in name will be moderator1.
9. Your flash drive will be mailed to you no later than 1 week after the virtual focus group.
10. If you have questions prior to the event please call or e-mail Lateka Grays at 702-895-2137 or lateka.grays@unlv.edu.

Thank you for your participation!
Appendix C

University of Nevada, Las Vegas
University Libraries

INFORMED CONSENT

TITLE OF STUDY: Building a Better M.I.C.E Trap: Using Virtual Focus Groups to Assess Subject Guide Usability for Distance Education Students
INVESTIGATOR/S: Lateka Grays, Hospitality Librarian; Darcy Del Bosque, Web Services Librarian
Contact Phone Number: 702-895-2137

Purpose of the Study
You are invited to participate in a research study. The purpose of this study is to gather information on the use of subject guides by distance education students in the hospitality field. The information will be used to make subject guides more useful to distance education students in the future.

Participants
You are being asked to participate in the study because you are a distance education student who is enrolled in a hospitality course being taught via WebCampus. Students who typically enroll in this course make use of the M.I.C.E (Industry Meetings, Incentives, Conventions or Conferences, Exhibitions or Events) subject guide when doing research for class.

Procedures
If you volunteer to participate in this study, you will be asked to attend a virtual focus group. Fifteen other students including yourself will participate in an online conversation about the library and about subject guides. A moderator will be present to facilitate the conversation. It is anticipated to take about 25 minutes of your time.

Benefits of Participation
There are few benefits to your participation, but you will receive some information about how to do research at the library. Your participation will benefit students in the future by enabling us to construct more useful resources for distance education students in the hospitality field.

Risks of Participation
There are risks involved in all research studies. This study includes only minimal risks. You may become uncomfortable when answering some of the questions during the virtual focus group.

Cost/Compensation
There will be no financial cost to you to participate in this study. The study will take about 25 minutes of your time. You will be compensated for your participation in the focus group. As a token of appreciation you will receive a 256MB flash drive. If you withdraw from the study prior to the completion of the focus group you will not be compensated.
TITLE OF STUDY: Building a Better M.I.C.E Trap: Using Virtual Focus Groups to Assess Subject Guide Usability for Distance Education Students

INVESTIGATORS: Lateka Grays, Hospitality Librarian; Darcy Del Bosque, Web Services Librarian

PROTOCOL NUMBER:

Contact Information
If you have any questions or concerns about the study, you may contact Lateka Grays (702) 895-2137.

For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact the UNLV Office for the Protection of Research Subjects at (702) 895-2794.

Voluntary Participation
Your participation in this study is voluntary. You may refuse to participate in this study or in any part of this study. You may withdraw at any time without prejudice to your relations with the university. You are encouraged to ask questions about this study at the beginning or any time during the research study.

Confidentiality
All information gathered in this study will be kept completely confidential. No reference will be made in written or oral materials that could link you to this study. All records will be stored online in a password protected folder at UNLV for at least 3 years after completion of the study. After the storage time the information gathered will be destroyed.

Participant Consent:
I have read the above information and agree to participate in this study. I am at least 18 years of age. A copy of this form has been given to me.
Appendix D

Questions for Focus Group

1. How do you keep up with the latest news in your field?

2. What resources do you when researching for class assignments?

3. When you have questions while doing your research for classes, where do go for help?

4. Have you ever checked out a book as a student taking distance education classes? Did you know you could?

5. You have all had access to the M.I.C.E. (Industry Meetings, Incentives, Conventions or Conferences, Exhibitions or Events) Subject Guide (URL) in your class. Can you give us your initial impressions of the guide?

6. Were you familiar with any of the resources listed on the M.I.C.E. Subject Guide?

7. What resources have you used in the past that are listed on this guide?

8. Please go to the following web site and view the tutorial. When you are finished try to find this article: Hadley, M. (2007, February 23). Macau tiger hunts MICE. Travel Weekly Australia, Retrieved December 10, 2007, from Hospitality & Tourism Complete database. After 5 minutes, please come back to the chat room, even if you finished searching for the article. Tell us about the experience you had while watching the tutorial and searching for the article.

9. Can you tell us how the M.I.C.E. Subject Guide could be improved?

10. Are there any web sites that have a format you would prefer for the M.I.C.E. Subject Guide?

11. Would you use the M.I.C.E. Subject Guide again? Why or Why not?
Appendix E

M.I.C.E. Subject Guide Screenshot

Welcome to the MICE subject guide. This guide will help you get started with your research on Meeting, Incentive, Conference/Congress, and Exhibitions topics. If you need additional help, contact your subject specialist - Lateka Grays.
Do Off-Campus Students Use E-Books?

Pamela Grudzien  
Anne Marie Casey  
Central Michigan University

Abstract
The number of electronic books (e-books) that are available is increasing rapidly. Libraries are acquiring them individually, in large groups, and as part of collections. Off-Campus librarians perceive them to be the best solution to the problems and expenses related to loaning and shipping print books to off-campus students. This study looks at the usage of e-books by off-campus students at Central Michigan University to see if usage patterns can assist librarians with e-book collection development to support off-campus programs.

Introduction
Electronic books (e-books) are those that are the equivalent of a print book in a digital format. They are read on a computer or other digital reader. The benefits of e-books are that they can be searched quickly and easily for specific information and that, when owned or leased by a library, can be available 24/7, whether the library is open or not. Some drawbacks to e-books include needing to have an electronic reader and being restricted to certain limitations in printing, downloading, or time available by the publisher.

The growth in the number of books sold electronically has increased dramatically in recent years. Wholesale e-book sales have risen from under $2 million per quarter in 2002 to nearly $8 million per quarter in 2007 (International Digital Publishing Forum, n.d.). Libraries have been adding e-books to their collections for a decade or more. Many of the early acquisitions of e-books were as part of a package from a publisher or as part of a consortial shared collection. In recent years, libraries have been able to select e-books on a case-by-case basis; however, the cost of an individual e-book is often more expensive than the cost of the equivalent print book.

Building a strong e-book collection in a library that supports distance learners is very attractive to off-campus librarians. They have long struggled with several issues related to loaning print books to their users. Print books have to be shipped in some way and are subject to the vagaries of postal and other delivery systems. Students in the United States can wait up to a week to receive books and the time may be much longer for students in other countries where shipments may be held up in Customs and delivery systems may not be reliable. In addition, books can be expensive to ship. Also, students may not ship books back when they are due and books may be lost or damaged in transit, necessitating staff time to resolve overdue and lost issues.

If a library can provide a comprehensive e-book collection to off-campus users, the challenges associated with shipping, costs, delays and customs regulations when sending to other countries should disappear. Yet how can librarians discover whether off-campus students would use e-books before they spend significant amounts of acquisitions budgets on them? One way may be to investigate current off-campus use of e-books.

Several recent studies have been conducted on usage patterns for e-books in academic libraries. For the most part, they do not specifically investigate usage among off-campus users in a large distance learning program. This study will investigate that usage in light of the following questions. Do students in off-campus programs use e-books more than the general population? Is usage more prominent in some disciplines? How can this data be used to inform future collection development policy for e-books?

Purchasing e-books is generally more costly than acquiring their print counterparts. E-book platforms vary and their use is restricted to the availability of electronic reading devices. Yet, e-books
would seem to be the answer to the perennial challenges faced by off-campus librarians about supplying books to their students at a distance in a timely and cost-effective way. Investigating the usage patterns of a specific group of off-campus users as compared to the on-campus population at the same institution and exploring what disciplines show the strongest use among this population, may help librarians to develop a comprehensive e-book collection development program.

**Literature Review**

The LIS literature contains several recent studies of usage of e-books by students and faculty at academic institutions in the United States and Canada. Although the studies do not generally distinguish usage among distance learners as opposed to others, there is one that was conducted at Royal Roads University (RRU) in British Columbia, which serves only distance learners. In 2003 (Croft & Bedi, 2004), researchers at RRU investigated the use of e-books among their students and faculty through a survey. They learned that approximately 30% of faculty and students had used e-books. They also discovered that there were mixed feelings about the adequacy of the e-book collections and that business students did not use e-book collections to the degree that had been expected (Croft & Bedi, p. 131).

The Penrose Library staff at the University of Denver conducted a survey in 2005 to discover levels of awareness about e-books and reasons for use. They learned that the majority of the respondents were aware of e-books and used them occasionally to read specific information in a few pages or a chapter (Levine-Clark, 2006). In a further analysis of the same data, they determined that faculty and students in the humanities disciplines tend to use e-books only if there is no print available and far prefer print books (Levine-Clark, 2007). In a study at Simmons college in 2006, the investigators discovered through survey and observation that students browse or scan e-books for specific information, but do not intend to read them in their entirety (Hernon, Hopper, Leach, Saunders, & Zhang, 2007).

Christianson (2005) examined the patterns of use for a shared e-book collection for one year at five academic libraries in the southern United States. She found that use of titles in the sciences was stronger than other disciplines at all of the libraries. In a four-year study of e-book usage at Auburn University Montgomery (Bailey, 2006), researchers noted that print circulation decreased while e-book usage increased. The highest usage appeared to be among e-books in the business, economics, and management areas.

Examining the use of e-books does give some indication of subject areas preferred and reasons for choosing books in that particular format but does not rule out the obvious fact that some users use an e-book simply because it is the only option available in that library. In order to learn whether this is the case, two studies looked at usage of e-books compared to the use of print books of the same title available in the same library. In a study conducted at Duke University, researchers found that e-books received 11% more use than comparable print books during the study period (Littman & Connaway, 2004, p. 260). In a study conducted at Louisiana State University (Christianson & Aucoin, 2005), researchers discovered that while print usage was higher than e-book usage, the concentration of use among e-books was higher. In other words, more print books were used, but the e-books that were used saw higher rates of usage.

**Location of the Study**

Central Michigan University (CMU) is a publicly funded institution with a Carnegie classification of Doctoral/Research-Intensive. The university began delivering off-campus programs in 1971 and continues to offer courses online globally and face-to-face at CMU program centers located throughout North America. In 1976, CMU established a separate department in the library for the support of students and faculty in the off-campus programs. Off-Campus Library Services (OCLS) provides library instruction, reference assistance, and document delivery to all CMU distance learners. OCLS librarians participate with on-campus bibliographers on the Libraries’ Collection Development Team. This group works to build collections that support instruction to diverse off-campus and on-campus constituencies. The University Library has an annual acquisitions budget allocated by the university. OCLS contributes an additional sum to the Libraries’ acquisitions budget and allocates smaller amounts of funding to each of the OCLS librarians to purchase books that specifically support the off-campus curriculum.
The Document Delivery Office of OCLS supplies copies of articles and loans books to off-campus students. Each student is allowed to request up to 50 items per week. Within 24 hours, the Document Delivery Office normally can process a request and send it to a student’s home or work address. The majority of article and book chapter requests are scanned and made available on the Internet to the students through ILLIAD, the request management software the office uses. Books are loaned normally for four weeks and are sent to students via UPS. There is no direct cost for any of these services; however, students are required to pay to ship the books back and are encouraged to insure the package against loss or damage. Since all off-campus courses are taught in a compressed format, students need materials quickly. Those in Canada, Mexico, and other areas at a distance from the CMU campus in Mount Pleasant, Michigan, have often had to wait a week or more to receive books. In the last ten years, loans of print books to off-campus students have dropped by 72.7% (see Table 1). The sharpest drop-offs occurred between 2000 and 2002, which is the time period when the library acquired some e-book collections.

Table 1

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Books Loaned</th>
<th>% Change Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997-1998</td>
<td>8203</td>
<td>0</td>
</tr>
<tr>
<td>1998-1999</td>
<td>7204</td>
<td>-12%</td>
</tr>
<tr>
<td>1999-2000</td>
<td>6257</td>
<td>-13%</td>
</tr>
<tr>
<td>2000-2001</td>
<td>5577</td>
<td>-11%</td>
</tr>
<tr>
<td>2001-2002</td>
<td>3405</td>
<td>-39%</td>
</tr>
<tr>
<td>2002-2003</td>
<td>2647</td>
<td>-22%</td>
</tr>
<tr>
<td>2003-2004</td>
<td>2710</td>
<td>2%</td>
</tr>
<tr>
<td>2004-2005</td>
<td>2531</td>
<td>-7%</td>
</tr>
<tr>
<td>2005-2006</td>
<td>2263</td>
<td>-11%</td>
</tr>
<tr>
<td>2006-2007</td>
<td>2233</td>
<td>-1%</td>
</tr>
<tr>
<td><strong>Total % Change</strong></td>
<td><strong>-73%</strong></td>
<td></td>
</tr>
</tbody>
</table>

The CMU Libraries has been adding e-books to its collections for nearly ten years. The Libraries participated in a group purchase of NetLibrary e-book titles in the late 1990’s. At the time, feedback from patrons, on- and off-campus, was not particularly positive. Off-Campus students, who were interested in the e-books for ease of accessibility, found the process to access them very cumbersome. The Libraries continued to investigate other e-book vendors and did add collections, such as the Knovel Library of engineering and science e-books to support on-campus undergraduate programs and the Early English Books collection. However, CMU decided against purchases of large e-book collections for the most part, because many of the titles in these collections did not fit the curriculum. Pricing per title is generally lower in collections, but one must purchase the entire collection to realize the lower prices. The Collection Development team had been discussing ways to increase the e-book collection with titles that were easy-to-access off-campus and supported the curriculum for several years and had been adding electronic reference books to the collections each year. Bibliographers were adding individual e-books to the general collection as appropriate, but there was no comprehensive e-book collection development plan through the end of 2006.

In early 2007, OCLS decided to invest more assertively in e-books for the CMU Libraries’ collection. Anecdotal feedback from off-campus students indicated that they wanted access to more e-books. In a survey of off-campus students conducted in fall 2007, 41.9% responded that increased access to e-books would be the one item that would most improve their experience with OCLS (T. J. Peters, personal communication, December 13, 2007). OCLS librarians began a marketing campaign to highlight e-books in their library instruction presentations. They also developed a plan to increase CMU e-book holdings.
The plan involved investing a sum in a large purchase of e-books and allocating money for ongoing collection development efforts. In January of 2007, OCLS librarians chose 118 individual titles from the MyiLibrary collection that supported the primary areas of instruction in the off-campus programs for business and administration, education, and health services administration. In addition, they allocated funds for collecting e-book titles in these areas and began a systematic process of identifying likely titles to purchase.

**Methodology**

To see if CMU’s off-campus clientele was using the Libraries’ e-book collection, three sets of data were gathered. First, the comparative size of the off-campus to on-campus population was collected for the last three years. Second, the e-book collection itself was evaluated by LC call number to get a picture of the relative strengths and weaknesses of the subject coverage in relation to CMU’s off-campus degree programs. Third, usage statistics by user category for the last three years were reviewed to provide a general picture of who was actually accessing the e-books.

One of the standard statistics in the academic world is the full-time equivalent student number (FTE). This number is used consistently in comparisons between institutions of higher learning and is the basis of many library vendor pricing models. CMU’s FTE number for on- and off-campus students were collected from the Office of Institutional Research. The data are shown in Table 2.

**Table 2

<table>
<thead>
<tr>
<th></th>
<th>Off Campus</th>
<th>On Campus</th>
<th>Total</th>
<th>Off-Campus %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2004</td>
<td>4021</td>
<td>18108</td>
<td>22129</td>
<td>18</td>
</tr>
<tr>
<td>Fall 2005</td>
<td>3705</td>
<td>18331</td>
<td>22036</td>
<td>17</td>
</tr>
<tr>
<td>Fall 2006</td>
<td>3584</td>
<td>18337</td>
<td>21921</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>11310</td>
<td>54776</td>
<td>66086</td>
<td>17</td>
</tr>
</tbody>
</table>

Average off-campus FTE= 17 % of total CMU FTE

A review of the electronic books available to all CMU students was done to get an understanding of the subject areas covered and the general support provided for the off-campus curriculum. A list of the e-books in the CMU Libraries’ collection was extracted from the Libraries’ bibliographic database. Sorted by call number, this list illustrates the subject areas covered by the e-book collection. Table 3 shows the call number breakdown of the e-book collection.

Usage data for the CMU e-book collections was gathered from the Libraries’ Innovative Interfaces Millennium management system. Statistics organized by user category were extracted from the Web Access Management (WAM) module. CMU’s WAM module is set up to differentiate between various categories of on-campus and off-campus user groups. For example, on-campus categories include undergraduates, graduate students, current faculty/staff, and emeriti. Off-campus categories include similar categories, but reflect use from specific CMU off-campus sites such as Canada, Puerto Rico, and Mexico as well. Usage data for the last three years is shown in Table 4. The numbers indicate off-campus e-book use by e-book collections or providers that are specifically identified in the WAM module. The off-campus totals are then compared to the total usage recorded for each collection or provider.
### Table 3

**Breakdown of E-books in CENTRA**

<table>
<thead>
<tr>
<th>Classification</th>
<th># of Titles</th>
<th>% of Total</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>B Philosophy and Religion</td>
<td>725</td>
<td>7.8</td>
<td>5</td>
</tr>
<tr>
<td>BF Psychology</td>
<td>133</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>C, D, E, F History (heavy American hist.)</td>
<td>873</td>
<td>9.4</td>
<td>4</td>
</tr>
<tr>
<td>G Customs, folklore, sport, recreation</td>
<td>84</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>H (total)</td>
<td>1564</td>
<td>16.8</td>
<td>1</td>
</tr>
<tr>
<td>HD Management</td>
<td>470</td>
<td>5.0</td>
<td>8</td>
</tr>
<tr>
<td>HF Marketing</td>
<td>313</td>
<td>3.4</td>
<td>10</td>
</tr>
<tr>
<td>HG &amp; HJ Finance/Accounting</td>
<td>101</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>HM Sociology</td>
<td>470</td>
<td>5.0</td>
<td>8</td>
</tr>
<tr>
<td>J Political Science</td>
<td>205</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>K Law</td>
<td>445</td>
<td>4.8</td>
<td>9</td>
</tr>
<tr>
<td>L Education</td>
<td>295</td>
<td>3.2</td>
<td>10</td>
</tr>
<tr>
<td>M Music</td>
<td>26</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>N Art</td>
<td>42</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>P Language &amp; Literature</td>
<td>885</td>
<td>9.5</td>
<td>3</td>
</tr>
<tr>
<td>Q Sciences</td>
<td>618</td>
<td>6.6</td>
<td>6</td>
</tr>
<tr>
<td>QA 76/77 Computers</td>
<td>261</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>R Medicine</td>
<td>533</td>
<td>5.7</td>
<td>7</td>
</tr>
<tr>
<td>S Agriculture</td>
<td>137</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>T Technology</td>
<td>1092</td>
<td>11.7</td>
<td>2</td>
</tr>
<tr>
<td>U &amp; V Military Sciences</td>
<td>26</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Z Bibliography/Library Science/Internet</td>
<td>37</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td><strong>Total titles</strong></td>
<td><strong>9335</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Analysis

It is important to note the population of off-campus students during the three years investigated for this study. The fall 2004 full-time equivalent student (FTE) population was 18,108 for on-campus students and 4,021 for off-campus. The fall 2005 FTE was 18,331 on-campus and 3,705 off-campus. The fall 2006 FTE was 18,337 on-campus and 3,584 off-campus. Over these three years though decreasing slightly each year, the average percentage of off-campus student to the total FTE for CMU was about 17%. This shows that a relatively small percentage of the total student population was responsible for an increasingly larger percentage of the e-book use.

The main off-campus degrees offered through CMU’s distance learning program are the Master of Science in Administration (MSA) and Master of Arts in Education (MAE). The MSA degree offers the option to concentrate study in various areas of business administration, health services administration, and software engineering administration. A Master of Arts in Humanities is also offered on a limited basis. The subject coverage of CMU’s electronic book collection is wide-ranging as shown in Table 3, but provides significant support for the off-campus degree programs. The largest section of the collection is the H classification which covers business, economics, and sociology topics. The technology section, ranked number two, is extensive also. These are mainly the books made available through the Knovel collection. This was purchased to support a new on-campus undergraduate program in engineering and it is interesting
to note the amount of use the off-campus students make of this collection. The health services administration concentration and the education degree are also well-served by the e-book collection. These sections are among the top ten. The Masters in Humanities degree is well supported by the collection in philosophy, religion, history, and literature. Areas that are not strongly represented such as political science, agriculture, library science and military science are not strong in the off-campus curriculum.

Table 4

WAM Stats for OCLS E-Book Use 2006-07

<table>
<thead>
<tr>
<th>Table 4: Off-Campus E-book Usage, 2004-2007</th>
<th>OCLS Total Uses</th>
<th>OCLS % of Total Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knovel</td>
<td>127</td>
<td>113</td>
</tr>
<tr>
<td>NetLibrary</td>
<td>34816</td>
<td>95768</td>
</tr>
<tr>
<td>MyiLibrary (began 1/07)</td>
<td>0</td>
<td>198</td>
</tr>
<tr>
<td>Oxford English Dictionary</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Early English Books</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The WAM statistics (Table 4) clearly show increasing e-book usage among both the off-campus student population and the total library user population over the three academic years. In 2004-05 off-campus use was 17% of the total use. This grew in 2005-06 to 23.5% off-campus use of e-books. In 2006-07 off-campus e-book use grew significantly to 32.5%; over one third of the e-book usage was from off-campus students and faculty.

As Table 4 indicates, the collection of electronic books grew over the three years reviewed. In 2004-05 the array of e-books was limited to the NetLibrary collection until May/June. Knovel engineering and technology titles, the Oxford English Dictionary and Early English Books Online were added during the latter part of the year. Knovel and Early English Books are specialized collections, and off-campus use of these titles was not expected. As mentioned above, the use of Knovel to the extent shown in the statistics is serendipity.

In January 2007, bibliographers began selecting e-books via Coutts Information Services’ selection tool OASIS. These e-books are accessed through the MyiLibrary platform. Most of the
MyiLibrary titles were selected by OCLS librarians to support off-campus courses and degree programs. As the data show, off-campus students’ use began immediately and represented almost 40% of the total usage for these titles. This suggests that the combination of electronic format and relevant subject coverage supporting the MSA and MAE degree programs is very appealing to off-campus students.

**Limitations and Further Research**

This study was limited to the e-book collections for which there were usage statistics easily available. Investigating all e-book use at CMU may yield different results. In addition, there is no way to determine what constitutes a *use*. Did the student read the book, a chapter or a page? Did the user search for just the section needed or access the book and decide not to use it at all?

Some ideas for further study in this area would be to survey students for their patterns of use, their satisfaction with e-book platforms and their suggestions for new titles. It would also be interesting to investigate what groups of students are using the Knovel collection. The usage in this area was unexpected because the off-campus programs do not contain much science or technology curricula. There may, however, be students coming from science and technology backgrounds in the MSA or MAE programs who would benefit from increased access to materials in those areas.

**Conclusion**

Off-campus students at CMU have been asking for more access to e-books. The data collected in this study show that these students will use e-books as they are made available. The loans of print books to off-campus students decreased dramatically at the same time that the CMU Libraries began acquiring e-books. In addition, the percentage of e-book use at CMU among off-campus students is much higher than their percentage of the general population. When e-books were chosen specifically to support instruction off-campus, those particular books were used frequently by off-campus students.

The OCLS librarians developed a plan to add e-books to the CMU Libraries’ collection based on feedback from students. After examining the data on usage of e-books by this group, it is clear that they do indeed make extensive use of them. The data collected for this study supports the need for more e-books that support off-campus instruction. It is clear that the plan to collect e-books more aggressively, particularly in the areas of business and administration, education, and health services administration, begun in 2007, should continue.
References


How It’s Done:
Examining Distance Education Library Instruction and Assessment

Samantha Schmehl Hines
University of Montana-Missoula

Abstract
While articles on individual studies, surveys, and programs abound, there is a lack of baseline data regarding what and how libraries provide instruction for their distant populations. Do libraries generally provide information literacy or library instruction to students at a distance? How is instruction usually provided? Is instruction generally assessed? If so, how is instruction assessed? These questions were asked of librarians in an online survey of 143 institutions offering distance programs, randomly sampled from the College Blue Book. With a 55% response rate, data about instruction offerings and assessment were correlated with information about library staff size, budget, and student enrollment. The expectation was that larger libraries with more money and students would provide more and better services, but interestingly these factors had far less influence than anticipated. It seems that the individual efforts of librarians was the major determinant for services offered by libraries at institutions with distant students.

Introduction
When the author was first hired as the Distance Education Coordinator for the Mansfield Library at the University of Montana, she wanted to learn how libraries generally instructed their distant populations in the use of library resources and services. She soon realized that it would also be helpful to know if and how libraries generally assessed their efforts in this area. She had her own programs of instruction and assessment, but what could she learn from how other libraries conduct and assess their distant services? Was there an aggregate study describing how libraries generally provided and assessed instruction services for distant students? After researching the literature, one was not readily apparent. The author attempted to create such a study, and tried to correlate demographic data on participating libraries (budget, staff size, institutional enrollment size) with instruction and assessment efforts. Would larger, wealthier, and better staffed libraries provide more to their users and assess their efforts more?

Literature Review
Much has been published on individual institutions’ outreach efforts to distant students. Based on examination of eleven recent articles on the topic, options generally fall in these areas: Specialized Web pages (Ladner, Beagle, Steele, & Steele, 2004), online tutorials (Cahoy & Moyo 2005), integration into courseware (Presti 2002), mailing of physical guides, print or CD-ROMs (Sacchanand 2002), credit courses (Machet 2005), and face-to-face site visits or orientations (Gandhi 2003). But there seems to be as yet no comprehensive overview of what institutions do generally in support of library instruction for their distance learners.

Assessment of these instruction efforts to distant students has been less studied. While assessment of information literacy instruction in ‘traditional’ face-to-face contexts has become a buzzword, not as much attention seems to be paid to assessing instruction of students at a distance. Those who discuss assessment mostly mention it as an afterthought, without offering results of surveys or pre-tests/post-tests, for example, but rather as a step to be taken in the near future at an individual institution.

Others take a purely theoretical approach. One example of the theoretical approach includes an analysis of various studies of the efficacy of face-to-face library instruction versus computer assisted
instruction showed that both methods seem equally effective for teaching basic library skills (Zhang, Watson & Banfield 2007), although there was little focus in this article on distance education programs and none on assessing instruction in libraries generally as it is typically described. Scales and Lindsay (2005) analyzed student attitudes toward information literacy in their online information literacy course. However, this survey also focused more on the theoretical aspects of information literacy rather than an authentic assessment of the instruction provided. Lindsay (2004) compares two online courses’ content and structure as a means of assessment, but again does not discuss ways to assess students’ actual instructional experiences. A test of the effectiveness of interactive multimedia for library instruction (Markey, Armstrong, De Groote, Fosmire, Fuderer, & Garrett, 2005) comes closer to evaluating the abilities of various library instruction methods to impart information literacy, but still focuses on the theoretical applications rather than the practical, everyday assessment. The most useful discussion of assessment of distance education comes from Dewald, Scholz-Crane, Booth, & Levine (2000) in which assessment methods and criteria are suggested for library distance education. Does this lack of attention to and evaluation of existing practical assessment mean that general and regular assessment of distance learners’ information literacy instruction is not done?

In addition, there seems to be nothing existing in the current literature discussing the effects that budget, staff size and enrollment size may have on libraries’ provision and assessment of distant services. Perhaps this is due to the assumption that larger budgets, staffs, and enrollments would naturally lead to more and better services, but it is still an interesting question that should have a more definitive answer.

Methodology

The answer these questions was sought via a survey sent to a sample of librarians at institutions that offer bachelor’s or graduate degrees via a distance. The original list was gathered via a random sample of 143 institutions listed in the College Blue Book, 34th edition, volume 6, Distance Learning Programs. From this list contact information was found for either the head librarian or the librarian dealing with distant services for each institution via the institutions’ Websites and put into an e-mail list.

The questionnaire was assembled to answer the above questions by asking librarians what services (if any) are provided by them to distant students, and if and how these services were assessed. At the end of the 8-question assessment, instructors were offered the chance to contact the author via e-mail or phone with questions and/or feedback. The survey text can be found in Appendix A.

The survey was administered wholly online, using the SelectSurvey software owned by the University of Montana. This product sends out the survey solicitations via e-mail, tallies and tracks responses, and presents the collected data in exportable formats as well as easy-to-interpret, sharable online reports. As the assessment was conducted entirely online, and notification and solicitations were sent out via e-mail to instructors, this study cost nothing to carry out materially. There were no mailing or printing costs. Additionally, the study could be run quickly since there were no printing or mailing time delays.

The response rate was 55% percent, with 78 librarians responding. Six of these declined to fill out the survey (an option with SelectSurvey’s software), yielding 72 complete survey responses to work with. Respondents had two months to reply to the solicitation, and those who had not yet responded by the two-week mark received a follow up e-mail.

Some answers were correlated with data collected about the size of the institution, the number of librarian employees, and/or the library budget. Spearman’s rank correlation coefficient was used, as it does not require the assumption that the relationship between the variables is linear, nor does it require the variables to be measured on interval scales. Correlations were deemed statistically significant at the 90% confidence interval level (p = .1 or less), two-tailed.
Results

Of the 75 responses, the overwhelming majority, 70 or 97%, offered some sort of special support to students at a distance. Only 4 respondents, or 3%, did not. One respondent was not sure.

As for the actual services offered, 58 (85%) had a general Website or guide focused on the needs of distant users. Seventy-two percent (49 respondents) offered online guides or tutorials for particular resources or services, and 68% (46 respondents) had a specific contact person within the library who deals with distant users’ needs.

Slightly over half of respondents (35, or 51%) still send print materials to distant students. Fourteen respondents (21%) sent CD-ROMs or other electronic materials to their students, and 20 (29%) had interactive guides or tutorials for particular resources or services. The lowest responses went to classes on how to use the library at a distance, both credit classes (n = 7, or 10%) and non-credit classes or tutorials (n = 11, or 16%). (See Figure 1.)

![Figure 1. Types of instruction or instruction materials.](image)

When discussing whether these efforts are assessed, 60% of respondents (n = 42) said no assessment took place. Only 26 of the respondents (37%) assessed their library’s efforts with regard to distant learners. The primary means of assessment was tracking Web statistics (67%, or 18 respondents), followed by surveys of distant learners (59%, or 16 respondents) and course evaluations (n = 14, or 52% of respondents). (See Figure 2.)
Figure 2. Primary means of assessment.

The remaining questions dealt with demographic issues. Question 5 of the survey attempted to determine the size of the school with which the library was associated, and allowed for a free response of the institution’s student enrollment. When evaluating the survey responses, answers to this question were divided into four groups: Schools with less than 3000 students, schools with 3000-5999 students, schools with 6000-9999 students, and schools with 10,000 or more students. There were 17 in the first group, 14 in the second, 17 in the third and 16 in the fourth, with eight not responding. (See Figure 3.)

Figure 3. Number of students enrolled at participating institutions.
Question 6 asked what kind of distant degrees are offered by the respondent’s institution. Master’s degrees were the clear leader, with 43% or 28 respondents. Close behind were AAS or AS degrees at 32% (21 respondents) and BA or BS degrees at 35% (23 respondents). A handful of institutions offered higher degrees like PhDs, and a sizable number of institutions offered MBA programs (n = 18 or 28%), certification programs (n = 19 or 29%), or just courses with no entire degree program online (n = 17 or 26%). (See Figure 4.)

![Figure 4. Types of degrees offered at participating institutions.](image)

Question 7 attempted to break libraries down by size. Respondents were grouped into three categories: Five or fewer librarians, five to ten librarians, and more than ten librarians. Unfortunately this question was phrased poorly—some respondents were not sure if the question meant just librarians, all staff, part time or full time employees or some other combination. Most libraries, 37 of those responding, fell into the larger group, with 16 in the middle group and 12 in the group with five or fewer employees. Seven libraries did not respond to this question. (See Figure 5.)

Question 8 asked respondents for their library’s annual budget. There was some resistance to answering this question; 33 respondents failed to answer the question. Those responding were divided up into three groups: Budgets under $500,000; budgets of $500,000-$1,000,000; and budgets over $1,000,000. Most respondents answering the question fell into the first group (n = 15), although the last group (n = 13) and the middle group (n = 11) were not far behind.

Correlation tests showed a very weak correlation between assessment of services and the enrollment size of the institution with a Spearman’s rank correlation coefficient of 0.18. Unfortunately the correlation was not statistically significant at a two-tailed confidence level of 90% (p = 0.131). A strong correlation was found between number of librarians employed and assessment of services, but again was not statistically significant (r = 0.579, p = 0.626). One correlation that was statistically significant was a weak negative correlation between library budget and assessment (r = -0.223, p = 0.06).
Among services offered, a small but statistically significant correlation was found between enrollment size and the likelihood of a specific Website for distance education library issues ($r = 0.243, p = 0.041$). A moderate correlation with strong statistical significance was found between the offering of online tutorials and enrollment size ($r = 0.368, p = 0.0148$) and a small correlation between enrollment size and the offering of classes in information literacy ($r = 0.198, p = 0.0955$). Number of employees also had a weak correlation with the offering of classes ($r = 0.218, p = 0.657$). Interestingly, the only significant correlation associated with budget was a weak negative one regarding the offering of guides in an electronic format not online (e.g., CD-ROM) ($r = -0.208, p = 0.0794$).

These correlations should be taken with a grain of salt due to difficulties with answers to the library staff and budget questions especially. It is important to remember as well that correlation does not demonstrate causality. No constants among assessment or services could be demonstrated or proven.

**Discussion**

The author’s theory at the start of this project was that ‘larger’ schools – those with large enrollment size, larger library staff, and/or higher library budgets – would do more for their distant populations. However, she learned that these factors made little difference. No valid or verifiable patterns emerged, other than the slight and not overwhelmingly significant tendency for schools with higher enrollment to offer a specific Website for distance education library issues, online tutorials, and classes in information literacy. This may merely be a function of the fact that they have more students to deal with and therefore must deal with them more proactively than smaller schools.

As for assessment, the author’s theory that larger schools would assess their efforts more often and more thoroughly was also disproved. No significant results emerged except for a slight disinclination for libraries with larger budgets to assess their efforts toward distant students. This seems counterintuitive and may be due more to resistance to answering the budget question at all as opposed to a true resistance among well-funded libraries to assess distant services.

However, a few important results emerged. The first is that libraries in general are supporting their distant students, staff and faculty. The second is that these services are generally not assessed for efficacy or efficiency. Further research could be undertaken to confirm that budget really has no impact on distant services. Another avenue of research could be whether institutions offering distant library services meet or exceed the ACRL DLS Guidelines.
The largest implication for practicing librarians is that the amount and type of services libraries provide to their distant populations have more to do with the efforts of individual librarians than factors like budget, size, and number of librarians, at least as far as the results of this study indicate. While this was not what the author expected to find, it is ultimately a bit freeing. Distance education library services can be to an extent what librarians we make of them, without any expectations based on staffing, budget, or institution size.
References


Appendix A

Survey Questions

1. Does your library offer any special support and/or instruction to students at a distance?  
Yes / No / Don’t know

2. If so, what do you offer? Mark all that apply:

--general Web site/Web guide focused on distant users
--a specific contact person in the library who deals with distant learners’ needs
--print guides or other material sent to distant users
--electronic guides or other material sent to distant users (e.g. a CD-ROM)
--online guides or tutorials for particular resources and/or services
--interactive guides or tutorials for particular resources and/or services
--non-credit classes or tutorials in how to use the library at a distance
--credit classes on how to use the library at a distance
--other (free response)

3. Are your efforts toward instructing distant learners assessed for efficacy and/or success?  
Yes / No / Don’t know

4. If so, how? Mark all that apply:

--Web statistics/hits on particular sites or resources
--surveys of distant students
--pre- and post-tests
--course evaluations
--other (free response)

5. What is your institution’s student FTE?

6. What type of distance degrees does your institution offer?

--just courses, no entire degree
--certification programs
--AAS or AS
--BA or BS
--endorsement programs
--MA or MS
--MBA
--PhD, EdD, or JD
--don’t know

7. What is your library’s FTE?

8. What is your library’s annual budget?
Appendix B

E-mail Solicitation Text

Hello,

You have been randomly selected from the list of institutions in the College Blue Book 34th edition to participate in a survey of how libraries provide for their distant students. This research is in preparation for a possible conference presentation and subsequent publication. The survey is only eight questions long and should take five to ten minutes to complete. It is completely anonymous. There are no known risks involved in taking this survey. Your participation is valuable for determining what libraries do in support of distance education, and I appreciate your time. Please click on the link below to begin the survey, and feel free to contact me with questions or concerns, or if you would like to learn more about the results.

Thank you!

Samantha Hines
Social Sciences Librarian and Distance Education Coordinator
Mansfield Library
University of Montana
ILLSiad, Document Delivery, and the Distance Student: How Document Delivery Can Enhance Support for Distance Library Users

Kristine Holloway
California State University Bakersfield

Abstract
Academic libraries serve greater numbers of distance learners and must address the unique challenges faced by these students. Technology can bridge the gap in terms of access and use of library resources. Academic librarians working with distance students must examine their student population, determine the needs of their users, and be prepared to adapt technology available to meet those needs. Many academic libraries have adapted OCLC ILLiad to allow better support of distance learners. Library models that have used OCLC ILLiad or similar software for distance services are discussed and can be used as a model for change in library distance services programs.

Introduction
California State University Bakersfield (CSUB) is one of 23 degree-granting universities in the California State University System. CSUB is a small public university located near central California. Approximately ten percent of CSUB students, more than 1200, are categorized as distance students. These students are located in many different areas throughout California and attend classes through multiple venues including: Synchronous classes offered via Instructional Television (ITV), asynchronous classes offered over the Internet, and in-person instruction at satellite locations, frequently at some distance from main campus. The Distance Services Librarian wanted to provide distance students greater autonomy in the making and tracking of their requests. The Distance Services Assistant was feeling the push of greater demand from distance students for library resources. The creation of the Distance Services Librarian position and the location of that position at the primary satellite campus had resulted in a 200% increase in distance student requests in the space of a year. Greater demand, limited funding, and the need to maintain a three-day maximum turnaround time made automation of work functions for distance services staff a necessity. Gathering statistical data to be used in identifying strengths and weaknesses of the distance services library program was a priority.

Like many academic libraries, the Walter W. Stiern (WSL) Library at CSUB used an Online Computer Library Center (OCLC) Interlibrary Loan Internet Accessible Database (ILLiad) Resource Sharing Management Software for automating and expediting Interlibrary Loan (ILL) requests. The Document Delivery module in ILLiad functions separately from ILL Borrowing and Lending modules while retaining many of the same capabilities. Implementation of Document Delivery in ILLiad had been done successfully at other institutions, including: University of Florida, Smathers Libraries, Texas A&M University Medical Sciences Library, and University of Central Florida (Fuller, 2002; McKay, Foster & Bedard, 2007; Shrauger, 2006). Integrating ILLiad as a management program for distance learners’ accounts promised to satisfy the need of process automation for staff, give students greater autonomy in the management of their accounts, and make available statistical data to inform goal setting and program design. In the summer of 2007, the Distance Services Librarian completed the project of integrating document delivery into library services for distance students.

This paper will discuss the process of integrating ILLiad into distance library services. Much has been written about using tools such as ILLiad for ILL. This paper differs by focusing on how tools such as ILLiad can be modified to meet the needs of distance students and the needs of libraries serving distance students. The goals, challenges, modifications, results and need for future technological innovation for the CSUB project and others will be discussed. The Association of College and Research Libraries (ACRL) in its Guidelines for Distance Learning Library Services (2006) made clear that access to library resources was essential for academic success and the development of lifelong learning skills. Additional financial
support may not be available to academic libraries to provide for this access. Rachel Viggiano (2003), cited
the ACRL Library Data Tables for 2000 stating that of the 1135 academic libraries at institutions of higher
learning surveyed, 92% of the 72% that offer distance education did not receive additional funding to
support those students. Adapting technology such as OCLC ILLiad, often already in place for ILL use, for
the benefit of distance learners can provide better access and more effective user account management
without additional cost.

The challenge of providing equivalent library resources to distance students is increasingly felt by
academic libraries. According to the National Center for Education Statistics 2003 survey of colleges and
universities in the United States, more than half 56% of two and four year colleges and universities offered
some form of distance education. As was stated in Guidelines for Distance Learning Library Services
distance students must be offered equivalent library services as those offered to traditional students (ACRL,
2006). “The shift in the delivery of information from print to electronic formats has been, and will continue
to be, the single most profound change to influence current professional work” (Koch, Krieger, &
McCarthy, 2007, p. 46). Electronic document delivery is ideally suited for distance students. Academic
libraries are eager to use and adapt technology in order to better support distance users.

OCLC ILLiad

OCLC ILLiad software is a document delivery software program that includes a Web interface
that allows patron-initiated requests and access any time of the day or night and automates library
administrative functions such as lending and borrowing (Tonn, 2003, p. 50). ILLiad was originally intended
for Interlibrary Loan and permits an easier process flow from library to end user through task automation
and facilitation of contact between institutions and departments. ILLiad works with software programs such
as Ariel. Ariel allows scanned and compressed documents to be sent between libraries. ILLiad is used to
convert a document received through Ariel to portable document format (PDF) so that it can be posted on a
server and made available to students. Tools are included that enable libraries to track turnaround time,
demographic data (e.g. major, status, or location of student, and student use over particular time frames) all
valuable for better serving students and for justifying the work of the library to administrative bodies.

Typically, distance users make requests through ‘home-grown’ Web pages or software programs
such as OCLC ILLiad. Prior to integrating ILLiad into distance services, CSUB distance students used a
Web request form to request books or articles from the WSL library. The Web form used by distance
students did not retain personal information requiring the students to re-input their data with each request.
Distance students were sometimes confused as to whether to use the distance services or ILLiad request
screen for requests. Distance Services staff kept all records manually resulting in a considerable time and
labor commitment. Articles requested from print journals in the WSL library were scanned and e-mailed to
students as PDF attachments. The large file size required by PDF documents prevented some e-mails from
getting through, particularly when multiple articles were requested (Weible, 2004, p. 534).

A selection of CSUB distance students were asked to request items both through ILLiad and the
distance services Web form and assess their experience in order to determine which elicited greater
satisfaction from users. Each system offered pluses and minuses. The Web form made ordering multiple
items easier because students could copy and paste a page of book requests in one form. In ILLiad, each
item had to be requested separately. Students liked that they could track their requests and see their request
histories in ILLiad. Open URL linking seemed likely to remedy problems with ordering multiple items.
ILLiad has the ability to link to open URL. Students searching in a periodical database or through a linked
system can retrieve a request form through ILLiad that is pre-populated with bibliographic and personal
information. The student need only submit the request in order to receive the item. Distance students
accustomed to using ILLiad for ILL requests had little trouble in adapting to the electronic interface.

Document Delivery

The document delivery module in ILLiad would speed workflow for library staff, resulting in shorter
material delivery turnaround times. It would allow students to track requested items from their ILLiad
accounts and minimize confusion by providing one interface for both Distance Services and ILL requests.
Distance library users manage their accounts and access their electronic documents from one location. ILLiad allows the electronic document to be posted to a Web server accessible through the patron’s ILLiad account. Users are notified via an automatically sent e-mail that provides a link to the library Website where materials may be accessed. Individual libraries or departments may script the e-mails to suit their needs. Variable information in the e-mail, such as user name and item title, is system generated. E-mails may contain instructions for accessing materials and login information such as username or password but do not contain large PDF files and so are more likely to get through to the user. With ILLiad, students do not need to receive the e-mail in order to access the electronic document.

ILLiad accounts are password protected to safeguard privacy. Students set up their own passwords. This can cause problems as students may forget passwords, and staff must reset passwords in order for accounts to be accessed by students. The benefit of being able to store multiple items on the server and the greater certainty of the electronic document being available to the student appear to outweigh the disadvantages. Electronic documents made available via a Web server may be purged after a period of time ensuring that copyright restrictions are honored (Weible, 2004, p. 534-535).

Models of Document Delivery for Distance Students

CSUB provides distance instruction at multiple site locations for students taught in classrooms collectively as well as distance instruction for students who may be located anywhere in the world. How items are delivered to students varies by student location and material type (e.g., books or articles). Library staff attempting to implement ILLiad into distance services found the transfer complicated by the need to: Preserve statistical fields for demographic data, incorporate multiple delivery locations into the Document Delivery module, and create rules linking multiple automatic e-mail responses to patron requests. Patrons can designate a preferred delivery location and delivery method, either electronically, by courier between two designated sites, or directly shipping to the student’s home. Distance students receive additional services such as having books shipped to their home or school location or having WSL owned journal articles scanned and made available through their ILLiad accounts.

Patron Registration in ILLiad contained fields in the student registration form to identify Department (Major) and User Status (e.g., faculty, graduate student, etc.). ILLiad could be additionally customized to incorporate multiple delivery locations. CSUB was able to describe each unique delivery location for Antelope Valley, Santa Clarita, and Santa Maria, with an additional designation for users that were entirely online. This allowed data reports to be created that were distinct to one or more locations. Distance students register their site location in ILLiad with their first use of the system. CSUB students who indicate a pickup location other than CSUB are automatically routed into ILLiad Document Delivery. Requested items from WSL are either scanned and posted to the distance student’s ILLiad account or, if books are requested, sent via courier or through a commercial shipping agency. Items not located in the WSL are immediately routed to ILLiad Borrowing to be processed as ILL requests. E-mails are generated informing students of the status of their requests, so that they may cancel requests if the items would not arrive in time.

CSUB distance students needed to be taught to use OCLC ILLiad for distance services. This instruction required additional in-class time in research sessions and orientations. Information needed to be made available online in order to provide point-of-need instruction. Distance students may not be confident in their understanding of the technology and might hesitate to seek out a librarian for support (Chakraborty & Tunon, 2002, p. 174). This makes it even more important to provide as much information with as many access points, electronic and in-person, as possible for these students. Distance students tend to be older and/or re-entry students, often lack in-person support from the university, and are less adept at using technology. For these reasons, it is very important that their access point to library services be easily used and understood (Renner, Varaman, & Norton, 2007, p. 87).

The Library System Administrator, Interlibrary Loan Librarian and staff, Distance Services Librarian and staff, and library administration were involved in this process. Outside support was obtained from the ILLiad help desk, the ILLiad list serve and from Kristine Shrauger, a University of Central Florida (UCF) librarian who had faced the challenge of integrating ILLiad into distance services at UCF.
David Fuller, an Interlibrary Loan Librarian at the University of Florida (UF) Smathers Libraries documented how UF served distance students through traditional Interlibrary Loan technology. UF Smathers Libraries used Ariel in combination with Prospero to make electronic documents available to students. Fuller (2002) noted that more libraries are beginning to explore making articles available through software programs such as ILLiad and Prospero thus allowing the distance student to have access regardless of location. The UF Smathers Libraries’ gave distance students access to books from the library owned collection by sending registered distance users those materials through a commercial shipping company to an address given by the distance student. ILL items were sent either to the off-site facility where the student received instruction or the student was referred to a local public library if attending school from home (p.21-23).

The University of North Carolina Health Sciences Library offers free document delivery and ILL. Books are shipped in the mail and the cost for postage falls on the institution not the student. Requests are made and e-mail notifications are sent via ILLiad. Documents are made available to students as PDF documents on a library server (Renner, et al., 2007, p.92)

Mou Chakraborty and Johanna Tunon (2002) assessed library services offered to international students attending Nova Southeastern University (NSU). NSU offers extensive educational opportunities to international students. Any university offering distance education may well have international students. NSU made the decision to provide resources to accommodate international students. These students were allowed free document delivery of 25 total documents per week. Print materials were shipped by commercial companies, faxed, or mailed. NSU elected not to send students e-mail attachments of articles due to copyright considerations. Instead, NSU began working with Prospero to make articles electronically available to distance students. International distance students encountered some problems with this type of access including: Issues with printing, problems accessing the Internet, lack of technological ability, and inadequate equipment (p. 165-168).

Kristine Shrauger (2006) integrated ILLiad into Distance Services at UCF. Shrauger was working with distance students at 13 regional sites spread through 11 counties in Central Florida. UCF adopted ILLiad for Distance Services in an effort to be proactive in addressing customer needs. Shifting records from paper to electronic was also a consideration. Distance users needed to be differentiated by site location, status, and item type. Staff could use site location and item type to determine how items would be sent via blue bag (courier), e-mail, or commercial mailing service. This also told ILLiad what e-mails to generate for the patron. UCF users received specific services based on their status (e.g. faculty and distance users were eligible to receive document delivery and ILL). Students with disabilities received the same services as distance students and were included as a separate designation.

UCF made several modifications to ILLiad. Web forms were altered to reflect the needs of their students using the ILLiad customization manager. System-generated e-mail templates were modified to reflect pick-up site and type of item to be delivered. UCF created rules in ILLiad so that requests could be system sorted by status and location in order to accommodate multiple pickup sites. The customization manager was used to make these changes. Routing rules sorted requests according to item and patron type. Labels were modified to address the different locations and differing shipment methods based on location (e.g. university courier or US mail). Staffing, work distribution, and physical environment were modified to fit the changing needs of the department. As an example, Document Delivery Services was separated out from Borrowing and Lending and student assistant positions were re-distributed to document delivery. (Shrauger, 2006).

Yang (2005) documented the Texas A&M University (TAMU) Libraries’ change from Clio to Ariel to provide free document delivery to a campus of approximately 50,000 patrons including both traditional and distance students. In order to manage this conversion successfully, Interlibrary Services acquired additional staff and technology. They anticipated and realized a dramatic increase of 180% in Interlibrary Services. Both existing and new staff needed to be trained in working with ILLiad. Users making requests from both Document Delivery and ILL differentiated the requests by making a note in the request form that the item was available at TAMU (Yang, 2005, p. 50-53).
The TAMU Medical Sciences Library in conjunction with TAMU used ILLiad’s document delivery system very successfully (McKay et al., 2007). Patrons were able to request ILL as well as in-house items such as book chapters or bound journals to be made available electronically. DeliverEdocs was named as such in an attempt to brand and market the service to patrons. Ex Libris’ SFX and Metalib function with ILLiad to link from the database allowing deliverEdocs request form to be pre-populated. All users have the same rights to these services. No distinction is made for or against distance students. McKay et al. (2007) report that geographically distant students seem to encounter more problems with the technology and that the offering of these services has forced changes in workflow, staff position descriptions, and increased user expectation that there will be a rapid turnaround time. Staff concerns include patron authentication (e.g. ensuring that a patron who graduated two years ago is no longer registered to use the service) and, for staff and patrons, quality of scans. Administrative support was essential to the success of this project.

Modifications to ILLiad Web pages can make them more functional and more specific to individual libraries. Christopher Ewing (2006) described the changes made to ILLiad by the Norris Medical Library at the University of Southern California. In order to preserve the style of the library Web site in the ILLiad pages, fonts were changed, the library header and footer were added, pages were de-cluttered, and buttons were altered in appearance and position on the page. The service was renamed, DocRetriever, in order to more accurately describe the service to patrons. Additionally, a log off page was incorporated to avoid the confusion caused by the default return to the entry page when patrons log off. Students were given immediately relevant information regarding pricing, etc., in pop-ups. These changes were achieved with the ILLiad Customization Manager and Dreamweaver Web design software. The Norris Medical Library made substantial changes both to the appearance and function of the ILLiad Web pages with input and support from multiple departments that improved usability for their staff and patrons as demonstrated by the high amount of use when compared to the low volume of assistance solicited by patrons.

Implementing Change

The literature revealed several commonalities in the process of integrating account management software into library distance services. Perhaps the most important was to test and assess use during the process and after making changes (Weible, 2004, p. 536; Ewing, 2006, p. 10-11). At TAMU a user satisfaction survey was conducted nine months after implementation (Yang, 2004). Ellender Memorial Library conducted a user satisfaction survey one year after implementation of ILLiad for Interlibrary Loan (Tonn, 2003). Distance students were asked to test ILLiad then interviewed in order to identify problems and needs prior to integrating ILLiad into distance services at CSUB. Testing can reveal mistakes made in setting up the software or in how the software is being used, allow for additional questions that may need to be addressed by e-mail or Web pages, and show typos or errors in the text of automatic e-mail messages to students. Not every problem can be anticipated. For example, an e-mail message stating ‘this item will be available for pick-up tomorrow’ when the item won’t be available until Monday, may cause considerable frustration for library users (Weible, 2004, p. 536).

It is important to get buy-in from all relevant stakeholders. Using an electronic service such as ILLiad appears to increase use of distance services by making the process to request materials more user-friendly and speeding turnaround time. Staff may have concerns over an increased workload and learning a new system. Listen to concerns and be prepared to facilitate an appropriate response. The TAMU Interlibrary Services Librarian prepared an instruction manual for her staff in how to use ILLiad (Yang, 2005, p. 50-51). Support from administration was cited as being extremely important to the success of the project. In some instances, administrative support provided additional funding for equipment such as scanners and additional staffing (Yang, 2005, p. 51; McKay et al., 2007, p.53).

ILLiad pages may be modified to reflect individual libraries and the needs of their users. Many of the libraries that implemented ILLiad to serve a variety of student populations made some changes. Some changes were functional as when CFU created routing rules to sort library users into groups (Shrauger, 2006). Some changes were aesthetic. The Norris Medical Library Website revisions maintained the character of that library’s Web site throughout the ILLiad pages. In this customization process, font and
color scheme were altered in order to make the ILLiad pages integrate more successfully with the remainder of the library site (Ewing, 2006, p.6).

Additional time in one-shot orientations or in reference sessions instructing students in how to use ILLiad should be planned for. It is a good idea to walk students through the registration process. This can also address problems that distance students in particular seem to have in knowing their student identification information. Instructional information should be provided online. Distance students may have problems with the technology. Providing multiple access points to information is essential as students can be surprisingly variable in how they come across information.

It is important to advertise the service. TAMU and the Norris Medical Library changed the name to brand the service for their users. CSUB has the ILL and Distance Services link on the front page of the library home page. Yang suggested encouraging subject specialist librarians to periodically remind departmental faculty and students about the service as a way to increase use. In a survey of library users at TAMU, 50.5% of respondents reported that they had been referred to deliverEdocs by friends, colleagues or library staff (Yang, 2004, p.89).

Using Statistics to Improve Library Use by Distance Students

“Libraries are being called to prove themselves in terms of the value provided to the users in ways that can be described and potentially measured” (Kyrillidou, 2002, p. 43). Traditionally, value in libraries has been described in terms of the resources available. However, particularly with the distance student, this is not enough. Libraries may make resources available to students without the student being aware of the resources available or how to effectively use those resources. This student is, therefore, not effectively served by those resources. There is a difference between accessibility and availability. In order to determine the effectiveness of services offered to distance students, it is important to use statistical data such as that provided in ILLiad to determine quantity and quality of use.

Distance students are somewhat at a disadvantage in terms of having their needs recognized because they are geographically distant. What is not seen is often not dealt with. Traditional methods used by libraries to gather data may not distinguish distance students. Circulation statistics and database access statistics are unlikely to distinguish distance students from the student population as a whole simply because their use of those services is often transparent. Online courses may be taken by students located anywhere in the world. Identifying distance students as distinct from the university as a whole can be a challenge. The WSL maintained independent quantitative statistics of library use by distance students. This data was important in evaluating the use of distance library services by students. Staff invested a substantial time commitment in gathering this data. An automated system like OCLC ILLiad could return a greater variety of statistical data with improved accuracy and less time invested by CSUB staff. Data could be drawn from ILLiad showing student use of books or journal articles by major, user status, and location. For library personnel this could assist in assessing the quantity and type of library use. Statistical data such as this can have a significant impact on the development of instruction and outreach for distance students.

Creating additional location fields in ILLiad’s patron registration screen allowed for sorts to be done with specific locations. This allowed the Distance Services Librarian to create a table that showed type of use of library resources by major and status. For Fall Quarter 2007, this conveyed some surprising information. Education Masters Students were the dominant library users. While this could be assumed given the program size, it did not correlate with the librarian’s personal experience in working with patrons. Therefore, it would seem that these students are to some extent figuring out how to use the library on their own. These statistics also suggest that there is a much greater potential for use by those students. According to the information available, these students appear to be self-directed. It is likely that they could be successfully approached through e-mail announcements and online resources.

Having access to this type of data also revealed a surprising lack of library use by English graduate students (two requests) as compared to English undergraduate students (70 requests). This demonstrated some differences between the graduate and undergraduate programs at the distance site. Undergraduate students at the distance site generally had at least one class each quarter taught by an on-site
instructor. On-site instructors were familiar with how distance learners access library resources. On-site instructors asked the Distance Services Librarian to perform one-shot or more extended research sessions and were also able to explain to students how to access resources.

Graduate students at the distance site were more likely to take courses taught by instructors at the traditional site through ITV, the Internet, or through instructor or student commuting between sites. These instructors did not ask for research sessions or other instruction. These instructors may not have been as familiar with how students would access resources. Thus, it becomes likely that these students may not have been as informed about how to effectively use resources available. English students entering the distance program are often re-entry students and may not have as much experience with databases and technology. Graduate students who had not received their undergraduate degree in the CSUB program may not have the experience or knowledge to effectively use research sources without additional assistance.

Information such as this can provide a powerful argument for incorporating research instruction into the distance classroom. At times, faculty may feel that college students should be personally responsible for seeking out research instruction. Unfortunately, students often don’t realize that they need this type of instruction for a variety of reasons. The Internet has made a tremendous amount of information readily available. Students may not appreciate the difference between scholarly and popular sources and may choose popular sources. Distance students often work from public libraries. Public libraries are, of course, purchasing for the public and do not evaluate purchases based on the press or qualifications of the author. Students working in databases often have enough facility with electronic resources that they will retrieve some results without retrieving the best results.

Statistical data on distance student use of library resources is extremely useful and can be particularly helpful when attempting to show or detect patterns over time and provides an invaluable resource in directing the future of a library distance program. The use of ILLiad at CSUB to manage user accounts provided a wealth of information about distance students and how they use library resources. These statistics reveal opportunities for outreach and instruction. Any information gathered showing the effectiveness of a program is always helpful for accreditation review processes and can serve as a powerful tool in attempting to argue for extending the program or garnering support from administration. Ultimately, the goal of any academic library is to support research and scholarship in that academic community. Libraries serving distance users need to find ways that they can understand how and why these learners are using the academic library. As was laid down by the ACRL (2006) in its Guidelines for Distance Learning Library Services, it is the responsibility of academic libraries to ensure that distance learners receive the benefits that developing information literacy and research skills will provide them in terms of academic and lifelong development.

**Conclusion**

Academic libraries use ILLiad for Interlibrary Loan. Distance user accounts can and should be managed by services like this. Distance education is growing. Academic libraries may not have additional funding to provide support for these students. Difficult economic times and commitment to an equivalent quality of service for distance students makes it imperative that ways are found to do more with less. Automating tasks allow staff to accomplish more in less time. Account availability at any hour of the day or night serves the expectation that many have in today’s culture of 24/7 access. Academic libraries are able to offer these services to distance library users through software such as ILLiad. Librarians and administrators seeking to direct distance library programs will find that having information specific to distance students has a tremendous impact on designing outreach and instruction for these students. In our efforts to serve distance students, it is important that every advantage is taken of existing opportunities.
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Academic Libraries as Digital Gateways: Linking Students to the Burgeoning Wealth of Open Online Collections

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Abstract
Digital collections of full-text e-books are proliferating on the Web and provide a wealth of open content for students. To examine whether academic libraries are providing a digital gateway to these resources, ten e-book titles from open digital collections were searched in the online catalogs and Web pages of ten academic libraries serving distance learners. Only three of the digital collection e-books were available from any of the library catalogs and none were found on library Web pages. Availability of the ten e-book titles through Google and other digital discovery tools also had mixed results. Continued projects for improved delivery of open online content are necessary. In order to fulfill their role as digital gateways for their academic communities, libraries must pursue metadata standards to support cross-searching, collaborative projects, and development of e-resource search software, which integrates with the library catalog.

Introduction
Concurrent discussions in the literature focus on the development of digital libraries comprised of online open collections, the technical applications for cross-collection searching, and academic library services to distance learners. This paper examines current academic library practice in linking distance learners to full-text e-books in open digital collections. Does the library serve as a gateway to guide students in an online environment to these freely available online academic sources?

Burgeoning Online Collections
Online collections of research materials are expanding rapidly on the Web. The American Memory collection from the Library of Congress now delivers digitized resources totaling more than 9,000,000 documents (Rosenzweig, 2007) and the Google book digitization project may ultimately deliver open full-text content of over 30 million volumes (Quint, 2004). More than twenty major digitization projects in the Americas are listed on the International Federation of Library Associations and Institutions (IFLANET) Web site (http://www.ifla.org/II/diglib.htm) while national libraries in Australia, China, Scotland, Russia and library projects throughout Europe are offering their own unique digitized research resources to the Web searcher. OAIster, which catalogs digital resources, harvested 729 repositories of 9,950,256 records in January 2007, up nearly 50% from two years prior (http://www.OAIster.org/stats.html). An American history student can obtain primary materials from the Civil War era at The Valley of the Shadow archive from the University of Virginia (http://valley.vcdh.virginia.edu/) or from the World War II era in the University of California's Japanese American Relocation Digital Archives (JARDA) project (http://www.calisphere.universityofcalifornia.edu/jarda/) and the University of British Columbia Library's Japanese-Canadian Photograph Collection (http://angel.library.ubc.ca/cdm4/index_coll0610-6.php?CISOROOT=/coll0610-6). Architecture students can view drawings of Frank Lloyd Wright's buildings in the 1910-11 Wasmuth Portfolio from the University of Utah's Marriott Library Digital Collections (http://www.lib.utah.edu/digital/splash.php?CISOROOT=/FLWright-jp2). Freely available online full-text books were pioneered by Project Gutenberg and Bartleby.com but have expanded at niche sites such as the university collections above and on mega-sites such as the Open-Access Text Archive at the Internet Archive (http://www.archive.org/details/texts). As of December 2007, the Text Archive provided access to over 312,000 text items from several major collections and a recent agreement between the Open Content Alliance and the Boston Library Consortium will bring significant numbers of out-of-
In addition to the Internet Archive, several other projects have been created to funnel the Web searcher to full-text books and other educational digital materials. INFOMINE has been in existence since 1999, constantly improving the findability of Internet scholarly resources in its "academic virtual library" (http://infomine.ucr.edu/about/about.shtml). A focused individual project by John Mark Ockerbloom, The Online Books Page (http://onlinebooks.library.upenn.edu/), provides title, author, and some subject access to over 30,000 books. With an automated approach, OAIster harvests metadata and provides access to digital resources based on the OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting). At MyLibrary@Ockham, another OAI harvesting program compiles its database of digital documents with an indexing tool to create searchability for 430,000 items "from the content of the 'hidden Web' for the purposes of facilitating teaching, learning, and research" (Morgan, 2005). Despite these enterprising initiatives a wealth of valuable research content from digitization projects still eludes the grasp of Web searches and remains hidden as part of the "invisible Web." Lewandowski and Mayr (2006) estimate that "between 20 and 100 billion documents" are part of the invisible Web which is not readily indexed and retrieved by search engines (p. 536). Dempsey (2006) describes digital resource discovery developments since 1996 but notes that "databases remain siloed....each relatively standalone with its user interface...which is increasingly problematic when library users have so many places where they can spend their 'attention'" (¶ 19). Intner, Lazinger and Weihs (2006) also point out the difficulties of digital resource indexing due to lack of metadata standardization for resource descriptions and protocols for exchanging metadata. The technical details of metadata harvesting and indexing are beyond the scope of this paper; however the complexities of cross-collection automated finding tools impose impediments for access to digital documents within online collections. Unlike MARC records from a single library catalog which can be merged into a searchable database of consortial library holdings, the data fields for one set of digital document records may not match a set of digital document records from another source. As Liu (2007) notes, "Two things are urgently needed for the digital library: A standard for metadata content that is analogous to AACR2 and a standardized framework for holding and exchanging metadata that is analogous to MARC" (p. 151). Thus, despite the increasing magnitude of online full-text research materials, effective access to these materials remains a challenge.

**Academic Libraries as Digital Gateways**

The term "digital library" is widely used in the literature with varying definitions. The Digital Library Federation 1998 working definition focuses on organizational structure:

> Digital libraries are organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities. (Digital Library Federation, 2004, ¶ 1)

In seeking to delineate definitions of "digital library," Liu (2007) notes that "computer scientists and engineers might place more emphasis on access to and retrieval of the digital content of digital libraries, while library and information professionals might pay more attention to the digital collection and the services based on it" (p. 149). The directory of digital libraries at Academic Info (http://www.academicinfo.net/digital.html) includes a variety of organizational models. The California Digital Library (CDL) is a broad organization, which serves the University of California libraries and their communities. Under a goal to "enable the UC libraries to effectively share their materials and provide greater access to digital content" (California Digital Library, 2008, ¶ 2), CDL includes multiple digital collections. Other digital libraries such as the "Making of America Journals" (http://quod.lib.umich.edu/m/moajrnl/) and the Digital Collections at McGill University
For students who study at a distance, online library services and research materials in digital form have the advantage of being accessible 24/7 to any learner with Web access. United States college and university data collected by Allen and Seaman (2007) indicate that the number of online students doubled between 2002 and 2006 with "almost 3.5 million students" enrolled in at least one online course in fall 2006 (p. 5). Whether studying at a distance or near their educational institutions, online students approach their learning environments primarily via the Web and academic libraries must meet them there. "These learners are largely dependent on the quality and academic usefulness of services that the digital library can offer electronically" (Sharifabadi, 2006, p. 399).

In an OCLC survey of college students conducted in 2005, 85% of respondents stated that they began a search for information with a Web search engine (De Rosa, Cantrell, Hawk, & Wilson, 2006, p. 1-7) while only 2% would start such a search at the library Web site. Additionally, when asked how familiar they were with electronic books, only 51% reported familiarity with the resources with 28% of those responding as "somewhat familiar" rather than "very familiar" or "extremely familiar." Clearly the academic library's primary clientele are not locating e-books at the library's Web site.

Dinkelman and Stacy-Bates (2007) studied access to e-books at 111 ARL (Association of Research Libraries) libraries, finding that only 56% of the library Web sites offered Web pages devoted to e-books, while searching online catalogs for electronic books was often problematic. Subscription e-books from vendors such as NetLibrary and Safari were often listed on Web pages by database names, along with open Web collections such as The Online Books Page. The authors concluded that more consistent Web site descriptions of electronic resources, distinctions among categories such as databases and e-books, and improved "functionality of search mechanisms" (Dinkelman & Stacy-Bates, p. 57) are necessary to improve access to e-books. By improving "seamless access to all types of electronic resources, librarians increase the probability that patrons will locate and use the most appropriate resources...to satisfy their information needs" (Dinkelman & Stacy-Bates, p. 57).

Case Study

To understand how academic libraries with distance learning programs are currently linking their students with digital resources in open online collections, ten e-book titles from ten digital collections were searched in the online catalogs and Web pages of ten academic libraries during the week of December 16, 2007. The educational institutions were selected to represent a range of institutional support for distance learning, from West Chester University with few distance learning programs to Athabasca University in Canada which is devoted to distance and online learning to Empire State College where there is no physical library. The other university libraries examined were: DePaul University Libraries; Northern Arizona University's Cline Library; Nova Southeastern University's Alvin Library; Pennsylvania State University's Libraries, which serve the Penn State World Campus; Regis University Libraries; Sam Houston State University's Newton Gresham Library; and University of Maryland University College Information & Library Services.

Method

E-book titles and their respective digital collections are listed in Table 1. The online catalog at each library was searched by title and by keywords from author and title. The same searches were then performed on all library Web pages, which listed e-resources or subject collections of Web sites or databases. An e-book from other digital collections (e.g. NetLibrary), which occurred in multiple instances for Burns' Poems and Songs and once for Alcott's Moods, was not counted as a positive result.
Table 1

<table>
<thead>
<tr>
<th>E-book Title</th>
<th>Digital Collection</th>
<th>URL</th>
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**Results**

Only three of ten e-books were listed in any of the ten library catalogs: Drew's *A North-Side View of Slavery* at one library; Twain's *Letters, 1853-1880* at four libraries; and Heydemann's *War, Institutions*
and Social Change in the Middle East at six libraries. No title was listed on a library's subject or e-book Web pages. Seven titles were listed in the library catalog in print or microform formats, thus illustrating a disconnect between the needs of online distance learners and the monograph format available to them. Jenson's Latter-Day Saint Biographical Encyclopedia and Miller's The Martinique Horror and St. Vincent Calamity were not available in any format from any library. Several libraries featured links to one or more of the digital collections on the library's e-resources, e-books or subject guide Web pages but such listings seemed arbitrary (by including The Online Books Page but not Bartleby.com, for example).

Discussion

This descriptive survey of access to freely available e-books at ten academic library digital gateways confirms and expands the survey results of Dinkelman and Stacy-Bates by focusing on e-books from open digital collections rather than subscription vendors. Each study found that e-book title listings in library catalogs were limited. Links to digital collections on library Web pages provide only minimal assistance to the searcher since the resource descriptions are usually broad. Granularity of access is insufficient for guiding the user through the abundance of online resources. Online distance students in particular are disenfranchised by the lack of guidance to full-text e-books and academic libraries serving them are not fulfilling their role as the students' online gateway to the wealth of scholarly resources.

If academic libraries offer insufficient access to free full-text e-books, the Google search engine is well-positioned to direct users to the content of its digital book project and perhaps additional scholarly full-text resources. Should the academic library hand over responsibility for developing workable search technologies and delivery of academic digital resources to Google and other commercial search engines? Each of the e-book titles in Table 1 was searched at http://www.google.com during the week of December 16, 2007. Three titles were returned as the 1st or 2nd search result and one title was the 16th search result. However, 50% of the titles were not returned in the first 20 search results. A notable search result for one of those titles was that the 2nd Google search result led the searcher to a dot-com Web site where the e-book could be purchased for $9.99. Students are ill-served by being directed first to fee-based content rather than led through a digital library gateway to freely available online academic content. In warning about marginalization of libraries as digital portals, Lossau (2004) cautions against relying on commercial entities for access to digitized academic resources, noting that commercially driven search engines may rank search results by self-serving formulas, may concentrate on the most easily indexed content and may not be interested in maintaining index content long-term.

Some academic libraries obtain e-book catalog records from vendors such as NetLibrary. Searches conducted for this study discovered several library catalogs, which included NetLibrary records for e-books in Project Gutenberg, Bartleby.com or the University of California Press eScholarship collections. Access to the texts via NetLibrary presents the irony of libraries paying for freely available content. In addition vendors frequently limit the number of concurrent users for a title, paradoxically limiting access to open content. Another potential stumbling block could be unpredictable delays by NetLibrary in updating additional content from these digital collections.

Projects and Prospects for Linking to Online Open Content

As noted above, several projects such as INFOMINE, OAlster, MyLibrary@Ockham, and The Online Books Page offer access tools for discovering online academic resources in open digital collections. During December 2007, the ten e-book titles in Table 1 were searched in each of these four project sites. INFOMINE, which is based at the Library of the University of California at Riverside and uses a combination of librarian and robot/crawler linking, provided title access to only the two e-books: Heydemann's War, Institutions, and Social Change in the Middle East, and Twain's Letters, 1853-1880. INFOMINE's strength currently appears to be subject linking to resources at the database or collection level. MyLibrary@Ockham, which contains only 1200 total e-book titles, included none of the ten titles. The Online Books Page, primarily the work of one individual, included four of the e-books. OAlster, a self-described "union catalog of digital resources" (http://www.OAIster.org/), provided access to six of the titles. These discovery projects are being continually improved and academic library digital gateways should explore opportunities to incorporate their digital content linking.
Meanwhile academic libraries are developing their own unique applications for connecting users to open e-books and other Web resources. To provide a single digital gateway to subject-related online and print resources, East Carolina University's Joyner Library created a database application called Pirate Source (Nall & Lewis, 2005). Access to open access e-book titles could easily be included in such a finding tool. However, by existing independently from the library catalog, Pirate Source does not sufficiently address the problem of multiple library gateways to books in various formats. Another recent library project at the Columbia University Libraries (CUL) seeks to provide a single gateway to resources in all formats through the library catalog. By designing and implementing workflows around an automated cataloging form, CUL has streamlined creation of MARC records for resources in free remote online collections (Harcourt, Wacker, & Wolley, 2006). Although the CUL Internet Resource Cataloging Request form expedites entry into the library catalog and submission by selectors provides assured relevance to the university library's academic community, the continued human selection element may have difficulty keeping pace with the rapidly-expanding world of online digital collection resources.

Collaborative efforts have the potential to benefit both library users and library personnel seeking to provide academic e-resource titles. Lavoie, Connaway and O’Neill (2007) examined digital materials entered in the OCLC WorldCat database and noted the untapped potential for sharing resource records. Digital collections were frequently represented in WorldCat as single record for an entire collection. The authors propose that adding WorldCat records for digital manifestations of specific titles would benefit decision-making by libraries seeking to digitize unavailable titles while also "meeting the needs of users who increasingly operate in networked digital spaces" (p. 114).

Open source software applications such as iVia (http://iivia.ucr.edu) now used by INFOMINE and Data Fountains (http://datafountains.ucr.edu) continue to be developed as focused digital resource crawlers and metadata generators. To support the role of libraries as gateways to online digital content, the developers seek to provide standardized but flexible technologies. Mitchell (2006) notes that cooperation among the library community to provide such noncommercial software "will become as important as owning our buildings to house our physical collections has been heretofore" (¶ 11).

Index Data (http://www.indexdata.com) has developed two software tools for searching open access digital collections: Pazpar2, an open source application; and MasterKey, a hosted service. As of December 19, 2007, MasterKey provided access to e-books and other digital resources at Project Gutenberg, The Internet Archive, Wikipedia, the Open Content Alliance, the Universal Library, the dmoz Open Directory Project, and OAlster. The MasterKey demo site (http://masterkey.indexdata.com/#) was used to search e-book titles in Table 1. Searches can be performed by author, titles, keyword, date and/or subject and results can be limited by source (collection), subject, author or date. Four of the titles were found and four other titles were located as e-books in different digital collections. Interestingly, because MasterKey includes the Library of Congress catalog in the demo search, the two remaining titles were located in print format. By including additional open online collections and providing searches in a single academic library catalog, the Index Data search software has the potential to connect searchers with book titles in multiple formats.

Conclusion

Given the growing abundance of digitized research resources and the complexities of resource discovery, how will academic libraries position themselves to provide these resources to their distance learning students? A study of undergraduates at the University of Rochester found that students' vision for the library Website was "a portal. They want everything they need to be pulled together into a single place....What they clearly did not want were information silos" (Smith & Clark, p. 38). Thus academic libraries should seek to provide a single access point digital gateway for books in all types of formats, including freely available e-books. From the service aspect, Slade (2004) described a user study at Athabasca University which found that ratings of library services by distance students were strongly influenced by how quickly and efficiently library materials were delivered. An additional frustration expressed by respondents was that "recommended titles were in use or not available from the library" (p.
By providing links to free online e-book titles, academic libraries can significantly improve service and reduce distance student frustration.

The *Guidelines for Distance Learning Library Services* (Association of College & Research Libraries, 2004) emphasizes that distance learners are entitled to services equivalent to traditional on-campus students, noting that "innovative approaches...to meet these needs is encouraged" (¶ 12). This case study suggests that academic libraries currently are not serving as focused digital gateways to lead distance learners to the wealth of full-text e-books in open digital collections. More than traditional students, distance learners benefit from increased availability of online academic content. By attention to metadata digital resource cataloging developments, collaborative projects supporting resource discovery tools, and early adoption of appropriate e-resource search software, which integrate with the library catalog, academic libraries can fulfill the vision of a digital gateway for distance learners.
References


How Does a Pre-Assessment of Off-Campus Students’ Information Literacy Affect the Effectiveness of Library Instruction?

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Abstract
This study investigates the impact pre-tests have on the effectiveness of library instruction when students are given feedback on their pre-test performance. Librarians and academic faculty partnered to measure library instruction outcomes in two Master’s degree classes. The Research Readiness Self-Assessment (RRSA) was used as a pre-test (before instruction) and a post-test (after instruction) in Class 1 and as a post-test only in Class 2. Students who completed both tests performed significantly better on a post-test, earning higher scores on obtaining information and overall information literacy. They reported greater library/research experience and less reliance on browsing. Compared to students who did not take a pre-test, students who received pre-test-based feedback had higher scores on library/research experience and lower scores on reliance on browsing. To enhance the effectiveness of library instruction students can be given pre-test-based feedback that compares their actual and perceived literacy and encourages the use of library databases.

Introduction
Academic librarians are constantly concerned about how effective library instruction might be. No matter how well librarians prepare for classes or how interesting they make them, they perceive that many of the students just don’t listen or have a strong interest. Professors often share this concern. This perception probably represents reality. With the wealth of material and human resources that the average academic library makes available to its students, a recent study revealed that 89% of college students start their electronic information searches in a general Web search engine and only 2% begin at a library Website (OCLC, 2005, p. A13).

Librarians and faculty expect students to have a certain level of effective information literacy skill after being exposed to a library instruction class. Yet students often seem to think they know how to research and do not demonstrate their motivation to learn as much as they can from library instruction classes. This situation may be more pronounced in an off-campus setting where students are working on their research projects independently, without the convenient access to library facilities and resources that is available to on-campus students.

Instruction librarians have employed pre-tests and post-tests for many years to determine student research skills prior to library classes and to measure learning outcomes after. A pre-test, especially when it is combined with feedback, may also be a powerful means of motivating students to pay attention in class. Although there is a significant amount of literature on using pre-tests and post-tests to determine students’ research skills before and after the instruction session and to evaluate teaching methods, there is very little on using these measures to motivate students. The purpose of the study is to investigate whether a pre-test that provides norm-referenced feedback on students’ skills and perceptions related to information literacy enhances the effectiveness of a library instruction class. Specifically, the aim of the study is to examine if students who receive feedback on a pre-test prior to library instruction demonstrate greater improvement on subjective and objective measures of information literacy than students who are exposed to library instruction without a pre-test.
There are many teaching methods an instruction librarian can employ to try to motivate students to pay better attention during library instruction classes. However, if students perceive their research skill levels to be higher than they actually are, they may pay little attention to a session where they feel they already have all of the information they need. Recently, the availability of powerful Web search engines that take a split second to produce millions of hits lead many students to believe that library instruction is unnecessary. This study may assist instruction librarians in their curriculum development because it investigates whether students can be motivated to learn in a library instruction class after they are made aware of deficiencies in their information literacy skills.

**Literature Review**

*Library-Instructor Partnership to Build Information Literacy*

Students come into university programs now mostly computer literate; however, “…with the availability of information resources outpacing the student’s ability to sort and evaluate them” (Emmons & Martin, 2002, p. 546), team teaching by faculty and librarian “may offer students the best opportunity to apply information literacy within the context of a specific discipline” (Mackey & Jacobson, 2005, p. 141). Roldan and Wu's (2004) study determined that “intensive interweaving of course content and library instruction is an effective means of improving student’s information literacy” (p. 326).

Librarians are now expected to work closely “with academics to develop effective learning environments both face-to-face and online” (Bridgland & Whitehead, 2005, p. 54). This can be accomplished if the classroom faculty invite librarians to join the class as part of an integrated assignment. Using a term ‘knowledge worker’ coined by Peter Drucker (1995), faculty members can introduce librarians as experts who can “identify, locate, evaluate, and use information effectively, legally and ethically” (p. 58). To help students improve their information literacy skills, it is important that a course instructor not only partners with a librarian but also stresses the importance of finding and evaluating information as part of a class assignment.

*Use of Pre-tests and Post-Tests in Library Instruction*

There are a number of studies in the LIS literature that describe the outcomes of pre-tests and post-tests in library instruction classes. Some of them focus on measuring the effects of different instruction formats, such as comparing student learning through Web-based tutorials versus classroom instruction (Bren, Hillemann, & Topp, 1998; Germain, Jacobson, & Kaczor, 2000; Nichols, Shaffer, & Shockey, 2003) and a computer assisted instruction module versus a library tour (Lawson, 1989).

Instruction librarians also have used pre- and post-testing to measure learning outcomes in their classes as well as to compare instructional delivery methods. Kaplowitz (1984) administered pre- and post-tests to one group of students in a library instruction class at UCLA to measure skills and behaviors. Other groups in the same class did not take the pre-test. She learned that students who participated in the pre-test “appeared to use the library more often, had a more positive attitude toward the library and its staff and were more knowledgeable about the organization of information in a library and its staff and how to access that information” than students who did not take a pre-test (p. 6). Several instructors of a one-credit library course at Central Michigan University used the Research Readiness Self-Assessment as a pre-test and post-test to measure student outcomes and found students’ research skills to be higher and their reliance on general Web resources to be lower on the post-test (Mathson & Lorenzen, in press).

In her Web-based tutorial on plagiarism, Jackson (2006) developed a pre-test that students take prior to engaging in the instruction. Upon completion of the tutorial, students take a test that measures their learning. Results show that their knowledge of plagiarism is far stronger in the post-test. In another study, librarians charged with developing a library instruction course for ESL students, used a pre-test to measure gaps in knowledge among international students and tailored their instruction to concentrate on those areas of instruction. Post-tests showed that students understood library research methods far better after participating in the special library instruction sessions (Koehler & Swanson, 1988).
Woodworth and Markwell (2005) made an interesting observation of student learning motivation in their courses. As librarians in a hospital library, they designed a course to teach MEDLINE searching skills to hospital residents. They developed a pre-test to satisfy their own curiosity about skill levels of incoming residents. They found, however, that the pre-test proved to be a “wonderful wake-up call to residents who do not score well on the pre-test” (p. 85). Most residents seem to have an inflated sense of their searching skills and are surprised at how poorly they do on the pre-test. It is now administered before all MEDLINE searching classes and the result is a group of students who are primed to learn and engage actively with the instructors.

Methodology

An Overview of Research Design

Central Michigan University has a large and long-standing off-campus program. It also has a strong tradition of library instruction in both the off-campus and on-campus settings. Founded as a teachers’ college in 1892, it has grown to become the fourth largest public university in Michigan with a 2006-2007 student enrollment of 27,452, of which 7,075 are enrolled in off-campus programs (Central Michigan University, 2007b, ¶1).

Off-Campus programs and courses are delivered in a compressed format to students at program centers in the United States, Canada and Mexico, and online to students worldwide. The primary degree programs are Master of Science in Administration (MSA) and Master of Arts in Education (MAE). In addition, the university offers several undergraduate degrees off-campus, primarily within the state of Michigan. A separate library department, Off-Campus Library Services (OCLS), delivers library services and documents to students in off-campus programs. OCLS librarians provide a library instruction component to the required research class in both the MSA and MAE programs as well as in many of the undergraduate courses. Librarians provide in-class instruction to students in traditional classes that are delivered face-to-face. In addition, they deliver Web-based instruction to students enrolled in online classes.

Student information literacy and library research skills are a critical and embedded part of the curriculum in the off-campus Master of Science in Administration (MSA) program at Central Michigan University. Students enrolled in two sections of a required core class for the MSA Program, Administrative Research and Report Methods (MSA 600), participated in this study. This course was chosen because it was designed to educate students about research processes (Central Michigan University, 2007a). As students formulate research questions and develop a research proposal, they must be able to obtain and evaluate resources from scholarly journals available to them through library databases. That is why a collaborative partnership between a librarian and a faculty member is particularly valuable in this course. It is suggested that the MSA 600 class be taken as one of the first three in a graduate student’s program; however, as student schedules vary, it may be taken at any time in the Master’s sequence prior to writing the Capstone (MSA 685) project.

Both MSA 600 class sections studied were taught in the spring of 2007. The classes were offered at the Livonia Center and at the Clinton Township Center in a compressed format one night a week from 5:30 p.m. to 10:00 p.m. over an eight-week time period. Both classes incorporated a library instruction session taught by the same OCLS librarian at the beginning of the course.

The students in Class 1 were required to complete the Research Readiness Self-Assessment (RRSA) before coming to the class where the librarian would be conducting the library instruction session. Prior to the librarian’s presentation, the students in Class 1 also completed a brief in-class questionnaire about the value of library instruction. Both classes took the RRSA as a post-test. The RRSA is an “online application that provides students with an opportunity to check their [information literacy] skill level by completing an assessment that combines a [subjective] survey and a skill test, to receive immediate feedback on strength and weakness…” (Ivanitskaya, Laus, & Casey, 2004, p. 177). This assessment measures objective skills and knowledge based on the Information Literacy Competency Standards for Higher Education (American Library Association, 2000). The following objective skills and knowledge are
assessed: Ability to find information, ability to evaluate information, and understanding of plagiarism (see Table 1). In addition, RRSA asks for self-reports about one’s propensity to use general Internet browsing, perceptions of his or her own research abilities, as well as library and research experience. Upon completion of the RRSA, students immediately receive feedback, which includes an assessment of their skills and suggestions for resources that might improve their skills. Students do not get the answers to individual questions that measure objective skills. The number of these questions is sufficiently large to make it hard or impossible for the students to memorize the material they have already seen on the pre-test.

The feedback that students receive upon completing the questionnaire is tailored to each of the areas the RRSA measures. Depending on where students’ scores fall in each of the areas measured, they receive different types of feedback. In the information literacy skills areas measured objectively with true/false and multiple choice questions, they receive feedback that lets them know whether their skills are in the high, medium or low range (based on established norms). If in the latter two, they also receive a list of resources they can turn to in order to improve these particular skills. In addition, students receive detailed feedback commenting on their perceptions of their own skills and on their reliance on general Web search engines.

In Class 1, the RRSA was administered before and after library instruction to evaluate if there was a significant improvement on objective and subjective measures. Specifically, did students improve their skills in finding and evaluating information? Did they improve their understanding of plagiarism? Has their reliance on Internet browsing changed in favor of using library databases? Did the students perceive that their research skills and library/research experience improve as a result of library instruction?

In Class 2, students completed the RRSA after the library instruction session only. The investigators compared Class 1 and Class 2 performance on the RRSA administered as a post-test to investigate if library instruction led to similar outcomes in both groups. RRSA feedback on objectively measured skills and knowledge is not detailed, therefore, students are not expected to significantly improve their skills by simply completing RRSA twice. Therefore, we expected that post-test performance by Class 1 and Class 2 students on multiple choice and true/false questions would be similar, thus providing evidence that it was library instruction rather than exposure to the same test twice that caused a change in students’ objective skills and knowledge. On the other hand, we expected that exposure to RRSA feedback on a pre-test would cause Class 1 students to perform differently than Class 2 students on subjective (self-reported) RRSA measures. Feedback is likely to influence students to re-examine their perceptions of information literacy and the value of Internet browsing (versus searches in library databases), motivating them to actively participate in a library instruction session.

Sample

Fourteen Master’s students in Class 1 (7 males and 7 females) took the Research Readiness Self-Assessment (RRSA) as both a pre-test and a post-test. Eighteen Master’s students in Class 2 (6 males and 12 females) took it as a post-test only. Both classes had similar course content and composition of the student body, however, students in Class 1 completed fewer credits toward their Master’s degree. About 64% of students in Class 1 completed less than 24 credit hours as compared to 39% of students in Class 2. The majority of students in both classes were between 30 and 45 years old. On average, students took between 36 and 38 minutes to complete the RRSA assessment.

Library Instruction Sessions

The Librarian met with the students in their classrooms and provided PowerPoint presentations. Students received packets with handouts of the PowerPoint presentation; the OCLS brochure, instructions on how to use the on-line catalog CENTRA, research guides for using each database explained in the presentation, and additional literature providing research support.

The instruction sessions started with an overview of the reference assistance provided by the Off-Campus Librarians, the services of the Document Delivery Office, and highlights of the OCLS Website.
Next, the librarian discussed search strategies with the students by asking them for examples of keywords, subject headings, and Boolean Operators that they could utilize later for their own projects.

The librarian provided instruction on how to find books using CENTRA, the on-line catalog, and emphasized the use of the keywords that the students had suggested to locate the correct subject headings to search for additional books. In an effort to market the E-book collection, the librarian also noted their availability and the search strategies for locating them in the on-line catalog. Following this discussion, the students were quizzed on the methods available for requesting copies of the books.

The presentation continued with instruction on how to find journal articles. The librarian demonstrated searching strategies using the ABI/Inform Database. Student participation was encouraged by using classroom examples of identifying and searching for scholarly journals, searching for articles using the appropriate journal database for the topic, refining the search, evaluating the article, and downloading or ordering the full-text of the article. The availability of the step-by-step instruction guides included in the student packets and on the OCLS Website was emphasized.

Students also received an overview of helpful tools found on the OCLS Website. These included Websites listed by subject that could be helpful for course assignments, and Web links to the CMU Writing Center and other on-line writing labs for assistance with the APA writing style required by the Off-Campus Programs at Central Michigan University.

The students were again quizzed on how to contact a librarian and the methods used to contact the Document Delivery Office. The session concluded with questions and answers. At the end of library instruction in each of the classes, the students were required to take the RRSA at some point before the end of the course. The average time between a pre-test and a post-test was about 2 weeks.

Measurement

The RRSA was used to obtain objective and subjective measures of information literacy. Objective RRSA measures—ability to obtain information (a maximum of 30 points), ability to evaluate information (a maximum of 10 points), and understanding of plagiarism (a maximum of 14 points)—were based on multiple choice and true/false questions, many of which required problem solving by manipulating library databases, document reviews, evaluation of Web pages, etc. The objective measures were combined to compute an overall information literacy score (a maximum of 54 points, high scores indicate high levels of information literacy). Subjective measures were students’ self-reports of the level of their research skills (4 items, 10 points each) and library/research experience (a maximum of 37 points), as well as their reliance on browsing the Internet using general search engines (versus library databases) when completing academic research assignments. A reliance on browsing scale had a maximum of 50 points; higher scores indicate strong reliance on Internet browsing. Additional information on RRSA measures is presented in Tables 1 and 2.
Table 1

*Description of Objective RRSA Measures*

<table>
<thead>
<tr>
<th>Measure and description</th>
<th>Sample item</th>
<th>Maximum possible points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall information literacy</strong>: A composite measure calculated as a sum of points on three objective measures that follow.</td>
<td>n/a</td>
<td>54</td>
</tr>
</tbody>
</table>
| **Ability to obtain information**: Understanding of terminology (e.g., abstract and bibliography). Ability to conduct basic and advanced information searches. Application of Boolean operators [and, or, not] to limit searches. Ability to differentiate scholarly documents, authoritative sources, periodicals, and primary sources from other types of documents and sources. | What is the most authoritative source of current scholarly (analytical) information on a narrowly specialized topic?  
- Web search engines, such as Google or Yahoo  
- Textbook  
- Newspaper  
- Book  
- Journal | 30                      |
| **Ability to evaluate information**: Ability to compare and evaluate the quality of different information resources, including journal articles and Internet Websites. Judgment of documents' credibility and evidence based decision-making. | You found three articles on learning disabilities. Click on the links below to examine each article and evaluate its content. Which article is most likely to serve commercial purposes?  
- [On the Lookout for Learning Disabilities](#)  
- [Overcoming Learning Disorders](#)  
- [Teaching Students with Learning Disabilities](#) | 10                      |
| **Understanding of plagiarism**: Ability to detect plagiarism and copyright violations. | Which of the following can be reproduced without a proper reference? Check all that apply:  
- Corporation board member's point of view  
- Spoken word  
- Common knowledge, such as “the world is not flat”  
- My classmate's ideas  
- Unpublished works  
- Someone’s political opinions I read in a blog | 14                      |
Table 2

**Description of Subjective RRSA Measures**

<table>
<thead>
<tr>
<th>Measure and description</th>
<th>Sample item</th>
<th>Maximum possible points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perceived research skills:</strong> Self-reported level of research skills.</td>
<td>On a scale of 0 (Very poor) to 10 (Excellent), how do you rate your research skills overall?</td>
<td>40</td>
</tr>
</tbody>
</table>
| **Library and research experience:** Participation in research-related activities: writing papers; citing sources; using bibliographies, encyclopedias, periodical indexes and subject headings; summarizing ideas and other research behaviors. Use of libraries and contacts with library staff members. | During the past year, I... (check all that apply)  
- Talked to a library staff member about my research topic  
- Wrote a summary of the main ideas of an article, a book or other document  
- Evaluated the quality of literature cited by the author  
- Found suggestions for additional material through prefaces, footnotes or endnotes  
- Authored a paper that put together ideas from multiple sources  
- None of the above | 37 |
| **Reliance on browsing Internet versus on searching library databases:** The extent to which one relies on surfing general search engines on the open access Internet, as opposed to library Websites which provide access to more peer-reviewed literature, to obtain scholarly resources for academic research projects. Smaller scores and percentages indicate less reliance on the Internet and its Websites. | More often than not, I can find exactly what I want for my research assignments by only using Web search engines, such as Google or Yahoo. *Indicate your agreement or disagreement on a scale of 0 (Strongly disagree) to 10 (Strongly agree).* | 50 |

Students in Class 1 also filled out a brief questionnaire after having taken the pre-test but before the librarian began her instruction session. The survey asked for information on their use of the library and their perceptions about librarians and library instruction.

**Results**

First, the investigators evaluated the change in RRSA scores by students enrolled in Class 1 before and after library instruction. Fourteen students completed both a pre- and a post-test in Class 1. A paired-samples t test was conducted to evaluate if the mean of the difference between students’ pre-instruction and post-instruction scores was significantly different from zero. Comparing students to themselves on two different occasions controls for individual differences and makes it possible to draw stronger conclusions about the impact of library instruction. The students did significantly better on a post-test, as indicated by higher scores on obtaining information, overall information literacy score (which is obtaining, evaluating, and understanding of plagiarism scores, combined), and on subjectively judged library/research skills and
experience (see Table 3). In addition, after the library session, the students reported a significantly lower reliance on browsing (using general search engines) and greater reliance on libraries. The effect size was estimated using a $d$ statistic. An effect size is an indicator of impact; therefore, it can be concluded that the library information session had a significant impact on students (of medium or large magnitude) in all areas, except information evaluation and understanding of plagiarism.

Table 3

<table>
<thead>
<tr>
<th>Measures</th>
<th>Before library instruction</th>
<th>After library instruction</th>
<th>Paired-samples $t$</th>
<th>Effect size</th>
<th>Cohen’s $d$</th>
<th>Magnitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Overall information literacy</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to obtain information</td>
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<td></td>
<td></td>
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<tr>
<td>Ability to evaluate information</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding of Plagiarism</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived research skills</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library and research experience</td>
<td></td>
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<td></td>
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<tr>
<td>Reliance on browsing Internet</td>
<td></td>
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</table>

Note. * <.05, ** <.001, n = 14.

Next, the investigators compared post-instruction RRSA scores for students in Class 1 and Class 2. The purpose of this comparison was to examine if significant improvements in RRSA scores after library instruction can be explained by taking a pre-test (which affects how that group does on the post-test) rather than solely by the library instruction session. If taking a pre-test educates students about information literacy, then Class 1 RRSA scores obtained after library instruction would be higher than Class 2 scores. As can be seen in Table 4, 14 students in Class 1 did not significantly differ from 18 students in Class 2 on any of the objective measures of information literacy. This finding provides support for the conclusion that improvements in information skills and knowledge observed in Class 1 are unlikely to be explained by the fact that students were asked to complete the same assessment twice.

At the same time, 14 students in Class 1 provided significantly different accounts of their experience and propensity to browse the Internet. Specifically, as compared to 18 students in Class 2, Class 1 students reported greater library and research experience and much weaker reliance on browsing Internet. Although students’ perceptions of skills were not statistically different, the effect size was of medium magnitude, indicating that Class 1 students report a higher level of skills than students in Class 2.

The results of the brief questionnaire that the students in Class 1 took in class after the pre-test and prior to the library instruction session revealed a high level of support for the advice of librarians in the research process and for the relevance of library instruction. Although the answers to the questions about skill level and library usage were scattered across the seven categories (strongly agree to strongly disagree), 21 of the 25 students agreed or strongly agreed that librarian’s advice was valuable in the research process. In addition, 23 of the 25 agreed or strongly agreed that their knowledge of library resources could be improved by library instruction. Unfortunately, the same survey was not administered in Class 2. Therefore, survey responses by Class 1 and Class 2 students cannot be compared.
Table 4

RRSA Scores after Library Instruction for Students in Class 1 (pre-tested on RRSA) and in Class 2 (not pre-tested)

<table>
<thead>
<tr>
<th>Measures</th>
<th>Max pts. poss.</th>
<th>Class 1, n = 14</th>
<th>Class 2, n = 18</th>
<th>Independent-samples ( t )</th>
<th>Effect size</th>
<th>Cohen’s ( d )</th>
<th>Magnitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Overall information literacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to obtain information</td>
<td>54</td>
<td>41.36</td>
<td>6.33</td>
<td>40.39</td>
<td>4.35</td>
<td>0.49</td>
<td>0.17</td>
</tr>
<tr>
<td>Ability to evaluate information</td>
<td>30</td>
<td>24.57</td>
<td>4.13</td>
<td>23.56</td>
<td>3.01</td>
<td>0.77</td>
<td>0.28</td>
</tr>
<tr>
<td>Understanding of plagiarism</td>
<td>10</td>
<td>6.36</td>
<td>1.69</td>
<td>6.11</td>
<td>2.14</td>
<td>0.36</td>
<td>0.13</td>
</tr>
<tr>
<td>Subjective</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived research skills</td>
<td>40</td>
<td>30.34</td>
<td>5.49</td>
<td>26.48</td>
<td>6.96</td>
<td>1.75</td>
<td>0.62</td>
</tr>
<tr>
<td>Library and research experience</td>
<td>37</td>
<td>17.29</td>
<td>6.13</td>
<td>11.89</td>
<td>6.43</td>
<td>2.42*</td>
<td>0.86</td>
</tr>
<tr>
<td>Reliance on browsing Internet</td>
<td>50</td>
<td>6.12</td>
<td>7.72</td>
<td>13.59</td>
<td>10.20</td>
<td>-2.36*</td>
<td>-0.84</td>
</tr>
</tbody>
</table>

Note. * < .05.

Discussion

On the questionnaire that the students in Class 1 completed, they indicated that they thought they could learn from a library instruction class. That same group of students showed improvement over most of their own pre-test scores in the post-test, as well as better post-test scores on subjective measures than the students in Class 2, who did not complete a pre-test.

No question-by-question feedback is given on any objective measures (questions with right or wrong answers), only an overall summary of one’s performance on all items included in that scale, as compared to the performance of a normative group. The data show that taking the RRSA as a pre-test is unlikely to have a significant effect on students’ skills and knowledge, unless it is also combined with library instruction.

The fact that students from two classes differed on post-test subjective measures can be explained by the feedback given at the end of the RRSA pre-test. When completing the RRSA before library instruction, Class 1 students were provided with a narrative that explained how library and research experience was measured and the importance of this experience. This feedback may have prompted students to learn more about libraries and their resources. In addition, the RRSA feedback discouraged students from relying on general search engines and encouraged their use of library databases, which may have changed students’ beliefs about browsing. Overall, there is some evidence that administering the RRSA as a pre- and post-test may affect students’ beliefs about general Web browsing and even potentially increase their interest in gaining more library experience.

In sum, improvements in information literacy may be achieved by providing library instruction and feedback from the RRSA that further explains the value of libraries, academic databases, and librarians. Such feedback is likely to reinforce messages communicated by the librarian and motivate students to take library instruction seriously.
Limitations of the Study

The sample size of this study was small and cannot be considered generalizable to the entire population of non-traditional students who are enrolled in off-campus Master’s programs. In addition, since the two classes were taught by different professors, it is not clear whether one may have included more instruction on information literacy skills than the other. It is also important to note that evaluation of information and understanding of plagiarism were measured using a small number of items, therefore, these measures did not have much variance. Small variance and a small sample size (n = 14) may have made it impossible to find statistical significant change in pre-test and post-test scores by Class 1 students. However, the students did demonstrate significant improvement in the overall information literacy scores, which have greater variance because they are calculated as a sum of the three objective measures.

Conclusion

Despite the small sample size, there is evidence that the effectiveness of the library instruction session can be enhanced by using an assessment such as RRSA that is administered before library instruction and that generates immediate feedback to students. The RRSA pre-test serves to inform students about their initial level of information literacy but without giving out any answers to objectively measured questions, thus making it possible to administer the same assessment as a post-test. The data show that library instruction significantly improves students’ overall information literacy and, specifically, their ability to obtain information. Given prior to library instruction, an RRSA pre-test with feedback is associated with even stronger outcomes.

Students exposed to the pre-test library instruction and post-test intervention are subsequently more likely to indicate stronger propensity to use libraries, as opposed to Internet browsing, and to report higher levels of library/research experience. For many students, RRSA feedback may serve to highlight the discrepancy between their perceived information literacy (which is often inflated) and objectively measured information literacy, thus motivating them to learn. Designed to explain the value of searching library databases rather than conducting simplistic searches in general Internet browsers, RRSA feedback may motivate students to access and search proprietary databases with scholarly, peer-reviewed resources. Finally, RRSA also provides norm-referenced feedback on students’ research and library experience, which helps students understand how their own experience compares to other students’ experience. If such feedback is received prior to library instruction, students may be more inclined to seek librarians’ guidance, actively participate in library instruction sessions, and engage in self-study to learn new skills.

In sum, an assessment of students’ perceptions and objective skills related to information literacy conducted prior to a library instruction class is likely to enhance the value of library instruction by motivating students to learn in the library instruction class and beyond. There is certainly room for a larger study on this topic.
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Visual Tutorials for Point-of-Need Instruction in Online Courses

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Holly Heller-Ross  
State University of New York at Plattsburgh

Abstract
This paper will discuss a method of incorporating demonstrations into online Information and Technology Literacy courses. The demonstrations are designed to increase the visual component and to address point-of-need questions and problems. Also discussed will be experimentations with this method in other library services, such as electronic reference services, one-shot course-related instruction, subject research guides, and outreach to faculty for their own professional development and as a way to incorporate information and technology literacy in their courses. Recent developments in tutorial software have made it possible to quickly create brief demonstration modules to visually illustrate information literacy concepts and research tools. The primary example presented here is the incorporation of short, task-oriented demonstrations into lesson modules, answers to student questions, and in assignment instructions and feedback in an online Information and Technology Literacy course. Initial comments from students and instructors indicate high satisfaction with this method.

Introduction

Benjamin F. Feinberg Library at the State University of New York (SUNY) at Plattsburgh (a middle-size comprehensive college in northern New York) has a history of both credit and non-credit bibliographic instruction that stretches back to 1979. Like academic librarians everywhere, Feinberg librarians are fully committed to providing students with the conceptual and practical research skills needed to successfully complete their academic coursework. They serve as departmental contacts and offer course-related, or one-shot, instruction at the request of departmental faculty in nearly 80% of the college disciplines and academic programs. They also teach a required one-credit general education course introducing students to information research and basic computing skills. In addition, librarians have traditionally prepared subject, research topic, and access tool guides for reference and instructional use.

Distance learning evolved at Plattsburgh from physical travel to a regional community college, to compressed video teleconferencing, to Web-based courses hosted by a SUNY-wide learning network (SLN) and a locally hosted Angel course management system, and a recent return to videoconferencing for select courses. Although only one degree is fully online (the nursing RN-BSN program), many departments offer online courses year round and many students (2,948 in 2006/07) supplement their traditional courses with online classes. Providing library instruction in distance learning and online classes has been a priority at Feinberg, and librarians have adapted to each new technology along with other departmental faculty. Librarians currently use a mix of technologies, including online research guides, links to other institutions online tutorials, telephone, e-mail and Web chat software for reference services, and teach some sections of the library credit classes online using Angel. In addition, librarians have created special Web pages with research instruction for online and distance learners, to which faculty link or include in their courses.

Nonetheless, duplicating the ease with which an in-person course instructor or reference librarian can provide a visual demonstration of the research process, or quickly show students where to find the link to the full-text of an article in a database, while communicating through an online system, has proven elusive. Detailed text instructions for researching a topic or even the use of screen captures to show the
research process seems cumbersome. A picture really does say a thousand words, and no one expects a student or faculty member in a hurry to read the thousand words needed to replace the picture!

The ability to provide “live” demonstrations of research tasks and tools was the primary impetus for creating brief tutorials using screencasting software for use in our Information and Technology Literacy course, for demonstration of repeated skills-based questions that are asked through our in-person and virtual reference services, as discreet parts of some of our topic research guides, and as a way to embed information literacy skills in other academic courses. Links to published tutorials can easily be accessed from any computer with an Internet connection, so that they can serve multiple purposes and can be used as often as necessary.

Best Practices Literature Review

Best practices reviewed to date indicate a need to consider various learning styles, (Manocheri & Young, 2006; Mestre, 2006), components of informative feedback (Macdonald, 2001; Narciss & Huth, 2002; Song & Hill, 2007), how to enable and encourage student independent and self-directed learning (Chernish, DeFranco, Lindner, & Dooley, 2005; Song & Hill, 2007), matching tutorial design with skill levels (Tancheva, 2003; Tobin, 2004; Zhang, Watson, & Banfield, 2007), components of effective tutorial design (Beyth-Marom, Saporta, & Caspi, 2005; Clayton, 2007; Dewald, 1999a; Reece, 2007; Herrington, Reeves, & Oliver, 2006), and overall design strategies for online instruction (Chen, 2007; Clayton, 2007; Collard & Tempelman-Kluit, 2006; Getty, Burd, Burns, & Piele, 2000; Koontz, Li, & Compora, 2006; Manuel, 2001; Nichols, Shaffer, & Shockey, 2003; Noah & Braun, 2002; Peltier, Schibrowsky, & Drago, 2007; Tobin, 2004; Zhang et al., 2007). Best practices related to embedding tutorials in other academic courses as one way to increase the inclusion of information literacy components across the curriculum (Cox, 2002; Dewald, 1999b; Ferguson & Ferguson, 1993; Veldof & Beavers, 2001) should also be reviewed.

LIB 102 Course Tutorials

An abundance of literature exists examining the use of tutorials in online instruction. Tancheva (2003) suggested that “the purpose and setting in which an online library learning module is used should ultimately define its content, its design, and the technology it uses” (p. 11). While a fully-developed visual tutorial for searching the library catalog is useful as part of an online lecture, a shorter, more focused demonstration for a catalog search strategy of a particular student’s topic is better suited as feedback on an assignment. Adding this kind of example-based component as part of assignment feedback also adheres to best practices for informative feedback (Macdonald, 2001; Narciss & Huth, 2002; Song & Hill, 2007).

During fall 2007, several visual tutorials created with Captivate screencasting software were tested in one online section of the library’s Information and Technology Literacy (LIB 102) course. Reference librarians were provided with links to two of these tutorials that were identified as skills often requested by students—one for using the library’s Electronic Reserves and one for using the Journals AtoZ tool for locating the full-text of articles in the library’s subscription databases. In addition, links to these two reference tutorials were provided to several of the faculty who expressed interest in testing them in their online courses, and were offered to other faculty who participate in the campus-wide “Teaching with Technology” discussion forum.

The idea for trying these tutorials in LIB 102 developed after the fall 2007 semester had begun. As a result, they were not used as often or as consistently as they might have been with prior planning. The instructor had been experimenting with Captivate to create mini-modules for use in course-related instruction sessions as part of a library Instruction Unit initiative. Requests for these one-shot sessions have steadily increased to the point that the librarians are currently having difficulty finding time to meet the high demand. The purpose of this initiative is to replace some in-person basic library instruction sessions with these mini-tutorials. This paper will not go into detail about this project because it is still in the planning stages, but is mentioned because of the influence it had on the instructor’s decision to experiment with tutorials in the LIB 102 course.
Three areas of LIB 102 were identified in which tutorial demonstrations might prove effective: As part of online “lectures,” as feedback on assignments, and as a way to answer student questions about assignments and course materials. Including task-oriented tutorials as part of the online lectures allowed the instructor to reduce the amount of text in the lectures, and to increase the visual aspect. The theoretical components of the course still needed to be explained textually, but demonstrations of basic tasks and research tools were well suited to using visual tutorials. The tutorial design and length varied according to the context and objectives; the ones created as part of lectures were longer, more generalized, and included slides for introducing the topic and explaining the objectives. These addressed point-of-need to the extent that they were integrated with relevant course content and contained information needed for completing assignments. The tutorials used for assignment feedback did not include the introductory or objective slide—the objective was explained in the message to the student and was followed by the link to the mini-tutorial, which began immediately with the demonstration slide.

Research indicates that for students to be successful in online courses, they must be capable of self-direction in the learning process (Song & Hill, 2007). A course structure that includes visual tutorials also allows students to more easily identify parts of the course in which they are already skilled. While Feinberg librarians do encourage students to enroll in the required library course as early as possible in their academic careers, for a variety of reasons, this does not always occur. As a result most of the sections are composed of students with a great disparity of research and computing skills. This is apparent in the quality of assignments submitted and in the responses to the end-of-course and individual assignment questionnaires. For example, any particular section may include students who have never heard of a library database, those who are graduating and have been using them for four years, and every skill level in between. This makes tailoring the course according to student competency levels difficult. Ideally, all of the students can benefit from viewing all of the course content. However, in a fast-paced and information-heavy course like LIB 102, incorporating tutorials for some of the basic skills allows students to become more independent in making decisions about the parts of the course on which they need to focus. (See Appendix A: LIB 102 Minimum Required Course Outcomes.) For example, students who already understand how to choose appropriate library periodical databases for particular topics can skim or skip the visual tutorial that illustrates this strategy.

Students taking online courses and living at a distance from the campus are not always able to visit with an instructor to get individualized help with their own particular course questions and problems. Using tutorials as part of assignment feedback and in response to course questions provides an individualized, visual, and point-of-need remedy. For example, a student who is experiencing difficulty finding materials on a specific topic can view a brief tutorial demonstration of how a particular search strategy for their topic works in the assigned research tool. In this way the student, who is unable to visit the instructor on-campus for a live demonstration is provided with a similar session to the one that might occur in-office.

The first tutorial used in the course was a demonstration of how to locate course readings in Feinberg Library’s Electronic Reserves for a lesson in which students needed to read and respond to articles discussing research strategies. Both step-by-step text instructions and a link to the visual tutorial were included in the online “lecture.” Because our course management system provides a utility for tracking student activity, it was possible to see how many students actually used the tutorial; fifteen out of twenty-six students enrolled in this online section accessed the tutorial at least once. Some of them did so several times. This was very encouraging and certainly ample reason to experiment further with this method. To provide students with an easy way to access and review the tutorials as needed, a new online Course Tutorials folder was created; as new ones were developed they were added to this folder. Other tutorials used as part of lectures included a demonstration of how to identify approved subject headings using the Library of Congress Authorities online tool, how to identify which periodicals are physically available in Feinberg, and how to use an online reference source to find background information. Figure 1 shows one slide from the “Choosing Appropriate Library Databases” LIB 102 embedded tutorial.

Less formalized demonstrations were developed on-the-fly as opportunities and need for them presented themselves. For example, after several students inquired as to how they could see their course grades in the Angel system, a mini-tutorial was created showing them how to do this and was provided to
all of the students through course e-mail and as a course announcement. When it became clear that students were not taking advantage of the spell-checking tool provided in the Angel discussion forums, another tutorial demonstrating how to do this was provided to them through the same communication mechanisms. In one case, a very brief tutorial was used as feedback on an assignment when a student commented that he was experiencing difficulty locating the link to the full-text of his article in a particular database. The instructor located the article in the database and then recorded the process in Captivate and included the demonstration with the student’s grade in the assignment response. Referring students back to tutorials embedded in course lectures also reduced a certain amount of repetitive feedback on assignments. This method, however, needed to be coupled with offers for more help if the assignment errors were not clarified by a review of the tutorial, as well as specific individualized comments on particular aspects of assignments.

Figure 1. One slide from the “Choosing Appropriate Library Databases” LIB 102 embedded tutorial.

A total of eleven tutorials were used in this course in various ways and it is clear that potential exists for increasing this number. (See Appendix B for a complete list of the LIB 102 tutorials.) Because of the spontaneous nature of the decision to begin using tutorials in this online LIB 102 course, time was not allotted for the creation of meaningful assessments. Revisions for the spring semester will include more fully developed tutorials embedded in additional course lectures where they seem appropriate and a more formalized method for student assessment of them. In addition, as time permits, these will incorporate more interactivity. Students accessed these to varying degrees, but all of them were viewed by at least five students. Because the project was developing as the course progressed, a formal method for gathering student opinion of the tutorials was not implemented. However, some student comments were provided in the assignment assessment tools and were for the most part encouraging. It is interesting to note that the overwhelming majority of students who provided feedback about the tutorials were happy with them and referred to themselves as “visual learners.”
Tutorials certainly will not completely replace the Information and Technology Literacy course. They can be used effectively for specific and very basic tasks, but the theories of effective research still will need to be explained verbally or through textual components. Tutorials can provide a visual component for those students who prefer to learn through hands-on demonstrations and as alternatives to text-heavy step-by-step instructions. They can also be used to personalize instructor responses to student questions and assignments and they can allow for more student autonomy in decisions about which course content requires their focus. The learning curve for using the screencasting software is not great, but can be very time consuming. Creating highly developed and truly effective tutorials to embed in lectures will need to be planned in advance of the course. However, once some basic techniques have been mastered and best practices implemented, creating five to six slides to demonstrate a very specific task in response to a student question or to clarify assignment feedback requires minimal instructor time.

Reference Tutorials

Visual tutorials can also be used to demonstrate very specific tasks in library reference work. Distance learning reference services at Plattsburgh include telephone, e-mail and online chat reference help along with online research guides. Reference questions, despite their fascinating variety and specificity, do share some commonalities. Patrons repeatedly ask how to find books and media in the library catalog, how to get to their course reserve readings, and for help in selecting and using research databases. Traditional ready reference shelves and vertical files were designed to speed up the librarian’s ability to respond quickly to frequently asked questions with answers from frequently used sources. With the phenomenal growth of the Internet, reference bookmarks and electronic reference links were shared widely among librarians for the same purpose—to quickly locate useful reference information and pass that along to our patrons. Distance learners benefit especially from e-reference services because they can contact a reference librarian for research materials and tips and then get nearly immediate access to Web-based resources.

Distance learners and students taking online courses make regular use of electronic reference services at Plattsburgh. Online chat reference in particular has grown in popularity each year, with usage more than doubling from 245 questions in 2003/2004 academic year to 513 in the 2006/2007 academic year. Contrary to some of the published literature (Cummings, Cummings, & Frederiksen, 2007) indicating a decline in online chat reference and a low user preference for chat compared to other reference services, its use at Plattsburgh has continued to increase at a steady pace. Still, while answering factual questions and providing searching recommendations through online chat programs is indeed almost as easy as in-person reference, simple actions demonstrating how to search effectively, such as showing a patron where to click to limit results to peer-reviewed articles, require laboriously typed step-by-step instructions. Use of commercial online reference services increase service costs, staff training, and the chat transaction times, and can result in librarian and user frustration as described by librarians at Georgia Tech (Carpenter & Renfro, 2007). It is not possible to save and reuse instructions using free chat software such as AIM or aggregator software such as Trillian, so librarians at Feinberg did their best to offer instructions without missing any steps. When the mini-tutorial for locating course readings in Feinberg Library’s Electronic Reserves was developed and made available for instructional use, it seemed a natural for including as a tool in reference work as well.

An analysis of online chat reference transactions for 2007 was conducted in order to determine the potential impact of a set of reference mini-tutorials. A total of 379 chat transaction printouts were reviewed and categorized by type of question and the amount of step-by-step detail the librarians had to provide. Several categories of questions turned out to be very similar to the information and technology literacy course instructional content for which a tutorial was already developed, such as locating course reserves, choosing a research database, and searching the online catalog. Details from the chat reference analysis suggested additional tutorial topics that might be helpful. For example, the 50 questions referring to book and media searching in the online library catalog suggest that mini-tutorials demonstrating these tasks would be well received by students. Additionally, the analysis highlighted specifics of frequently asked questions that might be added to an existing tutorial. Tutorials were identified as potentially useful in seven of the eleven categories, which added up to 56.5% of the online chat transactions reviewed, a significant
Table 1 shows the analysis categories, the number and percentage of each category, and possible approaches to improving patron reference service for that category.

### Table 1

**2007 Chat Reference Question Categories and Potential Service Improvement Approaches**

<table>
<thead>
<tr>
<th>Category</th>
<th># of Questions</th>
<th>% of Questions</th>
<th>Improvement Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starting research on a topic</td>
<td>64</td>
<td>16.9%</td>
<td>Potential tutorial, but chat transcript advice quite variable. Continue reference service</td>
</tr>
<tr>
<td>Help with citation style</td>
<td>61</td>
<td>16.1%</td>
<td>Continue use of online guides, add more media examples or Create tutorial on the use of the guides or use the “Cite This” existing tutorial</td>
</tr>
<tr>
<td>Help locating books or media in the online catalog</td>
<td>50</td>
<td>13.2%</td>
<td>Create new tutorials or…add books and media searching to the catalog tutorial on finding periodicals</td>
</tr>
<tr>
<td>Unique Questions</td>
<td>47</td>
<td>12.4%</td>
<td>Continue reference service</td>
</tr>
<tr>
<td>Help locating full-text of articles/documents</td>
<td>36</td>
<td>9.5%</td>
<td>Create tutorial for the A-Z database</td>
</tr>
<tr>
<td>General library hours/collections/staffing</td>
<td>36</td>
<td>9.5%</td>
<td>Continue reference service and improve library Web page for these items</td>
</tr>
<tr>
<td>Help selecting a research database</td>
<td>20</td>
<td>5.3%</td>
<td>Use existing tutorial</td>
</tr>
<tr>
<td>Help filing or searching an ILL request</td>
<td>18</td>
<td>4.7%</td>
<td>Create tutorial for the ILL service</td>
</tr>
<tr>
<td>Help locating electronic course reserves</td>
<td>17</td>
<td>4.5%</td>
<td>Use existing tutorial</td>
</tr>
<tr>
<td>Help with campus technology software or passwords (MS Office Suite or Angel Course-management)</td>
<td>14</td>
<td>3.7%</td>
<td>Continue reference and technology helpdesk services</td>
</tr>
<tr>
<td>Help researching specific types of information (primary documents, archives, empirical, peer-reviewed)</td>
<td>12</td>
<td>3.2%</td>
<td>Add searching limit features to a database searching tutorial or Create advanced searching tutorial</td>
</tr>
<tr>
<td>Help locating online encyclopedias</td>
<td>4</td>
<td>1.1%</td>
<td>Highlight more on library Web page or Create tutorial for online encyclopedia searching</td>
</tr>
</tbody>
</table>
Experimentation with the use of mini-tutorials for online reference service revealed a few operational challenges. Access to the tutorial links was provided through the reference bookmarking site (feinbergreference on del.icio.us), but questions about how to track and evaluate their use, and how to prompt librarians to remember to use them posed some challenges. In fact, despite easy links and a reminder note at the reference desk, few reference librarians took advantage of the tutorials during the three-week fall 2007 experimental pilot. The pilot will continue during the winter and spring 2008 semesters, as the concept is clearly one worth fully exploring.

**Research Guide and Course-Embedded Tutorials**

Tutorials were next demonstrated to nursing and nutrition faculty at their regular monthly meeting, and links were sent to each faculty member by e-mail. The tutorials were also integrated into an online reference research guide for nursing and allied health. This guide (Figure 2) is used by nursing faculty in their on-campus and distance learning online courses, and is used by librarians offering one-shot instruction sessions for nursing. Several nursing faculty expressed strong interest in linking to the guide or to specific tutorials, although the timing of the integration precluded extensive use during the fall semester.

![Figure 2. Feinberg Library research guide for Nursing.](image)

**Conclusions/Future Directions**

These initial forays into the use of visual tutorials for instructional and reference demonstrations have sparked considerable interest at Plattsburgh. Reference and instructional librarians are making plans now to incorporate more tutorials into their spring teaching, and the initial enthusiasm shown by the nursing faculty should result in nursing student use of several tutorials over the next few semesters. Clear assessments are obviously needed, as are more experiments, additional marketing efforts, and careful
consideration of tutorial topic selection. Assessments in process include students’ end of course and one-shot survey comments, tracking of tutorial use both in courses and on research guides, development testing with library student employees, and feedback surveys attached to reference mini-tutorials. To date, one Feinberg librarian has provided feedback regarding the mechanics of the reference tutorials. None of the four-question surveys attached to these reference tutorials have been completed. Student comments about the course tutorials were limited, but all were favorable—they enjoyed using the tutorials and appreciated the addition of a visual component.

Specific plans for the spring pilots include more review of the literature on tutorial development, best practices, and assessment to ensure high quality resources for online and distance learners. An online bank of tutorials ready for embedding in the Angel course-management system will be established, and additional tutorials will be added to the reference online bookmarking site. Librarians will be encouraged to use and evaluate the existing visual tutorials in their one-shot instruction sessions. It will be especially interesting to discover whether they have enough value in that setting to warrant assigning one librarian or graduate student to create on-the-fly tutorials or to invest in training all instructional librarians in the use of the screencasting software. Additional online reference chat transcripts will be analyzed at the end of 2008 to assess the frequency of visual tutorial use and their perceived value. Finally, when the Instruction Unit initiative to create mini-modules for use in course-related instruction sessions is complete, the current set of visual tutorials will need to be reviewed and compared in order to avoid unproductive duplication of instructional time. Longer term goals include adding increased interactivity in the course and reference tutorials, and addressing accessibility issues and various learning styles by providing narrated tutorials as alternatives for students depending on their learning preferences.
References


Carpenter, C., & Renfro, C. (2007) Twelve years of online reference services at Georgia Tech: Where we have been and where we are going. *Georgia Library Quarterly, 44*(2), 6-9.


Appendix A
LIB 102 Minimum Required Outcomes
LIS Instruction Unit and Library Faculty
SUNY Plattsburgh General Education Program

Skills Category

Information and Technology Literacy

Required Minimum Introductory Level Learning Outcomes:

1. Determine Information Need
   Define and articulate the need
   Identify types and formats of sources

2. Access Information Effectively
   Select appropriate methods and systems
   Construct and implement search strategies
   Retrieve online and print information

3. Evaluate Information Critically and Incorporate Information Into Knowledge Base
   Articulate and apply evaluative criteria

4. Understand Economic, Legal, Social Issues in Information
   Demonstrate understanding of legal issues such as: intellectual property rights, copyright, or fair use
   Demonstrate understanding of economic and social issues such as: censorship, academic freedom, access to information, information privatization, Internet privacy and security, or the digital divide

5. Information Technology Skills to Use Today’s Computers
   Use basic computer operating features
   Use or understand the uses of common academic computer software such as: word processing, spreadsheets, databases, or graphics and presentation software
   Connect to the network services such as: Banner, Web, Email
   Use Internet services such as: browsers, search engines, and tutorials

6. Understand Principles and Concepts of Information Technology **
   Describe/define the basic principles of computing systems and networks
   Articulate the principles of information organization
   Demonstrate understanding of the potentials and limits of information technology in society

**The phrase “Information Technology” used above refers here to basic computing technology literacy

The Instruction Unit selected introductory standards and learning outcomes from the final report of the Plattsburgh State University Task Force on Information and Computer Literacy Final Report. http://faculty.plattsburgh.edu/holly.hellerross/Infolittaskforce.htm


Recommendations for technology literacy were based on work done by the National Academy of Sciences' National Research Council, published in 1999 as Being Fluent with Information Technology.
Appendix B
Fall 2007 LIB 102 Course Tutorials & Reference Tutorials

Course-Embedded Tutorials

Finding Readings for Courses Using Feinberg's Electronic Reserves
http://faculty.plattsburgh.edu/debra.kimok/Tutorials/CourseReadings.htm

Identifying Library of Congress Subject Headings
http://faculty.plattsburgh.edu/debra.kimok/Tutorials/LCHeadings.htm

A Very Basic Guide for Using the Gale Virtual Reference Library
http://faculty.plattsburgh.edu/debra.kimok/Tutorials/VirtualReferenceLibrary.htm

How to Search SUNYCat Using Library of Congress Subject Headings
http://faculty.plattsburgh.edu/debra.kimok/Tutorials/SUNYCatSubjects.htm

Identifying Kinds of Materials Indexed in Library Databases
http://faculty.plattsburgh.edu/debra.kimok/Tutorials/MaterialTypes.htm

Choosing Appropriate Library Databases
http://faculty.plattsburgh.edu/debra.kimok/Tutorials/DatabasesbySubject.htm

Identifying Periodical Holdings in Feinberg Library
http://faculty.plattsburgh.edu/debra.kimok/Tutorials/VolumeHoldings.htm

Announcements to Class

Viewing Your Grades in Angel
http://faculty.plattsburgh.edu/debra.kimok/Tutorials/AngelGrades.htm

Checking Your Spelling in Angel Discussion Forums
http://faculty.plattsburgh.edu/debra.kimok/Tutorials/DiscussionSpellCheck.htm

Answers to Student Questions/Feedback on Assignments

How Can I Link to the Full Text of My Article?
http://faculty.plattsburgh.edu/debra.kimok/Tutorials/FullTextLinks.htm

Using the "Cite This" Function in the ABI Inform Database
http://faculty.plattsburgh.edu/debra.kimok/Tutorials/ABIInformCiteThis.htm

Reference Tutorials

Finding Readings for Courses Using Feinberg's Electronic Reserves
http://faculty.plattsburgh.edu/debra.kimok/Tutorials/CourseReadings.htm

Using Journals A to Z to find the full text of articles in Feinberg Library databases
http://faculty.plattsburgh.edu/debra.kimok/Tutorials/JournalsAtoZ.htm
Modularizing Information Literacy Training via the Blackboard eCommunity

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Abstract
The eCommunity feature of the course management software, Blackboard, is used by the librarians at Henderson Community College to determine student success with their information literacy program. Pre- and post-tests are used along with brief lessons on variety of library and course-specific topics to create learning modules. Advantages of this new electronic information literacy tool include greater collaboration with faculty, immediate feedback for students, convenient access from remote locations, and compliance with accreditation guidelines. Progress is documented, and popularity of the eCommunity is increasing throughout the community and technical colleges of Kentucky.

For the past two decades, academic librarians have experienced greater demands from faculty, college administrators, accrediting agencies, and students to not only continue providing quality information literacy (IL) instruction, but to measure resulting student success as well. Whether they are teaching students in the classroom, at the reference desk, or through electronic communication, the expectation is increasing for librarians to continually track their students’ learning progress and make both individual and IL program improvements based on findings. As Gratch-Lindauer (2002) stated in her article concerning regional accreditation standards, “the most direct contribution the library makes to institutional goals is its role in developing clear student learning objectives for information literacy skills; assessing the progress and achievement of these objectives; and showing how the objectives are used to improve student learning” (p. 19). Indeed, the expectation to demonstrate IL growth based on student performance is great, but despite recent innovative attempts to enhance IL through Internet tutorials, podcasts, and library blogs, the answer to a fundamental question remains elusive, “How do we know students are learning?” Student satisfaction surveys are frequently used by libraries to address this issue, and are guardedly successful in determining student perceptions about their own ability to use a college library; however, this feedback is not an objective source for determining levels of understanding and comprehension. Other techniques used in attempt to generate valid data involve graded quizzes (sometimes administered electronically), librarian observation, treasure hunts, and steeplechases where students must demonstrate the ability to find information – but not the skill to evaluate it. The quizzes or exams generate the most reliable information, and in fact, student grades are good indicators for determining teaching strengths and weaknesses. The problem with this option lies with the sheer number of students that need to be tested. Most college libraries are responsible for teaching IL to hundreds, if not thousands, of students each semester and with few librarians available for grading, this method is rarely feasible. Therefore, the identification of a practical means to accurately measure student IL success that lends itself to the criteria of accrediting agencies and the expectations of library shareholders is a significant challenge facing today’s academic librarian. At Henderson Community College (HCC), the library staff addressed this critical issue by using the eCommunity component of the popular course management software, Blackboard.

When the Kentucky Community and Technical Colleges System (KCTCS) adopted Blackboard as its course management software for online courses to include those at HCC, it embraced a very flexible tool. Blackboard is but one of a number of emerging software that helps instructors develop online classes and facilitate instruction (e.g. WebCT and Angel). Typical course management services allow the respective instructor to control and monitor class functions such as providing class assignments, producing and grading exams, facilitating class discussions, and providing immediate feedback to students. One of Blackboard’s capabilities that is often overlooked is the “eCommunity” feature.
Originally intended to provide instructors with a more permanent location outside the electronic course for students to work on group assignments, the eCommunity has been expanded to provide college organizations with a secure electronic meeting space. (The eCommunity is more permanent than a regular eCourse because it is not removed from the Blackboard homepage by KCTCS each semester. It is only discontinued when the eCommunity designer or “leader” dismantles it and shuts it down.) College teams, committees, and student organizations at HCC have found the eCommunity to be a great place to post meeting minutes, review goals and objectives, provide progress reports on projects, and hash out plans for the upcoming semester. The technical skills needed to create an eCommunity are minimal, so any college official with proper authorization can create one for any college-related purpose – and make it available for as many participants as desired. Some of the more prominent features of Blackboard’s eCommunity include:

- An “Announcement” page for all members to read (and possibly post) important information.
- A “Staff” link that allows the eCommunity leader(s) to post biographical information along with pictures and contact information.
- An “About” page that provides a description of the eCommunity, its purpose, and instructions for new participants or students.
- A “Communication” link that leads users to a variety of electronic communication options such as a chat room, discussion board, e-mail for all or select users, etc.
- A “Learning Unit” link that provides access to the heart of the eCommunity – the place where information and ideas are presented in varying lengths. It is the space where the eCommunity leader(s) creates folders or modules on a variety of topics. When these modules are used, Blackboard offers several support tools to the leader such as the ability to:
  1. Insert web links.
  2. Create and insert surveys, tests, and exams.
  3. Attach or post complete documents such as charts, graphs, spreadsheets.
  4. Attach or insert audio files.
  5. Attach or insert video files.
- A “Control Panel” link that provides the leader with access to a suite of design options such as the Gradebook complete with MS Excel upload components, the Content File that acts as a server for information sharing between individual users, departments, and colleges, and Course Statistics that breaks down all participant data stemming from tests, surveys, or graded projects and discussion boards according to the mathematical instructions assigned by the leader. It is the Control Panel that allows the leader to develop exams and quizzes that are graded by the software, thereby saving countless hours for the library staff.

With so much versatility and flexibility to support both online and person-to-person learning, an eCommunity dedicated to information literacy appeared to be a very convenient venue for teaching IL skills. This realization, coupled with lessons learned during previous attempts to develop IL instruction at HCC, fostered the expectation that useful student learning outcomes could be generated.

The original HCC information literacy program, what was in 1995 labeled as “bibliographic instruction,” began with paper workbooks titled, *Pathfinder to the Library I* and *Pathfinder to the Library II*. The *Pathfinder* workbooks were developed to be offered with the college’s core English composition classes, ENG 101 and 102. The workbooks combined a library presentation and step-by-step instructions on the use of library tools such as the online catalog and subscription databases – with graded assignments that required students to perform information retrieval techniques. As campus technology improved, the *Pathfinders* and their attached assignments were moved online to provide greater student access from on- and off-campus locations. The *Pathfinders* were monitored for effectiveness via the grades earned. In the online version, an electronic survey was added, and the results of these surveys and grades were used to update and improve *Pathfinders* in subsequent semesters. While the generated statistics and student comments provided important feedback, recent changes in the expectations of accrediting agencies like the Southern Association of Colleges and Schools (SACS) meant that the information provided by these statistics was no longer sufficient. According to the Council on Regional Accreditation Commissions, “Educational quality is measured primarily by evidence of impact on students, while other indicators, such
as retention rates, graduation rates, or graduates’ GRE scores, play secondary roles” (Council on Regional Accrediting Commissions, 2004). In addition, research in learning-centeredness and the pedagogy of online instruction showed that there were some inherent limitations in the original Pathfinder concept.

When first created, the Pathfinders were intended to serve every student on campus since completion of ENG 101 and ENG 102 was required for graduation with an Associate’s Degree. The result was that the Pathfinders provided a ‘one size fits all’ assignment for students. Unfortunately this approach did not recognize the need for specific instruction for specialized classes nor did it address the increasing numbers of at-risk students who could easily be overwhelmed by the material covered in the Pathfinders. According to Suzanne Paterson’s article about collaboration and IL, “adding an active learning component [such as a comprehensive exam] to the library instruction session create[s] the possible risk of overwhelming students with too much information and too many activities in too short a period of time” (Paterson & White, 2004, p. 167). To compound this problem, some HCC students started enrolling in new certificate programs (spring 2003) that no longer required both ENG 101 and 102, and growing numbers of at-risk students were required to take developmental reading and English courses well before they could enroll in ENG 101. (By fall semester 2004, nearly 70 percent of incoming HCC freshman were placed into at least one developmental course as a result of low ACT and Compass Test Scores.) It became very apparent that students’ IL skills had to be developed earlier in their academic careers.

Research in student learning styles also reinforced the idea that short assignments with immediate feedback were especially suitable for at-risk students. According to the article, “Helping Struggling Students Achieve Success,” it is recommended that material be covered “thoroughly and at a moderate pace. Give plenty of practice, immediate clear feedback, and specific praise” (Johannessen, 2004, p. 638). With this in mind, the HCC librarians understood that the basic IL skills included in the Pathfinder workbooks needed to be revised and repackaged into short, subject-specific lessons, or modularized into units, which would be easier for at-risk students to understand and use effectively. The accrediting agencies’ new emphasis on student learning outcomes also required that whatever replaced the Pathfinder workbooks be easy to update and be accountable—especially in the key area of student success. Still another concern involved accessibility. While the online Pathfinder workbooks were accessible to off-campus users, library presentations were difficult to offer at off-campus sites due to limited availability of librarians, limited budget funds for travel, and limited availability of audio-visual equipment. For all of these reasons it became apparent that the existing IL program needed to be overhauled, a new delivery process was necessary, greater collaboration with faculty was essential and that the Blackboard eCommunity solved these problems. The eCommunity would not only meet the needs of at-risk students, but generate measurable student achievements in a timely manner and provide the librarians with a practical tool to strengthen collaboration efforts with the faculty.

The HCC library staff started building its “Information Literacy” eCommunity during the spring of 2005. The first goal was to make it available to all students and faculty, not just those enrolled or associated with the ENG 101 and 102 courses. While students were required to “enroll” individually, the “Information Literacy” eCommunity was made available to any students enrolled at HCC. Within the eCommunity, the librarians created several modules featuring a wide variety of library-related topics within the learning unit location, each of which contained a “Content File.” The Content File described a specific library service, such as Interlibrary Loans, or a tool, such as the library’s online catalog, in short—two to three pages long—sets of instructions, and was supplemented with audio and video clips to better assist visual learners and the hearing impaired. (Camtasia was used by the librarians to develop these supplements.) The learning modules also included a feedback questionnaire that addressed the material found in the Content File, the methods used to deliver this information, and other end-user features of the IL eCommunity.

Another objective was to gradually provide more challenging IL concepts and “provide scaffolding to enable students to accomplish complex tasks…” (Johannessen, 2004, p. 639). Many Content Files were written specifically to meet the needs of at-risk students by describing the most basic library skills like how to read call numbers. More advanced modules focused on the evaluation of resources and research strategies to serve classes like ENG 102. The concise nature of all the modules made them easy to
use for students of all skill levels, and allowed the addition of more complex or abstract concepts for classes or programs beyond ENG 101 and 102 (e.g., economics, art, nursing, etc.).

Current efforts involve specific classes that have been “targeted” due to growing faculty interest in the eCommunity and the librarians’ familiarity with specific assignments or subject matter. Because the Content Files can be developed for so many topics, faculty can select or request learning modules that best serve their individual classes. They can also participate in the design and creation of the Content File. This often leads to a sense of ownership that proves invaluable for future eCommunity projects. It should be noted, however, that the effort to collaborate is no simple accomplishment because faculty often hesitate to give up class time for instruction sessions. Yet it is essential says Janice Sundar (2005), “[because] when collaboration is implemented, it does improve student achievement” (p. 42). By working with the faculty, the eCommunity is enjoying tremendous growth at HCC with twenty-seven learning modules to date, and a smorgasbord of topics with varying levels of sophistication.

When the librarians create learning modules with Content Files about a topic, each includes a related “survey” and “test.” If the “surveys” and “tests” are written to cover the material found in the Content File and support one another—that is, each address the same basic issues—then they act as a pre-test (“survey”) and a post-test (“test”) whose scores act as a measure of student knowledge and skill. In short, the eCommunity’s “surveys” and “tests” generate data that can be compared to established student learning outcomes. Because the Blackboard software can grade both the surveys and tests immediately and can be set to submit the scores to the librarians, these pre- and post-tests provide information on a constant basis. If students are required by their instructors to take the “surveys” before reading the Content Files, then librarians can collect data on pre-knowledge and compare the results with the scores on the tests. The librarians and instructors, at this point, need only determine which learning modules to assign to the respective class, and schedule a time for a brief class presentation to be made by the librarians about the eCommunity. This provides the class with an opportunity to meet at least one librarian, receive instructions on how to login to Blackboard, learn how to use the eCommunity, and receive due dates for the assigned learning modules. For online students, these same instructions are provided electronically along with a photo of the librarian sending the correspondence. At off-campus locations, the course instructor sometimes substitutes for the librarian. (This replacement requires greater communication between the faculty and the librarian, and is a good opportunity to strengthen working relationships.) Regardless of the way in which students receive their instructions, individual assistance with the assignments is provided by the library staff as requested by the students during the time leading up to the deadline. It is important to note that the eCommunity facilitates learning but does not replace the instruction provided by the library staff or faculty members whether it is given in person or electronically.

Before the end of each semester, the librarians transfer survey and test scores to MS Excel spreadsheets where the data is easily slotted by class, name of instructor, and name of the student. With no manual entry of the scores and only “cut and paste” functions performed, lost or corrupt data rarely occurs. Instructors receive the spreadsheets through e-mail in time for the students’ scores to be added to their overall course grades. For the librarians, the assembled data helps identify student weaknesses along with underperforming learning modules. Changes and revisions to these modules complete the assessment cycle, and usually leads to revised student outcomes for the next academic year. This cyclical process is a critical part of ensuring overall student success and meeting the expectations of both the accrediting agencies and the college’s shareholders. Trend analysis can be performed from this data along with simple correlation studies and percentage rates all of which is useful in progress reports (departmental), annual reports (college administration), self-studies, and compliance reports (accreditation agencies). In doing this, the library that uses this eCommunity approach lives up to Bonnie Gratch-Lindauer’s (2002) recommendations for IL learning objectives (i.e., develop, assess, implement and evaluate).

The unseen power of the eCommunity to measure and document student knowledge is truly more significant than ever as accrediting agencies of every kind focus more and more on outcomes. And these agencies are very interested in students’ IL skills, as Leslie A. Warren (2006) has noted, “The regional accrediting agencies are arguably the most significant outside forces to endorse information literacy” (p. 298). In the accrediting world there are two types of agencies, regional agencies like SACS, which monitor a school’s overall academic environment and grant general accreditation, and discipline-specific agencies...
such as the National League of Nursing (NLN), which monitor the college’s adherence to their own professional accreditation standards. The regional accrediting bodies are intensely seeking documentation that “proves” that students are learning what curricula demands. To do this, schools are expected to define measurable student learning outcomes and then to create class projects that address these outcomes, or in other words, “…institutional quality will come to be defined in terms that describe the quality of student learning” (Beno, 2004, p. 67). Indeed, the primary effort is to concentrate on the respective college’s overall outcomes and general competencies. While differing in focus, the discipline-specific accreditation agencies evaluate student skills and academic program compliance with outcomes. They also emphasize the need for an organized program of IL skills instruction that results in students who are prepared to find and evaluate resources that will help them in their studies and careers. Regardless of the agency, the eCommunity addresses IL outcomes very easily.

The flexibility and format of the eCommunity makes this feature of course management software very attractive for IL instruction. To date, over 1500 HCC students have enrolled and completed at least one of the learning modules. Nearly eighty percent of these participants showed improvement from the pre-test to the post-test, with another five percent achieving perfect scores on the pre-test. Feedback from faculty and students has been overwhelmingly positive. Faculty participation has grown from three in the fall of 2005 to thirty-six in the fall of 2007. (HCC has forty-seven full-time and nearly fifty part-time instructors.) It is anticipated that this interest will increase as more class-specific learning modules are developed. Student responses to the feedback questionnaires have consistently indicated that the electronic format is “highly preferable to the traditional person-to-person only” method of instruction because of the eCommunity’s accessibility from home and other off-campus locations such as the local coffee shop. Students have also indicated that they appreciate the immediate turn-around time with their grades. The popularity of this new delivery system is indeed growing, and it has garnered interest from all over the state of Kentucky.

After attending a presentation given by the HCC librarians about their eCommunity at a spring 2007, New Horizons Teaching and Learning Conference, many librarians at other Kentucky community and technical colleges became interested in this new IL method of instruction. With the HCC library staff eager to provide support, six out of sixteen KCTCS colleges started construction on their own eCommunities with four now completely operational. In the fall of 2007, the KCTCS Library Services and Resources Workgroup consisting of the sixteen library directors at each college voted unanimously to develop Blackboard eCommunities across the KCTCS colleges. They further voted that a curriculum committee for information literacy be established to support ongoing eCommunity development. With so much attention and statewide commitment, it is highly likely that an IL eCommunity will be soon available for all Blackboard users who are enrolled in KCTCS courses.

The journey to create a practical method of tracking student success and updating student learning outcomes has been a considerable challenge for the library staff at Henderson Community College. From the old Pathfinder workbooks, the accreditation requirements, and faculty expectations, the librarians have come a long way to arrive at a simple tool embedded in the course management software, Blackboard. The eCommunity’s versatility and flexibility has proven to meet the demands of IL from the students’ perspective—especially with its electronic format, and convenience, and capacity to generate immediate responses. The eCommunity facilitates the librarians’ ability to send grades to faculty members in a timely manner, and this service along with ongoing collaborative efforts to build more meaningful learning modules has resulted in increased faculty interest. Yes, the eCommunity serves many purposes with one of the more significant roles involving the satisfaction of accreditation guidelines. Helping the library staff at HCC to confidently meet the expectations of regional and discipline-specific accreditation agencies with documented student outcomes has been groundbreaking. Librarians across the state of Kentucky have made note of this achievement, and have actively sought assistance to create their own versions of the HCC “Information Literacy” eCommunity. Through this growth and a continuous effort to improve the eCommunity based on student outcomes, HCC student success with information literacy is a reality that will continue for many years to come.
References


Embedded Librarians:  
MLS Students as Apprentice Librarians in Online Courses  

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Abstract  
Library Science MLS students at one university are serving as apprentice “embedded” librarians in nursing courses at another university. Results of surveys of nursing students at the end of the class and reflections of the MLS students after this experience will be shared from the first semester iteration of this project. A comparison of this project with past iterations of the project will be made in the hope that the information gleaned from these interactions will help in the design of library services. Furthermore, this premise of the development of relationships in the provision of library services for distance learners will be further examined.

Library Patrons are Customers  
Library patrons are customers, whether we call them users, clients, or by any other name. Even though Hoadley (1995) disputes this point of view by consulting a dictionary and stating that library patrons are not our customers because they do not meet the definition of a customer as “someone who purchases a commodity or service” (p. 175). She questions how we can possibly call patrons our customers if they are not purchasing something. Focusing on service, Hoadley (1995) goes on to say, is a good move and long overdue (p. 175). So why not consider what good customer service techniques can do for the people who avail themselves of our library services? Patrons could be much better served if in our role we considered them as customers.

Customers want relationships according to the findings of marketing researchers Parasuraman, Berry, and Zeithaml (1991). In addition, many of the customers interviewed in their research indicated that they wanted to be known and cared about, preferring “ongoing personalized relationships with the same representatives” of the firms they deal with who could be considered as partners (p. 43). There is much we can learn from the field of marketing when considering how best to serve our library patrons. The concept of relationship marketing, defined as mutual interest between companies and customers that emphasizes customer retention and long term relationships, is one such idea that can serve as a theoretical framework worth exploring when designing services for distance learners, in fact, for all learners. Furthermore, in 2000, Besant and Sharp made the statement “libraries need relationship marketing” “[c]an there be a more straightforward way to create a vigorous library of value to users than by understanding and cultivating relationships with users?” (p. 22).

Soules (2001) discusses how libraries can and should move towards marketing and relationship management as a marketing strategy, and quotes Neil Goldman (1999) who works in the credit union industry and contends that every transaction, interaction, and connection is marketing. Soules asserts that every reference transaction is a one-on-one relationship that “stretches far beyond the reference transaction and it starts with the impression customers have when they walk in the door” (p. 344), whether it is a physical door or a Web door. Soules points out that the electronic world has complicated things
considerably and that the “very concept of a physical library may or may not hold, but the mission is still the same—connecting content and customers through access and services” (p. 345).

Gutek (1995) who discusses customer service in several books on the topic defines two types of service transactions: relationships and encounters. She defines encounters as fleeting, single interactions with any one of a group of interchangeable providers. This is the type of service transaction that commonly takes place at the reference desk. Expectations for future interactions in which a shared history will contribute to more meaningful transactions are the basis for relationship style of transactions that “occur when a customer has repeated contact with a particular provider” and “they get to know each other both as individuals and role occupants” (p. 7). Gutek cannot imagine any circumstances in which encounters would be preferred over relationships.

**Relationship Management Techniques to Develop Personalized Services**

Working with colleagues for almost ten years to design more personalized library services for distance learners has made it apparent that the boundaries between distance learners and on-campus learners have definitely blurred. Regardless of location, however, on-campus learners seem to expect the same type of services that the online learners receive, and why shouldn’t they? Since the ACRL Guidelines for Distance Learning Library Services (2004) demands that “Library resources and services in institutions of higher education must meet the needs of all their faculty, students, and academic support personnel, regardless of where they are located” (¶1) and that “equitable distance learning library services are more personalized than might be expected on-campus (¶12), then why not provide the same services to students on-campus as those students at a distance receive?

With many years of focusing on drawing students into the library, even to the point of adding coffee shops and cafes for enticement, should librarians give up the expectation that students living on-campus who take an online class must come to the library to receive their services while their distance counterparts receive a different type of service because they cannot come to campus? Technology has changed the way we do many things. Even people who live in bustling cities full of a myriad of retail choices shop online. And society does not force the people who live near a shopping mall to make all of their purchases there while only the people who live in remote communities are allowed to shop online.

Since technology has radically changed the way we do things on a daily basis, librarians can seize the opportunities that the technology presents to provide equal services to all library users. The ability of a librarian to be present in an online classroom on a 24/7 basis is an opportunity that the physical library environment has never enabled. So, why not make use of the technology to insert ourselves into the educational lives of our customers so that we are there when they need us? This perpetual “presence” allows librarians to provide point-of-need services. As Penson (1996) stated in a article about point-of-need learning, “hundreds of electronic resources are at your fingertips, but you don’t need them until you need them—and then you usually need them bad” (¶6). In this case, then, the student does not have to make a trek across campus to the library, or go online and try to wade through thousands of Websites on a topic—the student has rapid access to a librarian in the online class. The online class environment allows librarians the vehicle to attempt to provide personalized services and develop the type of customer service relationships that Gutek (1995) describes. In this environment, the librarian does not even have to wait for the student to ask because being in the class provides a day-to-day knowledge of what is going on allowing the librarian to determine what students might need at any given time and offer that assistance.

**Librarian Embedded in the Online Classroom**

In order to set the stage for the creation of librarian/student/faculty relationships, we have been exploring the concept of the presence of a librarian in the online classroom for eight years. The distance learning librarian and the subject specialist liaison at University of Central Missouri worked with nursing students and criminal justice students as librarians in online courses offered in these programs for several years. When the distance learning librarian became a library science (LIS) faculty member at University of Kentucky, she required the students in her online classes to consult with the distance learning librarian, and surprisingly many LIS students balked at this requirement (Lillard, Wilson, & Baird, 2004). The major
finding from the various iterations of this project was that students never quite used the services of the librarian as we had hoped. Another issue we saw emerging from this research was that if every online course instructor decided that he/she wanted a librarian presence in the online class, the manpower would not be available to provide this level of service, especially with such a personalized emphasis. The inclusion of library science students as apprentice librarians in the classes presented a new opportunity. After a three year hiatus from this project and this fresh approach, we are excited to share the results of the first iteration of this new approach. Library Science MLS students at Emporia State University are serving as apprentice “embedded” librarians in nursing courses at University of Central Missouri.

The Format of the Project

Eight MLS students from Emporia State University enrolled in a one-credit special topics class titled: The Embedded Librarian. The student librarians were divided into four teams of two students each and assigned to four different nursing classes at the University of Central Missouri. One MLS student who was serving in an internship position with the Newman Division of Nursing library at Emporia State University served as a student supervisor for this class. Student librarians were required to consult with the course instructor to negotiate their level of involvement in the course and this turned out differently for each team. Some teams were allowed to introduce themselves while other teams were introduced by the course instructor. Some teams were allowed free reign to make postings in the classes to initiate contact with students while other teams were required to pass all Blackboard postings through the course instructor for approval. A member of this team stated “another problem for me was that our instructor had asked that all of our postings on blackboard to the students go through her first and while I understand why she asked this of us, it did make me feel like my contribution was not that important.” However, even getting course instructors to allow the librarians into the online classroom is a major accomplishment and these liaisons must be cultivated if we are ever to be able to provide adequate library services in this digital age.

Data Collected in the Project

Due to time constraints and dealing with institutional review board approval, the student librarians did not get the opportunity to survey the nursing students and instructors this semester to determine the impact of their presence. One nursing faculty member, however, was prepared with a pre-approved set of questions that were placed in her technology related nursing course discussion board. Her message to the nursing students and the direct quote responses received from the nursing students can be found in Appendix A.

For the purposes of this project, two of the three questions the nursing instructor asked of her nursing students in the technology related class were considered important.

Questions for Nursing Students

Question 2: What impact did having an embedded librarian have on the student's use and understanding of technology?

Nursing student responses indicated that the students in the technology related class did not use the assistance of the embedded librarian. Many of the nursing students thought that the embedded librarians was a good idea but that it would have been much more helpful to have this service available in classes they took at the very beginning of their nursing program. From their responses, found in Appendix A, it appears as though they thought that their research skills had already been perfected. If the nursing students had consulted with the embedded librarians, they may have discovered, as the Kentucky MLS students (Lillard, et al., 2004) also discovered, that bouncing search strategies and topic ideas off of a librarian can be helpful no matter how well one believes one’s research skills have been perfected.

Question 3: What impact does the inclusion of someone who can assist with learning about database searches have on one's learning and modeling of use in educational settings? I know that not everyone used the librarians, but knowing that they were there may have influenced you. Please take a few minutes and add information. This will help us look at how to use librarians in a course.
For the most part, the nursing students in this class did not use the assistance of the embedded student librarians. One student did think that somebody available to answer questions could add to the confidence level in the class, while another student thought that research skills should be taught in the process of obtaining the B.S. degree in nursing rather than at the master level (which this course was). Overall the nursing students seemed to think that the embedded librarian was a helpful option to have available. The exact responses of the nursing students can be found in Appendix A.

**Student Librarian Reflections**

The student supervisor for the Emporia project had some very interesting thoughts on the project that reflect things discovered in previous iterations of this project. These are also issues that can be found in the library literature.

A presupposition that I think all students in the class had (including myself) was that we expect patrons to be more forceful about asking for help. Yet in my own role as a patron, I am loathe to seek out help from a librarian at the library, so why should I expect students in online classes to be any different? This paradox calls for librarians to be much more present in these online classes than in a non-online, traditional classroom setting.

The LIS students in the Kentucky version of the project were not happy about having to consult with the distance learning librarian (Lillard, et al., 2004). The Emporia State University MLS students were required to read the publications on all previous iterations of this project before they began the project. The student supervisor of the Emporia State project noted in her end of the semester reflections: “how can we expect our patrons to behave any differently if even LIS students do not want to ask a librarian for assistance.” But this is a good lesson in the obstacles librarians have in promoting themselves and their services to students and faculty. Furthermore, some of the students at Kentucky admitted that even though they thought they knew everything about online searching and narrowing topics (after all, they were library science students), they thought that bouncing topic ideas off the librarian was a beneficial experience in the research process.

The student supervisor of the Emporia project went on to say:

If anything, participation in an online class as a librarian, and watching my fellow students try to provide library service in these classes has led me to believe that we as librarians need to change our reference skills. As I stated above, this will mean being more “present” in classes, but this may also mean becoming more comfortable with new ways of communicating, such as instant messaging and chatting. Further, librarians who want to work in online learning situations must be expected to have excellent written communications skills, not only in terms of grammar, but also in terms of a professional working language.

Another embedded student librarian made the following observations:

My partner and I primarily provided the class with information by posting on the discussion board in Blackboard. We provided the class with our contact information and started separate threads to cover topics we thought would be useful to the class. The topics included: article search tips, APA style guides, and interlibrary loan. The discussion board threads were visited twenty times on average, and so it appears that the class utilized these resources.

She went on to say, however, “Overall the class did not ask as many questions as I was expecting. I thought we would receive a number of questions about APA style, but we didn’t have any.”

When the class began I was unsure of how to bridge the communication gap. The class did not contact my partner and I much, so the class either was very independent or our services weren’t promoted adequately. The interactions that I had with students were very pleasant. I tried to use positive language and emoticons to convey friendliness.
One team of embedded librarians did a lot of work on APA style with nursing students in their assigned class and was even asked to co-author a research paper with the instructor. Journal entries from this team had the following observations:

Teacher of class has asked me to co-author a paper on research for nursing students, specifically my part would be about the literature review.

My partner is talking to the professor about us going through the student papers and checking them for APA style, before the class moves on to the next paper. Other than that became an expert on health information literacy this past week in preparation for helping my professor publish a research paper on the health information literacy skills of college students.

And then of course, the age-old problem of when we find something for a student rather than teach them how to find it came up in these journal entries from another student librarian:

Had to bust some chops today, student was basically nickel and diming their way into having me do their reference list. I ended up just giving them the page numbers from the APA manual.

Had a student last night who was a little miffed that I wouldn’t find her articles. Apparently showing some people how to do a database search is not enough help. I would just think that if you are in graduate school, no matter the field, that you should have the desire to learn the skills necessary for knowledge acquisition. In other words, there is really no excuse for anyone who is getting a graduate level degree to be ignorant on the use of databases.

One of the embedded librarians who signed up for the embedded librarian project again in the following semester had these comments to make:

My experience as an embedded librarian in a nursing theory course differs from the experiences shared by my classmates only in my perception that I had some interaction with most of my ten assigned students and had ongoing discussions about multiple information needs with two of them. I collected over thirty e-mails from these students with reference questions about the class material. In looking back, most of the questions were about locating articles on a specific subject or APA format. But some of them dealt with plagiarism, or Wikipedia, and at least one student hoped I could help with some technology issues she was having in accessing her articles.

I was so fortunate to be assigned to a nursing professor who welcomed us, encouraged the students to contact us, and was enthusiastic about any of our ideas to promote the library and our availability within the online environment.

In speaking of what she learned from the experience she went on to say:

I learned that just putting your name into the online environment does not make anyone take notice. We competed for the attention of our students with group e-mails reminding them that we’d look over papers before they turned them in.

Students needed not only to be told we were available, but they also needed to know what we could do for them. And to be honest, sometimes I didn’t know what I could do until confronted with the situation. Competency becomes the criteria any student would use in deciding whether or not to consult with a librarian after the initial contact.

Conclusions

All in all we again find that students do not avail themselves of the librarian’s assistance as much as hoped. The technology class from which there were actual nursing students’ reactions literally did not
use the embedded student librarians at all. They thought it was a good service to have available but did not use it. This mirrors what we discovered in previous iterations of this project (Dinwiddie, & Lillard, 2002; Lillard, et al., 2004).

The MLS student librarians’ comments showed that even though they were not asked for assistance as much as they hoped, it was still a valuable learning experience for them. One embedded student librarian mentioned the benefit of point-of-need service:

Though the class did not present my partner and I with many questions, I do believe that the embedded librarian program is a good service for librarians to offer. Communication and technical difficulties should be smoothed out to make the project run more smoothly in the future. The internet and electronic databases are the main source of information for many students. Librarians are serving the needs of students best by being present where information is being sought after.

Another embedded student librarian stated:

Even though my assigned nursing class did not provide online reference experience, reading other students’ experiences was helpful. Journaling and adding information on the wiki provided insight into how this tool could be used to communicate more effectively with an online group. I did develop some ideas on future participation as an online embedded librarian based on my experiences, the assigned readings, and the shared information.

At the present time we are preparing to begin the second semester of this project. Two of the embedded student librarians have enrolled in the class for another semester because they enjoyed this opportunity. One of these embedded student librarians made the statement that she felt like a real librarian while taking part in this project. In fact, a comment she made in reflection really sums up the experience:

With students demanding online classes in ever-increasing numbers, librarians need to be concerned with providing competent, professional services in personal and unique ways. Becoming embedded in their class environment allows us to target our skills to the specific discipline and course content and challenges us to find new ways of truly helping our patrons.
References


Appendix A

Survey Questions and Responses of Nursing Students in Technology Related Class

Please complete this discussion board for those who also completed the survey. This is the follow-up of having librarians in the course.

1. What was the focus of the project completed by the student?

2. What impact did having an embedded librarian have on the student's use and understanding of technology?

3. What impact does the inclusion of someone who can assist with learning about database searches have on one’s learning and modeling of use in educational settings?

For the purposes of this presentation, questions two and three were the most important. These are the questions and the responses received from the nursing students in the technology related class.

Question 2

What impact did having an embedded librarian have on the student's use and understanding of technology?

“I feel that I could have really used them earlier in my program, now that I am half way through, I feel fairly confident I can access/search the resources I need. Though it was nice to see them as an option.”

“I did not use the school's librarian resources for this class. In the past I have had trouble with on line connections and my inability to navigate the old computer system at UCM. I do however use my hospital's librarian staff and searches for my classroom work. This has proven very effective and a valuable asset in my schooling.”

“I did not utilize the embedded librarians. I was able to locate research reference material using the library resources.”

“I did not use the librarians to ask questions about technology. I am lucky because my neighbor is the technology person for the local school. I just asked him. If I would have not had a resource such as my neighbor, I probably would have used the librarians.”

“I did not use the librarian. I was able to find the articles and information I was searching for without the help of the librarian.”

“As far as the use of technology, I didn’t need the librarian.”

“I did not utilize the embedded librarian. However, it was nice to know there was someone there to help you find articles or other needs. My project consisted of utilizing online learning which with someone available to ask questions to benefits the students tremendously. There are many times the instructor may not know how to look something up but to have another individual able to answer questions is a great asset.”

“I did not use the librarian for this particular class.”

“I did not utilize the librarian services, although I think it is a good idea and I enjoyed knowing that the services were available if I did need them. Thanks.”

“I did not find this useful at this time in my learning. To me, searching a database and looking for current research to base my practice on is basic knowledge that any nurse functioning in a clinical environment
should know. Gone are the days where we can practice in a vacuum and not know what is going on in the research community. I think at a master's level this should be a skill already perfected.”

“"I personally did not use the embedded librarian. I had access to the hard copies of many nursing journals. I utilized the databases through JKL and did not have any problems obtaining information. I simply did not feel that I needed the embedded librarian's assistance.”

“I think it would be more useful to have someone dedicated to the course, instead of calling the library help desk.”

“I could have REALLY used the embedded librarian in my first class I took. I feel that it takes almost a whole class to feel comfortable with the school's database. I had no idea how to find everything or navigate around the site. I have learned different search techniques this semester from the librarians. I found that calling the library, Scott answered the phone and my questions.”

Question 3:

What impact does the inclusion of someone who can assist with learning about database searches have on one's learning and modeling of use in educational settings?

I know that not everyone used the librarians, but knowing that the were there may have influenced you. Please take a few minutes and add information. This will help us look at how to use librarians in a course.

Knowing that there is an embedded librarian, if needed for assistance, would be a helpful addition to an online course.

Since I have taken online classes before, I felt very comfortable with the online databases. When I was starting my online classes, I did use the online and onsite librarians frequently. I would get help with searches, interlibrary loans, etc... It is nice when you are learning how to research to have someone available to answer questions.

I think it is helpful to know that this person is available if we need assistance with finding articles for our projects.

I believe having an embedded librarian can be a useful asset in some online classes. I used the librarian several times in the Nursing Theory class for questions on papers and some for research as I had not previously used library resources online. I do think having a librarian in an undergraduate class would be helpful. I think these skills should be taught as a process of obtaining a BSN. Nurses in clinical settings now need to know what they are basing their practice on, not just the "how to do it". With the already computer smart next generation this is an easy skill to teach them.

I think that it is certainly beneficial for some students to have an embedded librarian. I never contacted the librarian because I did not feel that I actually needed his/her assistance. However, it was nice to know that someone was there to answer questions had I had any. Perhaps, it added to the confidence level in this course to know that someone was readily available if needed.
Getting Published: An Overview for Off-Campus Librarians

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Abstract
Librarians who provide service to distance education patrons have a lot of knowledge that they could share with the wider profession by publishing. Fortunately, this is easy to do. This paper provides information on the different kinds of publishing that are available from book reviews to submitting articles to peer-reviewed journals. It also offers advice on how to find the right journal to submit to including looking at factors such as the audience, prestige, and length of time to publication for the journal. Further, this paper includes tips on what to do when submitting a manuscript, including the query letter, following author guidelines, and proof reading. It also has ideas on how to respond to comments from editors and peer-reviewers. Finally, this paper covers what to do when a manuscript is rejected and examines non-traditional publishing options such as blogs and Wikis.

Introduction
Librarians involved in distance education have long been on the leading edge of serving patrons. From the use of telephones and the postal service in the 1970s, to the discovery of chat and e-mail reference assistance in the 1990s, to taking advantage of all the possibilities that the Web and course management software has to offer, it has been off-campus librarians who have helped to lead the entire library profession into this new era of librarianship. It is a safe bet that this trend will continue.

The library literature is rich with the contributions of off-campus librarians. Many books and journals have featured articles from librarians writing about issues relating to distance education, and by extension, librarianship as a whole. Despite this, many librarians in distance education do not publish or publish very little. For whatever reason (fear, dislike of writing, not knowing how to submit), the profession is missing these important voices in our scholarly communications. In addition, these librarians are missing the many personal benefits that accrue to a person by writing and publishing.

All librarians have something to contribute to the literature of the library field. Gordon (2004) wrote, “Always keep in mind that you are qualified to write for the profession merely by being a part of the profession” (p.1). It stands to follow that off-campus librarians are qualified to write about their jobs by the very fact that they hold these jobs.

In addition to benefitting the profession, librarians who write also help themselves. Henson (1999) noted, “The combined activities of writing and publishing cause us to escape our routine ways of thinking. Thinking in new ways is energizing. If we are clever, we can direct this energy so that it helps us achieve many of our professional and personal goals” (p. 21). The very act of conducting research or reporting what you know by writing articles is likely to help a librarian see her job in a new light. It may also help get the librarian noticed by others in the profession. Librarians who regularly author papers are more likely to be cited in other papers, invited to speak at conferences, and recognized as experts in the profession.

Types of Publishing Opportunities
There are a variety of options for publishing in the library field. They range from the fairly simple to the rather complex. Librarians with little experience may want to start with the easier publication venues and then try for the more challenging options as they gain experience and confidence. Some options for publishing include: Book reviews, newsletter articles, how-I-do-it-good articles, research articles in journals (either peer-reviewed or not), regular columns in a journal, and writing or editing a book.
The choice of the publishing option will help to dictate how the article is written. In fact, the same topic can often be written about several times by the same author and targeted to different venues. Johnson (1985) wrote:

A straightforward description of a new library operation might be adequate for a newsletter or one of the more popular periodicals in the profession. On the other hand, in describing this operation for a specialized journal, the author will wish to relate it to other similar operations, present a review of the literature, and summarize the investigations undertaken prior to its introduction. (p. 23)

Of all of the publishing choices, the book review is perhaps the easiest. Reviews can run from a small paragraph like in a publication such as *Choice* or can be a minor essay that takes up several pages of a journal. These types of publications do not garner much credit for those seeking tenure or promotion but they are useful to the library profession in the area of collection development. Book reviews also provide an easy way to break into publishing. If you want to be a reviewer, search through library journals. Find the ones that print book reviews in your areas of interest. E-mail the editor of the journal, explain what you want to do and what your qualifications are, and hope for the best. It should not take many attempts to get accepted as a book reviewer if you try several publications. One perk of reviewing books is that the reviewer usually gets to keep the book.

Another fairly easy route to writing for publication is newsletters. Most state and regional library associations have monthly or quarterly newsletters which are used to keep members informed. The editors of these newsletters are often looking for writers who will contribute articles about programs that libraries are doing or summaries of professional development activities. Often, a simple query to a newsletter editor is all it takes to start writing for other librarians.

One of the most useful (and vilified) types of library articles is the “how-I-do-it-good” or “how-my-library-does-it-good” article. Such articles provide a detailed report on how a person or library is serving patrons or solving a problem. These are published not only in library magazines but often in library journals as well. These articles are useful to the profession as a whole because they give reports from the field on what is going on. However, some library scholars do not like them because these types of articles usually contain little or no research. For those wanting to write for an actual journal for the first time, this type of article can work well. Most off-campus librarians can think of something novel or different that their library does. If a writer is willing to write this up in a serious manner and also include a literature review and suggest how others might use the information, it probably will result in a publishable manuscript.

The article that most librarians think of when pondering the library literature are research articles. These articles can contain qualitative, quantitative, or mixed research methodologies. The articles usually have well developed literature reviews followed by an in-depth review of the research conducted, why it is important, and what the researcher(s) found. Writing this type of article is time consuming and usually requires a librarian to receive institutional approval to work with human subjects. Knowledge of esoteric software like SPSS or NVIVO is often required. It also means that the librarian may have to work with charts and graphs. If a librarian is required to publish to achieve tenure or promotion, this is the kind of article that is required. Even for those who are not required to publish, writing research articles is one of the quickest means of gaining recognition in the library profession.

There are two methods of gate keeping for what gets published in library journals. Most journals use a double blind peer-review method for submitted manuscripts. The editor of the journal sends manuscripts out to reviewers who comment on the article and make recommendations on whether to publish or not. However, some journals have only an editor who makes the final decision and no peer-review is used. As peer-reviewed publications are preferred by those in tenure-track positions, editor only gate keeping for a journal may not be desirable for many authors. However, these journals are often still of high quality. For example, *Phi Delta Kappan* is considered to be the most prestigious journal in the field of education and it does not use peer-review.
For those who want to write for journals but who are not interested in conducting research, writing a column may be the answer. Many journals have regular columns that are submitted by one person or that are rotated amongst a group of authors. The writing in these columns does not go through peer-review but is vetted by the journal editor. This type of writing usually addresses hot topics in the field and is meant to both be entertaining and thought provoking. A good example of this is the TechMatters column at *LOEX Quarterly*, which has been written by Krista Graham since 1999. One of her recent articles (Graham, 2007) wrote about search boxes on browsers. Committing to a column requires a willingness to write on a regular schedule, but it also allows a librarian to share her knowledge with the profession without having to engage in lengthy research projects.

Finally, librarians can also write and publish books. This is perhaps the most difficult way to get published but it also can be the most prestigious. It also can make the author some money. Writing a book requires commitment and may take years. Many authors seek agreements with book publishers before they even beginning writing to assure that their final work will be published. Book publishers are looking for experienced writers, so it is unlikely that a new writer with nothing to show on his vita will get a contract in advance. Authors can also get a book published by agreeing to edit a book. This route does not require nearly as much writing, but it does require the editor to find and manage multiple authors, which in many cases can be harder than writing the entire book alone.

**Finding the Right Place to Submit**

After deciding that you want to write an article for publication in the library literature, it is important to find the best place to submit it. Journals have different focuses and what is appropriate for one journal might not be for another. There are several ways to go about finding what might be the best journals to submit to and knowing this might even help before writing a manuscript. If you know what journal you are likely to submit your paper to, you can write it to match the intended journal.

The first thing to do when considering submitting a manuscript is to look at the library literature. Spend some time searching for your topic in databases such as *Library Literature, LISA*, and *ERIC*. Which journals are publishing articles that are similar to the article you have written or intend to write? As you write your literature review for your manuscript, you should also develop a good understanding of what might be the best places for your manuscript to be submitted to as well.

Another good way to find journals to submit to is to watch for Call-for-Papers e-mails, which tend to circulate on a variety of library listservs. These types of messages are often abbreviated as CFPs. Journal editors will often send a message out to a group they believe may be interested in writing on a topic. The message will include details on what the editor is seeking and what the requirements are for length and timeframe. Responding to these e-mails is a good way to get published as the editors would not be sending out these messages unless they currently lacked submissions. An author who can write a paper in the agreed upon time on the agreed upon topic is almost always going to get an accepted manuscript published.

A further possibility for publication opportunities is from conferences. Many library conferences publish proceedings as a book, as a special issue of a journal, or online. This counts as a publication and has the potential for the author to be read widely in the field. Pay attention to announcements that are seeking presenters for a conference. Is there a paper you have written or are thinking about writing, which would fit the conference theme? Does the conference publish their proceedings? If so, the conference may be a good opportunity for you to both get a speaking and publication credit on your curriculum vita.

Off-campus librarians can publish articles in any library journal. The topics off-campus librarians write about are varied and applicable to the profession as a whole. However, some are more likely to feature articles written by distant education librarians. These include: *Journal of Library and Information Services in Distance Learning*, *Journal of Library Administration*, *The Reference Librarian*, *Computers in Libraries*, *New Review of Libraries and Lifelong Learning*, *Reference and User Services Quarterly*, *Journal of Interlibrary Loan, Document Delivery & Information Supply*, and *Reference and User Services Quarterly*. These journals are all worth considering when the topic of a paper is related to distance education and distance librarianship.
Librarians should also not be afraid to submit to publications that are outside of the library field. Distance education librarians have much to offer journals in fields such as education, computer science, and communications, for example. Steuart (1976) claimed that librarians had not properly exploited publishing opportunities in other fields. He believed this was preventing librarians from being able to advance their interests. This is still true today. What better way for librarians to sell their ideas to other professions than by writing for their journals?

For librarians dealing with promotion and tenure, some caution may be in order when publishing outside the library literature. Although most promotion and tenure committees will give full credit to articles published in peer-reviewed journals in other fields, some may not. Geahigan, Nelson, Saunders, and Woods (1981) noted that Purdue University gave librarians less credit for articles published in non-LIS journals. While this policy is a hindrance to librarians trying to engage professionals in other disciplines and is self-defeating to the profession, it may be something with which librarians at some institutions may have to deal.

What to Look for in a Journal

While many journals exist to publish in, they may not all be equal for what the author hopes to accomplish in publishing. There are many questions to consider before submitting an article. For example, is the journal peer-reviewed? Is it indexed and findable by those doing research? Is the journal prestigious and does that matter to the contributor? Who are the journal’s readers? How long does it take to get an article published—assuming it is accepted? Is the journal a traditional journal published on paper or is it an e-journal?

Some librarians who are working with a promotion and tenure system may have no choice but to choose a peer-reviewed journal. Otherwise, they may receive no or little credit for publishing an article. If this is the case for you, make sure of this status before submitting. If you are not sure, e-mail the editor and ask. If you are not required to publish in peer-reviewed journals, this may be ignored. There are many excellent and widely read library journals, which are not peer-reviewed and may prove to be better publishing opportunities.

Whether a journal is indexed or not is very important if you want people to actually read and cite your article. Although many read journals as they are published, most articles are found when researchers search Library Literature, LISA, or ERIC. If a journal is not indexed in one or more of these databases, it will be invisible to most researchers. Where a journal is indexed is usually easy to find. If you are interested in publishing in a non-indexed journal, send the editor an e-mail asking why the journal is not indexed. With a little effort, most journals can be indexed if the editor does some work.

Journal prestige is another factor in looking at journals. How important is it that an article be published in the most respected publication? There is a hierarchy of titles in the library literature. For example, the Journal of Academic Librarianship is more prestigious than Illinois Libraries. However, both of these publications are indexed and widely read. If prestige matters, then the author should research this before submitting. The rejection rates of journals are usually public, and journals with lower acceptance rates tend to be more highly regarded than those with higher acceptance rates.

Another question to ask is who the journal’s audience is. For example, reference librarians are more likely to read The Reference Librarian while library directors are more apt to read the Journal of Library Administration. If the article is meant for a certain audience, it will be helpful to submit it to a journal that is read by that audience. However, any article published in an indexed journal will be searchable to the profession as a whole soon after publication. Even if a journal is not the best for your audience, the article is still likely to be found by researchers from that audience in the future.

Journals take different lengths of time to publish articles. Some are quick and may publish an article in six months while others may keep you waiting two years. If an article needs to be published quickly as it may become dated quickly or for tenure reasons, a journal with a fast turn-around time is
essential. If you are willing and able to wait years to see an article published in the best journal, then go ahead and do so. However, it can be extremely frustrating to wait that long to see a manuscript in print.

Many journals now are published exclusively online. They often are peer-reviewed and are indexed in library databases. What distinguishes these journals from traditional journals is they are not published in paper. Most in the library profession consider these journals to be good additions to the library literature. However, authors dealing with tenure and promotion considerations may want to make sure their institution’s policies (or the views of librarians on the promotion and tenure committee!) do not hold biases against electronic journals. It makes no sense to discriminate against an online journal that is freely available online and can found and read via search engines. This dissemination method is good for the profession and the author. However, this form of bias does exist at some institutions and authors should be aware of this before submitting to an electronic journal.

**Tips for Submitting**

After finding and selecting the best journal, it is time to submit the manuscript. There are several steps that can be taken to increase one’s chances that a manuscript will be accepted. These include sending a query letter, following the author guidelines, proofreading the manuscript, and being respectful by only submitting a manuscript to one journal at a time.

Sending a query letter to an editor of a journal is often a good idea. If you have a manuscript you would like to submit, e-mail the title and abstract to the editor. Even if you are certain that the manuscript fits the journal, this step can be helpful. Editors can share with authors information on how long the review process is likely to be, what the editors are currently looking for, and other tips on what to do that may help with publication. If the topic of the manuscript is not a tight fit for the journal, a query letter can be used to sell the editor on the manuscript and to engage the editor in dialogue.

Probably the most important piece of advice that submitters should take is to read and follow the contributors’ guidelines for the journal. An author ignores these at his or her own peril. If the journal requires APA format, the author had better submit a manuscript, which follows APA style rules. If the journal requires manuscripts to be 15-20 pages in length, the manuscript should be no shorter or longer than 15-20 pages. An easy way to annoy editors and encourage them to reject a manuscript is to ignore or imperfectly follow the author guidelines. If an author has not taken the time to read the author guidelines, why should the editor bother to read the manuscript?

Another important step before submitting a manuscript is to proofread it thoroughly. All manuscripts will have a few minor errors and that is understood. However, these errors should be minimal. A manuscript with multiple spelling, grammar, and formatting problems is going to look unprofessional and seriously irritate the editor and/or referees. Always take the time to proofread. Afterwards, have another person look the paper over. Finally, after waiting a day or two, proofread it again.

Finally, only submit a manuscript to one journal at a time. It is unethical to submit to more than one journal at a time. It takes a great deal of time to get a manuscript reviewed and an editor does not want to learn that your paper has been approved for acceptance somewhere else after doing this work. If you are submitting two different manuscripts based on a similar study or project, you should make both editors aware that a similar but different paper has been submitted elsewhere.

**Dealing with Revision Requests and Rejection Letters**

After all the work of writing and submitting a manuscript, there is a possibility your article will be rejected or you will be asked to make significant revisions to your work. No matter how good an author is at writing, some manuscripts will not be accepted at the first place they are submitted. The more an author writes, the more often this will happen.
If you get a manuscript back from the editor with the request to rewrite it, do so. This is good news as it indicates that if you follow the advice provided by the editor and/or referees, the manuscript will more than likely be accepted. It is highly unlikely that a manuscript rewritten to the specifications of reviewers’ comments will be rejected. For this reason, make sure that the revision makes a good attempt at meeting both the spirit and the letter of the changes that are requested. Take the time to read the comments, revise your manuscript, and then send it back to the editor for what should be an approval.

If a manuscript is rejected, read the rejection letter carefully. What were the reasons listed for the rejection? In most cases, these will be valid, and reviewing them will actually help make the manuscript better if it is rewritten. If you have questions, ask the editor for clarification.

In some cases, you may be rejected for the wrong reasons. For example, it is possible that the referees misunderstood your research methodology. The author of this paper once had a manuscript rejected based on comments from referees that the study should have used surveys rather than interviews. As the paper was a qualitative study rather than a quantitative study, this feedback was inappropriate and indicated that both referees were lacking in knowledge of qualitative research methodologies. After discussing this with the editor and making a few revisions highlighting the differences between qualitative and quantitative research in the manuscript, the editor accepted it. If you feel the reviewers made a mistake, contact the editor and discuss it. The manuscript may still not be accepted, but it is worth the effort to find out why, as it may result in a reversal of the decision or give you a better understanding of what is wrong with the manuscript.

Sometimes a manuscript will just not be accepted by an editor. If you feel there is no point contesting this with the editor, thank the editor and move on. Do not send a nasty note back to the editor. Not only is this impolite, but it could sabotage your attempts at getting published in the future. The simple truth is that the library field is not a difficult one in which to get published. If a manuscript is rejected at one place, move on. Find another journal to which you can submit the article. Keep doing this until the manuscript is accepted somewhere. Unless a manuscript is truly awful, it is probably publishable in some venue in the library literature.

Other Ideas

The last twenty years has dramatically changed the landscape for how information is spread around the world. Old models of publishing have been joined with new Web based methods of distribution. Lorenzen (2003) wrote:

The emergence of the World Wide Web has been the largest and most important development for information delivery since the invention of the Guttenberg Press. Guttenberg's machine allowed for the mass distribution of books. This radically changed the landscape as prior to the press most books were literally copied by hand. The World Wide Web is equally as dramatic. Literally, anyone can publish anything now via the Web. (p. 4)

This is true of the library profession as well.

One example of a new method of communications is the e-journal. Another two new methods of communicating within the library profession are blogs and wikis. Both of them allow an author to disseminate her ideas. For example, Jessamyn West has used her blog (http://www.librarian.net/) to become well known in the profession. She is read daily by thousands. While these new methods may or may not be as respected as the traditional paper journal literature, they are accessed and read. They can bring a librarian a larger audience than any manuscript published in a traditional source can.

Lloyd (2007) wrote, “Blogs get a lot of press when individual bloggers express their opinions on politics, news of the day, or anything that strikes their fancy and thousands of others quickly jump in to join the conversation” (p. 42). There are now hundreds of librarian generated blogs on the Web. The Open Directory Project (http://www.dmoz.org/Reference/Libraries/Library_and_Information_Science/Weblogs/)
lists 313 reviewed LIS blogs as of January 4th, 2008. It is clear that authors writing on blogs in the library profession are being read by their colleagues.

Wikis provide another opportunity. Lamb and Johnson wrote (2007) wrote, “Wikis are collaboratively created Web sites. They involve authors in selecting, evaluating, revising, editing, and publishing information and ideas. A Wiki uses Web-based open-editing tools to provide an easy way for multiple participants to enter, submit, manage, and update Web pages” (p. 57). There are several notable library wikis on the Web, including: the LIS Wiki (http://liswiki.org/wiki/Main_Page); the Library Instruction Wiki (http://instructionwiki.org/Main_Page); and Library Success: A Best Practices Wiki (http://www.libsuccess.org/index.php?title=Main_Page). These Wikis give librarians an opportunity to share their knowledge in a collaborative environment. Writing a library Wiki will not earn credit for tenure or promotion, but it will allow the librarian’s knowledge to be spread around the world in a way a print journal never will be able to do.

Conclusion

Off-campus librarians have a lot to offer the library profession. Their trailblazing activities are of interest to others and one of the best ways to do this is to write for publication in the library field. There are a variety of options for this from writing book reviews to writing books. However, the most likely route for the majority of librarians is to write articles for journals. With the careful selection of the right publishing venue and by submitting correctly, off-campus librarians can make a big impact in the library literature.
References


Every Step You Change:  
A Process of Change and Ongoing Management

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Abstract

Established services have the benefit of experienced and knowledgeable staff, confirmed money streams, designated space and resources and recognized links to users and stakeholders. So when change needs to happen, it requires a great deal of patience, skill and an unwavering belief in a better future. After more than 30 years operating in a large academic institution, a distance education library service needed change. Services needed to be added, resources needed to be improved and overall processes needed to be streamlined and upgraded. This presentation will reveal the dramatic changes that occurred over the span of 6 months to change this service from an office literally drowning in paper with a "this is the way we've always done things" orientation to a new paperless service with a Web-based request, monitoring, and statistical tracking system. Screen shots demonstrate how staff track requests and keep separate records for library and Distance Education department reporting purposes.

Introduction

The management of a distance education library service is the management of an academic library in miniature. The same issues of interlibrary loan, circulation, collection development, staffing, training, project management, infrastructure, space constraints…the list is endless. Whether the distance education (DE) library service is an integrated one operating within other areas of a library serving on-campus users or distinct, it must accommodate and adjust to the changing external and internal environment in which it is located. At the University of Manitoba, Off-Campus and Distance Education Library Service (OCDELS) has been operating for decades. As both a new librarian in this institution and now responsible for this area, changes in the operations would be substantial and the learning even more.

Distance Education Context

At the University of Manitoba, the Distance Education program offers 121 courses from seven faculties, Agriculture and Food Sciences, Arts, Education, Nursing, Physical Education and Recreation, Science and Social Work. Three full degree programs are offered (Bachelor of Arts, Bachelor of Social Work and Baccalaureate Program for Registered Nurses) as well as a Post-Baccalaureate Certificate in Education. The largest number of courses is available in the Bachelor of Arts programs, with courses available to fulfill 21 of the 26 majors currently offered by the Faculty of Arts.

Distance Education (DE) courses at the University of Manitoba are provided in four delivery modes: independent study (print-based materials, often supplemented by audiovisual content), group-based study (print-based materials, often supplemented by audiovisual content and discussion via audio-conference), net-based study (entirely online) and Campus Manitoba (a distance education partnership of Manitoba post-secondary universities and colleges).

Enrollments in DE courses were continuing to increase at a rate of 16% per year, with the largest increase occurring in courses offered by the Faculties of Arts, Science and Social Work. In the 2001-02 regular academic year, over 3,700 students enrolled in DE courses; 40% of these students take only off-campus courses. The Faculties of Social Work, Nursing and Education also provide off-campus programs in the form of cohort groups that meet at off-campus sites for instructor-led classes at particular times such
as one week per month or one full day per week. They are established in various locations throughout northern and rural Manitoba such as Thompson, Norway House, Brandon and The Pas.

Off-Campus and Distance Education Library Service (OCDELS)

The University of Manitoba Libraries Off-Campus and Distance Education Library Service (OCDELS) operates out of the Elizabeth Dafoe Library, providing reference and document delivery service to off-campus students living outside the city of Winnipeg who do not take courses on-campus. Other eligible users include graduate students doing their thesis or practicum who have made special arrangements with their department and faculty doing research who relocated temporarily outside of the city of Winnipeg. Designated library staff communicates with students directly and also with intermediary University of Manitoba employees of particular academic departments at distant locations who assist with circulating and collecting materials from students.

The Off-Campus and Distance Education Library Service receives requests from users by mail, fax, phone and rarely e-mail. In the past, a paper request form was filled out for every request received (see Appendix A). OCDELS also has a toll-free number that has been heavily used by students living in the province of Manitoba. Material is normally sent to students by post using the book rate. The DE library service draws predominantly from its own collection at Dafoe Library to satisfy research requests; however, it does place requests via fax to other library units which hold titles. The unit is also faxed the requestor’s information, the item is checked out and sent via library inter-unit boxes to the DE service area (see Appendix B). The overall loan period for DE students is 60 days if the library has more than one copy of the item; if the item is in heavy demand, a shorter loan period is given. There is no charge for delivery or return of materials.

Operational Environment

The Off-Campus and Distance Education Library Service at the Elizabeth Dafoe (Dafoe) Library has statistics dating back to the 1970’s. The service continues to send materials across the province, nationally and internationally. For many years, the Off-Campus and Distance Education Library Service had been supported by contract librarians or reference librarians charged with the additional responsibility of monitoring the work of this area. These librarians did an admirable job of watching over it, including conducting a very thorough analysis of the service with financial requirements just 5 years prior to my arrival. This document was one of my guiding references in the first year.

I was the new full-time librarian responsible for the OCDELS; my workspace was located across the main floor with the reference librarians of Dafoe Library, the social science and humanities library at the University of Manitoba. Both above and below me on the organizational chart resided very experienced, long-term individuals with the University of Manitoba (UM) Libraries. The Head of the Elizabeth Dafoe Library was a librarian at this institution for many years and was charged with managing the largest library on the main campus. Reporting to such a knowledgeable and experienced librarian was a valuable education.

The role of Distance Education (DE) Librarian also afforded me the opportunity to be on the Public Services Coordinating Committee for UM Libraries, which brought all of the heads of the unit libraries together to make decisions related to public services. It is crucial that a DE Librarian have such a perspective as decisions made at one unit library about loan periods or changes in instruction programs which may only be announced at venues such as these can have important implications for the types of materials and services available to DE students. DE Librarians must endeavor to be as proactive as possible since any educational roadblock experienced by students may have a serious delay in completing their academic goals. Since most everything in libraries effects public services, this position was a phenomenal spot for a librarian still in the early stages of her career to learn from more experienced individuals about broad multi-library issues and decision-making.

Staff in the OCDELS consisted of 1.5 FTE persons; the full-time individual had been working in this position for over 15 years and had developed a system and processes all of his own. He had created a
handbook to train new supervisors in this area, highlighting particular statistics and resource needs. He had developed workarounds to handle the lack of adequate technological items needed to complete tasks most efficiently and he held his knowledge of the cycle of courses, student demands, best materials and contacts with individuals in his head. Since he kept the statistics and heard directly from students, he was aware of the feedback about the service and this limited any interest in change (Lakos & Phipps, 2004). He was very skilled at his job and very motivated to serve the students in an environment that one could easily forget about since the service was running so smoothly. At first, my role was to watch and learn about the intricacies of DE library services as they operated at the University of Manitoba.

**Initial Activities**

Initial tasks in the early weeks focused on liaison and learning work. Visits with stakeholders important to DE and general reference librarian work were conducted over the first 2 months. The previous librarians who oversaw OCDELS were still available for explanations and clarification about the various groups and departments that were covered under the service agreement. I also met with the DE coordinator of the Social Work program and arranged to contribute to her fall brochure that would be distributed to all distance students. This meeting raised the prospect of traveling to instruct the existing cohort in Thompson, Manitoba directly and meet with the on-site assistant who worked with us to help students find library materials and manage the donated collection they had. This visit occurred at the end of October 2002. I later traveled to Portage La Prairie to instruct another Social Work cohort in March 2003.

Meetings with me and the Head of Dafoe Library were also held to ascertain priorities and ensure common direction and purpose. I composed a 2-page summary of my activities for our meetings, outlining what I had done, what I planned to do in the immediate term and what were more future considerations. While day-to-day activities were accomplished by OCDELS staff, I devoted myself to outreach, and scheduled meetings with other University of Manitoba Library Heads and other academic departments with DE programs at the university. At the time of our meeting, I did not have enough knowledge yet of the volume and rhythm of the requests to be able to adequately answer questions about possible future accommodation. As the liaison between the library and the staff at the DE academic department, I quickly learned that my role was to limit expectations about any expansion of library services to anyone taking a DE course, since this could easily overpower my staff. I was cognizant that the DE academic department also provided a monetary contribution to my service for photocopying, the toll-free phone line and other expenses. Their needs as a stakeholder would be a consideration when I was formulating my future change strategies. They could be a potential source of support, ideas and funding if needed, but they might be too directive if I were to approach this department without a firm plan.

Marketing is a core element of outreach and any librarian should always be attuned to publicizing opportunities of library resources and services. All of the program guides and manuals delivered to students taking distance courses contained a description of library services which needed to be reviewed annually. Content was updated and references to databases with new names were substituted. Reviewing the documentation created by the DE department spurred me to write my own brochure for OCDELS that could be distributed by faculty or staff in distant locations, sent to students who may only know the service for one activity and others.

**Service Model**

The decentralized service model in operation at UM Libraries for distance education library service meant constant interaction with multiple departments to ensure delivery of library materials efficiently. Regular interaction with access services staff was essential since a large portion of our activities involved the circulation of materials and fine resolution for DE students. At OCDELS, authority to waive fines was available on a discretionary basis and if used, amounts were small and occasions were rare. Circulation options were available to create a special note in the record field of a duplicate item purchased with OCDELS funds; the item would be placed on the reserve shelf and accessible to DE students only in cases of high demand. Fax and photocopy services were accessed in the interlibrary loan department and the printer in the reference department, luckily these departments were located nearby and staffed with very friendly and kind individuals. The costs of using other departments’ resources and staff were absorbed by
these departments; as a reference librarian, I worked on the reference desk and provided instruction for 5-10 hours per week.

Collections development is another area of collaboration and accommodation. In order to support the library materials being sent out for up to 2 months at a time, OCDELS had a small collections fund. Items were purchased based on usage statistics with a heavy Canadian focus. There were also substantial Nursing and Social Work materials purchased with an Aboriginal focus. At the same time, Dafoe Library had subject bibliographers in these areas ordering materials for the main collections. Collection policies were consulted to ensure any purchases matched the overall goals and approach of the whole collection and suggestions and publisher recommendations were invited from subject librarians. This process worked in a collaborative collection arrangement; it was a means of providing more money for these other collections and making available additional resources for their students when not needed for DE programs. Library collection support statements for new courses were rarely needed; however I was aware the Distance Education department was planning to introduce more programs in the future.

Subject librarians also provided instruction support in Nursing and Social Work areas when faculty and students from these departments came into the city and on-campus for a single week of teaching and learning in the course of their distance program. Faculty and students attending the sessions received new brochures and I directed them to the sections of the Dafoe Library Website that would be most beneficial for them. I deliberately included faculty members in the instruction sessions because I knew that students would often turn to their instructors as a source of any information, if their fellow students could not help them (Cain, Marrara, Pitre, & Armour, 2003). The subject librarians took the latter half of the instruction time and demonstrated searching strategies and databases. This type of collaboration was an essential element of my successful operations in the DE Librarian position. Without the assistance of collegial librarians, most of the activities I accomplished would not have been possible.

**Introducing Change**

There were several factors which, in retrospect, can be identified as push and pull factors. The push factors are the elements that are external to an individual, imposed upon one from outside such as job description, supervisor requests or in my case, items listed in the task force report as areas to be altered. This 5-year old report and the Canadian Library Association guidelines for service to distance education users became 2 documents that assisted me in outlining a course of action and assessing my progress after one year (see Appendix A). The pull factors are the internal motivators that impel change. The purpose could be improved customer service, need for knowledge, staff safety, personal control, financial savings, etc. In this instance, I was motivated by need for greater clarity of responsibility and what I believed would be greater management of request tracking throughout the whole process from initial contact to item delivery.

With existing operations working smoothly, there may be little impetus for change. Dafoe Library was not in the process of instituting a culture of assessment. The Off-Campus and Distance Education Library Service could produce statistics demonstrating output based on number of requests by month and year back for over 2 decades. Clients did not seem to be clamoring for greater control and ease of access to information that would spark a re-design in the process of operations (Lakos & Phipps, 2004). What continued to motivate the DE librarian for change? Two indicators: both were easily overlooked under the surface of library busy-ness and intermittent supervision. Neither individually would be a catalyst but together, they simmered into a combustible force.

The first issue was the chaotic state of the Off-Campus and Distance Education Library Service area; it was awash in paper and other items. Current requests were organized according to a mysterious system, old requests from 5 years ago (or older) were still kept on shelves and articles faxed to students from previous requests were filed in 2 4-drawer filing cabinets and spilling out. Any day that I walked into that area, I could not identify what requests were new, in process, ready to be delivered or completed. Without ongoing service maintenance and accountability, I considered the paper method to be both a cause and a symptom of something greater.
To compound the matter, the area also contained video tapes, documents and boxes of old library supplies. In the first weeks after my arrival, my full-time staff member did identify 3 shelves of old videos that had been given to us by the Distance Education department to support courses that had not been offered for many years. Packing up these items and sending them back gave me a great feeling of satisfaction and encouraged me to press on with further change initiatives.

The second and greater sign was the lack of clear procedures manual. Early days and weeks in any position are a confusing time of learning the duties of the job and the organizational culture. As the new librarian in this role, new to the field of distance education librarianship and new to the library, learning these written and unspoken rules took some time. While the message being conveyed was “everything was fine since the books were being to be delivered and no complaints were being heard,” instructions about day-to-day DE library service activities were becoming more complicated, unnecessarily so, it seemed. This may seem like a small matter but it was reinforced by an inherent organizational appreciation of undemanding stability. And yet, as the DE Librarian responsible for the service, it seemed part of my job requirement that I be able to complete all of the required tasks. Credibility for leadership or change management would be stronger with actual experience in the job at hand.

Part of my self-education of distance education library services came through an environmental scan of Websites and appropriate literature, both national and international. This scan generated many ideas, especially relating to the use of online technology to promote OCDELS to our users. In my first weeks at UM Libraries, I joined the Web content committee; this position encouraged me to begin designing a space for OCDELS in the overall UM Libraries’ Website. I wanted to design an area that would fit within the larger Dafoe Library Website and provide specific information to DE students about obtaining a library card, how to request materials, the special loan period, connecting from off-campus, e-mail notification and how to do research. While my library staff member cautioned me that most OCDELS users did not have the digital infrastructure to support Web technology, I considered this to be important both for future user needs and personal skill development. At that time, infrastructure and computer access was not as widespread, especially across northern Manitoba, as present but I considered the long-term value of introducing online services that could be adapted with time. I met with the programmers in the UM Libraries’ information technology department to discuss the creation of an online request form to add to this Website. The online form was given the green light and I waited for programmer availability.

Using the schedule of the Library IT department allowed for time to lapse in the development of the Website and online request form and some worries to calm. The initial plan consisted of mounting the Website and having the full-time staff member work with existing and new DE students to encourage them to use this form as the initial contact with our department. Then, if further contact was required, OCDELS would initiate and information would be derived from data provided by the student from the online form. This would be an intermediary phase and give the long-standing employee the comfort of the paper while starting to integrate an online environment. This would not take away all of the problems; any issues related to collecting statistics of any kind in libraries applied in this case (Smith, 2006).

The DE library service collected and presented statistics of how many items were sent out which could be biased in favor of the lender, rather than calculating the number of requests. Also, there was no indication or assessment of how long questions would take to answer since this factor seemed to be so dependent on external elements such as other units delivering books, photocopying delays, etc. The advantage of the online form was that it also allowed for storage and manipulation of statistics. From the database, I could gather additional data about how many items were requested, how many items were sent, what courses received the most requests and other more detailed analyses.

The online form borrowed much information from the existing print form (see Appendix B) and from the environmental scan completed earlier. The programmer initially created the form for the Website with minimal fields for gathering of information. However, my request became much greater. When staffing changes in OCDELS occurred, the result was a substantial shock to the daily and overall operations. The hours for the part-time person increased and my work duties shifted from overseer to day-to-day supplier of library materials. In the short term, most immediate requests were found. Procedures that
I had been trained on more than half a year ago and never used were quickly applied. Meetings with the programmer were postponed due to the tight learning curve and busy mid- and end-of-term requests.

Centralizing by Database

The database was the predominant means of organizing and managing the Off-Campus and Distance Education Library Service request processes. It would be able to centralize the gathering, processing and storage of DE students’ requests. One of the new features I wanted to include was the ability of library staff to add information to a record of a DE student’s request in the created database. This database would track the requests and the actions done for the requests. The data would be stored in the database for use in the production of statistics. A special automated script had to be created to clear out personal information after one year. The database was created with two Perl Hypertext Preprocessor (PHP) scripts, one PHP include file and a Sybase database.

Please provide the following information. Items in **bold** are required.

<table>
<thead>
<tr>
<th><strong>Name:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Number:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Phone #</strong> (daytime):</td>
<td></td>
</tr>
<tr>
<td><strong>Address:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>City:</strong></td>
<td>Province/State:</td>
</tr>
<tr>
<td><strong>Country:</strong></td>
<td>Canada U.S. International</td>
</tr>
<tr>
<td><strong>Postal/Zip Code:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Email Address:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Course Number:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Do not send after:</strong></td>
<td>-- V -- V, -- V</td>
</tr>
</tbody>
</table>

If you would like specific material(s), please choose "Item request". You may include more than one item at a time in the same box.

For **books**, provide Author or editor(s) name, Title, Publisher and Date of publication.

For **articles**, provide Author or editor(s) name, Title of Article, Title of Journal, Volume number, Issue number, Year/Date and pages.

If you are requesting a literature search on a topic, please choose “Subject request”. Describe your topic and include details, important key words or terms that explain your assignment/research.

*Figure 1. Student information form.*

Once the DE student entered information onto the online form (figure 1), the information was error checked for required fields and then submitted to the database. The form defaults identify how the request came and sets the ‘received date’ automatically. Once the request is received into the database, library staff can access the request information listed by date received (figure 2). Library staff also have the
ability to add new requests to the database received via email, phone, fax or mail or delete misinformation. Each request in the database is assigned an ID number automatically that follows in throughout the whole process. Library staff could edit details of the request to expand on information provided by the requestor or edit an action to the request as the request progresses to satisfaction (figure 3). The table holds the specifics of all actions performed on the particular request; it is also linked to the staff person performing the action. Lastly, it tracks the date/time the action is performed and any change to the status of the request (figure 4).

![Add User]

![New Request]

<table>
<thead>
<tr>
<th>Name</th>
<th>Student ID</th>
<th>Course Number</th>
<th>Request Type</th>
<th>Date Received</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>kevin costner</td>
<td>657438</td>
<td>12.132</td>
<td>Item</td>
<td>04/24/2003</td>
<td>Waiting for materials</td>
</tr>
<tr>
<td>Mary matisic</td>
<td>676767</td>
<td>47.490</td>
<td>Subject</td>
<td>03/30/2003</td>
<td>Opened</td>
</tr>
<tr>
<td>Jared Whidlo</td>
<td>123456</td>
<td></td>
<td>Item</td>
<td>03/26/2003</td>
<td>New</td>
</tr>
<tr>
<td>Billy Bob Thornton</td>
<td>555555</td>
<td>Subject</td>
<td>03/28/2003</td>
<td>New</td>
<td>Click for more details</td>
</tr>
<tr>
<td>Todd Whidlo</td>
<td>12123123</td>
<td>Item</td>
<td>03/28/2003</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>Vic Damone</td>
<td>12345</td>
<td>Item</td>
<td>03/27/2003</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>pauline genitsen</td>
<td>909697</td>
<td>Item</td>
<td>03/25/2003</td>
<td>New</td>
<td></td>
</tr>
<tr>
<td>Bob</td>
<td>555555</td>
<td>Subject</td>
<td>01/08/2003</td>
<td>In Review</td>
<td></td>
</tr>
</tbody>
</table>

*Figure 2. Database screenshot.*

In an attempt to get beyond the simple numbers of items sent or requests, the details in this table offer the potential to chart the steps of request satisfaction. In order to improve efficiencies, it is important to be aware how many times a request is ‘touched’ and/or how many other units are relied upon to satisfy requests. With the multiple action steps, it is possible to view the action steps and see where the delays are, if any. These statistics would have important, nuanced information for future development. Any potential increase in number of courses offered by Distance Education or reduction in library staffing could be measured against the length of time taken to respond to requests. Any delays in OCDELS or other library units could be found and assessed for possible improvements to service delivery. UM Libraries was also planning to introduce e-reserves in 2003; the development of this service and the explosion of electronic
databases as a means of scholarly research have certainly changed the ways and means of service delivery in distance education library services.

Figure 3. Request screen in library staff view.
Figure 4. Tracking requests.

Conclusion

The introduction of change is awkward for the initiator and the receiver at all stages because change is unpredictable. In this case, changes were attempted in gradual stages. Before being introduced, consultations with other librarians and staff in the areas were done to be sure that as much accurate information as possible was gathered. At the same time, the environment encouraged stability and slow, measured change. Smooth operations do not eliminate the need for assessment; every staff member can contribute to the improvement of operations.

Regardless of the plans in place, the change process is stressful and people need to have areas of continuity as well as change. Individuals working in a profession whose whole rationale are about “knowing” particular information and being seen as experts by others can be especially sensitive to the uncertainty and instability that is endemic in the change process. Often, change is easier to explain if there is a catalyst; some people need it, especially if they are established in their position or their environment. Change and the discomfort that accompanies change should be discussed. Areas of continuity are unique to individuals and these should be respected; some may require reassurance from familiar work group relations while others rely on professional values and others on activities external to their work environment. By balancing the familiar with the new, you can sustain yourself with ongoing activities while having a new project or two to keep the ideas and energy engaged.
References


# Appendix A

## Administration Sheet

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<tr>
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<tr>
<td></td>
<td>Leadership in developing relationships and methodologies to address the</td>
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<td></td>
<td>library needs of the institution's distance or distributed learning program.</td>
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<td></td>
<td>Leadership should involve initiating dialogue, collaboration, and developing</td>
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<td></td>
<td>cooperative partnerships</td>
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<td></td>
<td>leadership may involve fostering informal or formal agreements with</td>
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<td></td>
<td>unaffiliated libraries</td>
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<td></td>
<td>+ in cooperation with the library units on the Fort Garry campus and the</td>
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</tr>
<tr>
<td></td>
<td>Distance Education Program, developing partnerships with community</td>
<td></td>
</tr>
<tr>
<td></td>
<td>resources</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Task Force recommends the appointment of a full-time Distance Education</td>
<td>Hired July 2002.</td>
</tr>
<tr>
<td></td>
<td>Librarian with dual</td>
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<td></td>
<td>responsibilities</td>
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<tr>
<td></td>
<td>developing a model of statistics collection surveying the needs of distance</td>
<td></td>
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<td></td>
<td>education students.</td>
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<td></td>
<td>the librarian designated should be responsible for:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. assessing the library needs, assessing existing library support.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. preparing a written profile of the library needs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. developing a written statement of immediate and long-term goals and</td>
<td>In process April 2003.</td>
</tr>
<tr>
<td></td>
<td>objectives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. involving students and instructors in development of goals and objectives.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>developing various modes of orientation and library instruction and reference</td>
<td></td>
</tr>
<tr>
<td></td>
<td>service in cooperation with subject specialists</td>
<td></td>
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<tr>
<td></td>
<td>5. participating, or identifying library subject specialists in the curriculum</td>
<td>Direct DE instructional designers and instructors to UML web pages.</td>
</tr>
<tr>
<td></td>
<td>development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>managing budget funds including acquisition funds allocated to distance</td>
<td></td>
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<tr>
<td></td>
<td>education library services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. preparing or modifying collections development and acquisitions policies.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>participating in policy-making decisions and development of services</td>
<td>Membership in PSCC.</td>
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<tr>
<td></td>
<td>The UML will ensure that the needs of distance education students are</td>
<td></td>
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<tr>
<td></td>
<td>addressed when new automated/electronic services are introduced.</td>
<td>Create web site July 2003 and introduce Carbon Viewlets.</td>
</tr>
<tr>
<td></td>
<td>7. developing methodologies, as appropriate, for providing library services.</td>
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</tr>
<tr>
<td></td>
<td>The UML will ensure that the needs of distance education students are</td>
<td></td>
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<tr>
<td></td>
<td>investigated and promoting the use of automated and innovative technologies</td>
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<tr>
<td></td>
<td>or communications</td>
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<td></td>
<td>8. investigating and promoting the use of automated and innovative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>technologies or communications</td>
<td></td>
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<tr>
<td></td>
<td>9. developing partnerships with computing services to facilitate remote</td>
<td>Ongoing communication re: remote</td>
</tr>
<tr>
<td></td>
<td>access issues</td>
<td>access issues.</td>
</tr>
<tr>
<td></td>
<td>10. promoting library services</td>
<td>Virtual reference task force assistance.</td>
</tr>
<tr>
<td></td>
<td>publicizing the services available to distance education students</td>
<td>Jan – Feb 2003.</td>
</tr>
<tr>
<td></td>
<td>visiting off-campus teaching sites to evaluate the service and to provide</td>
<td></td>
</tr>
<tr>
<td></td>
<td>orientation/bibliographic instruction</td>
<td>Thompson October 2002.</td>
</tr>
<tr>
<td></td>
<td>planning and developing library instruction programs</td>
<td>Dafoe (AFP staff) January 2003.</td>
</tr>
<tr>
<td></td>
<td>11. planning and developing library instruction programs</td>
<td>Portage February 2003.</td>
</tr>
<tr>
<td></td>
<td>12. determining, in consultation with computing services staff, a means to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>provide distributed learners with training in basic computer operating</td>
<td></td>
</tr>
<tr>
<td></td>
<td>skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13. collaborating with other library staff to coordinate programs and services</td>
<td>Nursing instruction session with Jan</td>
</tr>
<tr>
<td></td>
<td>subject specialists in the unit libraries will fulfill the following</td>
<td>Johnson October 2002.</td>
</tr>
<tr>
<td></td>
<td>functions related to distance education library service: work in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>collaboration with the Distance Education Librarian for the efficient</td>
<td></td>
</tr>
<tr>
<td></td>
<td>delivery of services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>work with course designers and content specialists in the</td>
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</tbody>
</table>
Appendix B

Library Request Form

Library Request Form

For use only by students living outside Winnipeg.

Send to:
Distance Education Library Service
Elizabeth Dafoe Library
The University of Manitoba
Winnipeg, Manitoba
R3T 2N2

Phone: (204) 474-9183
Canada Toll Free: 1-888-216-7011 / Extension 9183
Fax: (204) 474-7570 OR (204) 474-7577
E-mail: dafoe_disted@umanitoba.ca

Name: ____________________________ Student Number: ____________
Address: ____________________________________________
___________________________________________
___________________________________________
___________________________________________
Phone: (Work) ____________________________ (Home) ____________________________
E-mail address: ____________________________

Question or Essay Topic:
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
Delivery to the Sharp End of the Spear: Responding to the Need for Library Support to the Deployed and Downrange Military Community

Edward W. Murphy
Embry-Riddle Aeronautical University

Abstract
Libraries that support military patrons often face unique challenges. One of the most traumatic is the temporary transfer, or sudden deployment of members of the university community, often in the middle of an academic term, sometimes without notice or adequate preparation time. Not too long ago such an event would almost certainly have interrupted, if not altogether halted students’ academic progress until they could return to the parent institution. Technology now in place has allowed many of these students to continue their education regardless of their physical locations, and libraries will have to improvise with regards to the delivery of resources and materials to the “sharp end of the spear.”

Introduction

Whether it’s training World War II aviators, Vietnam-era helicopter pilots, or current Air Force Cadets, Embry-Riddle Aeronautical University has a long, established history of military partnerships. With such strong ties to the military community it is in ERAU’s interest to monitor and to respond to any issues regarding its student-soldiers. Embry-Riddle Aeronautical University’s Worldwide Library Services (ERAU-WLS) department has recorded a surge in distance education patron requests (see Figure 1); and within this surge are increasing numbers of requests from deployed, downrange military personnel. This paper discusses possible variables contributing to the recent increase in ERAU-WLS military traffic, and predicts that the levels of student-soldiers will continue to increase in the next few years. The paper also reports on the responses from a focus group assembled to give a snapshot of the educational technology resources available to deployed military personnel.

Figure 1. Longitudinal trend lines 1970-2005.
Embry-Riddle Aeronautical University-Worldwide operations were created in 1970 as the direct result of an agreement between the United States Army and Embry-Riddle Worldwide (ERAU-W) to award college credit to army aviators for their technical training.

Since 1970, ERAU-W has partnered with many of the Department of Defense (DoD) education initiatives, including the DoD’s Voluntary Education Program, the Servicemembers Opportunity Colleges (SOC), the Army Continuing Education Services (ACES), the Navy College Program Distance Learning Partnerships (NCPDLP), and the recent re-launch of the GoArmyEd (formerly eArmyU) portal.

ERAU-W has been recognized as a leader in the development and delivery of distance learning education programs. By choosing to partner with so many military sponsored educational initiatives Embry-Riddle Worldwide has worked hard to establish a presence in the Education Service Offices (ESO’s) of U.S. military installations throughout the world. ERAU-W is committed to supporting the members of the military community and has been recognized as having high quality educational programs that are attractive to service members and that are relevant to their professional development (Richardson, 2005).

The mobilization of the U.S. military over the last few years has had global consequences (Kane, 2006). Strategic positioning of DoD forces now has 27% of its total manpower stationed overseas (Kane, 2006). The surge in the troop levels has been reflected in the growing number of student-soldiers as active duty personnel, reservists and guardsmen all become eligible for military education benefits (Padilla & Shapiro, 2003). Embry-Riddle Worldwide Campus enrollments have always been closely tied to the build-ups and draw-downs of the United States military (McCollister & Davis, 1996; ERAU, 2005). This troop mobilization is no exception; of the 28,000 currently enrolled worldwide campus students, 65% are active duty soldiers, sailors, or airmen.

**Literature Review**

It is too early for much relevant literature on the impact that the latest build-up of military forces has had on academic life, and even less on how libraries are dealing with the rise of the student-soldier population, however:

Calling the current military education benefit packages a “proliferation of opportunity” A.J. McMurray (2007) noted that the current use of military education benefits and the increase in the number of benefit eligible students…

…and the modernizations of the G.I. Bill have all served to enact an unparalleled era in the history of higher education. Now, more than ever, servicemen and servicewomen have both the financial resources and the technological resources to pursue higher learning while actively deployed in remote regions of the world. (p. 146)

J.P. Lorenzetti (2004) agreed with McMurray, and noted that the current military online education successes have not only increased the numbers of distance learning students, but they have also changed the way distance education is now delivered. She goes on to recommend an ultra-flexible service model, up to and including the “bending” of traditional academic policies to accommodate active duty student-soldiers.

Lombardo and Fairbanks (2002) also reported that higher education should take notice of the popularity and success of the eArmyU program (now GoArmyEd). Originally designed to help soldiers attain personal academic goals, the program has grown so quickly, and proved so popular that it has turned the Army into one of the power players of distance education in just the past few years. Lombardo’s and Fairbank’s research is also unique since it was one of the first studies to attempt to describe who the soldier on the other side of the computer screen actually was:

The median and mean age of the eArmyU soldier-students is 30; currently about 75% of the eArmyU population is male, roughly consistent with the enlisted soldier population. The eArmyU population also reflects the ethnic diversity of the army with about 25%
identifying themselves as African-American, 10% as Hispanic or Latino, 2% as Native-American, or native Hawaiian and just over 1% as Asian. Two-thirds of eArmyU students are married. (p. 8-9)

There is plenty of literature to suggest that the military’s educational benefit programs are one of the main reasons why men and women continue to enlist in the armed forces (Covert, 2002) and are one of the main force retention incentives (Griffith & Perry, 1993). J.L. Polich’s (1982) study of enlistment rates and educational benefits simply concluded that “the tests have demonstrated that educational benefits did bring about substantial increases in enlistments” (p. 85-86).

Buddin’s (2002) National Defense Research Institute Report on the use of military sponsored tuition assistance (TA) programs, and Griffith’s (1993) study of enlistment motivations before and after Operation Desert Storm, and Brauchle’s (1998) AAACE Report all reiterated and expanded on Polich’s findings that regardless of the existing military-political climates education benefits have been and will continue to be one of the top motivations for joining the armed forces.

There are also increasing numbers of reports in both the popular press and in the academic press indicating an increase in the numbers of student-soldiers that are electing to begin or continue their academic careers while deployed overseas (Blumenstyk, 2006; Arnone, 2002; Carnevale, 2006; Eskey, 2002). This is in direct contrast to the First Gulf War’s troop mobilization where students called to active duty had few options beyond withdrawal from the university community (Griffith & Perry, 1993).

Discussion

The student-soldier who opts to continue with his coursework post-deployment has become the remotest of the remote library patrons. From Korea to Kyrgyzstan he packs up his gear and textbooks and crosses his fingers hoping for a reliable Internet connection at the next post, or at least enough electricity to power everything back up. Even at the best of times students can expect limited bandwidth, long lines at the Internet cafés and time limits forcing tough choices while at the computer. If a soldier only has 15 minutes of computer access every few days decisions regarding e-mail and information retrieval become anything but trivial (Hoover, 2003). Deployed students who will face enough obstacles trying to complete their educations do not need additional problems with downloading documents or emailing the Worldwide Services Librarian.

As a library unit supporting this globally distributed campus network, the ERAU-WLS department freely borrows from and employs many logistical practices to keep the flow of information moving from the Hunt Library in Daytona Beach, Florida, to wherever it needs to be delivered downstream, and when necessary, to retrieve it and return it to Daytona Beach. From pre-positioning items, to mapping out and testing supply chains, institutions that support large distance education populations should familiarize themselves with basic logistical management principles. Distance education librarians may also be interested in the flow of information logistics, defined by the Information Logistics Competency Center (2007) as the routing of the “right information, at the right time, to the right location, in the right format, to the right recipient” (p. 1). That sounds very familiar: Who is borrowing from whom?

Identifying exactly who our remotely located patrons are has always been problematic; now we are attempting not only to predict who they are, but where they will be in the future (Marchionini, 2000). In an effort to create a snapshot of the conditions our downrange students face, we created a focus group of 22 students who had already utilized Hunt Library resources and services while deployed overseas and 8 instructors who had agreed to participate. Through phone interviews and e-mails we began to compile data (see a sample in Table 1) and to get an idea of the types of educational technology available to our students. We were particularly interested in the availability and quality of the Internet connections. Were soldiers and sailors allowed personal computers, phones, PDAs, or any other personal communication devices; were there fax and copying facilities; and is there a dedicated Education Office, staffed, with regular hours?
Table 1

*Types of Educational Technology Available to Embry-Riddle Students*

<table>
<thead>
<tr>
<th>Location</th>
<th>Internet Access</th>
<th>Education Office</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOB Tillman – Bagram, Afghanistan</td>
<td>Y</td>
<td>Y</td>
<td>Cybercafe @ Bagram</td>
</tr>
<tr>
<td>Camp Liberty, Baghdad, Iraq</td>
<td>Y</td>
<td>N</td>
<td>Internet Cafe</td>
</tr>
<tr>
<td>FOB Kalsu, Iskandariah, Iraq</td>
<td>Y</td>
<td>N</td>
<td>15 – 30 minute limits</td>
</tr>
<tr>
<td>Amundsen-Scott Polar Rsrch Inst, Antarctica</td>
<td>Y</td>
<td>N</td>
<td>Very low bandwidth/Satcom</td>
</tr>
<tr>
<td>Camp Doha, Kuwait</td>
<td>Y</td>
<td>Y</td>
<td>30 min limits</td>
</tr>
<tr>
<td>Kandahar, Afghanistan</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Camp Bondsteel, Serbia-Kosovo</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Ganci Air Base, Bishkek, Kyrgyzstan</td>
<td>Y</td>
<td>Y</td>
<td>15 minute limits</td>
</tr>
<tr>
<td>Incirlik, Turkey</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Diego Garcia Atoll, Indian Ocean</td>
<td>Y</td>
<td>Y</td>
<td>15 minute limits</td>
</tr>
<tr>
<td>Camp Eagle, Korea</td>
<td>Y</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>USS Ronald Reagan, CVN 76, East Atlantic</td>
<td>Y</td>
<td>Y</td>
<td>Probably better connected</td>
</tr>
<tr>
<td>Keflavik, Iceland</td>
<td>Y</td>
<td>Y</td>
<td>Closed (ERAU)</td>
</tr>
<tr>
<td>Thule Air Base, Greenland</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>USS Mt. Whitney, LCC 20, Mediterranean</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

Source: Embry-Riddle Worldwide Library Services Downrange Survey – 2007

**Conclusions**

The feedback from the focus group was encouraging. It did seem possible to complete coursework while deployed, and to expect that course support materials could be reliably delivered. Almost half of the focus group respondents were on second or third tours overseas and reported that conditions had improved “considerably” in Iraq and Afghanistan with regards to personal communications and information transmittal.

As long as all of the variables noted above remain valid, ERAU-WLS can probably expect the numbers of requests and transactions to continue to surge. Embry-Riddle will continue to partner with the Department of Defense Voluntary Education Programs as the numbers of individuals eligible for military education benefits continue to rise. The partnership will continue on even after the stand down of the armed forces, as technology continues to become more convenient and reliable and the communication networks continue to improve downrange. All of these factors would seem to support the hypothesis that the surge of distance education requests will continue.

The worldwide services librarian is a logistician. Well, not quite, but distance education librarians can certainly learn from and borrow from this discipline.

Logistically speaking, the “sharp end of the spear” refers to the very last link in the supply chain, the absolute furthest point that can be reliably supported or re-supplied (Waters, 2007). Logisticians refer to the “sharp end” because of the downrange challenges that force them to adapt and improvise in a fluid environment. The military connotation of the “sharp end of the spear” is something altogether different. It describes a tactical position, at or near the front lines of a troop deployment or conflict. Here, the “sharp end” is about as far downrange as a soldier can get from a reliable source of support or resupply often forcing them to overcome obstacles in order to complete their missions.
Likewise, universities and the academic libraries that support active duty military students will also have to overcome institutional challenges and downrange obstacles as they respond to the future needs of this growing student-soldier population.
References


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Embedding General Education Competencies into an Online Information Literacy Course

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Abstract
Assessing core competencies for students who are enrolled in purely online programs poses a challenge to colleges and universities. Our institution has chosen an existing online information literacy course to incorporate and assess general education competencies for an overseas cohort of transfer students. This paper will present a brief overview of the course and describe how the course was redesigned to embed and assess the five general education competencies (critical thinking, information literacy, critical reading, quantitative reasoning, and writing) into the course.

Introduction
Institutions of higher education are increasingly aware of the need to assess core competencies so that graduating students are able to think and read critically, research and use information, analyze quantitative data, and write effectively and fluently. Accreditation requirements and the job market are placing greater importance on mastery in the core competencies of critical thinking, information literacy, critical reading, quantitative reasoning, and writing (Breivik, 2005; Van Dusen, 1997).

Course Development
Mercy College has in place a three credit Junior Seminar (JRSM 301) course to assess general education competencies which all domestic students have to take, after successfully finishing 60 credits and before completing 90 credits. The Junior Seminar course is on the Hudson River and is offered as an onsite and online course. Our institution has an overseas cohort of students who come in with up to 90 transfer credits through previous coursework, internships, work experience, or life experience. On an average, they take 30 credits over three semesters (fall, spring, and summer) to finish their degree requirements. The topic of the Junior Seminar course, namely Hudson River, has no relevance to these overseas students. Our institution decided to use an existing online information literacy course to incorporate and assess general education competencies for this overseas cohort of transfer students whose native language is not English. Embedding general education competencies into an existing required information literacy course also frees up three credits that students can use to take another elective. The three-credit course titled LISC 260 – Using Electronic Resources for Research, has existed as a required course for this overseas cohort of students since the fall of 1999. The course was initially developed as a required course to introduce Mercy College Libraries’ resources to this cohort of overseas students. Full-time librarians teach this course as an overload. The course was initially not open to domestic students but now any student, who meets the prerequisites, can also take this online course as an open elective. Since domestic students are required to take the Junior Seminar course on the Hudson River in order to graduate, giving a choice of topics makes the course interesting to domestic students as well.

The course is of eight-week duration in fall and spring semesters and is divided into eight modules with five quizzes. Summer sessions are shorter and the course runs for six weeks. There is no mid-term exam, final exam, project, or term paper for this course. Sixty percent of the grade is for the quizzes and assignments and 40% is for discussion and class participation.

Each quiz addresses a competency. We identified the modules where the five competencies would fit best. A document containing the five General Education Competencies (critical thinking, information
literacy, quantitative reasoning, critical reading, and writing) Statements, as outlined in Mercy College Undergraduate Catalog, are posted by the instructor on the course page at the beginning of the class.

The choice of topics is determined by the instructors teaching the course. Students could choose a topic at the beginning of the course with the instructor’s approval and do all the five quizzes on the same topic, the instructor can assign specific topics to specific students, or let students choose from a list of topics given by the instructor. We suggested a list of topics which included:

- Topics in Art
- Health care in the United States
- Careers
- Topics in History
- Drama
- Topics in Literature
- Topics in Education
- Topics in Music
- Environment
- Pollution
- Global Economy
- Rivers

All instructors teaching the course basically follow a prescribed course outline and the competency-based quizzes. We also came up with some suggested questions for additional assignments. The instructor may choose and adapt these questions and include their own to make up additional assignments for each competency (Caldwell, n.d.; Feyl, 2005).

Revisions to the course were approved in the summer of 2005. We decided that the spring of 2006 would be a good time to implement the change. This would give the instructor teaching the course the entire fall 2005 semester to prepare to teach the revised course.

**Embedding Competencies into the Course**

We will discuss our rational (Caniels, 2005) for embedding the five competencies into five modules in the eight-week session. The competencies are introduced in a sequence – critical thinking, information literacy, quantitative reasoning, followed by critical reading, and writing.

Prior to the incorporation of the five general education competencies, instructors teaching the course had some leeway in deciding which five modules to assign the five quizzes to, as long as they followed the same basic course outline. However, with the revised course, it was decided (based on the topics and contents of the modules) that the five competencies-based quizzes would most logically fit into the following modules and all instructors would follow the same guidelines for administering them.

**Critical Thinking Competency**

This was placed in the second module covering the topic “Developing Search Strategies” in the second week of the course. In this module, students are required to select a topic and develop logical terminologies and search strings. This requires a great deal of critical and analytical thinking and therefore lays the ground work for the other competencies. The quizzes and assignments for this competency involve breaking (narrowing) down the topic into sub-topics, comparing two topics or ideas, and so on. It is hoped that students will be able to adopt Boolean and other search logic in clear and precise ways in their analyses and interpretations of their topic and use the search strategies they develop for continued assignments throughout the rest of the course.
Information Literacy Competency

The Information Literacy Competency is introduced in the fourth module in the fourth week of the course. As part of the course, students are required to learn about Mercy College Libraries’ Indexes and Databases, which this module addresses (“Information Literacy”, n.d.). It also appropriately follows the third module posted in the third week of class which deals with online book catalogs and e-books. These resources are also some of the very ones covered in a traditional information literacy instruction session and consequently, this competency seemed to fit most logically into this module. The module also includes the topic of citation style formats – namely APA and MLA – used in citing the information found in these resources. Students, for the most part, seem to like this module very much, because it exposes them to resources they either never knew existed, or because they were not aware that their own College offered such a rich array of online indexes and full-text electronic databases.

Quantitative Reasoning Competency

The Quantitative Reasoning Competency posed some of the most challenges to us, when it came to choosing the appropriate module for placing the competency and developing the quizzes and assignments. This is a library research course with no statistics or mathematics component in it. Many students enrolled in the course are not mathematics or statistics majors. Hence some creativity was needed to evaluate the mathematical and/or computational skills of the students. Students are given this competency in the fifth module during the fifth week of the course, which deals with subject-specific sources. It was decided that to assess this competency, a quiz analyzing data obtained in a tabular format from one of the databases subscribed to by the Library would fulfill the requirement. Students are given choices on various countries and related data, and are asked to create some comparative demographic profiles. This has worked well, since it gives students the opportunity to focus on countries and data that are of interest to them.

Critical Reading Competency

Trying to evaluate the critical reading skills of a cohort of students, whose first language is not English, can be difficult to say the least. The Critical Reading Competency fits naturally in the sixth module in the sixth week of the course which deals with evaluation of information found on the Web. Students are asked to critically read the information found at Websites and the quiz varies from instructor to instructor. Some will assign the Websites while others will give the students the option to choose. Students are then required to critically evaluate the information found in Websites, based on the criteria presented in the lesson in the module on evaluating information found on the Web.

Writing Competency

Evaluation of the students’ Writing Competency was by far the most difficult part of assessment in this course, even before it was revised to embed competencies. The seventh module in the seventh week includes a section on copyright, intellectual property, and plagiarism. It felt appropriate to introduce writing competency in this module. The quiz for assessing this competency, like some of the others, vary slightly from instructor to instructor, but the objective is always the same – to assess the ability of the students to adequately demonstrate what they have read and learned in written standard English, applying all the required elements of grammar and punctuation, in an organized logical sequence.

Since the introduction of the competencies in the spring of 2006, several sections of this course have been taught and the results have been mostly positive. The choice of topics seems to work well and students seem to eventually grasp the relationship of the competencies to the quizzes, as well as their significance to the general education curriculum, although constant reminders are necessary to achieve this. To this end, instructors also post each competency statement in the module chosen and include a brief description and explanation of the competency as well. In addition, there are repeated opportunities for students to ask questions for clarification and many times instructors will grant extensions to complete the assignment or quiz to students struggling with them.
Teaching the Competency-Embedded Course

Instructors in the LISC260 course follow a general format for setting up the course, either the eight-week or the six-week session. We have included (Appendix A) the basic course outline that we have developed for an eight-week session, which all instructors follow.

Besides the five competency-based quizzes, the instructor teaching the course may include additional assignments. We have added a set of suggested sample questions (Appendix B) that we have developed, which instructors can use or adapt for additional assignments.

The first week of the course is spent in classroom introductions. The instructor provides a few readings on basic topics about the Internet and the World Wide Web. The first module posted in the first week deals with basic search mechanisms, subject directories, search engines, and so on.

There is a lecture to introduce the topics for each week’s module, a discussion topic for the week, and an assignment for the week. Ideally, once the instructor has developed the course, its contents should flow smoothly each semester the individual instructor teaches the course. However, as those of us who have taught online or onsite know, there is constant “tweaking” necessary as links disappear, hot topics become passé, and new ideas, methodology, and technology appear like magic. Also mandatory for online courses is the need for clear instructions – one cannot “wing it” online – as the material must be uploaded well in advance of opening the module for students to view. While teaching styles, interests, and emphasis differs from one individual to another, all instructors have made the effort to be consistent in the “competency added” components of the course.

As mentioned, the students are informed at the beginning of the course that there is a competency component to the class. Expanded explanation of each competency, as introduced into the course, appears under “Course Documents.” Brief explanations for the competency being tested are also given in the instructions for the quizzes and weekly assignment. For the Critical Thinking competency, students are asked to select a topic such as pollution, global warming, electronic surveillance, and so on, and review the issues on or related to, the selected topic. Then students are asked to:

- put the topic in context (historical, world significance, and so on)
- identify at least three positive and three negative issues on the topic
- identify spokespersons for and against the issue
- give a personal stance on the issue

The answers could be short but must be clearly stated. Once the topic is chosen, a student may continue to use the chosen topic for additional assignments in the competency component or other class assignments.

The second competency is Information Literacy and the topic chosen for “Critical Thinking” is further researched. The quiz and assignments for this competency asks students to:

- find resources (articles in journals, magazines, or newspapers in databases subscribed to by Mercy College Libraries) on their topic
- find books on their topic using “WorldCat”, “Book Index and Reviews”, or in the Mercy College Libraries’ online book catalog, followed by researching for a review of the selected book
- evaluate each of these sources, rating them on a scale of 1 to 5 – from “very” useful to “not” useful
- cite the selected sources in MLA or APA format

As part of basic readings for the course, students have been introduced to and given assignments on Internet Basics, Information Storage Systems and Search Strategies, Online Catalogs, Indexes, Databases and Using the Web for Research. The Information literacy competency has been introduced and incorporated into the ongoing weekly online lectures or lessons as well as separated out for very specific quizzes and assignments.
The third competency, Quantitative Reasoning, uses the “CountryWatch” database. Typically, students are asked to:

- choose two to four neighboring countries
- select a five year time frame
- collect data on three to four variables on each country within the given time frame
- download the data
- interpret the changes and note trends within the country
- compare changes and trends between the countries

“CountryWatch” database displays the data in a table format and also puts it in an Excel spreadsheet that is downloadable. Almost all students do a good job of analyzing the data. Working with students from halfway around the world has been very informative. Their opinions and interpretations of the data in the quantitative reasoning assignment are usually very interesting. Sometimes they will challenge the data and bring in other resources to support their claim.

Besides the competency quiz on evaluating information found on the Web, a typical assignment for the Critical Reading Competency is analyzing an article chosen by the student or selected and posted online by the instructor. Students are asked to state:

- the subject of the article
- what the author is saying about the subject
- the main idea/s
- support for the main idea/s

Next, students are asked to:

- state at least two facts in the article
- provide support for the facts
- list at least two opinions given in the article
- give the author’s conclusion/s
- define some of the subject-specific or topic-specific words from the article

Instructors teaching the course have found that students may read and understand the information found in an article or a Website, but reading the information critically and evaluating it does not always come easy for students who are non-native English speakers. Instructors often have to judge what the student is trying to convey based on the student’s participation in the discussions forum and other private course-related e-mail communications.

Last, but not least, is the Writing Competency. Like critical reading, written communication poses extreme difficulty to the overseas student population because of the expected English language skills required. This skill, of course, had been part of the assessment from the onset – either in the regular assignments, in the competency-based quizzes, or in the discussion topics – as short answers, paragraphs in discussion postings, descriptions or opinions, and so on. As part of the writing competency quiz, students are asked to write a short essay based on a reading. Here, there is latitude for instructors in the selection of the reading but the essay guidelines are clearly defined. The student must:

- have a thesis statement (agreeing or disagreeing with the position taken in the article)
- develop the position with at least three points
- support the stance with quotations from the reading or another source
- come to a conclusion

Proper English, spelling, grammar and correct citing is required. The greatest challenge for the instructor is proving beyond a reasonable doubt that the writing is truly that of the student presenting it, since there are
not too many prior writing samples to draw from. The student’s discussions postings help, but there is often some disconnect – sometimes a huge disparity – between the tone and language of the student’s discussions postings and the almost flawless essays presented for assignments and quizzes. It is indeed interesting to note the variations in the writings depending on the context. Writing in the discussion area may be in “broken” English, short answers may be very “choppy”, but answers to the writing competency quiz and assignments are almost always very well put together. Instructors have to frequently make the painful decision of either accepting the work as that of the presenter, or going through impossible lengths to prove otherwise. Translating and the use of translators and translating programs by students are always issues which instructors face, be it an online or an onsite course.

As with any online course, finding the fine line between staying in the background and acting as a moderator and facilitator so that the discussion takes a natural course, interrupting discussions to make a point, to commend a good message, or to reprimand rudeness, requires effort on the part of the instructor (Shannon & Henner, 2002).

Conclusion

The course, LISC260 – Using Electronic Resources for Research, is a continuous learning experience for us. The inclusion of competency assessment into the course has been an interesting challenge. While almost all of the competencies are addressed and evaluated throughout the course, pulling each one out, integrating them into the topics discussed in the modules, and assessing them separately has been interesting and has heightened our awareness of the skills employed in specific class assignments and quizzes.

One downside has been some compression of the original course content and class discussion to make room for embedding the competencies. This is more keenly felt in the shorter summer semester’s six-week sessions. On the other hand, students have commented, upon completing the course, that while the main focus was finding electronic resources for research, studying the five competencies within the course was like a “course in a course”. Several students have commented that the seamless way in which the competencies were introduced and integrated into the course modules made them understand and relate to the course content better.

Mercy College is expanding its international student body. New agreements are being negotiated with cohorts from Israel, Turkey, and London Guildhall College in the U.K., to name a few. The College is also investigating opportunities in Guatemala, Netherlands and Belgium, but nothing has been finalized yet with these populations. The course, LISC260 – Using Electronic Resources for Research, will be a required course for these new cohorts of students, for the time being. Assessing core competencies for students whose native language is not only not English, but as different as Arabic, Hebrew, Spanish, and Turkish, will be an interesting challenge.
References


Appendix A

Mercy College Libraries
LISC260 – Using Electronic Resources for Research
Course Outline

Internet Basic*
1. Introduction
2. History of the Internet
3. Browsers – Netscape & Microsoft Explorer
4. Glossaries

Module I: Search Mechanism
1. Subject Directories
2. Search Engines – First and second generations
3. The Invisible Web
4. Discussion Topic for Week I

Module II: Developing Search Strategies
1. Boolean versus Natural Language Searching
2. Boolean with Keyword Searching
3. Phrase and Proximity Searching
4. Discussion Topic for Week II
5. Critical Thinking Competency**
6. Quiz I

Module III: Library Catalogs Online
1. Mercy College Libraries’ Catalog
2. Local Library Catalogs
3. WorldCat
4. Library of Congress Catalog
5. E-books
6. Discussion Topic for Week III

Module IV: Indexes & Databases
1. Indexes available on the Mercy College Libraries’ Website
2. Full-text Databases available on the Mercy College Libraries’ Website
3. Other Fee-based Databases on the Internet
4. APA and MLA formats for citing Resources
5. Discussion Topic for Week IV
6. Information Literacy Competency**
7. Quiz II

Module V: Using the Web for Research
1. Business Resources
2. Health Information
3. Social Sciences Resources
4. Education and Others
5. Discussion Topic for Week V
6. Quantitative Reasoning Competency**
7. Quiz III

Module VI: Evaluating Websites
1. Criteria for Evaluating Websites
2. Discussion Topic for Week VI
3. Critical Reading Competency**
4. Quiz IV

**Module VII: Miscellaneous Topics**
1. E-mail, Usenet Groups, Wikis, Weblogs, & Listservs
2. E-business
3. Security of Information on the Internet
4. Copyright, Intellectual Property, & Plagiarism
5. Discussion Topic for Week VII
6. Writing Competency**
7. Quiz V

**Module VIII: Course Wrap Up**
1. Discussion for Week VIII

* Readings will be assigned to cover these topics on ERes, as an introductory content page on the course page, etc.

** Competency Statements as outlined in the Mercy College Undergraduate Catalog will be posted.
Appendix B

Mercy College Libraries
LISC260 – Using Electronic Resources for Research
Sample Questions for Short Assignments

Critical Thinking

1. Using a Venn diagram, do the following:
   a. Explain in your own words, your understanding of Boolean logic
   b. Using AND, OR, and NOT, compose three search statements on your topic to demonstrate
      your understanding of Boolean logic

2. Choose two of the full-text databases available on Mercy College Libraries’ Website, and do the
   following:
   a. Explain what you think are the strengths and weaknesses of those two databases
   b. Do they employ Boolean logic? How do you know?
   c. Do you think they could improve their search methods? How?

3. Why do you think academic libraries, despite the proliferation of the Internet and its massive amount
   of free information, still need to subscribe to expensive databases?

4. What do you think would be the consequences if all search engines were created equal (same
   algorithms, same search strategies, etc.)?

5. Go to “ProQuest” database, retrieve (for example) the 2005 full-text article by (John Doe), and do the
   following:
   a. In your own words, summarize what the author is saying
   b. Do you agree with his/her hypothesis? Why do you agree/disagree?
   c. What do you think would happen if everyone thought like that?

Information Literacy Competency

1. Do a search on the topic using a search engine and two appropriate databases on Mercy College
   Libraries’ home page. Use the same search statement for both the search engine and the databases. Did
   the search engine or the databases give you better results? Pick two articles from the database search
   and two Websites and cite the four sources using the APA/MLA format.

2. Choose a scholar or a researcher in the field. Find a biography of the person, two articles by or about
   the person. Find one or two books the person has authored or edited. Cite the sources using the
   APA/MLA format.

3. Career information – Find an encyclopedia, a reference book, one newspaper article, one journal
   article, and one association Website on a career in the field. Cite the five sources using the APA
   format.

Quantitative Reasoning

1. Choose two countries, one developed and one underdeveloped. Find two research articles, one on each
   country, with statistical data that relate to the topic you are investigating. Compare and contrast the two
   countries using this statistical information.

2. Choose a natural disaster, for example Hurricane Katrina, the eruption of Mt. St. Helens, the Tsunami,
   etc., and discuss the impact it had as it relates to your topic, quoting statistical data to illustrate.

3. Pick a social issue in your topic area and find an original research study. Summarize the article using
   the scientific method of introduction, methodology, results and conclusion. Include discussion of
   independent and dependent variables.
Critical Reading

1. For this assignment you are asked to read two research articles that relate to your topic and answer the questions given below for each article. (Instructor may specify which articles the students will read, place articles on electronic reserve, post the articles in the course, limit the choice of topics, specify criteria for selecting articles, and so on.)

Questions:

a. Give the title of each article.
b. In each article, what are the authors saying about the topic.
c. Give the main idea(s) of each article with at least one supporting idea for each of the main idea(s).
d. List at least two (2) facts given in each article and provide support of the facts.
e. List at least two opinions expressed in each article.
f. In each article what does each author conclude?
g. What is the point of view of each author? – could be supportive, biased (slanted to support a side), negative, or positive. Give two examples to support your answer.
h. Write a summary or outline of each article, highlighting the key issues each article deals with, using the data presented.

2. You will examine the site http://en.wikipedia.org/wiki/Main_Page and read what it is about and answer the following questions:

Questions:

a. Explain what exactly “Wikipedia” is.
b. In what way does it differ from traditional printed dictionaries, thesauri, and encyclopedias?
c. Choose three words in each of the above articles that relates to the topic of the article and find the meaning of the words.
d. Write an essay presenting the arguments for and against Wikipedia and give your conclusion as to the value of Wikipedia as a reference source.

Writing

Topic 1: Free Speech vs. Internet Security


You will be using the Public Agenda Website to compose a short essay that tests your English writing competence. The Public Agenda site presents both a general overview of issues related to free speech, privacy and security on the Internet as well as providing a link to a Discussion Guide, which provides balanced pro and con viewpoints.

For the essay you will need to argue a position regarding regulation of content on the Internet. You may choose to be either for or against regulation or you may choose a position somewhere in-between. Your answer must be at least 600 words (two double-spaced word-processed pages) and must be supported by information taken from the Public Agenda site. You should begin with an introductory paragraph and finish with a concluding paragraph and have at least two supporting paragraphs in-between. You will be judged on how well you identify and formulate a position (often called a thesis statement and usually found at the end of the introductory paragraph), how well you organize your ideas effectively and develop them into a logical paragraph structure and how well you support your position with specific evidence from the Website.
Needless to say, you will need to demonstrate a command of accepted English sentence structure and grammar, including attention to punctuation and appropriate vocabulary.

Topic 2: Evaluating Websites for Authority

Johns Hopkins (http://www.library.jhu.edu/researchhelp/general/evaluating/index.html)

You will be using the Mercy Libraries’ suggested Web page for evaluating Internet resources entitled *Evaluating Information Found on the Internet*, produced by Johns Hopkins University, to compose a short essay that tests your English writing competence. The article provides a concise and in-depth analysis of the primary reasons why information on the Internet should not be trusted at first glance. More importantly, it provides guidelines and skills to enable you to evaluate information you find on the Internet. Please read the article carefully.

For the essay you will first need to select a Website discussed in any of the course modules. Then you must apply the lessons and skills learned in Evaluating Information Found on the Internet to that Website. Your resulting essay must be at least 600 words (two double-spaced word-processed pages) and must be supported by information taken from the article. You should begin with an introductory paragraph and finish with a concluding paragraph and have at least two supporting paragraphs in-between. You will be judged on how well you identify and formulate a position (often called a thesis statement and usually found at the end of the introductory paragraph), how well you organize your ideas effectively and develop them into a logical paragraph structure and how well you support your position with specific references from the Website. For this essay your thesis statement must identify the Websites you have chosen to study and state your position (whether the Websites conforms, does not conform, or conforms partially to the Johns Hopkins guidelines.)

Needless to say, you will need to demonstrate a command of accepted English sentence structure and grammar, including attention to punctuation and appropriate vocabulary.
Establishing a Baseline: History, Evolution and Evaluation of Grand Valley State University’s Off-Campus Library Services

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Abstract

The model replacing a dedicated OCLS unit was one of having librarians provide services to both on- and off-campus students and faculty within their liaison disciplines. A year after this model was implemented, faculty in subjects taught both on- and off-campus were surveyed to assess their awareness of library resources and whether this impacted course assignment design. Findings from this survey, and a planned review of off-campus course syllabi, will help identify areas of concerns and lead to ways to strengthen awareness and usage of library resources.

Background

Grand Valley State University, located in West Michigan, is a comprehensive liberal arts university with a 2006-07 total enrollment of 23,295 students (Grand Valley State University, 2007). During 2006-07, 8,019 class sections were offered, of which 462 were held at 18 off-campus locations throughout the state (P. Batty, personal communication, December 14, 2007). Undergraduate and graduate courses in education, business, liberal studies, social work, public administration, and business administration are offered off-campus. The number of locations hosting classes varies from semester to semester, and includes sites offering one course a semester for a cohort group to two regional sites where students can complete their entire degree.

Fewer than 300 off-campus classes were offered preceding the 1995-96 academic year (P. Batty, personal communication, December 14, 2007). Before 1995, Off-Campus Library Services (OCLS) consisted mostly of interlibrary loan, limited access to a handful of databases, and a catalog that was difficult to use outside the main library. There was no coordinated program of library instruction. If students needed library assistance, they telephoned long distance or visited in person.

In 1995, a librarian was hired to oversee circulation and develop OCLS. As OCLS expanded, circulation responsibilities were assigned to another librarian and a three-quarters time librarian was hired to assist with OCLS. OCLS also provided services to students participating in instructional television courses (ITV). Both OCLS librarians also held liaison responsibilities on-campus (A. Merkle, personal communication, December 10, 2007).

OCLS grew rapidly. The two librarians identified and visited sites to provide library instruction and trouble shoot the many technical issues inherent with off-campus access to databases and other library resources. A toll-free telephone number and virtual reference services via e-mail and chat were established. Improvements to interlibrary loan/document delivery and database access were made. At its peak in 2002-03, GVSU’s OCLS provided 117 instructional sessions reaching over 2000 students. There were 631 course sections held in 20 locations during that academic year (Schichtel, 2005).

By 2006, OCLS was well established and most issues regarding off-campus access to library databases and other resources had been resolved. That same year the GVSU libraries underwent a massive reorganization. Every aspect of library services was scrutinized, including OCLS. In order to serve all students most equitably and effectively with a limited number of librarians, it was decided that subject liaison librarians would serve both the on- and off-campus students and faculty in their disciplines, rather
than having an OCLS unit. The 2005-06 academic year was the last in which there were designated OCLS librarians.

Beginning in the 2006-07 academic year, most bibliographic instruction offered at off-campus sites occurred during a defined time frame each semester. This model was established to minimize travel and other costs involved with having instruction at a distant site. The initial plan was to rotate the off-campus instruction among teaching librarians, but in practice two librarians whose liaison areas represent the majority of off-campus course offerings have been providing nearly all instruction.

Review of the literature

With the emergence of the Internet, libraries are relying on electronic resources more now than they have in the past and in that respect, it has made having access to the library off-campus easier for those who teach. As was shown in the Cassner and Adams survey of distance-administrators (2004), libraries continue to expect an increase devoted to online resources. Location, time, and other physical constraints are becoming lesser obstacles for off-campus faculty. Personal computers, access to the Internet, and the plethora of online resources have made distance education possible for those who are not able to take classes on-campus (Jerabek, McMain, & Van Roekel, 2002). The issue at hand is how librarians can help off-campus faculty recognize that the library resources available to them can enhance their course work and assist their students in being better prepared for their assignments.

Shaffer, Finkelstein, Woelfl and Lyden (2004) concluded in their study of distance education faculty that the second biggest barrier off campus faculty face is their lack of awareness of library support. Even if faculty members are aware of library resources, it does not imply they are going to use them, or direct their students to use library resources for research purposes. According to Markgraf (2002), studies show students are more apt to use library services only when they are required to do so.

Concerns off-campus faculty face regarding library services range from giving up classroom time for library instruction and copyright issues to more technical concerns such as continually changing technology, technical support to assist in troubleshooting resources at a distance, and proxy access to online library resources (Hines, 2006). Another concern is the speediness of delivery of library materials (Hines). Off-campus faculty members appreciate full-text online resources because they minimize the difference between on-campus and off-campus access. Hines also suggests that library guides/handouts for courses are useful, along with online tutorials and orientations for faculty.

The library may be the heart of the university, but it is not often incorporated into courses being prepared for distant education (Lebowitz, 1997). Additionally, a significant misconception shared by both on- and off-campus faculty is that students possess the necessary skills to conduct the research required for their course (Lebowitz, 1997). Effective collaboration requires librarians to build and nurture relationships with faculty to market services (Markgraf, 2002) and to help faculty recognize that students may not overestimate their research skills. It is the responsibility of the off-campus librarian to develop on going communication with faculty and to make a commitment to provide materials and support to the off-campus community (Lebowitz, 1993).

The primary mission of the academic library is to support the curriculum of its parent institution. Librarians are therefore faced with certain challenges in order to meet this mission: the continuing or adapting of library services, establishing new delivery methods to the off-campus community and coming up with new ways to provide service to this community (Jerabek, McMain, & Van Roekel, 2002). According to Ruddy (1993), there are series of questions librarians should ask themselves:

What expectations might the instructors in off-campus programs have for their student’s knowledge and use of the library? What perceptions do the students in these programs have of the services that are available to them? What level of satisfaction do these students express with regard to the services they receive? What expectations might the libraries themselves have of the faculty understanding of a modern electronic library? (p. 228)
What faculty and students need and want do not always mesh with librarians’ perceptions. Librarians need to accept that they will never satisfy every faculty member or the students (Ruddy, 1993). Librarians need to be more proactive about the role that the library plays in its commitment to the off-campus community. Otherwise library services are just going to be taken for granted, meaning faculty either will require library research for their courses or just assume their students have the necessary skills needed to conduct the research that is required for the course. Additionally, off-campus faculty need to recognize that the inability to access adequate library resources places their students at a disadvantage and by collaborating with a librarian, this will only enhance their students’ academic careers (Lebowitz, 1997).

Methodology

Grand Valley State University has two primary campuses: its main campus in Allendale, Michigan, and the Pew Campus in downtown Grand Rapids. In addition to these campuses, GVSU offers distance education opportunities at several locations in Michigan including, but not limited to, the cities of Holland, Traverse City, Muskegon, Boyne City, Sault Ste Marie, Battle Creek and Cadillac. The sites are primarily located in West Michigan and range from a half an hour to five hours away from the Allendale campus. Courses at the Holland and Traverse City locations are held in buildings shared by GVSU and other universities. Courses at other sites are conducted at area intermediate school districts, and high schools. These sites tend to be more challenging, in that there are often technical limitations (firewalls, lack of computer lab access and technical support) and none or little space for reserve print materials.

The university libraries’ restructuring in 2006 resulted in the dissolution of the dedicated off-campus services unit. After a year under the newly distributed model for distance library instruction, the libraries were interested in discovering the impact this reconfiguration had on off-campus faculty. Establishing a baseline to assess faculty awareness of library services could help efforts to improve existing services by way of suggestions from faculty.

Toward the end of fall semester 2007, the GVSU libraries surveyed faculty in the four departments that offer distance education opportunities for GVSU students. The College of Business, College of Education, Liberal Studies Department and the School of Social Work offer courses at one or more distance education sites around Michigan. After receiving approval for the study from the university’s Institutional Review Board, permission from the dean or chair of each department was obtained to contact their faculty on a one-time basis for the survey.

Since they possess the most current faculty e-mail address lists, administrators in each department assisted with distributing notices pertaining to the survey. A preliminary e-mail created by the study team was sent to faculty by department administrators a week ahead of the actual survey to alert them to the upcoming survey. The following week another e-mail, also created by the study team, was sent by department administrators to their faculty. This e-mail included a link to the survey, which was hosted on SurveyMonkey. The survey was available for 15 days for respondents to participate.

All teaching faculty in the disciplines mentioned above were invited to participate in the survey. This allowed us to broaden our response base while assessing any disparity in awareness of library resources between those who teach solely off-campus and those who teach at the primary campuses.

The survey was comprised of 15 questions, of which three triggered follow-up responses for a possible total of 18 questions that fell into the following categories. [Please see Appendix A for the entire survey]

- Importance of library instruction
- Importance of accessible print and electronic resources and alternatives
- Importance of library services
- Demographic faculty information
- Feedback and the opportunity to leave contact information
In asking faculty whether they felt library instruction was a significant component to a course, we sought justification as to why an instructor felt it was not important for students. A comments section was available for instructors to express their disinterest in having a librarian come to their classroom.

A concern for GVSU libraries is a lack of print materials available for students and faculty at distance education sites. Although space exists to house a small amount of print materials at each location, logistical barriers for access exist. Students have access to public libraries, but northern Michigan lacks a large university to subsidize students’ research needs. Document delivery allows students to receive materials at their home address however this requires advanced planning in order to obtain materials in a timely manner. Consequently, a question was created to ask instructors where they referred students to find information.

To overcome the barrier of distance, GVSU offers an array of online reference options including chat, e-mail, free document delivery, citation management software, course reserves as well as the more traditional telephone reference via a toll-free number. Survey questions pertaining to these services sought to gauge awareness as well as effectiveness of current marketing techniques, on- and off-campus. Faculty members were asked to which services they were familiar, how they learned about our resources, if their needs and expectations were being met, and how efforts could be improved to promote resources and services.

Demographic information was obtained to provide the specific department, level of education, number of semesters taught at GVSU, and whether the faculty participant taught solely on-campus, off-campus or both.

Finally, instructor feedback and the opportunity to leave contact information concluded the survey. Throughout the instrument, opportunities for faculty to explain their rationale were offered. These sections allow a glimpse of qualitative data in an otherwise quantitative study.

**Findings**

Of the 350 faculty contacted to participate in this survey, 43 completed it in its entirety for a total response of roughly 12%. The most responses were submitted by business faculty, followed by education, liberal studies, and social work faculty. (See Figure 1) More than 75% of the respondents taught exclusively on the university’s main campuses, and less than 3% taught exclusively off campus.

![Figure 1. Survey responses by program.](image)

Suspicions immediately arose when it was found that the number of education faculty responses was fewer than those from the business faculty. Upon investigation, it was discovered that adjunct education faculty members were inadvertently omitted from the e-mail inviting participation in the survey.
As almost 60% of all education faculty and nearly all of off-campus education faculty are adjunct faculty, their omission from the study pool is highly significant. Consequently, findings from this study are incomplete.

However, the responses received were still of interest. More than half of the respondents indicated they had not had library instruction for their classes. Of those responding that they had not had library instruction for their classes, half indicated that they felt their classes would benefit from instruction.

Why, then, have these faculty members not inquired about arranging for instruction? This is an area for further investigation; however, it is possible that time constraints or unawareness of library instruction contributes to this situation.

The respondents who indicated their classes would not benefit from library instruction were then asked why. Responses fell into the following areas:

- research papers were not required
- the instructor provided library instruction
- time constraints
- assumption that students had already had library instruction
- student feedback on previous library instruction indicated it was not beneficial

When asked if their students were required to use library resources to complete assignments, roughly 70% stated they did.

Faculty members were asked to rank sources to which they refer students. The majority chose the university libraries’ resources, followed by other Internet resources, public libraries, and “other.” Those choosing “other” were asked to identify what those sources were. Specific resources, such as the World Factbook, The Economist, and government resources were mentioned, but it was apparent the question was misunderstood because some respondents cited “online databases.” The university libraries license over 300 databases, to which off-campus students and faculty have access via a proxy server. However, limitations at some off-campus sites—such as firewalls, outdated equipment, and intermittent Internet connectivity—prevent students from accessing these resources. Additionally, while having classroom faculty provide instruction on library resources can be beneficial, resources are frequently updated and it is questionable whether instructors are aware of changes.

Awareness of resources and services offered by the libraries was another area of interest for this study. For the most part, faculty participants were aware of library databases, the library catalog, electronic course reserve, free document delivery, and the ability to e-mail librarians. Just over half were aware that the library offers “chat” reference services and access to the bibliographic management program RefWorks. Most indicated that they were not aware that the library has a toll-free telephone number.

Most faculty learned of library services from library instruction sessions or the library Webpage. Faculty colleague awareness of library resources attributed to their knowledge as well. New staff orientation and their own discovery were also mentioned. (See Figure 2)

GVSU uses the Blackboard course management system. Just over half of the respondents indicated an e-mail link to a librarian directly from their Blackboard course page would be useful. Seventy percent of respondents felt student access to the libraries’ electronic resources was important or very important. About 30% indicated it was helpful but not necessary, or not important at all.

Practically all indicated that they directed students to the university libraries for print materials. Access to print resources was not considered nearly as important as having access to electronic resources; just over half indicated print resources were helpful but not necessary or not important at all. However, over half felt having access to a physical library to be important.
Figure 2. Where faculty members receive information about the library.

Nearly 75% of the respondents taught for the university prior to the OCLS unit being disbanded, so it is possible they were aware of library services through the efforts of that unit.

**Discussion**

A major problem affecting the results of this study was that education adjunct faculty did not receive the invitation to participate in the survey, and consequently did not take it. Adjunct faculty members comprise nearly 60% of all education faculty, and as education is the largest off-campus discipline, this omission was significant. In order to provide meaningful and useful data, the survey will be extended to this group during the winter 2008 semester.

Despite this shortfall, the current survey results are useful. The data indicate that the majority of faculty, both on- and off-campus, are aware of most library resources and services. It is possible that the positive response from off-campus faculty could be attributed to efforts of the former OCLS unit.

In accordance with ACRL’s Guidelines for Distance Learning Services (2004), there is a need to revisit the libraries’ long-range goals for distance education programs in keeping with the university’s vision of the role distance education plays within the institution. Aside from assessing current experiences with library services, an evaluation of the role the library played for our alumni or a succinct survey at the end of a student’s capstone class should help focus efforts and services. Exploration of specific means of promotion geared toward distance education students, faculty and staff with the aid of the university’s Institutional Marketing department will impact how the library is perceived as well as increase awareness of our services.

GVSU offers a link specific to off-campus students and faculty from the library homepage. Limitations with current software and the subscription to a new Web-based service are leading to the development of a more robust Website to serve this community. A study by Nicolas and Tomeo (2005) found that the most helpful distance education gateways were those that reflected an understanding of remote users’ needs and the fact that they would unlikely visit the physical library.

Reestablishing the presence of a librarian in Blackboard course pages (the course management system) will work to promote library resources while keeping the librarian informed of course expectations, assignments and the use of information whether housed in a library, on the Web or elsewhere. This practice
was the coordinated effort of the previous off-campus librarians, the IT department and the Distance Education office. In maintaining this link, a librarian plays a more prominent role for students. Boadi and Letsolo (2004) wrote:

inaccessibility of library materials and resources on account of distance, insufficiency and irrelevance of some of the available library materials and services, and inadequate course materials These difficulties have caused them to look for information from other sources that were readily available but not necessarily the best or the most accurate. (p. 197)

The Blackboard presence also helps the librarian stay in tune with the instructor’s needs and improves the librarian’s ability to suggest relevant sources of information. Coupled with new technologies such as a Meebo widget for chat service, the existence of a librarian in this arena can prove to be beneficial for all parties.

Clearly strengthening partnerships with the university’s continuing education department, which administers off-campus programs, could serve to better inform off-campus faculty and students of library resources. Their and the site coordinators’ assistance in publicizing the library is essential in the absence of a dedicated OCLS unit. The survey conducted by Stockham and Turtle (2004) also demonstrated the importance of publicizing services and partnering with a the dedicated continuing education department. The existence of this section on-campus is a resource that should be exploited, as Yang’s (2005) survey discovered, “lack of a central office on campus for distance education programs is another obstacle for distance education librarians who try to reach out to the users” (p. 95). Along with communication to the distance education office, communication with department coordinators is imperative to maintain up-to-date mailing lists to account for any change in faculty. A consistent means of contacting faculty more often helps cope with an oft-changing adjunct faculty body.

Due to the multi-purpose function of many off-campus sites, an effective online library presence is paramount. Whereas flyers and posters still have a place for promoting services, keeping students and faculty informed of new library developments can take on many forms from the afore-mentioned Blackboard link, departmental listservs, mass e-mails and blogs, all of which are being adopted by many libraries. However, creating such services is virtually fruitless if information is left to become stagnant or the updates become lost on a Web page. RSS feeds linked to a library or subject specific blog alert the users to changes, additional resources, podcasts, workshops, etc. Forays into social networking sites are not uncommon but whether these attempts to reach students are relatively unknown. Again, these concepts are nullified if the only audience is other librarians. Effective marketing and collaboration with faculty to make these types of resources known to the academic community are necessary for users to subscribe and take full advantage.

Inasmuch as these services benefit the entire university community, GVSU offers specific services for off-campus students and faculty. In locations where other academic institutions are just as far away from the student as their enrolled institution, academic resources can be difficult to come by. Through localized services such as book delivery to a home address and document delivery, students are able to overcome some of the disadvantage that is inherent with distance. By partnering with area public libraries or the coordinating site, return delivery minimizes the relative cost to the student, who must pay the cost of time spent waiting for materials.

Whether it is called bibliographic instruction, library instruction, research sessions or something else, personal instruction is still an effective means to promote library services. By providing students with a visual experience to library resources, librarians in the classroom or lab give students and faculty a face with which they can identify. The librarian is able to customize instruction, emphasize resources such as toll-free telephone numbers, chat, reference and specific tools like the catalog or databases to maximize relevance to the class. In gaining the trust of the instructor, a relationship develops between classroom faculty and librarian, providing one of the best means to relay services and bridge the distance gap that distance education students and faculty face.
References


Appendix A

Assessment of Off-Campus Faculty Awareness of Library Resources and Services

1. Have you had a GVSU librarian provide your class with library instruction?
   [ ] Yes
   [ ] No

2. Do you feel your class would benefit from library instruction?
   [ ] Yes
   [ ] No

   If you do not feel your class would benefit from library instruction, please explain why.

3. Do you require students use library resources to complete their course assignments?
   [ ] Yes
   [ ] No

4. Please rank the sources to which you refer your students.
   [ ] GVSU library
   [ ] Public library
   [ ] Other Internet resources
   [ ] Other

   If you chose "Other Internet Resources" or "Other" as your first choice, please tell us what those sources are.
5. Are you aware of the following GVSU Libraries resources that available to you and your students? *(please check all that apply)*

- [ ] toll-free phone number
- [ ] e-mailing librarians
- [ ] “chatting” with librarians
- [ ] course reserve
- [ ] free document delivery (including interlibrary loan)
- [ ] library catalog
- [ ] library databases, including online journals
- [ ] RefWorks

If you checked any of the above, please tell us how you learned about the service. *(please check all that apply)*

- [ ] GVSU faculty colleagues
- [ ] library instruction
- [ ] library Web page
- [ ] off campus staff
- [ ] newsletters or flyers
- [ ] Other (please specify)

6. Would it be useful for your Blackboard course page to have an e-mail link to a librarian? *(please choose one)*

- [ ] Yes
- [ ] No
- [ ] Not sure

7. How important is students’ access to electronic (online) library resources for your course assignments? *(please choose one)*

- [ ] very important
- [ ] important
- [ ] helpful but not necessary
- [ ] not important
8. How important is students’ access to print library resources for your course assignments? *(please choose one)*

- [ ] very important
- [ ] important
- [ ] helpful but not necessary
- [ ] not important

9. Do you feel access to a physical library is important for your students? *(please choose one)*

- [ ] very important
- [ ] important
- [ ] helpful but not necessary
- [ ] not important

10. Where do you direct your students for print materials? *(please check all that apply)*

- [ ] GVSU libraries
- [ ] their local public library
- [ ] Other (please specify)

11. What is your highest earned academic degree?

- [ ] Bachelor’s degree
- [ ] Master’s degree
- [ ] Additional coursework beyond a master’s
- [ ] PhD or EdD

12. In what academic discipline do you teach?

- [ ] Business
- [ ] Education
- [ ] Liberal Studies
- [ ] Social Work
13. How many semesters have you taught for GVSU?

☐ one
☐ two
☐ three
☐ four
☐ five or more

14. At which locations do you teach your classes?

☐ The main campuses (e.g., Allendale, DeVos, or CHS)
☐ Only off-campus (e.g., Holland, Traverse City, Muskegon)
☐ Both on the main campuses and off-campus locations

15. Please provide us with any feedback that may be useful in assisting us to plan library services to off-campus faculty and students in the future.

(optional)

Would you like us to contact you? If so, please provide the following information:
name _________________________________________________
e-mail _________________________________________________
phone _________________________________________________
courses currently teaching _________________________________
course location(s) ________________________________________
Building A Virtual Campus: Librarians as Collaborators
In Online Course Development and Learning

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Abstract
In 2001, the Saskatchewan Institute of Applied Science and Technology (SIAST) Libraries began an informal partnership with the college’s online course development unit: the Virtual Campus. What initially began as a relationship based on the traditional reference model has continued to evolve. Librarians now act as integral team members in course design and delivery, along with providing information literacy instruction. This paper discusses the evolution of SIAST Libraries’ relationship with the Virtual Campus and presents a model of the collaboration that has taken place. Additionally, it describes how this relationship has impacted the role of SIAST’s librarians as well as improved communication with and services for off-campus students and faculty.

Introduction
The Saskatchewan Institute of Applied Science and Technology (SIAST) is the province of Saskatchewan’s primary public institute for skills training and technical education. With four campuses located across the province, as well as partnerships with local regional colleges offering SIAST courses and an extensive range of distance education offerings, SIAST has more than 11,000 students enrolled in its programs and draws more than 29,000 additional individual registrations. About half of SIAST students come directly from high school or other post-secondary institutions and half come from the workplace. Academic divisions include; Agriculture, Applied/Visual Media, Community/Human Services, Engineering Technology, Health Services, Hospitality/Food Services, Industrial/Trades, Natural Resources, Nursing, Recreation/Tourism, Science, and Technology.

SIAST Libraries has become a dynamic library system in response to this diversified learning environment. There are slight differences in the academic programs offered at each of the four SIAST campuses, which means every library is somewhat specialized in the resources and assistance it offers to particular courses of study. Each campus has its own library with staff providing a consistent level and range of library services to students and faculty, regardless of location. Off-campus students are served by the SIAST Libraries Website, including a Distance Education section, a virtual chat reference service, and full off-campus access to online resources, including databases, e-books, and streaming video. The well-developed library instruction program at SIAST is directed by a team of 11 librarians, and increasingly aims to reach off-campus students, both online and in-person. Online tutorials concerning the use of various library tools benefit off-campus learners, as does contact with a librarian who manages SIAST Libraries’ Distance Education portfolio.

Literature Review
Much has been written on the subject of librarians as collaborators in the post-secondary environment, particularly as it relates to working with faculty. The majority of literature has focused on how to build relationships with faculty that will positively impact students and further the role of academic librarians. More traditional forms of collaboration with faculty have involved the provision of “one-shot” instruction sessions, or helping to develop a class project based around information literacy concepts. Oftentimes this project has already been planned by the faculty member, and the assigned librarian works to find a way to integrate influence, such as through a guest lecture, introducing the class to database searching, or marking a bibliography. What has largely been absent in these discussions is the idea of collaborative evolution. This refers to the ways that librarians can build connections across campus that
can over time develop into more expansive projects that will involve and impact more members of the campus (and off-campus) community.

The influence of Bell and Shank’s (2007) vision of the “blended librarian” has led to an awareness of the need to focus on collaboration outside of the traditional library-faculty relationship. The authors identify one of the key needs in blended librarianship as being to “partner and form learning communities with our faculty, instructional designers and technologists, and other staff” (p. xii). These partnerships not only build stronger relationships across campuses, they can also improve the overall quality of library instruction, both its design and delivery. Whether it is through guest lectures, librarian-created curriculum, or collaboration with course designers,

…when we are able to offer something to faculty that clearly demonstrates there is something in it for them, we are far more likely to advance our goal of furthering collaborative activity than if we expect faculty to collaborate with us simply because we think they should. (p. 69)

The same can be said of developing relationships with the web of people who surround faculty. Librarians must determine how plans to collaborate would benefit everyone involved, from graphic artists to instructional designers in online courses, to faculty, and most importantly, students.

Collaboration being done at North Carolina State University between Kim Duckett, Digital Technologies and Learning Librarian, and Dede Nelson, Instructional Designer, in many ways mirrors the work taking place at SIAST, along with the themes of librarian/faculty collaboration, and building partnerships with other colleagues in the post-secondary environment. At North Carolina State, each partner in this online learning experience for graduate students has his or her own area of expertise, whether they are faculty members, instructional designers, or librarians (Nelson & Duckett, 2007 p. 75). It is by drawing on this specialized knowledge that a successful relationship can develop, as each participant has a unique perspective on the various needs of those involved; that of the faculty member, student, or instructional designer (Nelson & Duckett, p. 76). The result of this is a more fine-tuned awareness of the impact of a course when it is seen from all sides. The authors identify foundations for the successful model of collaborative course development. These include; a commitment to the highest quality in course development, teaching, and learning; recognition of individual expertise; trust and willingness to listen; and sense of humor (Nelson & Duckett, p. 10).

SIAST librarians have adopted the above qualities to build a relationship with the Virtual Campus and its variety of team members, including course designers, subject specialists, graphic designers, and faculty. As a result, librarians, over time, have been able to expand their presence in online course development and delivery in a gradual and meaningful way. What initially began as a traditional reference model has evolved so that librarians are integral members of course development teams and increasingly function as instructors in the online environment.

While SIAST librarians are just beginning to develop a presence in course management software, it is the relationship building over the last seven years which allowed the Virtual Campus and the instructors of online courses to be supportive and encouraging of librarian involvement. By building a form of collaboration that has been allowed to change over time, it is one that has strong footing for future endeavors. The provision of library services is bound to change again and again, and this particular collaboration has proved that librarians have the ability to work with flexibility in order to re-invent (or perhaps re-image) their relevancy in new learning environments.

**SIAST’s Virtual Campus**

The Virtual Campus officially began in 2000/2001 when its staff included a director who oversaw a project manager, two course designers, a Website administrator, a faculty trainer, and an administrative assistant. SIAST, and the colleges that preceded it, had offered courses to distance education students for some years via traditional methods such as mailing course packages and audio tapes. It was in the late 1990s that the college began to anticipate the growing demand for online learning options. Saskatchewan is a large province with a dispersed population, including many who live in rural areas. The provincial
government has supported distance learning initiatives, and with improved access for the general public to electronic resources, enrollment in SIAST’s distance education courses has continued to increase each year.

SIAST has defined a goal to offer full programs online, where possible and practical. For example, the Occupational Health and Safety Practitioner Program is now available via distance delivery, as are three New Media programs. The Primary Care Nurse Practitioner program was delivered fully online for the first time in 2005-2006, and in September 2005, SIAST delivered the first online Standard First Aid program in Canada (SIAST, 2006, p. 12). Major concentrations of online course development have been in Nursing, Computer Systems Technology, Health Information Management, Science and Health, New Media, and Business and Entrepreneurial Studies. To date, there have been over 150 courses developed by the Virtual Campus (SIAST Annual Report, 2007, p. 13). In 2006-2007, 128 courses were delivered, with a total of 2973 registrations for online study. In 2007-2008, the Virtual Campus has aimed to develop 36 courses for first time delivery, as well as continuing to work on maintaining the “freshness” and relevancy to nearly 50 existing courses (SIAST Operating & Capital Plan, 2007, p. 61-62). The Virtual Campus is currently overseen by one of SIAST’s Academic Directors, and has a staff of over 30 which includes a publishing coordinator, faculty training supervisor, project manager, media and graphics supervisor, and Website coordinator. Other staff includes such team members as desktop publishers, Web content editors, course designers, and graphic artists.

The courses designed by the Virtual Campus are interactive and unique. From their own homes, students have the opportunity to watch medical surgeries, learn how to prepare for hospital procedures, and watch videos that document the experiences of actual health workers. The Virtual Campus and the SIAST Nursing Divisions received two CADE (Canadian Association of Distance Education) Awards for Excellence in Instructional Design, in 2004-2005. The winning courses, NURS 246 (Surgical Equipment) and NURS 114 (Interpersonal Relationships) allowed students to upgrade their skills without having to re-enter the classroom. Virtual Campus also won the inaugural Campus Saskatchewan Award for Collaboration for NURS 114 (Interpersonal Relationships). The development team of thirteen individuals was recognized for this achievement, and included two SIAST Librarians.

**Librarian / Virtual Campus Collaboration**

In the early years of this partnership, librarian participation in the Virtual Campus centered upon a traditional reference model. Librarian involvement at this time was based largely at a single SIAST campus and continues to center on course development in the health sciences. Librarians involved at this time were inspired by the services offered in a special library type of environment, whereby “clients” would approach librarians with research questions and librarians would work to solve their information problems. Course developers and subject specialists would forward their research queries in-person or by e-mail to any librarian. Questions emerged from curriculum, and often focused on locating “objects” such as health images and journal or newspaper articles, which at this time were difficult to find in non-copyrighted form. Librarians utilized online resources as well as those in the library’s collection to answer these questions, and the turn-around on questions being answered was fairly unspecific. As the volume of questions increased over time, librarians looked to share the research workload with one another across campuses.

It was at this point that the model of library involvement once again shifted. As the course development unit expanded, its staff found the de-centralized nature of how librarians were answering reference questions to be cumbersome and confusing. The librarians were also finding it challenging to handle the sheer volume of questions arriving from the unit. A new model was needed. Working together, the online course development unit and librarians began assigning a librarian to each course. The assigned librarian then met with the course designer and subject specialist to review a course “blueprint” and conduct multiple reference interviews. This would also be a time to negotiate deadlines and clarify research needs.

A collaborative environment emerged as librarians identified sources, made suggestions for research materials, and engaged in high-level searching. Librarians work most closely with the course designers and subject experts from the Virtual Campus; however, the building of relationships within this unit also meant that there was an opportunity to draw on the expertise of other team members, and to
expand the awareness of library services college-wide. Librarians began to work with the college’s Web-developers to ensure that content, particularly online library resources, were effectively presented to distance learners.

The multi-dimensional role that SIAST Librarians have can be clearly seen in the collaborative relationship that has evolved over time with the Virtual Campus. Librarians act as research consultants, reference points, collection development selectors (for course content as well as instructional design materials), and as instructors in their “everyday” personas on-campus, and increasingly online. This is also true of the role that emerges in collaboration with the course development unit. This idea of multi-faceted librarianship also becomes evident in a slightly different way when the online course is developed. It is at this point that the course becomes the property of the SIAST program that it was created for, such as Nursing or Business and Entrepreneurial Studies. When this change takes place so too does the role of SIAST librarians, who then work as formal faculty liaisons, by encouraging communication between the instructor teaching the online course and library staff, promoting collections and other library services, and continuing to build relationships with the instructors who teach courses both online and in-person.

Building on this success, SIAST librarians have now started to expand the instruction component in Virtual Campus courses. Moving beyond a research-focused approach, they are finding ways to integrate information literacy instruction and research skills development for online learners. Some examples include acting as synchronous guest facilitators in course management software, creating online learning tutorials, and leading and participating in class discussion boards. Instructors benefit from the knowledge and support that librarians can offer to their students, while students can discuss their ideas and ask questions of the librarian in a comfortable setting. This format has made it necessary to improve the methods by which librarians are available to students, including things such as online chat and Skype, a voice-over-Internet service through which users can communicate inexpensively. Working with the diverse members of the Virtual Campus team and looking for inspiration within and outside of librarianship, it is imperative that SIAST librarians continue to spot ways to implement new technologies that will foster a stronger relationship between off-campus students and the library.

**Next Steps and Conclusion**

From the start of SIAST’s online course development unit, librarians identified the opportunity for collaboration. Over time, and by a variety of methods, the atmosphere that has developed between SIAST Libraries and the Virtual Campus is one of collegiality; librarians are seen as research experts whose viewpoints and skills are valued. SIAST librarians have also been able to draw on the expertise of course designers, whose pedagogical training and skills lend new ideas to library instruction as a whole. This team-based approach culminated in May 2005, when two librarians were among those recognized with a provincial award for collaboration as central team members in the development of an online nursing course. As online learning continues to grow, the relationship between our library and the Virtual Campus continues to evolve.

Much of the course collaboration done thus far has centered upon health science courses, which means that the library’s vast collection of health science databases, streaming video, and other materials can be accessed and used by students across the province, not just those taking classes on-campus. A great deal of opportunity exists to expand library involvement to other fields of study whose courses are developed by the Virtual Campus. The next phase of this project will be to measure the effectiveness of librarian involvement in online courses, and create formal assessment tools to gauge the satisfaction of students, faculty, and those people from multiple backgrounds who make up the Virtual Campus experience. SIAST librarians have sought and continue to look for opportunities to participate in the creation of successful online learning. It is this idea of collaborative evolution that has helped form strong relationships with all participants in the Virtual Campus over time, and that has also set the framework for past successes and future possibilities at SIAST Libraries.
References


Abstract
The Library 2.0 movement emerged as a response to the technologies and concepts in the Web 2.0 movement and has been taking the library world by storm. Web 2.0 takes the stagnant Web 1.0 and makes it more user-driven, collaborative, participatory, and personalized. Library 2.0 takes the tools of Web 2.0 and moves them into a library setting with libraries that are user-centered, networking faculty, students, and librarians to create a vital and evolving organization designed to meet the needs of the current information culture. Library 2.0 is especially relevant to institutions providing services to off-campus students. Many students taking courses remotely have full-time jobs and busy lives beyond their coursework. Providing those students with a customizable, personalized and collaborative library assists in their success as a student. Using Web 2.0 technologies and other social networking tools in the library setting brings the library to our users making them more relevant in today’s information society.

Introduction: Defining Web 2.0 and Library 2.0?
One of the latest buzz words to take the library world by storm is “Library 2.0.” The term and its related concepts evoke differing responses among library professionals ranging from excitement and “it’s about time,” through a feeling of being overwhelmed to even apprehension and fear. Some look at the Library 2.0 concepts and technologies to see how they can be incorporated into the library setting. Others see the concept as just something else that needs to be learned and added to already hectic work schedules. Two of the appealing characteristics of the Library 2.0 movement are its scalability and flexibility. Many libraries have already incorporated some of the Library 2.0 technologies and concepts without being aware of doing so. Not everything needs to be changed at one time, tools and concepts can be added as libraries and librarians are ready to move forward.

So what is Library 2.0? To answer that question one needs to take a step back and define Web 2.0 because that is the concept that Library 2.0 is derived from. Web 2.0 was coined in 2004 and is a word describing the second generation of the World Wide Web. Web 2.0 is the development of the World Wide Web moving from the stagnant Web 1.0 to a more user-driven, collaborative, and participatory and personalized Web. It is often called the Read/Write Web because of its participatory and collaborative nature. One of the main emphases of Web 2.0 is collaboration or sharing which, along with easy-to-use tools, allows active participation by its users in helping to create and develop content. Weblogs or blogs and Wikis are two of the most popular applications affiliated with Web 2.0. Development of technological tools that are easy to use has been a reason that Web 2.0 has become so popular especially among younger Internet users. This popularity among younger individuals is one of the reasons that university personnel need to become familiar with the concepts and technologies in Web 2.0, because students are heavily using Web 2.0 (Dye, 2007). Web 2.0 involves a variety of activities and technologies: Publishing through blogs, Wikis and podcasts; social networking through sites such as MySpace and Facebook; content creation and networks through Wikis such as Wikipedia; virtual networking in Second Life; and content distribution sites through which content is created, collected, and distributed.

The Library 2.0 movement or term emerged out of the Web 2.0 phenomenon. Coined by Michael Casey on his blog, Library Crunch, Library 2.0 refers to a user-centered environment that not only helps individuals to fulfill information needs and enables learning, but also facilitates content creation and
community building (Casey, 2005). Library 2.0 takes the tools of Web 2.0 and creates libraries that are vital and evolving, designed to meet the needs of the current information culture. Library 2.0 libraries experience constant change, not just for the sake of change, but change in response to the needs and feedback from library users. The current method of operation for most libraries concentrates on users already using the library and not on the non-users that the library may reach out to bring into the library. According to Casey, Library 1.0 or traditional libraries “are in the habit of providing the same services and the same programs to the same groups” (Casey & Savastinuk, 2006, p. 40). Library 2.0 is a combination of the physical and the virtual, both spaces and services. Library 2.0 may be especially relevant to institutions providing services to a distance learning community, especially off-campus students. Many students taking courses at a distance have full-time jobs and busy lives beyond their coursework. Providing those students with a “customizable and personalized” library facilitates their learning process and assists in their success as a student. Students are looking for a collaborative place to gather within the university community and this meeting place does not have to be physical, but may be virtual in nature. Libraries that are embracing the Library 2.0 are making changes to their physical facility, many embracing the “Information Commons” model. This model includes computers, collaborative spaces, comfortable furniture, and social areas. It involves wireless networks, scanners, printers, reference and technical assistance, and laptop loan programs. Tamra Hjermstad, instructional technology consultant for Visual Arts in the Research and Instructional Technology Department of Mount Holyoke College summed up Library 2.0 by stating, “collaboration is the key” (Albanese, 2004, p. 33). Off-campus students may also benefit from the utilization of virtual spaces for collaboration and sharing, forming communities that assist in the learning and research processes. Casey and Savastinuk (2006, p. 42) maintain in their article that, “any service, physical or virtual, that successfully reaches users, is evaluated frequently, and makes use of customer input is a Library 2.0 service.” In her article on silos and user generated content, Ojala (2007) refers to Library 2.0 as “a utopian vision. It envisions patrons contributing to a library blog or Wiki and librarians communicating as equals via instant messaging. Library 2.0 encourages participation, wants to empower users, and represents a major power shift” in content creation (p. 5).

This paper will examine several technologies under the Web 2.0 umbrella and discuss how these technologies may be used in the library setting to help the library reach out to all users, making institutions more relevant in today’s information society.

**Social Networking**

Many librarians have realized the value of using social networking sites to reach the millennial generation and increasingly, other librarians and libraries. However, many other librarians are still asking the question, “What is social networking and why should I be doing it?”

Social networking is just what it sounds like – places for people to network with each other. Not so long ago, people were fairly limited to the school cafeteria or local coffee shop when they wanted to hang out with friends or collaborate on school projects. But now there are online options such as Facebook and MySpace. A user might join an online environment where they could find friends or other people with similar interests. According to the Pew Report, 91% of teens surveyed are using social networking sites to keep in contact with people they see frequently. Over 50% of teens today have an online profile somewhere. MySpace has primarily aimed at the 13-17 age group, while Facebook users initially seemed to be college age. The two platforms are also quite different in terms of how they function and what users can do (Lenhart, Madden, MacGill, & Smith, 2007).

When you create a profile on Facebook, you are generally assigned to a network based on your location or school. This allows you to view other users within that network and to find groups and events related to the specific network. One of the main reasons for Facebook’s continuing popularity is that it continues to evolve, offering members new features every few months (Breeding, 2007).

Many libraries have taken things even further and have developed applications for Facebook. In May 2007, Facebook launched a platform that allows third party programmers to create applications, thus giving tech savvy librarians a way to have even more of a presence on this popular social networking site. The most common application is a search feature for a library’s catalog (Harris & Lessik, 2007). This has
proven to be a fairly simple application for libraries to create, particularly since some of the first have willingly shared code with others wanting to do something similar. However, there are those libraries who have taken it even further, such as the University of Illinois at Urbana-Champaign who chose to use the library’s search assistant, providing a federated search through their application (Harris & Lessik, 2007). Imagine being able to have an application on your Facebook account that searches across your library holdings. Applications are just one way that libraries are using Facebook. Others have created groups that Facebook users can join. Messages can be sent to all group members in order to advertise library programs, services, or anything else the library feels is helpful and important. Very recently, Facebook has expanded the ability of users to create pages and libraries are quickly jumping on board. When users subscribe to a page, they will get updates in the profile News Feed or Mini-Feed if they choose to. This allows Facebook users more flexibility over how much information they want to receive and also allows the libraries the ability to design a page that will contain the elements most useful for subscribers. In addition to these options, librarians can also use their personal profiles by making the most of applications such as the wall to answer questions, post items to talk about favorite books, albums to share pictures of library events, and events to share things like workshops or library classes (Miller & Jensen, 2007).

Other library related entities are also getting involved with Facebook applications. JStor has had a search box application that will work to find articles in its database. Just recently, WorldCat has offered an application that allows Facebook users to search for books in libraries nearby. So, even if a library has not made the leap to developing a search application for their library, users still may be able to find materials by using the WorldCat application.

Those teens who are using MySpace usually spend about two hours per session on this social networking site (Evans, 2006). Although MySpace users can do many of the same things that you can do on Facebook, such as look at pictures and message their friends, MySpace has never limited people by networks. MySpace profiles also allow for a great level of design flexibility by offering different backgrounds and the ability to set-up your own blog within the platform. Unlike Facebook, where only individuals can set up a profile, a library can set up its own profile in MySpace. Brooklyn College offers a good example of what school has done with a MySpace profile. They offer book recommendations, information about upcoming library programs, and a link to the library’s blog (http://myspace.com/brooklyncollegelibrary).

**Publishing: Wikis and Blogs**

When one mentions the word Wiki, most people think about Wikipedia, which is the best known Wiki. But what is a Wiki? The word Wiki is derived from a Hawaiian word meaning fast, speedy, or quick. Coined by Wiki software creator, Ward Cunningham, the name is appropriate. Wikis have a fairly small learning curve, allowing participants to create, add, modify and delete content without special knowledge. Wikis were initially designed in 1995 to help a group of programmers collaborate and communicate effectively with each other (Clyde, 2005; Ginsberg, 2006).

In his article, Achterman (2006b) summed up Wikis. “Think of Wikis as collaborative work spaces in which information can be gathered, shared, evaluated, organized, or used to produce something new” (p.29).

As mentioned earlier, Wikipedia, which was created in 2001 by Jimmy Wales and Larry Sanger, is probably the best known public access Wiki. Designed to be a freely available encyclopedia, the source contains over 3.8 million articles. Any individual may add or edit articles. Following the success of Wikipedia, other sites have been created such as WikiTravel that provides online travel information with thousands of destination guides. Other Wikis have been created around favorite bands, television shows, dictionaries, and recipes (Ginsberg, 2006; Clyde, 2005).

One may wonder why Wikis are so popular. Achterman in his article, “Beyond Wikipedia” describes five features that make using a Wiki desirable. The first characteristic is its ease of use. Most Wiki software is easy to learn and use. They make creating a Web presence simple without having to learn
HTML or Web authoring programs. The second feature is its flexibility in the amount of participation it allows. Individuals can create a Wiki or they can be used with groups ranging from small to large. They provide multiple individuals with space to collaborate. The third characteristic is a feature of the World Wide Web and it is the ability to build sites in a non-linear fashion using hyperlinks. Most Wikis allow a fourth feature, space for discussion or comments and built-in spaces for reflection. These areas allow participants to share comments about what is posted or modifications. The last feature is the ability of Wiki software to track changes in the document easily, revert back to earlier versions and to track progress (Achterman, 2006a). Wiki software may be obtained either free or for a low price. It can be mounted on a local server or obtained through a WikiFarm, which is a site that hosts a Wiki server and provides Wikis and space as a service. To find out what Wikis are out there and might be good for a library to use, Wiki Matrix, provides information on different Wikis and allows side-by-side comparisons, http://www.wikimatix.com.

Wikis can be useful for libraries and there are many ways that a library may use a Wiki. Ways that include reaching out to library users wherever they may be, but also internal uses within the library. Wikis can help provide better reference and customer service, but also help a library meet internal goals also. As Ginsberg (2006) pointed out in her article, “Libraries may find Wikis are best used not for research but to organize research and projects” (p. 9).

Wikis may be used to create pathfinders or resource guides for various subjects. These may be created by librarians alone, or in collaboration with subject faculty and students. A framework can be provided and sources may be added as they are located. Individuals can also post comments about the selected resources. Another use for a Wiki is reviews of books and other materials. Individuals could post comments about a particular item to guide people in the selection of materials.

Reference staff may use a Wiki for a knowledge base to provide a place to store FAQs, hard to answer questions, library assignments and possibly links to online reference resources. These could be available to library users, especially those at a distance (Gordon & Stephens, 2007b; Ginsberg, 2006). A Wiki could also be used by those participating in library instruction. It can serve as a place to store instructional materials, making them easily accessible, and a place to gather subject guide Wikis and links to other online instructional materials.

Other good uses for Wikis in a library setting are policy and procedure manuals. Manuals may be created and modified online. Their online form allows a variety of employees to modify them and to be able to access them when needed. Multiple copies of the policies and procedures are not needed for different employees. As policies are updated or changed, it is accomplished in real time. Training resources and documents for employees are another use for Wikis. Staff training and professional development materials may be placed online in a Wiki as they are created. This makes them available when they are needed. Project management is another way a Wiki might be used by a library. Usually projects generate a lot of paperwork, Wikis can provide a space for those involved with the project to brainstorm, collaborate and store documents. Using Wikis for library projects makes the information readily available to whoever needs it.

Using Wikis in the library provides a variety of benefits. It helps foster collaboration not only between those that work in the library, but also between the library and it users, and between users themselves. The technology is easy to learn to use. As Cunningham, the creator of the Wiki software said, it is “the simplest online database that could possibly work” (Ginsberg, 2006, p. 8). Using a Wiki does not require special knowledge and the site and information are accessible regardless of where a person is located. There are a few drawbacks with using Wikis. One is their vulnerability to hacking and damage. This is solved by many people able to watch and modify Wikis, also by the tracking feature built into the Wiki software. There needs to be a level of comfort with technology to create and use a Wiki. Employees also need to learn how to work collaboratively and not be afraid to edit documents jointly. Although Wikis do have some drawbacks, the benefits gained through their use make them a valuable tool for libraries to not only use internally, but also a tool to reach out to an external audience such as distant learning communities.
What is a blog? At its most basic level, Webopedia describes a blog as “a Web page that serves as a publicly accessible personal journal for an individual” (JupiterMedia Corp., 2008). Today, blogs take on many different looks such as photo journals, news services, or collections of links (Natarajan, 2007). According the Pew report, 28% of teens have created a blog or online journal of some sort. To look at this a different way, Pew says that two in five teens who have a profile on a social networking site are also blogging. This is an increase from 19% in 2004. While not all teens are creating their own blogs, 70% report that they do read other people’s blogs (Lenhart, Madden, MacGill & Smith, 2007).

Libraries are finding a multitude of ways to use blogs to reach students, staff, and faculty. Some of the reasons that blogs work so well for libraries are that they can be fairly informal in the way information is shared, they are easy to maintain and access since they are Web-based, and they can be collaborative with multiple contributors or by allowing comments on posts (Natarajan, 2007). Here are blogs that provide news about what is occurring in the library, blogs with book recommendations that are often specialized by subject areas, and blogs advertising, promoting, and educating library users about new resources like databases. In addition to the main content, most blogs also have sidebars where things such as RSS feeds, photos, calendars, Meebo widgets, and other information can be placed. However, since many people are using readers or aggregators, libraries can also take advantage of RSS feeds for their blogs and place those in strategic locations on the library Website.

There are a number of free or very inexpensive platforms available as well for those libraries without a great deal of technological savvy. Wordpress and Blogger are two of the more popular free platforms. Typepad charges a small monthly fee depending on the type of functionality the blogger wants. These platforms make it simple for anyone to easily write and post since there is no or minimal HTML knowledge required.

There is also a growing phenomenon referred to as microblogging. Twitter is most likely the best known of these. What is a microblog? The most basic explanation is that it is a platform that allows a user to post short messages often via text or instant messaging (Fox, 2007). Like a regular blog, you can set up an RSS feed for your Twitter feed. This type of format has provided a great way for people to share information quickly and with a wide audience. Even politicians like John Edwards are using Twitter to keep supporters current (Fox). Twitter also crosses over into the social networking side by allowing users to follow other users and directly message other Twitterers. Librarians are using it to communicate directly with each other and their users. It provides a quick and simple way to share a variety of different information.

Podcasting and RSS Feeds

Podcasting has a rather sinister sound to it, like something out of a science fiction movie, but it is really quite simple. A podcast is basically a way to distribute audio content to subscribers. It works the same way as a RSS feed. Vodcasting is another term that is sometime used for content that also contains visual elements, such as a music video. Users than can listen or watch on their computer, iPod, or MP3 player. According to Feedburner’s 2006 podcasting statistics post, there are over 44,000 available podcast feeds (Stephens, 2007). Creating a podcast is relatively simple and inexpensive. With Audacity, an open source software application, anyone with a microphone and a computer can start recording.

It seems like there are podcasts about everything these days. LibVibe is a podcast aimed directly at librarians. Librarians have also joined in the wave and are creating podcasts for their users. Some libraries are providing audio walking tours via podcasts downloaded to MP3 players that patrons can check-out. Other libraries are getting even more creative and are using podcasts to advertise new books and resources or to provide information and news about the library. Others are using podcasting to supplement written blogs to give users format options. When the visual element is added in a vodcast, libraries are making online tutorials available to provide education about how to use resources like the online catalog or databases.

A discussion of Library 2.0 technologies would not be complete without mentioning RSS feeds. RSS is an acronym for Rich Site Summary and it allows people to subscribe to Websites, blogs, podcasts,
or anything else that provides a feed (Turner, 2007). There are a number of ways that users can subscribe to feeds. Bloglines and Google Reader are two of the best known feed aggregators. Libraries are providing RSS feeds for a variety of things such as new book lists and blogs in order to quickly push information and news to their users.

**Social Bookmarking/Tagging**

Bookmarking online is similar to marking your place in a paper book. When you find a Website or Webpage that is interesting or that you want to be able to find quickly later, you can bookmark it. The tags help organize these bookmarked items into groups or categories. The more tags that are used the greater the chance that a wide variety of people can access the information.

DEL.ICO.US has become the most popular bookmarking platform. Users can add their own bookmarks and see what other users are bookmarking all in one location. Another benefit to using something del.icio.us is that once a user has created an account, it can be accessed from any computer or device with Internet access compared to the early days of bookmarks that were saved directly to your computer. Libraries are setting up accounts where the librarians can provide information to the users. The library account can have multiple users since it is not tied to a physical space which removes limits on who can be involved in creating content (Rethlefsen, 2007). Library patrons can subscribe to RSS feeds to specific tags or the whole account to learn when new sites have been bookmarked. Library users can also collaborate by sending the library account links that they think should be added. Additionally, there is a del.icio.us plug-in available for Facebook that libraries can use to push information in the news and mini-feeds.

**Library 2.0 Services**

Services that are offered by the library that take into consideration the needs and desires of the user may also be considered Library 2.0. Many libraries are examining the services that they offer to see if they can be modified to better serve our patrons. New services are developed or services are adapted for the electronic or Internet environment. As Steiner and Long (2007) stated in their article on Instant Messaging, “With the enrollment of Internet-dependent millennial students, returning students who hold full-time jobs, and the rise of distance education, Internet-based library services have become a necessity” (p. 33). These include new ways of doing interlibrary loan or document delivery and virtual reference services. Some of the services that libraries have been providing may be considered Library 2.0 because they serve the “long tail” or take into account the feedback and needs of the users. Library 2.0 creates a more user centered library. Some of these services include the home and office delivery of materials, portable library instruction in places where students gather, librarians embedded for research assistance in online courses, and purchase on demand.

Purchase-on-demand or just-in-time purchasing is one way that libraries are changing the way that they handle interlibrary loan requests. Developing a purchase-on-demand program can provide benefits to both the library and its users. Benefits to the library include a more user based collection development program. Many times libraries, especially academic libraries, purchase materials on the just-in-case model, buying items just in case they are needed for a class or someone’s research. This means that some of the purchased items may never circulate. With a purchase-on-demand program in place, libraries move to a more patron driven selection process using interlibrary loan requests as a collection development tool. From a patron’s standpoint, this is a good service because it provides the user with the materials that they either want or need. It limits the amount of requests that are unfilled, especially for newer titles and leads to better patron service and higher patron satisfaction levels.

Another change that is happening with interlibrary loan is the movement towards patron initiated requesting. This allows the library patron more flexibility to request materials online, making requesting materials easier and streamlining the interlibrary loan process. It also helps the staff in the interlibrary loan department by taking away some of the steps in the process. Patrons are able to request materials online in a variety of ways. The easiest would be to set up requesting or interlibrary loan links in the library’s databases or e-resources. As users find relevant articles to fill their needs they can initially search the
library’s catalog for ownership and then fill out a request form with their personal information. Usually the information on the item is supplied by the database. Patrons can also check the status online of the requested materials instead of trying to contact the interlibrary loan department to check on the status of requests. This service makes it easier for patrons to request materials and empowers patrons into serving themselves.

Virtual reference is another area that has changed and evolved over the last few years. At Emporia State University, the library has come full circle with its virtual reference offerings as have many libraries. E-mail was one of the first technologies to be used for virtual reference. Doing reference work using e-mail works for simple queries, but the give and take of a reference interview does not work very well with e-mail as it takes too long. When people began to use Instant Messaging (IM) programs like AIM, Yahoo Messenger, and MSN Messenger for their personal communications, libraries adopted those programs and signed up for accounts to help reach students. Instant messenger provided real time Internet conversations that allowed libraries to provide reference services when users needed it.

Libraries discovered limitations with using instant messaging programs, such as the inability to co-browse with a patron, track usage statistics, keep logs of chat transactions, and having to log into several IM programs to monitor potential reference questions. In seeking something a little more robust, many libraries looked towards chat or helpdesk software and formed collaborations to be able to offer chat virtual reference.

Once software was developed allowing individuals to connect to several IM applications through a single interface, using applications such as Trillian, Gaim, and Meebo, many libraries began to move away from the chat software back to using IM for virtual reference. Meebo even allows a widget to be created for virtual reference and pasted wherever a library wants a virtual presence (Gordon & Stephens, 2007a). Through a survey Steiner and Long discovered that library interest in using IM for virtual reference is on the rise. The results of their study showed that 25% of libraries surveyed were offering virtual reference through IM and another 28% were considering it (2007). It was discovered that many of the chat programs were expensive, slow loading and required a user to download a plug-in or client to make it work. The chat programs also required ongoing training to be able to use the features of the applications. IM on the other hand is free to access, easy to learn and use, and is fast. Most students use IM as their preferred mode of personal communication. Studies have shown that 80% of young adults between the ages of 18 and 24 use IM on a daily basis. For academic libraries a switch to IM for reference questions may make them more appealing and available to the student population they serve (Gordon & Stephens, 2006).

**Conclusion**

So what does Library 2.0 and the Web 2.0 technologies mean for libraries and librarians? As mentioned earlier, Library 2.0 goes beyond the technology. Library 2.0 takes the technology and user input to create a more user-centered environment. Libraries and librarians need to spend more time asking their users for feedback and listening to their responses. Flexibility and a willingness to try something new are a must. The Web 2.0 tools can be used to transform reference services and create better collaborative work spaces and Intranets for staff. Libraries are facing a world that is constantly changing along with higher expectations from our users. This is especially true for academic libraries. In academic libraries one of our missions is to serve the needs of students, young adults who have been dubbed ‘the great communicators’ because of their social networking. Libraries can adopt the Web 2.0 technologies and Library 2.0 philosophies to better serve our customers and create a more open and collaborative workplace. As Chase (2007) wrote, in his article on new technologies, “Web tools . . . harmonize with the traditional, real world library mission to connect people and information” (p. 56).

Although the new technologies and Library 2.0 principles offer many benefits for libraries, some may not be ready to jump in with both feet. The good news is that these are scalable and librarians would go insane trying to adopt and implement everything at once. The collaborative tools and spaces work extremely well, especially for distance learning communities, and they are easy to adopt and learn. But before they can be adopted by a library, those pushing for adoption of the new technologies need to examine the library environment and culture. Does the library, and the university, have early adopters that
will jump in and use the new technologies? Or will some of this change meet resistance from skeptics that are not willing to try new things? Either way, changing the way a library does things may take time. Libraries also need to be willing to examine all of their services and resources and see what may be discarded. Talking with users to see what they want and expect from a library is a good place to begin, and then seeing how the new technologies may be utilized to better serve those users can come from that discussion. As Fichter (2005) wrote in her article, “…creating successful online collaborative communities isn’t necessarily easy- or always necessary. Just because you can create an online dimension of community doesn’t mean you should. Technology should be a supporting player in any collaborative effort, not the driver” (p. 48).
References


How May We Help You? Online Education Faculty Tell Us What They Need from Libraries and Librarians

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Abstract
With the rapid rise in distance education and online courses, the need to provide effective library services to the faculty and students involved in online courses is vitally important. Traditional services cannot always be transferred easily to the online environment and may need to be modified or new services may need to be created to meet the needs of online users. This paper examines the needs and wants of faculty involved in offering online courses. A Web-based survey was administered to faculty teaching an online course within the past two years at the authors’ organization. Faculty were asked a series of questions including their use of current library services, their emphasis on students using library services, and what services and resources they would like the library to provide in the future. Questions for the survey were inspired by LibQual comments received during our 2005 and 2007 surveys as well as comments received from both faculty and students while teaching and participating in online courses. Faculty involved in the survey teach in a variety of disciplines and have different experience levels with teaching online courses. Results of the survey will be presented along with inferences from the current literature. The audience will be invited to share their innovative service ideas. Participants will gain ideas for updated or new services to faculty teaching online courses.

Introduction

With the rapid growth in online and distance education, the role of the library must expand to meet the needs of both students and faculty involved in the process. More than two-thirds of higher education institutions are offering online courses and the majority of these provide complete online programs (Allen & Seaman, 2007). The authors add that eighty-six percent of online students are undergraduates who, in general, are less familiar with and aware of library resources and services. With distance and online learning, the faculty is able to focus on instruction/content issues rather than behavioral issues (Rohland-Heinrich & Jensen, 2007). Libraries can use this to their advantage by encouraging and supporting faculty in the teaching of information literacy, critical thinking, and life-long learning skills. Markgraf (2002) indicated that faculty found online teaching to be more time-consuming. Cahoy and Moyo (2005) relayed research noting that faculty from Penn State’s World Campus indicated that they found online teaching more time-intensive. Rockwell, Schauer, Fritz, and Marx (1999) reported that some of the major concerns online faculty had were the time requirement, student support, and developing effective technology skills. Their literature review suggested that online faculty is burdened by questions about technical issues relating both to courseware and library connectivity. Librarians can use these findings to market their services as a way to save faculty time. However, they first must show that they have something of value to offer, otherwise faculty may see adding library related training more of a burden. Librarians must determine what faculty need and work to provide these services. Then, having proven their effectiveness, librarians can work in service to other areas, such as information literacy and evaluation of information.

The goal of this research project was to explore faculty awareness of current services and their needs and desires for improvements or new services and resources. In addition, the authors want to determine other ways the University of North Texas (UNT) Libraries can support faculty involved with online learning.
Literature Review

Libraries providing services and resources to support online education face similar issues as they do serving face-to-face students. Three of these challenges are: knowing the needs of their clients, marketing services and resources, and, perhaps the most foundational issue of all, having faculty and students recognize the importance of the library in education. The latter can be even more of an issue in online education. Markgraf (2002) acknowledged that challenges for libraries supporting online education are identifying distance education faculty, communicating with students and faculty, and creating awareness of library resources and services. Adams and Cassner (2001) noted that faculty influence student use of the library by requiring research assignments. Faculty also can increase the use of librarians by referring them or not to liaison librarians. The authors added that this influence becomes increasingly important as more and more courses are taught online. The lure of electronic items reduces, in many minds, the need for libraries and librarians. Thus, marketing of library services and resources is essential.

Cahoy and Moyo (2005) provide an excellent review of literature relating to faculty perspectives on online education and faculty views on the role of libraries in distance education. They reported that 50% of faculty viewed the role of libraries as more significant in online courses than in face-to-face classes. Despite this statistic, however, 62% of faculty responding did not require library research as part of their course. Lebowitz (1993) reported a low rate of faculty encouraging or requiring use of the library by students in distance education courses. Adams and Cassner (1998) reported that seven of thirteen faculty required the use of library resources for online courses but noted that students had little contact with library staff. Hines (2006) added that 12 of 16 (75%) of the faculty surveyed required library research. The majority of faculty (87.5%) knew the library provided services, but nearly 50% of respondents did not know if students used online services.

Ruddy (1993) and Markgraf (2002) reported that the more aware faculty are of library resources, the more likely they are to include library assignments in their online courses. Markgraf noted that reaching students through faculty instruction is an excellent method of increasing awareness and use of services. She discussed various ways to promote resources, including networking with the support staff involved in online courses. Improved collaboration with online faculty is a good way to integrate library resources into online courses and promote use of services (Cahoy & Moyo, 2005). Markgraf indicated that faculty with close contact to a librarian frequently use library services more often. Feldheim, King, and Sherman (2004) recommended working with faculty on a class page or handout as an excellent way to make contact and market improve knowledge of library services. Distance faculty and students are often unaware of library services and resources (Buck, Islam, & Syrkin, 2006). If faculty have not be made aware of library services and resources from direct contact with the library or librarians, they may believe that the library does not have services for online learners or that online students are not to use these services.

Adams and Cassner (2001) conducted a survey of distance education faculty to evaluate their satisfaction with library services and resources. There was general satisfaction but a low use of the resources. Open-ended comments reflected the need for additional marketing of services and resources. Cahoy and Moyo (2005) also reported a low level of awareness and use of library resources by online faculty. In addition, there was a low level of expectation of support from the library for online learning.

Shaffer, Finklestein, Woelfl, and Lyden (2004) reported that 92% of the faculty surveyed expected online students to have the same library skills as the on-campus students. Sixty-eight percent indicated a willingness to provide class time to teach library skills training. However, few of them do actually provide this time and a number of them suggest the student contact the library for training. Hines (2006) noted in her review of the literature that across the thirteen studies she looked at that there is a general lack of interest in librarian-facilitated instruction on the library.

Lillard, Wilson and Baird (2004) discussed an experiment where a distance learning librarian is an active member of the course, including access to the assignments, and can thus interact with the students immediately. The librarian designed tutorials relevant to the assignments. Unfortunately, the tutorials were not well used. A second semester offering provided for a “librarian consultation” in both the online and face-to-face class. Students were satisfied with the librarian interaction, although the majority indicated
they would not have consulted with the librarian if it had not been a course requirement. The authors reported that the librarian solved a number of technical issues which would have otherwise gone through the faculty and used their time even if they referred the students elsewhere. Shaffer et al. (2004) emphasized that instruction for online students would reduce the number of times librarians solve the same issue.

Shaffer et al. (2004) employed focus groups and a print survey to conduct a needs assessment of distance learning faculty. As well as determining which departments and faculty offered online courses, they also sought to determine which library resources and services were used by the faculty and solicit suggestions for other services. Part of the rationale for the needs analysis was the high number of students calling for resources or technological support, and the library thus realizing that they needed to make a concerted effort to serve distance learners. The authors provided a good literature review of papers examining the use of library services by distance learning faculty in their courses and their requirements for using library resources in their assignments.

Buck et al. (2006) reported on a survey they conducted of ARL libraries concerning collaboration in distance learning. They presented ideas for developing or enhancing collaborative efforts, and for providing ways of organizing services to increase awareness. An article by Lebowitz (1998) described a marketing plan to counteract the unfortunate assumption that with the growth of online resources librarians are no longer needed. Surveying faculty is a known method of marketing services and resources (Adams & Cassner, 2001; Cahoy & Moyo, 2005; Hines, 2006).

The University of North Texas Context

UNT State of Online Education

The University of North Texas has a vital distance learning program that has grown steadily over the last six years, more than doubling in enrollment since the fall semester of 2001. Figures for fall 2006 indicated that 8269 students were enrolled in distance learning classes, which is approximately 25% of total student enrollment. This enrollment was an increase of 15% from 2005.

The program has grown to offer 15 master’s degrees, 16 graduate certificates, and 3 bachelor’s degrees, all of which are available totally online. The master’s degree programs are provided by the School of Library and Information Sciences (two master’s degrees and eight certificates), the College of Education (six masters, three certificates), the College of Public Affairs and Community Service (three masters, three certificates), the School of Merchandising and Hospitality Management (two masters, two certificates), and the College of Business Administration (two MBA programs). The bachelor’s degrees are BAAS in Organizational Development (PACS), BAAS in Applied Technology and Performance Improvement (COE), and BA in General Studies (CAS). The School of Library and Information Sciences is experimenting with an online doctoral program through an IMLS grant.

The Center for Distributed Learning was established in 1998 to support faculty in the development of online courses and provide consulting services for faculty. The Center provides services such as migration of courses from one version of course management software to another, graphics, creation of crossword puzzles, and other active learning components for online courses.

The Course Management Software currently utilized is Blackboard / WebCT Vista 4.0, although the Learning Enhancement Program Group is evaluating other software packages, as well as course start-up and assistance in instructional design.

UNT Libraries Support of Online Education

Several years ago, the decision was made by the Libraries to consider each student as a potential distance learner. This altered the focus of acquiring resources to include and emphasize electronically available indexes and journals, and electronic books. Many of the indexes contain full-text articles, and, among the electronic books ordered, some titles the Libraries own in hard copy are duplicated, most
notably books used in the School of Library and Information Science and the Department of Computer Science. These are the two largest programs in distance education at UNT. All electronic resources are available to online learners through the use of a proxy server. The UNT Libraries currently have 372 databases, journal suites, and other electronic resources available.

Additionally, numerous services geared toward remote users were implemented, including e-mail and chat reference services, and a toll-free telephone number that is nationwide in scope. Campus-based students also use these services. Other services that were already in place were interlibrary loan and a service called Reference by Appointment for students who are close enough to come to campus occasionally. Online learners can also request books and journal articles to be mailed to them, and most journal articles are now sent in PDF format via e-mail. To use this service, students must be enrolled in an online course and not live close to campus. Not surprisingly this service is of great interest to those students who live outside of the city but do not take an online course. These services form a sound infrastructure of services already in place for Distance Learners (May, 2005). Other services that were made available include class assignment pages geared specifically to assignments in the course, more general subject pages, and instruction services through the liaison librarian program. There is a page for distance learners, specifically those students distant from campus, which focuses on document delivery. There are a number of tutorials available presenting research tips and help for searching specific databases. Newer services are the “Librarian in the Classroom”, where there is a librarian in the course who can answer questions and give suggestions for databases and search strategies to the students, and a method for faculty to link directly to articles in databases from their classes.

Materials and Methods

A sixteen question electronic survey was sent to faculty involved in teaching online courses through a listserv operated by the Center for Distributed Learning at the University of North Texas. This was an advantage over some other studies (Shaffer et al., 2004, for example) that had difficulty determining how to contact the faculty. The initial notice was sent on December 4 with a final close date of December 20. Two reminder notices were sent as well. The survey was operated through the Office of Institutional Research and Accreditation on their Inquisite software. As required by the Office of Institutional Research, respondents were directed to an opening Web page listing the purpose and uses of the survey and resulting data. By clicking on the “Take the Survey” button, participants were giving their implicit consent to the investigators.

The complete survey is included in the Appendix. All yes or no questions relating to the use of a service had a popup box appear asking “Please comment on the satisfaction with the service from both the faculty and the student perspective” if they selected “yes”, and a pop up box appear asking “why not?” if they selected “no” (they did not use the service). Hines (2006) noted from her poster presentation that attendees wanted to compare results of surveys. In order to facilitate this, the authors kept some questions similar to those from Cahoy and Moyo (2005) and Hines.

The investigators began with a shorter survey but realized that the University of North Texas Libraries provided a number of services to distance education already and wanted to determine if faculty were aware of the services and what the satisfaction level was. A secondary rationale was to market to the services and gauge the interest in several beta services. Links to the services were provided, if available, to allow faculty to review the service.

Results and Discussion

Response Rate and Respondent Demographics

All research involving human subjects at UNT must be approved by the Institutional Review Board (IRB). By the time the survey passed Institutional Review Board acceptance, it was later in the semester than anticipated. The investigators suspected that the response rate may be low due to the time of the year the survey was offered. Sixty-four people opened the survey although a number of these were from the investigators testing the survey on a regular basis and before sending out the call for participants. There
were forty completed responses, resulting in approximately a 13% response rate. Despite the low response rate, most likely due to the time of the year, the data can be used to provide direction for services and resources.

Table 1

<table>
<thead>
<tr>
<th>Affiliation of Respondents</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Arts and Sciences</td>
<td>7</td>
</tr>
<tr>
<td>College of Business Administration</td>
<td>3</td>
</tr>
<tr>
<td>College of Education</td>
<td>9</td>
</tr>
<tr>
<td>College of Public Affairs and Community Affairs</td>
<td>2</td>
</tr>
<tr>
<td>College of Visual Arts and Design</td>
<td>1</td>
</tr>
<tr>
<td>School of Library and Information Sciences</td>
<td>11</td>
</tr>
<tr>
<td>School of Merchandising and Hospitality Management</td>
<td>2</td>
</tr>
<tr>
<td>Services/Programs not affiliated with a college or school</td>
<td>2</td>
</tr>
<tr>
<td>Blank Responses</td>
<td>3</td>
</tr>
</tbody>
</table>

The School of Library and Information Science (SLIS) is one of the campus leaders in online education and was expected to provide a high response rate as shown in Table 1. Several librarians serve as adjunct professors to SLIS and some services are beta-tested in SLIS courses so it could be assumed that the faculty is more interested in the survey. However, the high rate of return from the College of Education (COE) was unexpected but welcome. The College of Arts and Sciences is the largest faculty group at UNT. Three of the responses were from the “hard” sciences, two from social sciences, and two from the humanities. Overall, the authors were pleased with the responses from the various colleges and schools.

Table 2 describes the number of years faculty respondents have been teaching distance or online courses. While the majority (68%) are fairly new (5 or less years), a high number of faculty have been offering courses for a longer period. There were no college or school trends in length of time offering distance or online courses.

Table 2

<table>
<thead>
<tr>
<th>Length of Time Involved in Online/Distance Learning</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1 years</td>
<td>13</td>
</tr>
<tr>
<td>2-5 years</td>
<td>14</td>
</tr>
<tr>
<td>6-8 years</td>
<td>5</td>
</tr>
<tr>
<td>9 or more years</td>
<td>8</td>
</tr>
</tbody>
</table>
Cahoy and Moyo (2005) used different time segments but also reported that more faculty were fairly new to teaching online: 43% had been teaching for 0-3 years and 26% for 4-6 years. Both UNT and Penn State have a long history of offering online courses. Hines (2006) reported that 87.5% of respondents had been teaching for 2 or more years online. The remaining faculty had just started teaching online the semester the survey was offered.

**Role of Libraries in Online Education**

Using a “select all that apply” option, faculty members were asked to share their thoughts on the role of libraries in online education. All respondents selected “Provide library resources” with 93% selecting “Offer instruction in using databases and indexes.” The other options were also popular as shown in Table 3. The least popular option concerning the evaluation of information (60%) may be less important to faculty as they expect students to already have this skill. Cahoy and Moyo (2005) found that 77% of faculty believed the libraries’ role to be providing access to library resources with 29% believing that libraries should be involved in educating student in the research process and 19% noting a role in teaching students how to evaluate the resources and information. Although Cahoy and Moyo used a “select all that apply” option as well, the results from this survey indicate a much stronger interest in libraries supporting online education.

Table 3

<table>
<thead>
<tr>
<th>Role</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide library resources</td>
<td>40</td>
</tr>
<tr>
<td>Offer Instruction in using databases and indexes</td>
<td>37</td>
</tr>
<tr>
<td>Offer information literacy (how to effectively find and utilize information)</td>
<td>33</td>
</tr>
<tr>
<td>Offer courses relating to the evaluation of information</td>
<td>24</td>
</tr>
<tr>
<td>Provide Websites that may be useful</td>
<td>33</td>
</tr>
</tbody>
</table>

Three open-ended comments were received. A SLIS faculty member noted that access to online resources licensed by the Libraries should be accessible via the course site without need to reauthenticate. Currently users in WebCT still need to authenticate into the Libraries’ proxy server. Another SLIS faculty member suggested that faculty should be provided instruction on how to use the resources. An interesting suggestion from a College of Education respondent was to “train the trainer within different colleges to find specific information.” The UNT Libraries has a liaison librarian program with each department having a liaison librarian assigned to them. Liaison librarians are available to assist faculty with using the resources. Based on the two comments above, it appears that marketing of the service is needed as well as a more concerted effort of the liaisons to meet faculty and educate them about specific library services. As well, since the results show that faculty want the UNT Libraries to have active roles in educating users about resources and in teaching information literacy, the Libraries need to be more proactive in these areas with the online faculty.

**Access to Needed Course Information**

The next question asked faculty how their students received information for the course. Respondents were allowed to select all ways that applied and offer other means. Table 4 shows the results.
Table 4

<table>
<thead>
<tr>
<th>Method of Information Provision</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>You supply a course package (print or online)</td>
<td>22</td>
</tr>
<tr>
<td>Refer students to the UNT Libraries Website</td>
<td>33</td>
</tr>
<tr>
<td>Refer students to their local libraries</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
</tr>
</tbody>
</table>

Eighty-three percent of respondents refer students to the UNT Libraries site for course information. The Libraries must thus ensure that they are able to meet the needs of the students. This is especially important for disciplines where the majority of journals are not yet online. The interlibrary loan system at UNT is very efficient and should be able to provide the majority of needed items in a timely manner. Many articles are now delivered electronically and this assists with both the speed of delivery and user satisfaction. As discussed later, the UNT Libraries also provides means for document delivery to distance education students. Shaffer et al. (2004) noted that providing course packs for purchase was the most popular method with electronic access to materials through the library as the second option. This study showed that these options were also the most popular with faculty at UNT although in reverse order. Shaffer et al. also included an option for electronic reserves while the authors of this paper did not specify it as a selection. Cahoy and Moyo (2005) reported that 10% of the faculty referred students to the libraries Website, 60% provided the information, and 22% let students find the information on their own. The authors noted that several faculty mentioned that they were unaware of library services for online learners or that online learners had access to library resources and services. At UNT, remote access to resources has been a priority since the late 1990s and it appears that this is well-known amongst faculty.

Five respondents noted that they provided students with a list of Web links. The UNT Media Library was mentioned by one respondent as a source of information. Two faculty members reported that they provided citations to readings and expected students to find the items. Another respondent noted that s/he used an e-book as a source of required reading. Anecdotal evidence suggests that more faculty members use e-books as a substitute for physical reserve copies. The UNT Libraries does support this move and, as needed, have “leased” additional copies of e-books to support students. As noted above, given the high rate of use of UNT Libraries by online students, the Libraries must ensure that services and resources are available, and are easy to find and use. The UNT Services to Distance Learners Web page needs to be more functional and contain links to services and resources other than document delivery.

Student Difficulty in Locating Library Information

Respondents were asked to gauge the level of difficulty students experienced with finding library information for their coursework. As shown in Table 5, the majority of respondents (73%) noted that students experienced some to a lot of difficulty in finding library information. Faculty were asked why they thought students had difficulty; however, the best information will come from the students themselves in a follow-up survey.
Cahoy and Moyo (2005) reported that 55% of their faculty believed that students had no difficulty finding and accessing library resources. They used a “yes/no” option so it is difficult to compare the results; however, it appears that UNT faculty believed that students have more difficulty in finding appropriate information for their research as only 18% responded that students did not have much difficulty in finding information.

Participants were asked why they felt students had difficulty in finding and accessing reliable information for their assignments. The question was meant to be a “select all that apply” but due to a technical glitch, only allowed faculty to select one option. Based on the results, as shown in Table 6, responses were fairly evenly divided across the provided options and the “other” option, with one exception.

Cahoy and Moyo (2005) reported that 19% of faculty teaching online courses believed that students do not know how to search for library resources, 14% suggested that students rely on Websites, 10% responded that students do not know how to evaluate quality of resources, and 24% believed a lack of awareness of library services and resources was an issue using a “select all that apply” functionality. In the current study, all selections, except for a lack of knowledge about the catalog, were faculty concerns. Three participants commented that all options were valid. Two respondents replied that the organization of resources on the Libraries’ Website confused students. One of these also commented that having to re-authenticate when already authenticated through WebCT frustrated students. A COE faculty member in a newer department noted that access to needed journals was an issue for students. “Do not know how to search online” was another comment. Unfortunately this is a bit misleading as it could mean the Internet in general or the Libraries Website. One person noted “Many students don't take it seriously enough, early enough. Others are not aware of what resources to use and how to use them.” The results show that faculty
feels there is a need for student instruction in the use of library resources and information literacy. A student survey would be useful to determine other issues in their finding and using library information.

**Ask A Librarian Service**

The UNT Libraries offer both e-mail and chat services through Docutek. E-mail services were implemented in 1994 and chat in 1999 so the service is well established. Participants were asked if they linked to the Ask A Librarian site from their course page. Five respondents noted that they did include a link to the site. They noted that “this is a good resource” and “helpful to me” when asked about their satisfaction with the service. Despite the length of time virtual reference services have been offered, nine respondents (23%) noted that they did not know about the site. Two respondents replied that they didn’t know about the service, but will add a link to their courses. Five respondents (12.5%) reported that they hadn’t thought about adding the link and six (15%) noted that they previously hadn’t thought of adding the link but will next semester. Three respondents acknowledged that they linked to the Libraries home page and felt this was sufficient, while another participant added that s/he promoted the service but did not link to it. One respondent replied that s/he did not know how to include the link and another added that s/he did not have authority to add links to the course. Two faculty responded that they didn’t think it was necessary and one SLIS faculty noted that s/he expects library school students to be able to work without help from librarians. One respondent replied “Never thought about it but we will next semester. Thanks for the tip!”

The survey results from Cahoy and Moyo (2005) noted that 15.5% of their respondents were unaware of Penn State’s VR service. UNT faculty seems slightly less aware of the service. As noted in the literature review, marketing of current services is vital. When marketing to faculty, it is helpful to express items in terms of saving faculty wear and tear through answering technical and resources questions. Those using the service appear satisfied at this point.

**Electronic Reserves**

Electronic reserves have been available since 2005. Fourteen faculty (35%) noted that they use electronic reserves for their online courses. Comments on their satisfaction with the service were:

- Excellent service (x4)
- Very highly satisfied
- Satisfied
- Good
- I think it is a highly effective service
- Convenient for both students and instructor
- The form is difficult to use
- Don’t like having to renew the same articles every semester. Want a longer term

Of the twenty-six respondents who replied that they do not use electronic reserves (65%), only eight (20% of all respondents) reported that it was due to not knowing about the service. One respondent noted that s/he did not know how to use the service. Four faculty (10%) noted that they do not have a need for the service and another noted that s/he does not have reserve material in the course. Another four faculty members mentioned that their readings are available from library-subscribed or freely online journals so they did not need to use electronic reserves. Two respondents noted that when the item is not available from the Libraries, they put a PDF of the article on the course Website. One person added that his/her readings were either not available electronically or are too large (usually entire books). The comments received expressed two concerns, but overall there is a high level of satisfaction by those who use the service. According to the results, this is the best known service examined in the survey.

**Distance Learners Request Form**

The UNT Libraries provide a Web form that students can use to request items to be sent to them if they qualify for “distance learning”. This is not available to local students enrolled in online classes.
Participants were asked if they refer their students to this service. Eleven respondents (27.5%) mentioned this service to students in their classes. Comments related to the satisfaction with the service were:

- Good
- Generally positive
- Generally satisfied
- Works well
- Yippee!
- Limited success
- Students would like the ability to interlibrary loan as well as print
- Students seldom take advantage of the service because they don’t plan ahead

Fifteen of the twenty-nine who answered no to the question noted that they were unaware of the service (37.5% of the total respondents). Four noted that they had not thought of advertising the service to their students. Two faculty added that all the material is available online. One respondent commented “Never thought of it. Thanks for alerting me to the service.”

Cahoy and Moyo (2005) wrote that 22% of online faculty was aware of delivery service options to students, while 38% of UNT faculty was unfamiliar with the service in this survey. Anecdotally this service is well used by students at UNT. Having faculty more aware of this service and encouraging them to market the service to their students will help ensure that all students are familiar with the service.

**Online Tutorial UNTilt**

The UNT Libraries provide an online tutorial for using the Libraries called UNTilt that can be added to online courses. UNTilt is a modified version of the TILT tutorial created by the University of Texas at Austin. Only three respondents included UNTilt in their course links. One faculty member commented that students found it confusing.

Two faculty did not provide a response while thirty-five (87.5%) responded that they did not include a link to UNTilt. The majority of the faculty (63%) noted that they were unaware of the tutorial. Two faculty members commented that it sounded useful and they will consider adding it. Another faculty suggested that it be added automatically to the My[page] for courses that students are enrolled in. One SLIS faculty noted that “These are library school students, and they already know how to use a library.” UNTilt is available to be linked to online courses and marketing is needed to enhance awareness of the product. Although only one comment was received, it would be valuable to review the usability of the product.

**Class Pages**

All academic departments at UNT have a liaison librarian assigned to them. One of the roles assigned to these librarians is to create a Web page for each class offered within the department. Some liaisons actively pursue this role and are responsible for many pages while others have not been able to interest faculty in taking advantage of this service. Eleven faculty members (28%) noted that they have librarian-designed class pages for their courses. Three are SLIS faculty, while the others span the disciplines. Comments on the service were:

- Great
- OK
- Good service
- Modestly useful, probably because we do not sit down yearly and review the site and our changing needs with the library staff
- Have only used it in one course, but it wasn't utilized much by the students

Twenty-one participants (53%) responded that they didn’t know about the service. Four others mentioned that they either do not need a page or already have one they have created. One faculty member
reported that s/he did not know about the service but included a variety of library links on his/her course page. Another respondent indicated that s/he will consider using this service next time. One person added that the course template is controlled by his/her department. Hines (2006) reported that 50% of online faculty noted that a librarian-prepared resource guide would be helpful. This service is currently available at the University of Montana as it is at UNT. Both studies indicate that more marketing of the service is needed. As indicated in the literature review, working on class pages with faculty is an excellent way to collaborate with and inform faculty of other services available.

**Direct Article Linking**

A recent tool the UNT Libraries are offering is the use of direct linking to articles for online courses. Three faculty members responded that they use this service. Comments on this service are “Couldn’t run my course without this” and “I think this is a good and efficient service.” SLIS and COBA faculty currently use this service.

Twenty-three faculty members (58%) noted that they were unaware of the service. Three noted that they haven’t needed the service. Two others added that it would be very useful. As with the other services, marketing of the service is needed. However, this is a new service and has as yet received little publicity in order to test its effectiveness.

**Librarian in the Classroom**

The UNT Libraries have been experimenting with the “Librarian in the Classroom” concept for several years. This service attaches a liaison librarian with an online course, frequently with a discussion thread specifically for library-related issues. It has been used in several SLIS courses and occasionally in a chemistry course. Students and faculty found it useful based on anecdotal comments. This service has allowed the Libraries to be more aware of technical issues, such as a particular database not working with WebCT, as well as improving faculty communication with the libraries on required readings and other information needs.

Respondents were asked how interested they would be in using this service. Table 7 shows the results. The majority of the faculty members (50%) are very interested in having a librarian in their online class. A second large group (25%) noted that they would be somewhat interested in this service. Only four noted that they had no interest in this. One respondent added that it was not relevant to course needs. Several faculty commented at various points that their courses are primarily procedure-based and do not require research. Hines (2006) reported that 63% of her respondents were not interested in this service. She did not collect open-ended comments so it is unknown why respondents were uninterested in the service. UNT faculty members across the disciplines were quite interested in the idea. Brainstorming comments listed below will be used to ensure the effectiveness of this service.

| Table 7 |
|-----------------|-----|
| **Faculty Interest in the Librarian in the Classroom Service** | **Count** |
| A little interested | 6 |
| Somewhat interested | 10 |
| Very interested | 20 |
| Not at all interested | 4 |

The respondents were asked to brainstorm how the service would be most beneficial to them. Twenty-nine faculty (73%) provided comments. Not all comments related to the service and a number were fairly general in nature. Seven faculty members noted that they weren’t sure how they would use the
service but thought that it was an excellent idea. Two of these faculty added that they are thinking about how they could use the Librarian in the Classroom. One suggested that the service should be included in all online courses and another noted that s/he would have to try it before deciding on its value. Another noted that a fast turnaround time would be essential to make the service useful. “I would need to spend some time thinking about how to make good use of this service. The need for the service would have to be clear. I had reached the point of almost giving up on research assignments because students use Wikipedia or infoplease, and these seem to make student research pointless” – was another comment.

Two respondents noted that a Web page for library services would be useful, with one person emphasizing that the page needed to be created before the class began. One participant suggested sharing the outline for the course with the librarian to see where the librarian’s assistance could best be utilized. One respondent noted “I would like to have a librarian to brainstorm with me when I design the assignments. For students, the librarian can greatly help them to get access to the academic sources and have a better idea of the assignments.” Another person thought that more than one librarian might be needed for big classes during busy research times. A link to an actual assignment was suggested.

One respondent noted that in-person availability would also be useful as students differ in what they need. Another respondent noted “I would love to be able to refer them to a particular person for material for their research papers. They don't understand why Wikipedia isn't a good source.” Including the name of the librarian on the class Website and telling the students to contact the librarian is another suggestion. Another suggestion was that the service would help students in their first classes learn to navigate the library more effectively. One person suggested making library services part of student orientation. As with most libraries, the UNT Libraries offers introductory sessions with a tour at the beginning of the spring and fall semesters, and now offer specialized introductory sessions to graduate students as well as “drop in” sessions throughout the semester. Liaison and reference librarians are also available to assist both remote and in-person students.

One faculty who currently uses the service reported that “it is a great added value to classes.” Another current user wondered if she/he could have a record of who used the service. While this request seems a bit invasive, it would be possible to keep statistics on the number of questions received and even the type of questions asked. The UNT Libraries uses software to record reference desk statistics and currently record questions asked and the responses. This provides an assessment system to determine what problems may be occurring, such as poor signage and electronic resources not working, as well as to provide training on new questions or for newer staff. The system could be modified to allow the Librarian in a Classroom questions and responses to be added. The questions could be analyzed to identify technical problems, needed resources, and more.

Overall Use of Library Resources and Satisfaction

Participants were asked which library resources they found valuable and were invited to comment on items asked about previously or others not mentioned. They were also encouraged to provide suggestions for improving resources. Not surprisingly, online resources, including databases, journal suites and full-text journals topped the list with 22 votes. Electronic reserves, course pages, interlibrary loan, e-books, tutorials, and “librarians that speak in my class” each received one vote.

One respondent commented “The online journal database and electronic journal access is great. We can locate most of the recent research we want students to read via the various electronic journals.” Another noted that there was “wonderful access to the articles via the databases” but unfortunately his/her students (graduate students) are frequently unaware of the resources available and are unable to find relevant information. This is not unexpected but brings up the vicious circle of how can librarians tell students what is available when they usually don’t get time with the students. One respondent suggested that it “Would be very useful to have a librarian provide an online orientation to the library's services, via Live Classroom, and provide a virtual tour to orient/refresh students' understanding of library services available to them though UNT.” The UNT Libraries provide a variety of helpful Web pages and tutorials already and with a recently redesigned Web page, expect these to receive greater use.
There was one comment that suggested the Libraries do not have several of the most needed journals in his/her discipline. Another respondent added that s/he found the databases frustrating as full-text wasn’t always available, and another person noted that the databases need to be more user friendly. One respondent suggested that a tailored Website be provided. It was unclear whether this referred to a Website for faculty teaching online courses or a page tailored to individual courses. The Libraries provide both a Web page for faculty and a Web page for distance learners. As mentioned above, the Libraries clearly need to do more marketing of their services and resources. Another comment related to the need for a portal to provide a common interface and reduce the need for multiple passwords as these issues “simply make the students give up, leave the site, and revert to Google.” The Libraries provide remote access to the resources through a proxy server which uses the Enterprise ID (EUID) which all students, faculty, and staff use to access their personal information online and to register for courses. WebCT also uses the EUID system. Thus, it is somewhat unclear why multiple passwords are needed. However, the electronic reserves use a different set of username/password as does the interlibrary loan system, although users can set up the interlibrary loan system with their own combination of username and passwords. There is a known problem that once in WebCT, students still need to authenticate to proxy into the Libraries online resources.

One respondent noted that the Center for Distributed Learning (CDL) “offers great help for instructors who use technology in their teaching. Librarians may want to work with them to share information and collaborate on providing better services together.” The Libraries are currently collaborating with this department to provide support for large classes being moved to online or blended format. As well, several librarians serve as adjunct faculty for online courses and thus should be able to create closer networks and market library services through the CDL as suggested.

Suggestions for Other Resources and Services

The thirteenth and fourteenth questions asked respondents to suggest other services and resources the UNT Libraries should consider and to provide other suggestions for improvement in the UNT Libraries support of online education. Comments are pulled together as many overlap. As with most open-ended questions, some of the information provided is not necessarily related to online education but will be noted as it indicates what faculty need in general. Overall, there were twenty-nine comments received.

Library Training and Tutorials.

There were several comments suggesting a training session and/or additional or improved tutorials for library resources. One faculty member wrote “I would like all first-year students to go through a (mandatory?) training or orientation session on the UNT libraries and WebCT Vista. There are so many times that I feel as if I am technical support for my students. My first lecture of the semester consists primarily of screen shots showing them how to navigate the system--and they still find it incredibly challenging. Our students seem to be very ‘plugged in’ to electronic devices, but not necessarily savvy about how the technology works. I spend so much time explaining it to them that I sometimes feel I am cheating my own subject.” Shaffer et al. (2004) noted that their research indicated that most faculty were transposing face-to-face classes into online classes without necessarily providing support for students in an online environment. Thus, the librarians spent a lot of time answering technology related questions. Comments provided to the authors over the last year or so provide anecdotal support to the need for improved tutorials for both the Libraries and WebCT. Students would have to use the tutorials which can be difficult to get them to do, unless, as the professor above suggests, they are mandatory. As a happy medium, perhaps offering extra credit for the completion of the tutorials would ameliorate the issue. The UNT Libraries’ LAN department has a “Help Desk” to assist with technological issues which reduces the pressure on the librarians. There is also a tutorial for students to review concerning WebCT issues; however, again, having the students locate and use the help resources available rather than relying on the faculty member or the librarians does not necessarily happen. Shaffer et al. indicated that helping students with accessing library resources remotely and searching databases effectively would be helpful to faculty. The Librarian in the Classroom concept may serve this purpose as the use of the discussion threads provides a resource for librarians to communicate solutions to ongoing issues and hints for assignments. Librarians can also send out mass communications to all students should there be a resource issue or other wide-spread concern.
One respondent suggested that short iPod broadcasts might be helpful. Another respondent noted that more tutorials would be helpful and that the page for “Services to Distance Learners” be enhanced with tutorials linked from there. Hufford (2004), Markgraf (2002), and Stockham and Turtle (2004) also reported that faculty requested online help from librarians, including tutorials, class pages, and orientations for students.

A respondent noted that the course pages have been helpful but suggested that the liaison librarians contact instructors each semester to review the pages and see if updates are required. Another faculty member suggested that the library provide some sample course Websites and/or online course modules. One respondent noted that having a librarian to refer students to would be helpful. S/he noted that this may be what the Ask A Librarian service is for; however, especially for upper level and graduate classes, having a specific librarian to contact may increase their willingness to make contact. Shaffer et al. (2004) reported that faculty indicated that copyright clearance issues were the most significant obstacle to using library resources in online courses. However, this was not mentioned at all in this current study.

Plans to develop a series of interactive online workshops particularly for graduate students using Wimba Live Classroom are underway and will be trialed with a SLIS capstone class. As well, some SLIS classes are requesting librarians to serve as “guest lecturers” to provide instruction and practical knowledge.

Overall, there is a need to market current services and resources, especially in terms of how these services can help faculty reduce the number of questions they receive on library resources and technical issues. The resources should be evaluated for their effectiveness and usability.

**Online resources and remote access.**

There were eight comments on the need for more online items, including journals and online books, and additional connections for a frequently used SLIS product. Cahoy and Moyo (2005) also noted that faculty requested more online items. Three respondents in this survey expressed a desire to minimize the number of interfaces students need to use. One of these respondents mentioned that, where possible, students should also visit a physical library. The UNT Libraries have capitalized on the popular interfaces, such as Ebsco and CSA, but there are still a number of different interfaces across the various disciplines. This concern may also relate to the need for effective tutorials and additional instruction on the databases. One respondent requested that the Libraries implement a metasearch function for the databases. The UNT Libraries are currently setting up a WebFeat trial. Another faculty member emphasized the issues with having students reauthenticate to get into the Libraries proxy server when they are already authenticated through WebCT.

**Marketing of services and resources.**

Several comments related to marketing the Libraries’ services and resources. One respondent suggested e-mail updates on new databases and new services. Another person thought that contacting faculty through the UNT eCampus system to remind them of services would be helpful. A new faculty member emphasized that services and resources should be communicated to new faculty. As suggested earlier, more coordination with the Center for Distributed Learning would be a good place to begin. The UNT Libraries is included in the New Faculty Orientation sessions but these are voluntary. In addition, liaison librarians are requested to contact new faculty and offer their assistance. One respondent suggested that information in what other institutions, especially those considered to the UNT’s peer institutions have done in support of online education, would be appreciated.

Other researchers have found that marketing of library services and resources is needed (Adams & Cassner, 2001; Lebowitz, 1993; Shaffer et al., 2004; Stockham & Turtle, 2004). Stockham and Turtle emphasized that faculty wanted to be kept knowledgeable about library services and resources. Buck et al. (2006) noted that marketing is not a just a one-time thing. Repeated efforts are required. Cahoy and Moyo (2005) and Hines (2006) stressed that library services and resources should be integrated with courseware.
Conclusions and Further Research

By the end of the survey several respondents had mentioned that they felt “like broken records” responding that they did not know about the services. In retrospect, perhaps it should have been emphasized that some services are new or less well-known. However, the survey did serve its purpose in improving awareness of the available services. Generally respondents were unaware of the services but those who used the services were fairly satisfied. Open-ended comments provided some suggestions for improvement. The major issues seem to be a lack of awareness of services, which could be solved by more aggressive marketing of these through liaison librarians, including links in courseware, enhancing collaboration with CDL, improving the usability of the Website and databases, and adding to the functionality of the distance learner’s page. There was also a surprising interest in having the UNT Libraries be more than a source of information for students, and move into instructing the students. The question is how to do this best when faculty members are already pressed for time in classes. The Librarian in the Classroom service is probably the most marketable in terms of offering instructional support to faculty due to the high level of interest in the service, and the ability of the librarians to serve both group and individual needs, as well as saving faculty time.

Future research may include a student survey examining use of student services and identifying improvements or needed services, faculty use and support of library resources and the relationship to their incorporation of assignments requiring the use of the library, and, after marketing and improved use, a more specific satisfaction survey on the services examined in the current survey. The authors appreciate the support of the UNT faculty, the CDL faculty, and their colleagues in conducting the survey.
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Appendix

Faculty Needs for Online/Distance Education Survey

1. What role do you think the UNT Libraries should play in online education? (Please select all that apply)
   - Provide library resources
   - Offer instruction in using databases and indexes
   - Offer information literacy (how to effectively find and utilize information)
   - Offer courses relating to the evaluation of information
   - Provide Websites that may be useful
   - Other __________________________

2. How do students get information for your courses? (Please select all that apply)
   - You supply a course package (print or online)
   - Refer students to the UNT Libraries Website
   - Refer students to their local libraries
   - Other______________________

3. How much difficulty do you feel your students have in finding library information for their course work?
   - A lot of difficulty
   - Some difficulty
   - A little difficulty
   - Not much difficulty

4. What reasons do you feel students have difficulty finding and accessing reliable information for their course assignments? (Please select all that apply.)
   - Relying on Google and other non-library Websites for information
   - Do not know how to search library-provided journal article databases
   - Do not know how to use the library catalog to find books and other materials
   - Do not know how to evaluate the quality of a resource
   - Are not aware of library resources that they need to use
   - Other______________________

5. The UNT Libraries provides an Ask A Librarian service located at http://www.library.unt.edu/ris/ask-a-librarian where students and faculty can ask questions via e-mail or online chat. Do you include a link to this in your course? (pop out depending on answer:5a)
   - Yes
   - No
   If yes, please comment on the satisfaction with the service from both the faculty and the student perspective. If not, why not?

6. The Libraries provides the ability to put items on reserve in electronic form http://www.library.unt.edu/circulation/reserve/reserve-materials-for-faculty#electronic-reserves Have you used this service? (pop out depending on answer:6a)
   - Yes
   - No
   If yes, please comment on the satisfaction with the service from both the faculty and the student perspective. If not, why not

7. Students in online courses are able to have library materials sent to them using the Distance Learners Request Form (information located at http://www.library.unt.edu/circulation/information-for-distance-learning-students).
Do you or have you referred your students to this service?
- Yes
- No

(pop out depending on answer: 7a) If yes, please comment on the satisfaction with the service from both the faculty and the student perspective If not, why not

8. The UNT Libraries provides an online tutorial for using the Libraries called UNTilt that can be added to online courses. Do you include UNTilt in your courses?
- Yes
- No

(pop out depending on answer: 8a) If yes, please comment on the satisfaction with the service from both the faculty and the student perspective If no, why not

9. Subject liaison librarians will create a Web page for your courses that list valuable starting points and recommendations for resources to use? Examples located at http://www.library.unt.edu/research-tools/class-pages
Do you use this service?
- Yes
- No

(pop out depending on answer: 9a) If yes, please comment on the satisfaction with the service from both the faculty and the student perspective If no, why not

10. The Libraries can provide a means to allow you to set up direct links to specific articles in databases. Do you use this service?
- Yes
- No

10a) Pop outs depending on answer: If yes, please comment on the satisfaction with the service from both the faculty and the student perspective If no, why not

11. A recent service offered by the UNT Libraries is the Librarian in the Classroom where a subject specialist librarian is assigned to online courses to assist students with finding and using resources for assignments and papers.
How interested would you be in having this service added to your course?
- Very interested
- Somewhat interested
- A little interested
- Not at all interested

11a: Please comment/brainstorm on your thoughts on this service (text box). How can we make it most beneficial to you and your students?

12. Which UNT Libraries resources do you find useful when teaching online courses? Please comment on ones listed in the above questions or others such as the online journal article databases, online tutorials, etc. Please provide suggestions for improvements also. (open text box)

13. What other resources and services would you like the UNT Libraries to offer in support of online education for both faculty and students? (open text box)

14. Please provide comments or suggestions on the UNT Libraries’ support of online education (open text box)

15. Please list your department (open text box)

16. How long have you been involved in offering online or distance education courses?
- 0-1 years
• 2-5 years
• 6-8 years
• 9+ years

Thank you for participating in the survey.
Expanded Assessment Study Examining the Citation Patterns from Traditional and Nontraditional Institutions and Their Effect upon the Quality of Doctoral Dissertation Reference Lists

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Abstract
This study used citation analysis in conjunction with a subjective rubric with five validated criteria to assess the quality of a purposive sample of 452 education dissertation reference lists produced at a nontraditional institution from six doctoral programs. These programs used a variety of distance education models. The citations were then compared with the 100 reference lists selected from doctoral education programs at 10 traditional institutions. Criteria included the breadth of resources, the depth of the literature review as shown through the citing of critical historical and theoretical works, depth as demonstrated through the scholarliness of citations chosen, currency, and relevancy. The study discusses how the expanded sample of traditional reference lists continued to demonstrate consistent patterns. In contrast, although the sample of reference lists from distance education programs was much expanded, the patterns of the subsets of reference lists at the nontraditional institution were significantly diverse. The patterns of 35 doctoral reference lists from another for-profit, nontraditional institution known for providing distance education were also examined to compare the results of the two nontraditional programs. Possible reasons for differences in citation patterns by traditional and nontraditional programs are discussed, and the possible role of distance education and program criteria are examined for insights they offer into the use of citation analysis as an assessment tool of the library research skills of doctoral students.

Background and the Problem
Educators have discussed the quality of distance education for the last several decades from a variety of perspectives, particularly since the advent and mainstreaming of online classes. In a landmark debate published in Educational Technology Research and Development, Clark (1994) and Kosma (1994) questioned whether the technologies used to deliver the instruction affected learning or if the issue was that learning was impacted by different students’ learning styles. A number of studies at different colleges and universities examined differences in learning outcomes based on the method of delivery (Fredda, 2000a, 2000b, 2000c; Glenn, 2001; Katz, 2000; Moorhouse, 2001, Rovai & Lucking, 2003; Thirunarayanan & Perez-Prado, 2001-2002) or location of classes on-campus or field-based sites (MacFarland, 1998a, 1998b, 1998c, 1998d, 1998e, 1998f, 2006). By the late 1990s, distance education was widely accepted in the mainstream of higher education (Cristo-Baker, 2004; Muirhead, 2005). During this same period, librarians also became interested in the relative merits of providing library training face-to-face versus online (Beile & Boote, 2004; Church & Reeve, 2007; Holman, 2000; Walker, 2005) for library training.

Librarians have used citation analysis in a variety of ways. Collection development librarians have looked at citation patterns for years to analyze collections and usage patterns (Devon & Kellogg, 1990; Beile, Boote, & Killingsworth, 2003; Haycock, 2004; Kyper-Rushing, 1999). Librarians and librarian/faculty teams have also used citation analysis to examine the impact of library training on the quality of assignments in higher education (Dykeman & King, 1983; Green & Bowser, 2003; Kohl & Wilson, 1986) and more specifically on distance students (Heller-Ross, 2002; Tuñón & Brydges, 2005,
Tuñón and Brydges became interested in assessing the effectiveness of library training for doctoral students in education in distance programs using citation analysis. Towards this end, they developed a subjective and objective rubric for assessing the quality of dissertation reference lists (Brydges & Tuñón, 2005) using 144 dissertation reference lists produced by youth studies doctoral education program at a nontraditional not-for-profit institution. In a second study that year, Tuñón and Brydges (2005) looked at the results for the youth studies program as a whole as well as analyzing the results of local and distance cohorts within the program and validated both instruments. Both 2005 studies validated that the two assessment tools were essentially different philosophically, in the amount of labor required to gather the data, and in the nature of the types of data that they generated. However the studies also discovered that the qualitative subjective assessment tool could be used with a high degree of inter-rater reliability. Moreover, when quality score data were broken into quadrants for subjective and objective tools, there was a great deal of agreement in overall score in both the lowest and highest quadrants for the two tools. Where the two instruments differed mostly was in the placement of quality scores in the second and third quadrant where the subjectivity of the assessor more reliably allowed for idiosyncratic differences unique to dissertation topics (See Brydges and Tuñón 2005). Given these findings, the investigators concluded that citation analysis could be used in conjunction with either subjective or objective rubrics or both as an effective technique for assessing the quality of reference lists. As a result, the investigators felt comfortable using their subjective rubric in a follow-up study (Tuñón & Brydges, 2006) along with simple descriptive statistics about citation patterns to compare the 144 dissertation reference lists with 59 education dissertations from 10 traditional institutions. This formative study found that “the quality of the dissertation reference lists produced by students at traditional and nontraditional institutions had more in common than differences” (p. 475). Possible reasons for differences in citations patterns by traditional and distance programs were discussed, and both social construction and constructivist theories were examined for insights they offered into the use of citation analysis as an assessment tool of the library research skills of doctoral students. On a different note, differences in the overarching citation patterns of journal articles, books, and other documents were identified in the Tuñón and Brydges study in 2006 that raised questions about the possible impact of library training on general types of resources cited.

The previous studies raised several research questions that are addressed in the current study:

- Are the conclusions generated in the formative study regarding the difference in quality of traditional and nontraditional doctoral reference lists generalizable to other doctoral programs and other nontraditional institutions?
- Are the differences in citation patterns between traditional and nontraditional dissertation reference lists that were identified in the formative study generalizable to other graduate education doctoral programs and other nontraditional institutions?

Methodology

The focus of the current study was expanded to include a total of 452 dissertations produced by education distance students to include educational programs from the same institution in addition to the initial 144 dissertation reference lists in youth studies used in the formative study. In addition, 34 more recent youth study’s (YS) dissertations were added to the original 144 dissertations from the previous study. A total of 95 reference lists were selected from dissertations in the educational leadership program (ED), 90 in higher education (HE), 12 from speech language pathology (SLP), 37 from instructional technology (IT), 20 from the IT program in Spanish (IT SP), and 20 from organizational leadership (OL). These doctoral education programs varied in terms of methods of delivering instruction. Contrary to the ERIC thesaurus definition of distance education that emphasized little or no classroom or face-to-face contact between students and instructions, the authors used distance education to encompass everything from programs delivered at field-based sites in the United States and internationally to hybrid programs.
(various blends of face-to-face and distance program delivery) and programs delivered entirely online. The investigators used this definition because all these methods of delivering distance education were utilized at the site institution. It should be noted that although some of the 452 dissertations were completed by students attending class near or on the main campus, all students at the nontraditional institution were treated by the academic program and the library as distance students. Because the Tuñón and Brydges study in 2005 found that there were no statistically significant differences between the quality of the reference lists completed by students in local and field-based clusters at the site institution, all dissertation reference lists were categorized as nontraditional.

Expanding the sample, at the site institution and elsewhere, was important because it extended the focus used in the previous formative study (Tuñón & Brydges, 2006) from only one method of delivering distance education at the site institution to encompass six doctoral education programs that used a variety of delivery modalities. The breadth and scope of this expanded study permitted the researchers to test the generalizability of their formative conclusions based on data from one program.

To acquire and process the citations from dissertations produced by students in 10 traditional institutions with comparable doctoral education programs, the investigators had utilized a modified Kuiper-Rushing’s (1999) method in the formative study to identify the pool of institutions used. In the formative study, ProQuest’s Dissertations and Theses database was searched for dissertations that had been completed in the study’s two year time period and indexed as education dissertations. This pool of top-tier degree-conferring institutions was ranked numerically by number of dissertations retrieved. The top ten institutions that met both the 1994 (Carnegie Foundation, 2000) and 2000 (Carnegie Foundation, 2005) definitions of Carnegie Research institutions were selected. Although some of the institutions of higher education were undertaking some initiatives to offer classes online or at field-based sites, the overall structure and focus of these programs were basically traditional in nature. In the current study, the same pool of 10 traditional institutions was utilized. A purposeful sample of 100 dissertations representing 12,113 citations was selected. Fifty-nine of these reference lists (7,376 citations) were included from the earlier study, and the remaining 41 reference lists were selected to be comparable with the additional programs added from the nontraditional institution.

As had been the case with the previous study, citations were used as descriptive indicators of document content via the use of a citation analysis method that counted resources used in dissertation reference lists. The investigators first compiled the 33,873 citations from 52 reference lists in six educational graduate programs (youth studies, educational leadership, higher education, speech and language pathology, information technology, and organizational leadership). Sampling was not a concern for this set of reference lists because all completed, approved, and archived graduate education dissertations by students during the same two-year time period of the initial study were included.

The method for compiling and sorting the various types of resources used was based on a review of the types of categories used in several previous studies (Chambers & Healey, 1973; Glenn, 1995; Gooden, 2001; Haycock, 2004; Hovde, 1999; Kuiper-Rushing, 1999; Malone & Videon, 1997; Thomas, 2000). The same methodology was used for analyzing the citations as in the researchers’ previous studies (Brydges & Tuñón, 2005; Tuñón & Brydges, 2005, 2006). For the objective rubric (see Appendix A), information on the date of publication, date of completion of the dissertation, types of resource, titles of journals, and name of book publishers were compiled. Using Ulrich’s Periodicals Directory, the journals were checked to see which were identified as scholarly, academic, and/or peer reviewed. An algorithm was used to generate an objective score for each reference list. The reference lists were also rated using a subjective rubric (see Appendix B) based on the breadth of resources, the depth of the literature review as shown through the citing of critical historical and theoretical works, depth as demonstrated through the scholarliness of citations chosen, currency, and relevancy.

Data Analysis and Discussion of Findings

The aggregated results of the traditional and nontraditional reference lists were examined as well as an analysis by academic program. Table 1 provides a visual overview of the criteria from the objective rubric identified in Appendix A with descriptive data of the citations used in the dissertation reference lists.
Table 1

Comparison of Mean Data between Nontraditional Programs’ Dissertation Citations and Comparable Traditional Dissertation Citations

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Six Doctoral Education Programs (Distance Programs)</th>
<th>Ten Traditional Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nontraditional Institution</td>
<td>Traditional Carnegie</td>
</tr>
<tr>
<td></td>
<td>YS Mean</td>
<td>ED Mean</td>
</tr>
<tr>
<td>Total number of citations analyzed</td>
<td>12,070</td>
<td>4,025</td>
</tr>
<tr>
<td>N=</td>
<td>178</td>
<td>95</td>
</tr>
<tr>
<td>Mean Number of Citations</td>
<td>67.81</td>
<td>42.32</td>
</tr>
<tr>
<td>Number of Periodical Article Citations</td>
<td>45.98</td>
<td>18.52</td>
</tr>
<tr>
<td>Number of Citations from Peer-Reviewed Journals</td>
<td>33.32</td>
<td>10.33</td>
</tr>
<tr>
<td>Number of Academic/Scholarly Journal Citations</td>
<td>38.63</td>
<td>14.20</td>
</tr>
<tr>
<td>Number of Books or Book Chap. Citations</td>
<td>12.28</td>
<td>9.23</td>
</tr>
<tr>
<td>Number of Dissertations</td>
<td>0.42</td>
<td>0.39</td>
</tr>
<tr>
<td>Number of Practicum/Theses</td>
<td>0.09</td>
<td>0.07</td>
</tr>
<tr>
<td>Number of Conference Papers</td>
<td>0.78</td>
<td>1.18</td>
</tr>
<tr>
<td>Number of Reports</td>
<td>3.08</td>
<td>6.57</td>
</tr>
<tr>
<td>Number of ERIC ED Documents</td>
<td>1.03</td>
<td>1.32</td>
</tr>
<tr>
<td>Number of Laws/Legal Cases</td>
<td>0.21</td>
<td>0.45</td>
</tr>
<tr>
<td>Newspaper Articles</td>
<td>0.58</td>
<td>0.71</td>
</tr>
<tr>
<td>Web Sites</td>
<td>1.33</td>
<td>1.85</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>1.70</td>
<td>3.47</td>
</tr>
<tr>
<td>Citations Published Within 3 Years</td>
<td>16.70</td>
<td>13.79</td>
</tr>
<tr>
<td></td>
<td>24.8%</td>
<td>32.5%</td>
</tr>
<tr>
<td>Citations Published Between 3 and 11 Years</td>
<td>36.92</td>
<td>19.54</td>
</tr>
<tr>
<td></td>
<td>54.7%</td>
<td>46.1%</td>
</tr>
<tr>
<td>Citations More Than 11 Years or Not Dated</td>
<td>13.84</td>
<td>9.04</td>
</tr>
<tr>
<td></td>
<td>20.5%</td>
<td>21.3%</td>
</tr>
</tbody>
</table>
The citation mean scores in Table 1 provide a straightforward, quantitative function for considering the variability between the various nontraditional distance education programs as well as for comparing the overall nontraditional institution’s mean scores with the traditional institutions’ mean scores.

Table 2 provides the bigger picture by comparing the overall mean qualitative subjective rubric data with a summary of the objective citation analysis scoring data portrayed in Table 1. The table quantifies subjective data as identified in the rubric’s criteria of depth of understanding, depth of scholarship, breadth, currency and relevancy and objective citation counts with data generated by the algorithm that factored in the number of citations using a weighting system for various types of resources. For a different perspective, Appendix C provides a bar graph with a breakdown of the data by program and criteria.

**Table 2**

*Comparison of Mean Quality Subjective and Objective Scoring Data between Nontraditional Distance Programs’ Dissertation Citations and Comparable Traditional Carnegie Dissertation Citations*

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Nontraditional Institution</th>
<th>Traditional Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Doctoral Education Programs (Distance Programs)</td>
<td>Non-Traditional Combined Mean</td>
</tr>
<tr>
<td></td>
<td>YS</td>
<td>ED</td>
</tr>
<tr>
<td>Total number of citations analyzed</td>
<td>12,070</td>
<td>4,025</td>
</tr>
<tr>
<td>N=</td>
<td>178</td>
<td>95</td>
</tr>
<tr>
<td>Mean Number of Citations</td>
<td>67.81</td>
<td>42.32</td>
</tr>
<tr>
<td>Breadth of resources</td>
<td>2.36</td>
<td>1.45</td>
</tr>
<tr>
<td>Depth: understanding</td>
<td>2.60</td>
<td>1.37</td>
</tr>
<tr>
<td>Depth: scholarliness</td>
<td>3.02</td>
<td>1.69</td>
</tr>
<tr>
<td>Currency of citations</td>
<td>2.63</td>
<td>2.06</td>
</tr>
<tr>
<td>Relevancy to the topic</td>
<td>3.69</td>
<td>2.53</td>
</tr>
<tr>
<td>Overall Subjective Rubric Score</td>
<td>14.28</td>
<td>9.70</td>
</tr>
<tr>
<td>Std. Deviation Subj. Score</td>
<td>2.42</td>
<td>7.77</td>
</tr>
<tr>
<td>Overall Objective Score</td>
<td>74.5</td>
<td>38.66</td>
</tr>
<tr>
<td>Std. Deviation Obj. Score</td>
<td>33.14</td>
<td>21.23</td>
</tr>
</tbody>
</table>

As in the previous study (Tuñón, & Brydges, 2006), the investigators were concerned with the quality of traditional versus nontraditional dissertations. Data from both the objective citation analysis rubric and subjective qualitative rubric were collected and analyzed for statistically significant differences with a view to establish patterns that would reflect generalizability from the previous study. As with the
earlier study, the resources cited by nontraditional students were much more current overall than those used in traditional institutions’ dissertations. However, the number and types of resources in the traditional institutions’ dissertations were broader in almost every other category. A Welch’s t-test was conducted to establish the statistical significance in the probability of students in traditional institutions scoring higher on the five criteria of the subjective rubric’s quality score. (See Tables 3 and 4.)

Table 3

Descriptive Comparison of Statistically Significant Probability Scores Generated by Using the Qualitative Rubric from the Previous Study Compared with the Expanded Study

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Previous Study (Tunon, &amp; Brydges, 2006)</th>
<th>Expanded Study (Tunon, &amp; Brydges, 2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nontraditional</td>
<td>Traditional</td>
</tr>
<tr>
<td>N=</td>
<td>144</td>
<td>59</td>
</tr>
<tr>
<td>Breadth</td>
<td>2.49</td>
<td>3.21</td>
</tr>
<tr>
<td>Depth – Understanding</td>
<td>2.74</td>
<td>2.82</td>
</tr>
<tr>
<td>Depth – Scholarliness</td>
<td>3.11</td>
<td>3.00</td>
</tr>
<tr>
<td>Currency</td>
<td>2.58</td>
<td>2.61</td>
</tr>
<tr>
<td>Relevancy</td>
<td>3.78</td>
<td>3.72</td>
</tr>
<tr>
<td>Subjective Rubric Overall</td>
<td>14.69</td>
<td>15.55</td>
</tr>
</tbody>
</table>

Note. t-test scores marked bold * are statistically significant – confidence level p< 0.01 using Welch’s t-test for probability significance.

Research Question #1

In a test of statistically significant differences between the data from the previous study (see Table 3), the 2006 study found only the criteria ‘breadth’ of resources chosen for citation as having a probability which was statistically significant to a p<.01 confidence level. In the expanded study the probability that students in traditional institutions would score higher was established for all but one criteria. The only criteria not showing a statically significant probability was currency of citations chosen. These data were supported by the objective citation analysis rubric where the only non-statistically significant differences in citations were the mean number of ERIC citations (mean=1.5) and the mean number of citations from sources published under 3 years prior to the dissertation being approved (mean=22.6 & 23.1). However, it should be noted that the citations of the nontraditional institution’s programs were significantly more current overall. On the basis of these findings “the quality of dissertation reference lists produced by students at traditional and nontraditional institutions having more in common than differences” is not supported by the expanded study and the investigators concluded that this early finding is not generalizable.

Research Question #2

The expanded study also set out to answer the question: “Are the differences in citation patterns between traditional and nontraditional dissertation reference lists that were identified in the formative study generalizable to other graduate education doctoral programs and other nontraditional institutions?” The usage patterns of types of documents in the previous study, however, also were not replicated in the expanded study, particularly for the major categories including total number of citations, number of periodical articles in general as well as journal articles that were peer reviewed or categorized as academic and/or scholarly in Ulrich’s Periodicals Directory, books, dissertations, conference papers, and reports. In all these categories, the probability that doctoral students at traditional institutions would use these types of scholarly types of resources had risen significantly as measured by a one-tailed t-test. (See Table 4.) The only type of resource more likely to be used by nontraditional students in the expanded study was Websites. In the expanded study, there was a significantly greater probability that the traditional students would include older citations, particularly resources that were more than 10 years old. Moreover, the
patterns between various subsets of nontraditional programs were much more unpredictable. When one looks at the citation patterns of the individual programs in Table 1, the patterns varied widely. For example, the mean numbers for periodical article citations in the six programs ranged from a high of 50.20 to a low of 18.52.

Table 4

Descriptive Comparison of Statistically Significant Differences Between Nontraditional and Traditional Institution Education Doctoral Reference Lists in the Citation Pattern Means Generated by Using the Objective Rubric

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Citation Pattern Objective Means</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Combined Nontraditional</td>
<td>Traditional Carnegie</td>
</tr>
<tr>
<td>Total Number of Citations</td>
<td>74.95</td>
<td>121.13</td>
</tr>
<tr>
<td>Periodical Articles</td>
<td>38.59</td>
<td>52.83</td>
</tr>
<tr>
<td>Citations from Peer-Reviewed Journals</td>
<td>25.58</td>
<td>36.35</td>
</tr>
<tr>
<td>Academic/Scholarly Journal Citations</td>
<td>29.96</td>
<td>42.95</td>
</tr>
<tr>
<td>Books or Book Chapters</td>
<td>18.54</td>
<td>42.67</td>
</tr>
<tr>
<td>Dissertations</td>
<td>.61</td>
<td>2.42</td>
</tr>
<tr>
<td>Practicum/Theses</td>
<td>.12</td>
<td>.11</td>
</tr>
<tr>
<td>Conference Papers</td>
<td>1.66</td>
<td>2.74</td>
</tr>
<tr>
<td>Reports</td>
<td>4.60</td>
<td>11.39</td>
</tr>
<tr>
<td>ERIC ED Documents</td>
<td>1.53</td>
<td>1.56</td>
</tr>
<tr>
<td>Laws/Legal Cases</td>
<td>.27</td>
<td>.39</td>
</tr>
<tr>
<td>Newspaper Articles</td>
<td>.84</td>
<td>.61</td>
</tr>
<tr>
<td>Web Sites</td>
<td>4.33</td>
<td>2.55</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>3.71</td>
<td>3.75</td>
</tr>
<tr>
<td>Citations Published ≤3 Years</td>
<td>23.07</td>
<td>22.65</td>
</tr>
<tr>
<td>Citations Published 4 to 10 Years</td>
<td>36.62</td>
<td>48.24</td>
</tr>
<tr>
<td>Citations ≥ 10 Years or Not Dated</td>
<td>15.12</td>
<td>50.24</td>
</tr>
</tbody>
</table>

Note. t-test scores marked **are statistically significant – confidence level P< 0.01 using two sample, one tailed t-test for significance.

The researchers also wanted to look at the overarching patterns of resources between traditional and nontraditional students. In the former study, Tuñón and Brydges (2006) compared the types of resources used in their data with two other recent citation analysis studies of traditional education students (Beile, Boote, & Killingsworth, 2003; Haycock, 2004). They had found that the nontraditional students used journal/periodical articles almost 25% more frequently than students in the other two studies while the students in the studies by Haycock and Beile et al. used more traditional print resources and particularly books/monographs more frequently. (See Table 5.) Because the atypical usage patterns by students from a stereotypical “nontraditional” institution raised questions about whether the overall environment of nontraditional institutions might impact the types and quality of resources cited by students at these institutions, the investigators expanded the analysis of citation patterns to see if dissertation reference lists from other types of distance education programs demonstrated the same high percentages of journal citations. They also wanted to see if the citation patterns would continue when a larger number of nontraditional dissertation reference lists were examined. As Table 5 illustrates, the pattern across the three groups of traditional dissertations remained almost identical. A total of 44% of citations in the Carnegie dissertations were from journals/periodical as compared with 45% in the Beile et al. study and 44% in the Haycock study. In contrast, the percentage of journals used in the nontraditional dissertation reference lists showed a double digit decrease from 69% in the smaller 2006 study to 53% in the expanded study of 452
nontraditional reference lists. It should be noted, however, that the size of the samples in all three of the studies of traditional dissertation reference lists were smaller than even the smallest study by Brydges and Tuñón.

In order to include another institutional perspective on nontraditional distance education, 35 education dissertation reference lists (4,301 citations) were purposively selected from a for-profit nontraditional institution. Although the sample of dissertations from the for-profit nontraditional was small, it should be noted that the size was comparable to the two other traditional studies. However, contrary to expectation, the percentage of journals/periodicals used in the 35 nontraditional dissertations from the for-profit nontraditional institution (49%) and the mean for the nontraditional programs (51%) were still closer than to the mean for traditional programs (44%). (See Table 5.) An analysis of Institution B’s overarching resource patterns also documented that the citation means were closer to those of the traditional institutions than the overall results of the six programs addressed in this study. Table 6 provides a more details analysis of types of resources utilized.

Table 5

A Comparison of Overarching Resource Patterns in Traditional and Nontraditional Education Dissertation Reference Lists

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Citation Means</td>
<td>122.89</td>
<td>69.58</td>
<td>74.95</td>
<td>121.13</td>
<td>87.70</td>
</tr>
<tr>
<td>Journals (mean)</td>
<td>49% (mean=59.66)</td>
<td>69% (mean=47.61)</td>
<td>51% (mean=38.59)</td>
<td>44% (mean=53.44)</td>
<td>45%</td>
</tr>
<tr>
<td>Books</td>
<td>51% (mean=45.60)</td>
<td>18% (mean=12.55)</td>
<td>24.74% (mean=18.54)</td>
<td>35% (mean=42.67)</td>
<td>33%</td>
</tr>
<tr>
<td>Other</td>
<td>14% (mean=17.63)</td>
<td>13% (mean=9.42)</td>
<td>23.77% (mean=17.81)</td>
<td>21% (mean=25.02)</td>
<td>22%</td>
</tr>
</tbody>
</table>

Table 6 provides a more details analysis of types of resources utilized.
Table 6

Comparison of Mean Data between Combined Dissertation Citations of Six Nontraditional A Programs with Comparable Dissertation Citations from Traditional Carnegie Institutions and Nontraditional University B

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Six Programs Combined Nontraditional A</th>
<th>Traditional Carnegie</th>
<th>Nontraditional B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of citations analyzed</td>
<td>33,873</td>
<td>12,113</td>
<td>4,301</td>
</tr>
<tr>
<td>N=</td>
<td>452</td>
<td>100</td>
<td>35</td>
</tr>
<tr>
<td>Mean Number of Citations</td>
<td>74.94</td>
<td>121.13</td>
<td>122.89</td>
</tr>
<tr>
<td>Number of Periodical Article Citations</td>
<td>38.59</td>
<td>52.83</td>
<td>59.66</td>
</tr>
<tr>
<td>Number of Citations from Peer-Reviewed Journals</td>
<td>25.58</td>
<td>36.35</td>
<td>45.09</td>
</tr>
<tr>
<td>Number of Academic/Scholarly Journal Citations</td>
<td>29.96</td>
<td>42.95</td>
<td>50.54</td>
</tr>
<tr>
<td>Number of Books or Book Chap. Citations</td>
<td>18.54</td>
<td>42.67</td>
<td>45.60</td>
</tr>
<tr>
<td>Number of Dissertations</td>
<td>0.61</td>
<td>2.42</td>
<td>1.29</td>
</tr>
<tr>
<td>Number of Practicum/Theses</td>
<td>0.12</td>
<td>0.22</td>
<td>0.29</td>
</tr>
<tr>
<td>Number of Conference Papers</td>
<td>1.66</td>
<td>2.74</td>
<td>1.80</td>
</tr>
<tr>
<td>Number of Reports</td>
<td>4.60</td>
<td>11.39</td>
<td>4.66</td>
</tr>
<tr>
<td>Number of ERIC ED Documents</td>
<td>1.53</td>
<td>1.56</td>
<td>1.66</td>
</tr>
<tr>
<td>Number of Laws/ Legal Cases</td>
<td>0.27</td>
<td>0.39</td>
<td>0.29</td>
</tr>
<tr>
<td>Newspaper Articles</td>
<td>0.84</td>
<td>0.61</td>
<td>0.91</td>
</tr>
<tr>
<td>Web Sites</td>
<td>4.33</td>
<td>2.55</td>
<td>3.51</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>3.71</td>
<td>3.75</td>
<td>3.23</td>
</tr>
<tr>
<td>Citations Published Within 3 Years</td>
<td>23.07</td>
<td>22.65</td>
<td>19.97</td>
</tr>
<tr>
<td></td>
<td>30.8%</td>
<td>18.7%</td>
<td>16.2%</td>
</tr>
<tr>
<td>Citations Published Between 3 and 11 Years</td>
<td>36.62</td>
<td>48.25</td>
<td>57.47</td>
</tr>
<tr>
<td></td>
<td>49.0%</td>
<td>39.8%</td>
<td>46.8%</td>
</tr>
<tr>
<td>Citations More Than 11 Years or Not Dated</td>
<td>15.12</td>
<td>50.24</td>
<td>45.46</td>
</tr>
<tr>
<td></td>
<td>20.2%</td>
<td>41.5%</td>
<td>37.0%</td>
</tr>
</tbody>
</table>

A closer analysis of the six nontraditional programs in Table 1 revealed that the citation patterns of three of the six programs were much closer to the patterns in the traditional Carnegie dissertations. The citations in the dissertations from the program in higher education were compared with the traditional Carnegie citations, and an independent sample, one-tailed t-test was run to establish statistically significant differences. (See Table 7.) The findings revealed that students in the higher education program would have a total number of citations significantly higher than those in the traditional Carnegie set. For journal articles, books, conference papers, and reports, the finding was that there was no statistically significant difference in the number of citations selected by the students in the nontraditional program in higher education when compared with students’ citation patterns in the traditional Carnegie group. However, there was still a statistically significant chance that students in the Carnegie group would select resources that were more than ten years old while the probability was that the nontraditional students would select resources published in the last three years. There was also statistically significant difference between the traditional
and nontraditional students’ citing of resources such as Websites, ERIC ED documents, and miscellaneous other resources.

Table 7

**Comparison of Citation Patterns between a High Functioning Nontraditional Program and Traditional Carnegie Institutions**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Objective Means</th>
<th></th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nontraditional Higher Ed.</td>
<td>Traditional Carnegie</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subset</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Number of Citations</td>
<td>126.7</td>
<td>121.13</td>
<td>-.496*</td>
</tr>
<tr>
<td>Periodical Articles</td>
<td>50.69</td>
<td>52.83</td>
<td>.347</td>
</tr>
<tr>
<td>Citations from Peer-Reviewed Journals</td>
<td>29.99</td>
<td>36.35</td>
<td>1.336</td>
</tr>
<tr>
<td>Academic/Scholarly Journal Citations</td>
<td>33.83</td>
<td>42.95</td>
<td>1.773</td>
</tr>
<tr>
<td>Books or Book Chapters</td>
<td>40.54</td>
<td>42.67</td>
<td>3.85</td>
</tr>
<tr>
<td>Dissertations</td>
<td>.94</td>
<td>2.42</td>
<td>2.782*</td>
</tr>
<tr>
<td>Practicum/Theses</td>
<td>.17</td>
<td>.11</td>
<td>.564</td>
</tr>
<tr>
<td>Conference Papers</td>
<td>2.56</td>
<td>2.74</td>
<td>.348</td>
</tr>
<tr>
<td>Reports</td>
<td>7.03</td>
<td>11.39</td>
<td>2.84</td>
</tr>
<tr>
<td>ERIC ED Documents</td>
<td>2.9</td>
<td>1.56</td>
<td>-2.024*</td>
</tr>
<tr>
<td>Laws/Legal Cases</td>
<td>.36</td>
<td>.39</td>
<td>.161</td>
</tr>
<tr>
<td>Newspaper Articles</td>
<td>1.84</td>
<td>.61</td>
<td>2.242*</td>
</tr>
<tr>
<td>Web Sites</td>
<td>11.74</td>
<td>2.55</td>
<td>-5.087</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>7.92</td>
<td>3.75</td>
<td>-5.115**</td>
</tr>
<tr>
<td>Citations Published ≤3 Years</td>
<td>47.4</td>
<td>22.65</td>
<td>-5.96**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citations Published 4 to 10 Years</td>
<td>58.88</td>
<td>48.24</td>
<td>-1.827</td>
</tr>
<tr>
<td>Citations ≥ 10 Years or Not Dated</td>
<td>20.42</td>
<td>50.24</td>
<td>6.022**</td>
</tr>
</tbody>
</table>

Note. *t*-test scores marked **bold** * are statistically significant – confidence level $p < 0.05$ using an independent samples one tailed *t*-test for significance.

* *t*-test scores marked **bold** ** are statistically significant – confidence level $p < 0.001$ using an independent samples one tailed *t*-test for significance.

- *t*-test scores that were statistically significant in the previous study but not in the expanded study
- *t*-test scores that were statistically significant in the expanded study
- *t*-test scores that were statistically significant in the expanded study for the nontraditional higher education subset

When the citations in nontraditional program in higher education were compared to the traditional Carnegie citations using the subjective rubric, the similarities were ever greater. The probability was that there were no statistically significant differences in the probability of one group scoring higher in quality in the breadth, depth of understanding, depth of scholarliness, and relevancy of the resources. (See Table 8.)
Table 8

Descriptive Comparison of Statistically Significant Differences in the Qualitative Rubric Data from the Previous Study with the Expanded Study

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Nontraditional Higher Ed. Program Subset</th>
<th>Traditional</th>
<th>Welch’s t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Expanded Study</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Tunon, &amp; Brydges, 2008)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=</td>
<td>90</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Breadth</td>
<td>3.27</td>
<td>3.21</td>
<td>-.409</td>
</tr>
<tr>
<td>Depth – Understanding</td>
<td>2.99</td>
<td>2.81</td>
<td>-1.013</td>
</tr>
<tr>
<td>Depth – Scholarliness</td>
<td>2.60</td>
<td>2.93</td>
<td>1.908</td>
</tr>
<tr>
<td>Currency</td>
<td>3.21</td>
<td>2.64</td>
<td>-4.333*</td>
</tr>
<tr>
<td>Relevancy</td>
<td>3.77</td>
<td>3.71</td>
<td>.767</td>
</tr>
<tr>
<td>Subjective Rubric Overall</td>
<td>15.84</td>
<td>15.26</td>
<td>-1.255</td>
</tr>
</tbody>
</table>

Note. t-test scores marked bold * are statistically significant – confidence level p<0.001

Limitations

Limitations were identified in previous studies with the quality of citations and difficulties presented by input errors impacting quality of data (Brydges & Tuñón, 2005; Tuñón & Brydges, 2005, 2006). In addition, it has already been noted that when looking at overarching citation patterns, the size of samples from traditional institutions were small. Nontraditional Institution B was selected because the model for distance education was significantly different, the method of library instruction was also very different, and the institution is a ‘for-profit’ University. Although both nontraditional institutions had doctoral programs in education, Institution B only offers a Ph.D. program while all of the other studies cited used doctoral reference lists by students in Doctor of Education (Ed.D.) programs.

Areas for Further Research

As indicated below in the Conclusions section of this paper, greater variability in both the quality and citation patterns exist between graduate students in nontraditional and traditional institutions. This expanded study reveals however that there is significant variability in the quality and citation patterns not only within various programs within an institution, but also significant variability exists in the quality and citation patterns between two nontraditional institutions. While the faculty/librarian team can speculate as to why these differences are evident, additional research that attempts some causal analysis is needed, and larger samples of traditional institutions need to be included. The investigators did discover in the previous study that there was no statistically significant difference in the quality of dissertation reference lists of those students who lived and studied close to an institutional library versus those who would be considered “distant students”. Other variables that the faculty/librarian team identify that might contribute to quality dissertation reference lists for further study include: the emphasis placed on certain resources by the different institutions and their various programs and the nature and duration of the library research skill training sessions for a) students and b) faculty dissertation committee members. The investigators also wonder if the quality of the doctoral reference list is in any way predictive of either the quality of the literature review or even the overall quality of the dissertation itself. Additional analysis is needed to learn if there is a hierarchy of variables with some being more intrinsically fundamental to the process. How central or peripheral the role of librarians is to the process of producing quality dissertation reference lists would be an area for more research.
Conclusions

The formative discussions of the faculty/librarian team that conducted these series of studies and their rationale for conducting bibliometric/citation analysis was born out of a concern regarding the quality of graduate education dissertation reference lists vis-à-vis the efficacy of the library skill training model. Even during those early discussions, there was an understanding that variables affecting the wide continuum of quality of the citations used by these students were multi-variant, and the investigators could only begin to identify which variables affected quality the most.

At the time of these discussions, the faculty/librarian team was conducting short library research skill training sessions of about an hour and a half in duration with doctoral students during their initial orientation. This seemed at the time to be woefully inadequate as reflected in the more than often mediocre quality of dissertation reference lists. The assumption was that a better training model would improve the quality of student outcomes. Once assessment instruments had been developed and validated, the faculty/librarian team then conducted the initial study which compared the quality of the nontraditional youth studies students with comparable dissertations from doctoral students in traditional institutions. The researchers concluded, “Citation analysis used in conjunction with the Brydges/Tuhón Subjective Rubric demonstrated that the quality of dissertation reference lists produced by students at traditional and nontraditional institutions have more in common than differences” (p. 475 ). The only statistically significant difference in quality between the two groups was observed in the breadth of resources used as traditional students used significantly more resources than the initial study’s nontraditional students.

The current expanded study revealed a significant degree of variability in the quality of the reference lists within the various doctoral education programs at the nontraditional institution. When the data from the six programs were aggregated and compared with the traditional institutions’ results, statistically significant differences occur in five of the six subjective rubric’s criteria with only differences in currency remaining not statistically significant. In other words, the probability of a student in a traditional institution scoring higher in reference list quality was statistically significant overall.

When considering citation pattern differences, the earlier study (2006) found statistically significant differences in a number of areas. The mean was higher in the reference lists from traditional institutions for total number of citations, number of periodical citations, number of citations from peer reviewed journals, number of academic/scholarly journal citations as well as the number of dissertations, conference papers, and reports cited. Similarly, reference lists from traditional institutions had a higher number of citations published between 3 and 10 years or older. In addition to these, the current expanded study also showed statistically significant differences in the number of government documents, laws, Websites, and newspapers cited. The above data had been analyzed using a Poisson distribution to reveal these group differences.

The answers to the research questions posited at the beginning of the study revealed that many of the findings in the initial study were not generalizable to other doctoral programs in traditional or nontraditional institutions. A student in a traditional institution had a greater probability of scoring higher in all but “currency” when the quality of the dissertation reference lists was assessed using the criteria identified in the subjective rubric. When the citation patterns of specific types of documents identified in the objective rubric in the previous study were compared with the expanded sample of reference lists from traditional and nontraditional institutions, the investigators concluded that the differences in the patterns of types of documents revealed in the formative study were generalizable based upon the data from the expanded study. However, the differences in types of resources used became even more pronounced in the expanded study. As a result, the finding that differences in the overarching citation patterns based on broad general categories of journals, books, and “other”, while still evident, became less pronounced in the expanded study had not been anticipated. The fact that the sample of traditional dissertation reference lists was smaller may account for some of these differences.

The fact that the data in the expanded study revealed noteworthy differences in patterns in the doctoral reference lists in six nontraditional programs as well as those from the for-profit nontraditional institution gives rise to questions about possible programmatic variables that impact the quality of
dissertation reference lists. If there is a hierarchy of factors impacting the quality of reference lists, more needs to be understood about the role of the academic programs, dissertation chairs, and methods of interacting with doctoral students on the quality of dissertation reference lists before the impact of library training on both the quality of doctoral dissertation reference lists and the citation patterns used by doctoral students can be assessed.
References


Fredda, J. V. (2000a). Comparison of selected student outcomes for Internet- and campus-based instruction at the Fischler Graduate School of Education and Human Services (NSU-R-00-16). Fort Lauderdale, FL: Nova Southeastern University. (ERIC Document Reproduction Service No. ED453742)

Fredda, J. V. (2000b). Comparison of selected student outcomes for Internet- and campus-based instruction at the Wayne Huizenga Graduate School of Business and Entrepreneurship (NSU-R-00-14). Fort Lauderdale, FL: Nova Southeastern University. (ERIC Document Reproduction Service No. ED453743)


Appendix A

The Tunon/Brydges Objective Rubric’s Scoring Scale

<table>
<thead>
<tr>
<th>Category</th>
<th>Points</th>
<th>≥ 3 yrs old</th>
<th>≥ 10 yrs Max pts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissertations * (published and unpublished)</td>
<td>2</td>
<td>.3</td>
<td>.2</td>
</tr>
<tr>
<td>Theses/practicums/action-based research*</td>
<td>1</td>
<td>.3</td>
<td>.2</td>
</tr>
<tr>
<td>Periodicals (magazines, trade journals)*</td>
<td>0</td>
<td>.3</td>
<td>.2</td>
</tr>
<tr>
<td>Scholarly periodicals*</td>
<td>1.5</td>
<td>.3</td>
<td>.2</td>
</tr>
<tr>
<td>Journals</td>
<td>+.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic/scholarly</td>
<td>+.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer-reviewed</td>
<td>+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Books/book chapters (not scholarly)</td>
<td>0</td>
<td>.3</td>
<td>.2</td>
</tr>
<tr>
<td>Books/book chap. - scholarly publishers</td>
<td>1</td>
<td>.3</td>
<td>.2</td>
</tr>
<tr>
<td>Books/book chap. - academic presses</td>
<td>1</td>
<td>.3</td>
<td>.3</td>
</tr>
<tr>
<td>Reports (gov. agencies, foundations, associations, universities, etc.)*</td>
<td>1</td>
<td>.3</td>
<td>.2</td>
</tr>
<tr>
<td>Conference papers and proceedings* (published and unpublished)</td>
<td>1</td>
<td>.3</td>
<td>.2</td>
</tr>
<tr>
<td>Government laws/legal cases</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ERIC ED documents*</td>
<td>.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Newspapers*</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Web sites*</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous*</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* Documents that fit two or more categories were included in category with higher weight
Appendix B

Brydges/Tunon Subjective Rubric for Doctoral Reference List Resources

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Level 1: Inadequate</th>
<th>Level 2: Marginally Adequate</th>
<th>Level 3: Adequate</th>
<th>Level 4: Superior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breadth of resources - number of citations, variety of resources cited</td>
<td>Student used a limited number of resources available on topic, did not show awareness of specialized courses.</td>
<td>Limited number and variety of sources cited</td>
<td>Reasonable number and variety of sources cited for topic</td>
<td>Exhaustive search that utilized a comprehensive number and a full range of types of sources available for topic.</td>
</tr>
<tr>
<td>Depth/understanding demonstrated through the citing of historical, theoretical background resources</td>
<td>Depth of understanding undeveloped by lack of citations from historians, theoretical background resources.</td>
<td>Depth of understanding demonstrated through the citation of a large number of historians, theoretical background resources.</td>
<td>Depth of understanding demonstrated through the citation of a substantial number of historians, theoretical background resources available for the topic.</td>
<td></td>
</tr>
<tr>
<td>Quality of resources - majority of resource evaluation, peer reviewed, empirical evidence, current literature studies</td>
<td>Majority of resources evaluated</td>
<td>Limited number of core, peer-reviewed, scholarly resources, empirical evidence.</td>
<td>Majority of resources were scholarly, peer-reviewed and reasonable.</td>
<td>A rich representation of quality, peer-reviewed and scholarly resources, very scholarly.</td>
</tr>
<tr>
<td>Currency - Criteria takes into consideration the availability of resources on the specific topic being researched</td>
<td>Not current - Majority of reference older than 10 years from date of dissertation completion.</td>
<td>A disproportionate number of resources from dated resources (majority over 5 years).</td>
<td>The majority of the resource published 5 years or less from completion of dissertation</td>
<td>Extremely current - majority of reference within 3 years of dissertation completion.</td>
</tr>
<tr>
<td>Relevance to the topic</td>
<td>Majority of resources do not relate to topic</td>
<td>A disproportionate number of sources do not relate to the topic</td>
<td>Sources generally support the topic</td>
<td>Sources directly on target and support the topic.</td>
</tr>
</tbody>
</table>

* Note: take into consideration the availability of resources on the specific topic being researched.

Overall Score ______/20
## Appendix C

### Quality of Dissertation Reference Lists in Seven Non-Traditional Graduate Education Programs Compared

<table>
<thead>
<tr>
<th></th>
<th>YS n=178</th>
<th>EdL n=95</th>
<th>HE n=90</th>
<th>Spl n=12</th>
<th>ITE n=37</th>
<th>ITE Span n=20</th>
<th>Ol n=20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Qualitative Score</strong></td>
<td>0</td>
<td>0.5</td>
<td>1</td>
<td>1.5</td>
<td>2</td>
<td>2.5</td>
<td>3</td>
</tr>
<tr>
<td><strong>Breadth</strong></td>
<td>2.36</td>
<td>2.6</td>
<td>3.02</td>
<td>2.63</td>
<td>2.06</td>
<td>2.53</td>
<td>3.69</td>
</tr>
<tr>
<td><strong>Depth-Understanding</strong></td>
<td>1.45</td>
<td>1.37</td>
<td>1.69</td>
<td>2.6</td>
<td>2.04</td>
<td>2.51</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>Depth-Scholarliness</strong></td>
<td>3.27</td>
<td>2.99</td>
<td>2.0</td>
<td>3.21</td>
<td>2.78</td>
<td>2.81</td>
<td>3.6</td>
</tr>
<tr>
<td><strong>Currency</strong></td>
<td>2.46</td>
<td>1.33</td>
<td>3.42</td>
<td>1.62</td>
<td>3.04</td>
<td>3.81</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>Relevancy</strong></td>
<td>2.41</td>
<td>2.59</td>
<td>2.74</td>
<td>3.04</td>
<td>2.78</td>
<td>3.6</td>
<td>3.6</td>
</tr>
<tr>
<td><strong>OrgLeadership</strong></td>
<td>2.07</td>
<td>2.2</td>
<td>1.73</td>
<td>3.18</td>
<td>3.25</td>
<td>3.25</td>
<td>3.25</td>
</tr>
</tbody>
</table>
The Virtual Library Liaison: A Case Study at an Online University

Robin Veal
Erika Bennett
Capella University

Abstract

In 2007 Capella University, an online university, started its library liaison program. The goals of the program were to increase the use of library resources and services and promote integration of information literacy competencies into coursework. A review of the literature of liaison programs shows a focus on liaison activities in traditional colleges and universities. While some activities are adaptable to the online environment, this setting provides unique opportunities for enhancing the impact of the liaison relationship. This paper will describe key initiatives in three areas: the online courseroom, reference transactions and collaboration with both academic and nonacademic departments. Strategies, activities and tools used to implement the initiatives will be discussed.

Introduction

Capella University is an accredited online university headquartered in Minneapolis, Minnesota. Its student population is mostly graduate students, equally divided between masters and doctoral programs in addition to a small undergraduate population. Most students are considered non-traditional; the average student age is 40. The focus of its nineteen degree programs are in five schools: the Schools of Education, Business & Technology, Psychology, Human Services and Undergraduate Studies. Capella currently has over 20,000 students enrolled in its programs. All of its courses are offered online.

Until 2007, Capella University contracted library services, initially with the University of Alabama, Hunstville, and from 2002 until 2007 with The Johns Hopkins Entrepreneurial Library Program. In 2007, the library was brought in-house to Capella headquarters as a part of a University quality improvement initiative. A staff of eleven was hired. This included four reference librarians who were also designated as liaison librarians to the five schools within Capella.

The liaison model was chosen in order to promote the new on-site library and its resources and services to faculty. Designating a librarian to focus on the needs of a particular school would not only increase faculty awareness of resources, but also allow the librarian to become familiar with any unique needs of that school. The goals of the liaison program were to increase the use of library resources and services and promote integration of information literacy competencies into coursework.

Both Capella University’s on-site library and its liaison program are still new. However, in reviewing literature to shape the development of the program, no information on liaison programs in online universities was found. While the goals of the liaison program are similar to many other universities, centered on promoting the use of library resources and services, the online course environment presented unique opportunities to enhance the liaison relationship. This paper will describe key initiatives in relation to the online classroom, analyzing reference transactions and collaboration with faculty and other university staff. Strategies, activities and tools related to these key initiatives will be described and discussed.

Selected Literature Review

While there are many articles about liaison work in an academic library setting, none quite matched the perspective of Capella’s liaison program, functioning inside an online university. Macaluso & Petruzzelli (2005) and Tennant, Cataldo, Sherwill-Navarro and Jesano (2006) discussed recent attempts to
launch traditional liaison programs. Tennant et al. identified distance librarianship as an issue of importance to the wider liaison community. However, no literature was found that focused on liaisons working entirely inside distance education and specifically an entirely online environment.

The creation of a new liaison program for an online library meant that a number of the issues traditional liaisons face did not apply. For instance, when librarians discuss library services for distance learners, they have traditionally written about equity between their on-campus and online students, and "extending" services. They also write from the viewpoint that their online resources are a subset of the library collection (Kinnie, 2006; Koohang, 2004; Lebowitz, 1997). Yet, Capella's liaison program does not hold equivalent concerns, since there are no on-campus students or on-site collections.

Certainly, the landscape of liaison work is changing in areas that are relevant to the Capella library liaison program. Course management software integration and technology changes are also influencing the way liaisons approach their work. For example e-mail and other digital technologies seem to be increasingly preferred methods of contact and collaboration between faculty and liaisons (Stoddart, Bryant, Baker, Lee & Spencer, 2006; Tennant, et al. 2006). The Capella liaison program embodies many of the most recent trends inside library literature such as course management software integration. Market Data Retrieval statistics (as cited in Jackson, 2007) reported ninety-four percent of college and universities had adopted a learning management system (LMS) by 2003. In addition, according to a 2001 National Survey of Information Technology in U.S. Higher Education (as cited in Shank & Dewald, 2003) nearly one out of every five college courses now make use of courseware. Capella offers its courses entirely through the WebCT course management software. The following sections will discuss opportunities to review online course content, techniques for in-depth analysis of reference transactions and collaboration in the course development process unique to the online environment.

The Online Courseroom

In reviewing the literature of liaison programs in colleges and universities, most described programs where a majority of their students attended class on a physical campus. Colleges and universities have ever more hybrid and online courses, however none of the literature described a liaison program in a completely online environment. While some of the differences may seem obvious, it is worthwhile to describe the key elements of the online classroom compared to the physical classroom. In a physical classroom students go on-site to a building at assigned times and days to meet with their instructor. Students in an online classroom log in to their course or courseroom from any location that has Internet access, at any time of the day or night. The instruction or content of the course is available for them to read online or print out. Like students in a physical classroom they have assignment deadlines. In a physical classroom communication between the instructor and students and between students, for the most part is synchronous. The opposite is true for the online classroom. Communication between instructors and students and between students is mostly asynchronous via structured discussion postings and e-mail.

Reviewing Course Content

The literature shows that liaison librarians have used such methods as auditing courses and reviewing course syllabi to find opportunities to both address collection gaps and collaborate with faculty. Williams, Cody, and Parnell (2004) found analyzing syllabi was worthwhile to both identify collection gaps and to promote resource awareness, in addition to identifying courses that would benefit from the library’s instructional services. Liaison librarians at Capella viewed their direct access to the content of more than 800 courses, including the syllabus, as a tremendous opportunity to review course content, both to improve assignments that required use of the library and also for collection development opportunities. The vast amount of courseroom information that is directly available provides opportunities to enhance the liaison relationship with the assigned school.

The first systematic review of course content was actually not undertaken by the liaison librarians, but by the copyright librarian. One portion of the course, the course materials page, was inspected for broken links, any non-compliant course materials and any outdated descriptions of the library. Just looking at this one section of more than 800 existing courses, was a time-intensive process, taking months to
complete. Outdated descriptions of the library were passed along to the appropriate liaison librarian to correct as starting points for liaison librarians to inspect these courses in more detail.

Liaison librarians have also begun a review of course content for their particular schools. A systematic plan for liaison librarian course review is a high priority for 2008. There is a need to develop guidelines liaisons can use to review course content effectively and efficiently. Since this will present such a major initiative, the guidelines will need to encompass course priorities and a timeline for course review.

**Reference Transactions**

As newly hired reference librarians, Capella’s liaison team wanted to rapidly learn how to serve their particular clientele. While each librarian brought subject knowledge to her role, the various schools inside any university have distinctive requirements and traits. Even specializations or programs within the same school can have completely different research dispositions. Many articles emphasize the need to give liaisons plenty of room to adapt to their individual school’s character when they develop communication plans and faculty engagement strategies (Stoddard, et al. 2006; Motin & Salela, 2006). This allows them to create customized and tailored services. Typically, when a new liaison is hired, he or she has some foundational work from a predecessor. However, because the library was new, there were no established relationships with individual schools to provide guidance.

In their article offering tips for new liaisons, Stoddard et al. (2006) state, “Listen to your users as much as or more than you talk” (p. 425). They emphasize the importance of generating honest feedback from library clientele. Traditionally, liaisons gather feedback on services through individual conversations, collectively through faculty engagement efforts, or systematically via mass survey efforts. Systematic survey efforts were not in the strategic plan for the first year of operation, so instead, reference transactions were used to determine clients’ needs and focus efforts.

In early 2007, Capella University Library’s liaison program began collecting detailed phone and e-mail reference transaction data such as: course number, student degree, length of time spent on the reference interaction and the details of each exchange. The transactions were logged as they were answered, and liaisons compiled the results quarterly using the following criteria: classes ranked according to most questions, question themes and any other notable issues. Reference transaction data will continue to be collected in this manner on an ongoing basis.

The liaison librarians soon started to isolate reference trends in their individual schools. An Access database was used and data were exported to Excel in order to analyze reference trends and prepare reports that could be shared with each school. Often, e-mail responses were directly copied and pasted from the transaction record so librarians could search for keywords and assignments. Reference transactions consist of roughly half e-mail and half phone calls, and the number of transactions has been shown to be increasing each quarter. It will remain to be seen whether or not this individual analysis approach will be sustainable into the future, as reference grows. The current approach allows liaison librarians to assess student knowledge gaps in key areas, build support materials and submit course revision forms accordingly.

There are a number of other benefits to analyzing reference transactions in this way. First, the approach contributes to collection development by pinpointing holes in the library collection and identifying underutilized library resources for increased marketing efforts. Second, the reference data contributes to improving library assignments in the classroom by framing the information literacy needs of students inside individual schools. Third, the activities help inform reference activities themselves, and many useful handouts, reference templates and assignment guides have been created as a result. In addition, strategic collection of detailed reference interaction data can be used to inform practical decision making about library services, such as reference scheduling needs.

Most importantly, the reference data analysis effort builds a strong foundation for liaison activities. In advance of a systematic curriculum review for Capella library assignments and language, this allows for prioritization by identifying the courses that generate the most questions. Using these data, the liaison librarians can focus their energy on courses that need the most attention and the data provide
concrete evidence for collaboration with faculty and instructional designers when courses come up for revision.

**Collaboration**

Several authors advocate liaisons going beyond targeting faculty and students to establishing liaison relationships within other areas of the university. Motin and Salela (2006) describe a liaison program that integrates information technologists, Web designers, and others into the liaison team both to learn about each other’s roles and to add value to the services the library can provide to faculty and students. Dahl (2007) advocates that assigning library liaisons to non-academic units helps libraries to uncover opportunities and develop partnerships with all areas of the university. She further concludes that assigning liaisons to non-academic units helps other areas understand the library’s role in teaching, learning and research activities and improves the likelihood that the library will be included at the initial planning stages of programs and projects.

**Participation in the Course Development Process**

The centralized course development process provides a unique opportunity for this type of collaboration at Capella. After competencies and outcomes are reviewed and approved for courses by the curriculum department, the courses are sent to a course development team. This team includes a project manager, instructional designer and subject matter expert (SME). The SME is usually a core or adjunct faculty member. In the early stages of the liaison program the liaison team agreed that it would be beneficial to become a part of this course development process.

The Reference and User Services Association (RUSA) guidelines (2001) emphasize the more traditional collection development aspects of liaison work. Many articles regarding liaisons discuss going beyond this role. Stoddart et al. (2006) in offering practical advice for new liaison librarians concluded: “Ultimately, liaison activities should reinforce goals like team building, open discussion, camaraderie, and life-long relationships” (p.426). Some authors advise that the librarian serve as a consultant in order to develop relationships with faculty. (Frank, Raschke, Wood & Yang, 2001; Donham & Green, 2004). Frank et al. (2001) states:

> The liaison tends to be more passive, providing advice and counsel when approached by scholars. In contrast, the consultant takes the initiative to develop active partnership with scholars, conferring and deliberating on important instructional and research issues. Consultants anticipate and assess information needs, delivering value-added information and services in a timely way. (Definition and Importance section, ¶ 2)

Serving as consultants in the course development process would allow the library liaisons to more actively make connections and collaborate, not only with faculty, but also other non-academic areas of the university.

The librarian consultant mind frame was used in planning the approach to participate in the course development meetings. The approach focused on the needs of the participants and their answer to the question: “What’s in it for me?” Liaison librarians focused on presenting participants with the answer to this question. Initially, SMEs sometimes needed help finding resources for their courses, and they were not used to asking librarians. Therefore, they turned to Project Managers or Instructional Designers for assistance. These individuals had varied levels of experience or time to assist in finding course materials. When the liaison librarians started participating in the course development process, the Instructional Designers and Project Managers gained an immediate contact point for resource questions. The liaison participation also fulfilled the University’s interest to maximize the use of library resources, since obtaining copyright permission for articles that had comparable equivalents in the library was a time consuming and costly process. Participation in course development meetings began in September of 2007. While still in the early stages, liaison participation in these meetings seems to be welcomed by all parties, as they have offered overwhelmingly positive feedback.
Participation in the Course

Many colleges and universities have undertaken embedded librarian initiatives in order to assist both students and faculty in maximizing the library’s services and collections. These initiatives vary in the degree of participation and contributions by the librarian. Sometimes, a librarian co-teaches part of the course with faculty and other times librarians are consulted in a more “as needed” fashion through an Ask-A-Librarian discussion board or a similar contact promotion.

Participating in a course is time intensive and Capella’s liaison librarians were selective in choosing the courses in which librarians would be embedded. All students at Capella University are required to take a course called First Course at the beginning of their program. This course introduces them to the theories and practices of the specific program in which they are enrolled. The liaison librarians chose to focus on participation in this course as a way to both introduce students to the library and to encourage them, early in their academic careers, to seek assistance from a librarian anytime they encountered obstacles in their research.

The online nature of the courses at Capella presents unique opportunities for embedded librarians, as well. Having access to the content of the course before the course starts allows the liaison librarian to be proactive in engaging students at various points in the course. All assignments in multiple sections of the same course are standardized, so there is no variation in assignments between instructors, thus making it easier to monitor multiple courses. In addition to being able to review course content, librarians can also monitor assignment discussion boards. Discussion boards take the place of class discussion in a physical classroom, so essentially the librarian is able to monitor any conversation that takes place in the class. To save time, librarians can search for specific words within postings such as “library” to help address any issues that may arise in the course. A specific Ask-A-Librarian Discussion board in the course gives students the opportunity to ask their library research questions and to have all members of the class benefit from the librarian’s response to the question.

The degree of participation in First Course by individual liaisons has varied. These levels of involvement range from announcements about available resources or services at key points during the course, to monitoring and participating in course discussion boards. One such discussion board assignment requires that students explore the topic of information literacy. Custom guides have also been designed to complement specific assignments in the course. Participation in the course varies in length of time from a week for a specific research assignment to throughout the entire six to ten week length of the course. This initiative has infused the library directly into the students’ First Course experience at Capella. The initiative has set the stage for students to become both aware of library resources and feel more comfortable e-mailing and phoning the library when they need help.

Summary and Conclusions

Overall, the nature of the online classroom gives the library unprecedented access to the curriculum. Liaisons can review course content for both instruction and collection development opportunities. Liaisons have the ability to analyze reference transactions that are mostly via email and phone and because they are entered into a central database allow librarians to bring a level of data analysis to support curriculum change recommendations. The nature of the centralized course development process gives the library the chance to influence the creation of the course and review how the library is presented in the course. In addition through this process liaisons develop relationships with both faculty and other university staff.

The liaison program at Capella has only recently reached its one year anniversary. While the librarians are excited by the initiatives that have characterized the liaison program to date, as the experience level of the liaisons grows, so will mastery of this unique online environment and the ability to develop liaison relationships. Future initiatives include plans for systematically reviewing course content, participation in a newly approved university-wide information literacy outcome and formal assessment of program initiatives.
References


Going Global: Providing Library Resources and Services to International Sites

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Abstract
The Brooklyn Campus Library of Long Island University (LIU) seized the opportunity to take a proactive approach to providing library resources and services to the university’s Global College community. An active link connecting the library, Global College headquarters, and international sites has been created. After carefully evaluating the needs of faculty and students across the globe, the authors recount how the library supports the teaching and learning activities of this unique user group. This article describes the LIU Brooklyn Campus Library’s efforts to promote and implement customized resources and services to users on different continents.

Introduction
As technology enables changes in pedagogy and the expansion of the physical campuses of institutions of high education to include locations around the globe, academic libraries are evolving into providers of electronic resources and services to faculty and students across geographical and political boundaries. This physical and virtual expansion challenges the traditional way libraries conduct business with remote sites, including those on different continents.

The Global College (formerly known as “Friends World Program”) of Long Island University, offers a Bachelor of Arts degree in Global Studies, which provides students with the opportunity to study overseas at the College’s international centers in Costa Rica, China, India, Japan, and South Africa. The recent relocation of Global College to the Brooklyn Campus has put the Brooklyn Campus Library front and center with a new challenge—how to address and support the needs of the college’s faculty and students located half a world away. Meeting this challenge is essential to the success of the college’s academic programs. The Brooklyn Campus Library seized the opportunity to create an active link between the Global College and the library to promote and implement customized resources and services to users on different continents.

This article describes how the Brooklyn Campus Library created an active program catering to the needs of faculty and students at international sites and at the headquarters of the Global College in Brooklyn. Featured are challenges posed by physical distance: various conditions at local sites, unfamiliarity with library resources and services, competition from popular search engines such as Google and Yahoo, as well as library policy adjustments. The article explains how the authors and the entire library assessed the needs of the Global College community and provided solutions by designing and implementing customized resources and services using technology delivered via the library’s Website. The authors recount the library’s experiences with the Westchester Graduate Campus and Extension Sites in Brooklyn. Various library units collaborate to provide global services such as library instruction, virtual reference, interlibrary loan (ILL), circulation, Electronic Reserves (ERes), and electronic resources such as online databases, the online library catalog (LIUCAT), and e-books.

Advances in technology make it possible for library faculty and staff to provide 24/7 access to most of the library’s resources and services from any location. When users are thousands of miles away, it is challenging for the library to reach out and deliver services, especially library instruction. Software solutions such as LivePerson allow students at international sites to chat with or send e-mails to a Reference Librarian. Web solutions such as the dedicated online InterLibrary Loan Journal Request Form enable remote users at the other end of the globe to submit interlibrary loan requests at any time. In addition to online tutorials, the Brooklyn Campus Library is exploring other solutions, such as video-
conferencing, to deliver online library instruction sessions. The authors continue to collect feedback and comments from the Global College users and make suggestions for more effective library services and programs to be provided to various locations around the world.

**Literature Review**

As institutions of higher education bring teaching and learning to more locations nationally via distance education programs, academic libraries have been evolving with their institutions to reach and support more students on both local and remote campuses. Casey (2004) provides a historical overview of reference services for distance learners via the Internet. Much has been discussed and studied on distance education and its demands and impacts on academic libraries. Academic librarians in many parts of the country have witnessed, supported and embraced changes in higher education brought about by distance education.

Academic libraries have also witnessed changes on campuses brought about by globalization and internationalization in higher education. Administrators and educators in countries such as the United States, the United Kingdom, Australia, and Japan have seen an influx of international students pursuing college or graduate education away from their own countries. According to a press release, dated November 12, 2007, regarding the most recent *Open Doors 2007* report, published annually by the Institute of International Education (IIE), with support from the U.S. Department of State’s Bureau of Educational and Cultural Affairs:

> The number of international students enrolled in colleges and universities in the United States increased by 3% to a total of 582,984 in the 2006/07 academic year…This is the first significant increase in total international student enrollments since 2001/02. *Open Doors* reports an even higher increase in the number of new international students, those enrolled for the first time at a college or university in fall 2006, which rose 10% from the previous year. (Institute of International Education, 2007b, para. 1)

As academic librarians witnessed the on-campus population becoming more internationally diverse, library administrators, faculty, and staff must work diligently to innovate and meet the needs of this unique student group. Literature on this topic has revealed that academic librarians are becoming more aware and sensitive to international students’ needs. They have conducted projects to study the use of academic libraries by international students, who may know very little about their host country’s educational system and culture. As stated by Liao, Fin and Lu (2007), “The multicultural character of today’s collegiate population in the United States presents a challenge to academic librarians” (p. 23). A comparative study of the information-seeking behavior of international and American graduate students by Liao et al. (2007), reveals a lack of education about library services. After studying reference interactions between librarians and international students in Canada, Curry and Copeman (2005) suggest that “all librarians take advantage of general multi-cultural diversity training or specialized international student reference workshops” (p. 418). Hughes (2005) also stresses the importance of viewing cultural and linguistic diversity as “learning opportunities rather than barriers” in information literacy education (p. 177).

As library faculty and staff become more sensitive to the needs of international students and deliver more customized resources and services, they themselves may obtain more knowledge and experience about the world, including different perspectives and cultural views. The increase of international students on campuses has not only made a positive impact on university finances, but also on faculty, staff, students, and the total university community, as horizons are expanded by exposures to other cultural views.

As international education brings foreign students to countries such as the United States, the United Kingdom, Australia, and Japan, the number of students studying abroad has also grown significantly over the past decade. This constitutes another form of international education—study abroad programs, or overseas exchange programs. Many universities offer opportunities for students to study abroad for a period of time ranging from weeks, months, one semester, or multiple semesters. Many business schools arrange
overseas internship opportunities for their students. According to a press release, dated November 12, 2007, by the Institute of International Education (IIE), regarding its most recent *Open Doors 2007* report, “Study abroad increased by 8.5% to a total of 223,534…The number of American students receiving academic credit for their study abroad has increased 150% in the past decade, from fewer than 90,000 students in 1995/96” (Institute of International Education, 2007a, para. 1). Past *Open Doors* reports reveal that the number of American students studying abroad has increased steadily and consecutively.

As mentioned earlier, a fair amount of library literature has been written on the increase of international students in countries such as the United States, the United Kingdom, Japan, and Australia. Library administrators, faculty, and staff have implemented programs to facilitate international students’ efforts to adapt to a new environment, to overcome cultural and educational differences, and to utilize library resources and services in their pursuit of knowledge. However, there is a lack of information in current literature regarding how academic libraries support their domestic students studying abroad.

Academic libraries have gained valuable and practical experience providing services to remote campuses and supporting distance education, mostly within national borders. These experiences and lessons learned, to a large extent, can be utilized when institutions of higher education take their academic programs overseas.

As advances in technology impact all areas of life, including teaching and learning, institutions of higher education have discovered opportunities in the new global marketplace. Overseas sites and campuses have been built as a result of the expansion of global education. Review of library literature reveals a lack of research on how the growth of overseas campuses impacts academic libraries of home campus.

Skrzeszewski (2001), the president of the Canadian Library Association, speaking on the challenges and opportunities posed by globalization, states that “librarians and information workers should realize the new vision of global and cosmopolitan library services. Inevitably, the international and cosmopolitan vision of multicultural library services will become indistinguishable from a general vision of library service” (p. 8).

The leader of exporting education is Australia and as a result, Australian academic libraries have changed as a result of globalization. Becker’s (2006a) review of the library literature reveals that “the traditional roles of librarians are shifting from the parochial to the global” (p. 84). Becker also states that literature in *Australian Academic & Research Libraries* reports the efforts of Australian academic libraries to understand and employ new technologies “in ways that serve the university community on-campus, in the outback and increasingly across borders wherever students partake of Australian higher education” (p. 90).

Globalization has caused universities and academic libraries to change; these changes also impact the global higher education marketplace. Becker’s (2006b) study of two Australian universities, both considered successful in providing international education programs, reveals the “mutual effects where globalisation stimulated change in universities and libraries, and where those changes toward library internationalisation rebounded to affect institutions and the global higher education marketplace” (p. 294). Becker also stresses the importance for the library of having “a stable budget for international activities” (p. 293) regardless of whether the funding comes from the library budget or the university budget.

The concept of serving users globally is not novel to many corporate and special libraries in the business world. As corporations go through cycles of consolidation and merger, structural changes involved in decentralization and re-centralization, as well as expansions and downsizing, corporate and special libraries have accumulated experience serving many sites on different continents. Plosker’s (2004) interview with three library managers from one of the world’s leading high-tech companies headquartered in the San Francisco Bay area serving multiple sites in three western U.S. states, Europe, Asia, and the Middle East, stresses the shift in library services from “physical to virtual,” and the switch from favoring users in proximity to the physical library to equitably serving all users globally (p. 49).
In addition, Becker’s (2006b) case studies of Australian academic libraries reveal the importance of involving library administrators and faculty in the academic institution’s strategic planning process (p. 286). In her study, she suggests that library faculty take the lead in establishing partnerships whenever possible (Becker, p. 292). Furthermore, Becker stresses that library faculty and staff should all be trained on the concept of globalization to increase awareness of cultural perspectives and differences (p. 283-284).

Providing library services to remote locations domestically is one thing; providing library services to international sites is quite another. As academic libraries become more experienced in serving international students on-campus, the world’s higher education marketplace will continue to evolve. Institutions are taking their academic programs abroad, becoming “exporters” of higher education. Technological advances are allowing academic libraries to extend their resources and services to locations not previously supported, such as international sites and overseas campuses. Geographical separation poses multifaceted challenges to administrators, faculty and staff. Students who study abroad usually face language and cultural differences and generally do not have the same support systems they are accustomed to in their home countries. It is critical that academic libraries support this increasing population studying abroad.

**Overview of the Global College and Its International Sites**

The Global College of Long Island University offers a fully accredited, four-year Bachelor of Arts program in Global Studies. The essential dimensions of the program are defined as “a physical journey around the globe and a journey into the roots of your own experience...You will gain skills, knowledge and practical experience that will prepare you, personally and professionally, to contribute positively to our rapidly globalizing world...By learning to see the interconnectedness of our world – from multiple perspectives – you will be better equipped to identify challenges in the years ahead and to offer significant leadership in shaping positive change” (Long Island University, 2007, *Let the Journey Begin*).

The Global College, formerly known as Friends World Program, had been affiliated with the Southampton College of Long Island University since 1991. Since its relocation to the Brooklyn Campus in 2005, the College has grown into a full-fledged academic program with a global focus and a structured curriculum. Students are required to study overseas at the Costa Rica center and two other centers in the following countries: China, India, Japan, or South Africa, before returning to the Brooklyn Campus for the last semester of their program in the senior year. What makes the LIU Global College unique is that it not only “operates for the entire academic year abroad,” but also “takes year-long experiences in other cultures and integrates them into a progressive four-year degree” (Long Island University, 2007, *Global College Long Island University 2008-2009 Let the Journey Begin*, p. 3). The college also offers a third year alternative for students interested in religion and culture to study in the Comparative Religion and Culture (CRC) Program. Non-Global College students from Long Island University can also join the College for an overseas study experience.

Since finding a new home at the Brooklyn Campus, Global College administrators and faculty have been very active in promoting their academic offerings with a global focus. The Dean of Global College, Dr. Glass, has attended Brooklyn Faculty Senate meetings several times to introduce the College and its programs to the Brooklyn Campus community.

According to Dr. Halpern, Director of Academic Affairs and Senior Studies at Global College, nearly 110 undergraduate students are currently enrolled with the College and studying in various centers around the world.

**Physical Conditions**

Each Global College site is unique, as physical conditions vary from country to country. The China Center is located on the campus of Zhejiang University within walking distance of Xihu (the West Lake), a major tourist attraction in China. The Costa Rica Center is across the street from the Universidad Nacional (the National University). The Japan Center is located in a private two-story house, and the India Center is in a house, “close to some of the happening places of Bangalore” (Long Island University, 2007,
India Center Guidebook, p. 14). The South Africa Center is located in Durban “with exquisite beaches sprawling across the Indian Ocean” (Long Island University, 2007, Global College Long Island University 2008-2009 Let the Journey Begin, p. 19).

The number of students in each center differs. Costa Rica is the largest center with the highest number of students, since it is a mandatory location for all first-year students in the program. The number of faculty and supporting staff at each center also differs from country to country.

**Computing Environment**

Each center is equipped with computing equipment. However, the number of computers available to students varies with fifteen in Costa Rica, four in China, four in India and two in Japan. Students are encouraged to bring their own laptops, as the centers provide wireless access in addition to the wired local area network. Other factors affecting the teaching and learning activities of faculty and students include network speed, computer specifications, and operating hours. The majority of the Global College centers have their own computer room for student use.

**Local Access to Libraries**

Even though each center has its own library, the size of the Global College collections and the scope of the services provided by each vary. The Costa Rica Center has a small library offering a collection of student portfolios, textbooks, magazines, and reserve material (Long Island University, 2007, Costa Rica Guidebook, p. 34). The China Center, is located on the Yuquan Campus of the Zhejiang University, one of the most comprehensive universities in China. The library at the China Center holds 2,000 volumes of books cataloged in the Library of Congress Classification System, a DVD and VHS collection, and a small print journal and newspaper collection. The China Center, unlike other centers, has a library assistant responsible for general inquiries about the center’s collection (Long Island University, 2007, China Center Guidebook, pp. 22-23). The India Center library holds 4,000 books, periodicals, and CD-ROMs (Long Island University, 2007, India Center Guidebook, p. 16). The Japan Center library in Kyoto holds a comprehensive collection of English language materials (Long Island University, 2007, Japan Center Guidebook, p. 29).

Access to other local libraries also varies from center to center. For instance, the Costa Rica and China centers are affiliated with universities—The Universidad Nacional and Zhejiang University, respectively. In particular, the Costa Rica Center is located across the street from the Universidad Nacional, the largest in the country. China Center students can make use of the Information Resource Center of the U.S. Consulate General in Shanghai, which subscribes to several online databases and numerous print periodicals (Long Island University, 2007, China Center Guidebook, p. 23). Students at the India Center also have access to local academic, government, and special libraries (Long Island University, 2007, India Center Guidebook, p. 16).

Even though the Global College international centers have some library collections and local resources available, the faculty and students overseas need resources and services provided by the Brooklyn Campus Library, given the size, depth, and relevance of the Brooklyn Campus Library’s electronic collection. Global College also provides Questia, a collection of e-books and e-journals, to its faculty and students. In addition, the Brooklyn Campus Library is responsible for providing library resources and services to Global College users; we have a dedicated team of library faculty and staff with expertise and training to facilitate the teaching and learning endeavors of the Global College community.

**Brooklyn Campus Library’s Resources and Services to Global College**

The Brooklyn Campus Library has been working with Global College since its relocation from the Southampton Campus to the Brooklyn Campus in 2005. The authors, the Coordinator of Technology and Information Services and the Coordinator of Reference Services, initiated a proactive relationship with the Global College administration, which has developed into an active partnership. Issues critical to the
delivery of library resources and services to Global College faculty and students require constant communication between the two units.

**Library Website**

The Global College users’ main link to the university, in addition to the College’s headquarters and centers, is maintained via the university’s Website. Similarly, the most direct link between Global College users and the Brooklyn Campus Library is the library’s Website. It is essential for the library to provide a dedicated access point for Global College faculty and students on the library’s Website.

It would be naive to assume that students across the globe would know how to find relevant library information and locate available resources and services easily via the library’s Website, even though they are mostly in their 20s and familiar with online culture. Therefore, making resources readily available to the Global College community at the international sites became our objective. The authors met with the Global College program coordinator, presented the resources and services most relevant to Global College users and proposed the creation of a customized Web page dedicated to their use.

**Brooklyn Extension Sites and Westchester Graduate Campus Experience**

The authors benefited greatly from prior experience providing library resources and services to remote sites for the Westchester Graduate Campus in Purchase, New York, 35 miles away from the Brooklyn Campus, and several satellite extension sites remotely located in Brooklyn. Some of the improvements developed for these remote sites were applied to the Global College international sites. Positive feedback obtained from domestic remote users of dedicated Web pages on the library’s Website for the Westchester Graduate Campus and the satellite extension sites reinforced the concept and practice of creating a dedicated Web presence for the Global College community. The authors created a customized section on the library’s homepage for Global College users. We focused on providing access to electronic resources, such as the Serials Solutions Full-Text Journal interface, online databases, electronic books, and the library catalog (LIUCAT).

**Library Barcodes**

Library barcodes are required for users to access online databases remotely. The timely processing of library barcodes is essential to the teaching and learning endeavors of faculty and students. The less time-consuming the process is, the more distance users will be able to utilize electronic resources subscribed to by the university. The fact that international centers are continents away from the main campus library requires users to rely on electronic resources offered by the library. Without library barcodes, access to these electronic resources, which include full-text journal articles, becomes almost nonexistent. The authors have learned from their experience with the Westchester Graduate Campus that the fewer the intermediate layers, the more efficient the delivery of library resources and services. We created a direct link between the library’s Circulation department and the Global College headquarters. At the beginning of each semester, Global College administrators send a list of new faculty and students to the Circulation Services Manager, who creates a library account with an associated barcode for each user. The accounts are renewed on a yearly basis.

**InterLibrary Loan (ILL)**

InterLibrary loan (ILL) is one of the services featured on the library’s Global College Web page. The authors and Global College administrators realized that given the problems involved, such as expenses, personnel and possible loss of material, mailing books to international sites was not practical. Therefore, since the LIU Library System subscribes to over 35,000 electronic books, focus was placed on the delivery of ILL journal articles. Instead of using the general online ILL Journal Request Form used by all Brooklyn Campus borrowers, the authors decided to direct Global College users to their own dedicated form. The Coordinator of Technology and Information Services created a new Online Journal Request Form and placed it on the Global College library Web page. The newly implemented ILLiad InterLibrary Loan
system, which delivers electronic full-text articles to the user’s ILLiad account, will be introduced to the Global College community in the near future.

**Electronic Books**

The lack of access to the print material of the Brooklyn Campus Library has been remedied by virtual access to a vast collection of over 35,000 electronic books obtained from vendors such as ebrary, Gale, and Credo. These collections are accessible to any user who enters his or her library barcode.

**Library’s Dedicated Global College Web Page**

Through careful evaluation, the authors created a dedicated Global College Web presence on the Brooklyn Campus Library Website. The services highlighted on this dedicated page include the InterLibrary Loan Journal Request Form and Virtual Reference Chat. The page also features electronic resources, including hundreds of subscription online databases, over 35,000 electronic books, full-text journal articles available via Serials Solutions, and the online library catalog. Global College faculty and students may now submit their journal requests online. Brooklyn Campus Library ILL staff processes the requests as expeditiously as the various constraints posed by different time zones permit. To support Becker’s (2006b) views to include all members of the library (p. 294), the authors announced the creation of the library’s new Global College Web page to all library faculty and staff.

The authors met with Global College administrators to promote existing library resources and services and to discuss new ways to serve this unique community. The authors also requested Global College administrators to include a link to the Brooklyn Campus Library’s Global College Web page from the College’s Website. The Brooklyn Campus Library maintains an active partnership with Global College by keeping the communication channels open. We are now planning to utilize technology to facilitate more effective delivery of online resources, such as library instruction, tutorials, and orientation. Library faculty and staff would be required to keep abreast with evolving technologies affecting delivery of the library’s resources and services to all users, especially the distance learning communities.

**Current Projects**

The authors and the Brooklyn Campus Library are currently working on several projects.

**Further Customization of the Library’s Global College Web Page**

We continue to customize the Global College Web presence on the library’s Website, one of the primary links to the home institution. The more customization we provide to our overseas faculty and students, the more easily they will be able to identify relevant library resources and services. Our goal is to promote these resources and services to help maintain a strong connection with the home institution. When studying overseas, students may be overwhelmed by an unfamiliar cultural and academic environment.

**Creation of Dedicated Web Pages Specific for Each Site**

We are in the process of creating dedicated Web pages for each site, highlighting resources available to faculty and students based on the specific academic programs offered at their center. This customization will provide further assistance to our Global College community to navigate the library’s Website and locate information they may need. Lacking the traditional in-person reference and instruction services, the meaningful presentation of library resources and services becomes paramount.

In order to improve the process of providing library resources and services, the authors began implementing additional dedicated library Web pages tailored to each international center, featuring specific academic programs instead of a generic Web page all of the centers. Clearly, it takes time and effort to develop and maintain highly customized pages in order to encourage Global College students to access and use library resources and services. A positive and successful library experience can lead to familiarity with and increased use of library resources and services. Due to the limited time these students
spend on the Brooklyn Campus during their academic journey, it is critical that the library offer this unique group as much assistance as possible.

**PowerPoint Presentations and Online Tutorials on the Library’s Global College Web Page**

We learned from our experience with the Westchester Graduate Campus and the Brooklyn remote extension sites that creating and posting PowerPoint presentations and Web tutorials is helpful to remote users. While we are in the process of developing virtual instruction sessions to students at these international sites, PowerPoint presentations, customized for international students, are being developed to be posted on the library’s Global College Web page. We are currently reviewing other online tutorials created in-house and by vendors for future Web posting to facilitate student learning. The authors are also developing customized online tutorials using programs such as PowerPoint and Camtasia. Online tutorials are available 24/7 and students are more in control of their own learning processes. They can view these tutorials whenever they want, without pressure from their instructor or peers. These tutorials will feature the library Website and key electronic resources and services available specifically to the Global College community.

**Online Library Instruction Pilot Program**

Another major development planned is the providing of online library instruction sessions to students overseas. We will choose a site for this pilot project, taking into account factors such as Internet connectivity, computing and video conferencing equipment, and willingness of teaching faculty and students.

**Live Reference Chat**

During our recent visit to the Global College headquarters, the Global College administrators, Dr. Halpern, Director of Academic Affairs and Senior Studies, and Ms. Purcell, Director of Student and Alumni Affairs, were very excited about the proposed virtual reference services provided by the library. We proposed to host a live session with a group of students overseas to showcase the Live Reference Chat service. The Costa Rica Center was recommended, as it has the largest student population of all Global College centers, and the students are freshmen. The center is equipped with technology and computing equipment, including a reliable Internet connection and network speed, appropriate to the support of such a program. We are working with Global College administrators to arrange a demo session.

**Pilot Bilingual Web Pages and Handouts for the China Center**

As students at the China Center take formal Chinese language classes at Zhejiang University, a pilot bilingual Web page is being developed by the Coordinator of Technology and Information Services. The goal is not to translate everything into Chinese, but to encourage more interest in the language they are studying and maintain a strong connection between the Brooklyn Campus Library and the overseas environment.

**Promotion of Electronic Resources and Services Suitable to the Global College Community**

Our experience with remote students at the Westchester Graduate Campus and the Brooklyn Extension Sites has made us more aware of the challenges the library faces in providing library resources and services remotely. Without in-person visits, it is extremely important to actively promote what the library offers. With that in mind, we prepared handouts, guides, flyers and e-mail announcements to faculty and students at the Global College international sites. We plan to send e-mail invitations and announcements to all faculty and students, featuring customized electronic resources and services, such as the InterLibrary Loan Journal Request Form, Virtual Reference Chat Service, e-books, online databases, online full-text journal articles, and the online library catalog.
Projects Under Consideration and Development

In addition to projects implemented by the library, further development of library services to the Global College community is currently under consideration.

Survey of Overseas Global College Faculty and Students

The authors are developing surveys of faculty and registered students of Global College for the purpose of gathering input and comments from this unique group. In order to serve them better, we need to obtain information about their library experiences and understand their expectations.

Library Involvement in the Global College Orientation Process

During our recent visit to Global College headquarters in December 2007, the authors inquired about the possibility of the library being involved in the Global College Orientation Process. Since freshmen are required to come to the Brooklyn Campus for orientation before they leave for Costa Rica and seniors are required to return to the Brooklyn Campus to work on their theses during their last semester of the program. The authors realized that these visits to the Brooklyn Campus presented opportunities to introduce and re-introduce students to library resources and services. The earlier the students develop awareness of the library resources and services available to them, the more likely they will be to explore and utilize them. The greater the exposure to the library, the better prepared the students will be to achieve their academic goals. As a result, an instruction session regarding thesis research has been scheduled for Global College seniors.

Social Networking and Course Management Tools

The authors are also considering social networking and course management tools to encourage more involvement and interaction between the library and the Global College communities.

Conclusion

In conclusion, our experience in providing library resources and services to international sites reinforces the partnership the library has established with the Global College. The proactive approach and successful cooperation between the two academic units demonstrate that we are working towards a common goal—to serve our faculty and students, regardless of their location—and has resulted in a win-win situation. The library, as an active member of the academic community, is critical to the success of this unique global education program. With the help of advanced technology and the dedication of library administration, faculty and staff, quality library resources and services can be delivered to anyone at any location!
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Study Abroad Students: Designing Library Services to Meet Their Needs

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Abstract
This paper focuses on the design of library services to best meet the information needs of U.S. college students studying abroad. The authors begin by developing a possible theoretical model, first to explain the needs and information seeking behavior of U.S. students abroad, and second to utilize this framework to design library services. The empirical grounding of the paper consists of research conducted by a Pennsylvania State University librarian at four study abroad sites in Rome and Bologna, and the work of two librarians at colleges with high student participation in foreign study programs. In regard to the latter, the authors will discuss how Dickinson College began a new program of library services to study abroad students, and present a Goucher College librarian’s experience as a collaborative participant in a study abroad program.

Introduction
Recognizing a growing trend toward globalization, universities and colleges are increasingly encouraging students to study abroad during part of their college years. In the past, communication and delivery barriers allowed libraries to largely ignore the information needs of students and faculty engaged in study abroad programs. Today, the availability of electronic technology allows academic libraries to reconsider their role in study abroad programs and to develop visibility and accessibility abroad. Librarians need to examine the broader theme of the importance of cross-cultural interaction during study abroad sojourns and how librarians can create opportunities for students and faculty to meet and work with librarians and others in the countries in which students are residing.

The authors present a theoretical framework of the information seeking behavior of study abroad students, followed by discussions of how college and university libraries can begin to design library services geared to study abroad students and how librarians can enhance their own roles in global education by participating in study abroad programs.

Theoretical Framework for Study Abroad Programs and Library Services
Globalization has nudged colleges and universities into a renewed emphasis on encouraging students to study abroad. Schools seek to design foreign study programs that create meaningful opportunities for students to interact with members of the host culture. The primary goal of most study abroad programs is for students to achieve some degree of acculturation within the host culture as opposed to remaining culture shocked tourists during their stay in a foreign country. The new international emphasis in education creates myriad opportunities for librarians to play a more assertive role in addressing the information needs of study abroad students and faculty. It is helpful to begin with a possible theoretical model of the information seeking behavior of students studying abroad.

Librarians can begin to build a model of information seeking behavior of study abroad students and faculty by defining “information” in the broadest sense and their role as one of connecting students and
faculty with all types of information they may need while living and studying in a foreign country. Librarians everywhere no longer confine their domain to the printed word; their professional world encompasses information in all its formats—printed, visual, aural, or any combination of the three. Likewise, study abroad programs often require students to make use of information in non-traditional formats. For example, landscape architecture students enrolled in the Pennsylvania State University’s study abroad program often create models that redesign historical sites in large urban cities such as Rome. They rely heavily on visual images, both current and historical, to gain insight into the history, architecture, and meaning of the sites on which they are working. Or, students in a human development class may be required to gather data by observing native children studying in schools or playing. At the same time, study abroad students routinely need information to help them cope with the mundane activities of daily life, such as locating bus routes, completing banking transactions, and finding health care professionals. In many ways, study abroad programs provide the ideal environment for librarians to implement a special type of intercultural knowledge commons, in which students view and use the library, whether of the virtual or mortar and brick kind, to meet all their information needs. For this reason, in designing Web sites and library services for study abroad programs, librarians should consider including links to all types of information students and faculty may need. For example, a Web site could include travel information, local customs, foreign language online courses, a list of personal contacts, local maps, local libraries, and language translation sites along with traditional library resources.

A tentative theoretical framework for the information seeking behavior of study abroad students can be drawn from the fields of information behavior, cross-cultural psychology, and communication studies. Brenda Dervin’s sense-making theory, employing gaps, provides the skeletal framework for our proposal. In her theory, as presented by Wilson, Dervin describes three prongs in information seeking behavior—the “situation,” or circumstance in which a person realizes a need for information; the “outcome,” or resolution of the need by finding the needed information; and the “gap,” or the space between the situation and outcome that creates anxiety in the information seeker and motivates him to seek needed information (Wilson, 1999; Dervin, 1992).

Dervin’s sense-making theory includes the concept of a “bridge,” or means by which a person moves from the situation to the outcome. Dervin’s bridges are of various types—they can be thoughts, beliefs, or behaviors (Wilson, 1999; Dervin, 1992). However, in a study abroad context, people often serve as bridges between the student’s situation and outcome. Librarians may act as a type of bridge themselves for students and faculty looking for information or may help students or faculty contact other people who can serve as bridges over the information gap. A virtual reference librarian answering a research question from a study abroad student is the most obvious example of a librarian serving as a bridge. Or a librarian may introduce the student to another librarian or scholar in the host country who will then serve as a bridge to the needed information. Long-term American residents in the host country and visiting lecturers from the host country can be especially helpful in this capacity. Faculty members could also serve this role. They often direct students to employ “chaining” (Ellis, 1989; Ellis, Cox, & Hall, 1993) by pointing them to a known resource in a library or other location as a starting point. More broadly, it is helpful if faculty members structure assignments with gaps requiring local bridges for the students to complete assignments. Such pedagogical steps by professors complement (and mutually support) the work of librarians.

A related concept from the field of sociology that can be incorporated into our model is that of an “ethnolinguistic gatekeeper” (Metoyer-Duran, 1991, 1993). For our purposes, an ethnolinguistic gatekeeper is a person who is knowledgeable of both the host and native cultures of foreign sojourners, moves freely between the two cultures, and is seen as a leader by members of the visiting or immigrant group they serve (Metoyer-Duran, 1991, 1993). Most importantly, the ethnolinguistic gatekeeper controls the sojourner’s access to the host culture—the turn of the century exploitative padrone provides an especially negative example of an ethnolinguistic gatekeeper. Traditionally, a padrone was a person, often an Italian immigrant himself, who arranged transportation and offered work in the U.S. to fellow Italian immigrants. The padrone selectively divulged information about the immigrants’ new country to suit his own needs. Often, the new immigrant found himself indebted to the padrone thereafter.

Alternatively, health care professionals dedicated to cross-cultural understanding in treating immigrant clients model the more positive aspects of ethnolinguistic gatekeepers. Similarly, librarians’
relationships with their patrons are egalitarian and based on service, not exploitation. For our theoretical model, therefore, it serves our purposes better to ameliorate the pejorative connotations of “gatekeeper” and highlight the supportive nature of library services by changing the term to ethnolinguistic “facilitator.” The term gatekeeper implies the ability to both restrict and permit access, whereas the term “facilitator” eliminates the restrictive nature of gatekeeper and implies not only that the person permits access to a foreign culture but actively helps the person in finding needed information. An example of an ethnolinguistic facilitator would be a study abroad faculty member who accompanies a student to a foreign library, introduces her to a librarian there, and helps her locate necessary resources.

In creating a theoretical model for how study abroad students look for information, it is helpful to examine further Dervin’s sense-making theory, or the notion that humans make sense of the world around them based on the world they know, an especially fitting theory for study abroad students. A reiterative process, foreign study students process and redefine their world each time they encounter cultural differences. For example, study abroad students may approach foreign libraries expecting services and resources identical to those of their home institutions. However, while libraries around the world are probably more similar than dissimilar, it is highly likely that initial access to resources such as hours of service, physical space to study, and classification systems will vary by country from the students’ home institutions’ libraries. Many times the foreign library policies may appear unnecessarily restrictive and even unfriendly to students. Usually, these policies are based on factors extraneous to the library and beyond administrators’ control, such as political upheaval that disrupts library funding. For example, Italian academic and public libraries sometimes have strict rules about where and for how long patrons can study in a library. In these cases, even though most Italian librarians subscribe to a public service model, they are sometimes hindered by the sheer lack of physical space in providing ideal spaces for students to study. To reduce misunderstandings of this nature, it is helpful for home institution librarians to meet and work with foreign librarians when possible. Librarians are then in a position to reinterpret rules and actions for their students, helping them to make sense of the new world they encounter in foreign study programs.

Kuhlthau’s (2004) approach to the sense-making theory looks at the thoughts, feelings, and actions of information seekers as they move through the research process. Cross-cultural psychologists employ the same phenomenological approach when studying the effects of extended stays in foreign countries by “sojourners,” or people, other than tourists, who live for an extended period of time in a foreign country for a specific purpose. Students comprise a special part of this sojourner group and tend to have limited contact with host nationals (Bochner, 2006). Librarians can play a crucial role in expanding the study abroad students’ interactions with members of the host culture by establishing and building on their own international connections.

To sum up, foreign study students have a myriad of information needs. Drawing on their own broad understanding of information, librarians can assist in bridging what would otherwise seem to be an uncrossable culture divide. Librarians can also grow professionally by developing relationships with foreign librarians and serving as ethnolinguistic facilitators for students and faculty.

In the following section, Ye, a librarian at Dickinson College, writes about initiating and developing library services for study abroad programs, and Guccione, a librarian at Goucher College, provides details of her collaboration and inclusion in a Vietnam study abroad experience.

Starting from Scratch: Library Support for Global Education at Dickinson College

Dickinson College, a liberal arts college located in central Pennsylvania, boasts of a long history of engagement in study abroad, beginning in 1964 with a program in Bologna, Italy. Since then, Dickinson has embraced study abroad as an institutional priority, and a global perspective (including study abroad) has become a core value of the institution. Currently, Dickinson sponsors 40 program sites on six continents in 24 countries; 94.7% of Dickinson students participate in study abroad programs, a participation rate ranking third highest in the country (Durden, 2005).

Library support for the global education program at Dickinson is relatively new. The past few years saw significant restructuring in the library, with merging of the library and technology departments,
change in librarian status from faculty to staff, and subsequent changes in library personnel. The library now has a new director, two new associate directors, and three new librarians. The priority for the new team is to reinvigorate the library through outreach to all constituencies. One task is to address the long neglected service for global education (study abroad) faculty and students.

One librarian (Yunshan Ye) was designated as liaison librarian to the global education program. Since then, Ye has worked with all stakeholders, and started from scratch a library support program for study abroad faculty and students.

The first step Ye took was to “listen.” As Dew (2001) highlights in a report on an off-campus student survey, it is crucial for librarians to understand the needs of students in order to have a successful program. In the past two years, Ye has “listened” to the director and staff of the Global Education Office, the college’s information hub and command center for all study abroad programs; he has “listened” to the faculty who have been abroad and been involved in study abroad programs; he has “listened” to students by talking with them during pre-departure trainings; and he has “listened” to study abroad program directors and coordinators whenever they come back to the Dickinson campus for visits. All these interactions helped Ye get a sense of what they need and how the library might respond to their various needs; at the same time, as global education library liaison, Ye promoted library services to all these stakeholders.

The second step was to create an infrastructure that would facilitate on-going support for off-campus faculty and students. To this end, the global education library liaison instituted the following changes:


2. Revised the existing workflow in interlibrary loan services (including designating an interlibrary loan staff member whose priority it is to process study abroad requests) so that faculty and students abroad can have convenient access to the entire library collection (both online and in print).

3. Created an online reference service (using Skype and other instant messaging software) so that faculty and students abroad can have real-time communication with Dickinson librarians.

Finally, the library publicized these new library services for global education participants campus wide. Under Ye’s persistent effort, the library has now become a regular part of the college wide global education initiative. Ye regularly gives presentations at the annual pre-departure orientations, which have become the most effective channel to communicate to study abroad faculty and students and raise their awareness of library services. In addition, Ye sends annual reports to all stakeholders, each time reiterating the library’s commitment to support of study abroad programs.

Already we have seen our effort paying off. Just three years ago, the library literally had no contact with faculty and students abroad. Now the demand for services has been steadily increasing as evidenced by the statistics in Table 1.
Table 1

**Dickinson College Study Abroad Library Services**

<table>
<thead>
<tr>
<th>Year</th>
<th>Faculty/Students</th>
<th>Articles provided</th>
<th>Books provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006—2007</td>
<td>13</td>
<td>39</td>
<td>10</td>
</tr>
<tr>
<td>2007—2008 (one semester so far)</td>
<td>13</td>
<td>43</td>
<td>5</td>
</tr>
</tbody>
</table>

The librarians have yet to conduct a systematic assessment of the program. But judging from communications with faculty and students who have been helped, the services provide are meeting the real needs of study abroad faculty and students, and they are always greatly appreciated (“Thank you!!! Problem solved!!!” a student in Bologna wrote, Jan. 22, 2007; “Many thanks for fixing this problem so fast,” a faculty in Bologna wrote, Feb. 21, 2007).

**Librarian Collaboration in Study Abroad Courses**

At Goucher College, every student is required to complete an abroad experience. Because some students have difficulty fitting in a year-long or semester program, the college offers shorter Intensive Course Abroad (ICA) courses. These consist of a seven-week on-campus course and a three-week experience in the target country. Guccione was a member of the teaching team for the fall 2007 - January 2008 Vietnam ICA.

As a librarian, and not a faculty member, Guccione was fortunate to have this opportunity, but she did not think her experience should be considered unrealistic or out-of-reach for others. As Ye has already described, the strategy is comprised of effective instruction, good faculty relationships, and a willingness to be useful to the campus office which directs international study. It is also important to get to know the students in as many contexts as possible (e.g., team teaching in other courses, doing reference consultations, interacting with student library workers, and sponsoring student groups). Reference and instruction librarians already do most of these as a matter of course.

When Guccione came to Goucher, she was assigned as International Studies liaison because of her own experiences abroad. She tried to keep in touch with the director of the program as often as possible, offered library assistance to students who were preparing to go abroad, and proposed ideas for celebrating the experiences of returning students. In fact, these communications led to very few concrete collaborations, but she and other library staff considered it important to continue contact with the study abroad office, reiterating their interest and support. Assertiveness in initiating a smaller, more specific service is sometimes most productive and may result in moving library services efforts forward in another way. When Goucher inaugurated an International Scholars Program, Guccione was asked to be the library liaison for that as well, and wrangled invitations to the students’ welcome dinner. Then she offered to do a research session for these students as part of their common course.

It goes without saying that getting to know as many faculty members as possible on a professional basis is key to many collaborative achievements. Guccione’s opportunity had its roots several years ago in teaching an introductory research session to a required first-year Frontiers course on Vietnam. Two years later the same professor taught a regular political science course on the Vietnam War and asked her to do a similar session. Guccione and her collaborator had a number of casual conversations about sources and course content, and the Vietnam War in general. When he and another professor subsequently proposed the ICA, he asked Guccione to join as the third member of the teaching team. One professor’s strong...
recommendation of a librarian to his colleagues often leads to numerous other requests for the librarian to assist with study abroad programs.

Contributions to the course were threefold: Planning the course content and syllabus (including collection development), teaching a third of the course, and serving as a special resource person for the students. As planning for the course began, Guccione was able to find similar courses and their descriptions for comparison and ideas. As the syllabus evolved, she quickly located key articles and books relating to the course emphases identified (modern youth in Vietnam, the rural economy, etc.) As she had expected, this collaborative phase was a fine chance to broaden her colleagues’ awareness of the variety of library and other resources available. Collection development involved ordering a number of books and films not in the collection, monitoring their progress, and placing those needed on reserve. A pleasant and productive by-product of collection development was the compilation of a reading list which was sent to the students at the beginning of the summer. Actual teaching responsibilities were shared. Each person had primary responsibility for leading one of the three-hour classes, based loosely on expertise and interest. The other classes were team-led; emphasis was placed on student participation in the discussions. As a special resource person, Guccione provided both in-class instruction (short sessions on how to locate book and film reviews as preparation for assignments, introduction to field trip sites, etc.) and extra-class help (a course Web site and a standing offer to meet with students for individual assistance).

During the three week trip abroad, the students will have an opportunity to visit and compare libraries in Vietnamese universities and institutions; they will observe and compare the academic experience with their Vietnamese counterparts; and finally, they will gather information, organize it, and articulate their impressions into a final paper. Aside from helping students understand institutional differences in libraries, it is unclear at this point what kind of actual research help, if any, they will need from Guccione in-country. Nevertheless, she is convinced that spending three weeks with a group of students will be a golden opportunity for her to demystify a librarian. With any luck, she and her colleagues will see the study abroad students—and their friends—in the library often, post-ICA, confidently asking for help with all of their coursework.

Conclusion

In conclusion, college and university librarians, students, and faculty benefit when librarians actively participate in study abroad programs. Technology allows librarians to develop an intercultural knowledge commons that meets immediate information needs of study abroad students and faculty and also creates new avenues for intercultural interactions between all study abroad participants. Libraries can participate in all areas of foreign study utilizing the theoretical framework and activities described in this article. Pre-departure information, real time communication and library assistance to study abroad participants, librarian study abroad participation, and re-entry consultation with directors and students help libraries serve as necessary resources to a crucial segment of the higher education population.

Incorporating the authors’ experiences and research, a checklist of activities librarians can perform pre-departure, during, and following participants’ return after study abroad trips appears below.

Pre-departure:
- Create study abroad library liaison.
- Contact director of study abroad program.
- Contact study abroad faculty.
- Develop library collection to meet study abroad needs.
- Host library information sessions for future study abroad students.
- Create Web site(s) for study abroad students and faculty.

During:
- Market services to study abroad students and faculty.
- Touch base with study abroad faculty to see if information needs of faculty and students are being met.
Track information requests from study abroad faculty and students and improve services as needed.
Visit or participate in study abroad programs.

Post return:
Conduct focus groups of former study abroad students and faculty to gather feedback about library services and information needs.
Institute a study abroad speaker series to highlight students and faculty research and experiences.
Send annual reports to all stakeholders.
References


Taking Library Instruction into the Online Classroom: Best Practices for Embedded Librarians

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Abstract
The proliferation of online courses has led librarians to adapt their instructional techniques and follow teaching faculty and students into the online environment. Moving beyond Web pages and online research guides, librarians are now becoming instructional partners in online course management systems. Through an online survey of librarians and a literature review, the authors examine best practices for these “embedded librarians.”

Introduction
The number of college students taking online courses has risen substantially over the last several years. According to a report by the Sloan Consortium, nearly 3.5 million American college students were enrolled in an online course in the Fall of 2006. This represents 20% of college students and constitutes a rise of nearly 10% over online enrollments from the previous year (Allen & Seaman, 2007, p.1). Improved student access to courses and increased graduation rates are among the key factors driving the growth of online education, and the trend is expected to continue (p. 2).

Not surprisingly, the rise in online education has decreased the need for students to come to campus, meaning students are less likely to use physical libraries. Although nearly all colleges and university libraries offer online access to research collections, students are 45 times more likely to start information searches at Web search engines than at the library Website (89 % vs. 2 %) (De Rosa, Cantrell, Hawk, & Wilson, 2006, p. 1-7), and they are twice as likely to learn about new information resources from a friend as from a library Website (67 % vs. 33 %) (De Rosa, et al., p. 1-9). In order to remain relevant, libraries are finding it necessary to take their services to students rather than waiting for students to come to them.

Online courses are primarily delivered through course management systems (CMS) that create for students a self-contained learning environment. All assignments are made available inside the CMS for students to view, and when completed, students upload assignments to the instructor within the course module. All communication between students and instructors can take place in discussion boards or e-mail systems within the CMS, and if readings are assigned, they are typically available in the course as an attachment, or at the very least, a direct link to a Web page or article within a database. As students become accustomed to this level of accommodation, they are less likely to venture out to disconnected information sources, especially library Websites, which require much more user effort than Web search engines (Costello, Lenholt, & Stryker, 2004). In response, libraries and librarians are seeking ways to become a part of the CMS universe -- to “embed” themselves -- in order to offer students a more painless route to library resources.

Similarly, some schools use a CMS to supplement traditional face-to-face classes with the components described above. These “hybrid” classes, as they are often called, exist both in the classroom and online. Some librarians see this online component of the hybrid course as an avenue to extend one-shot face-to-face instruction sessions with classes (Jackson, 2007, p. 459). Many libraries are also offering online information literacy modules in hybrid courses as an alternative to face-to-face instruction. This is one way that libraries are keeping up with increased demand for bibliographic instruction at institutions.
where student enrollment is growing while numbers of library faculty are remaining constant or decreasing (Kramer, Lombardo & Lepkowski, 2007).

Library integration into course management systems has been referred to by a variety of names. In 2004, Kearley and Phillips used the term “embedded librarian” to describe the practice of course-level participation in online classes at the University of Wyoming, and it has appeared in the literature repeatedly since (Hearn, 2005; Hedreen, 2005; Ramsay & Kinnie, 2006; York, 2006). Hedreen suggests that the term is borrowed from “embedded journalists” of the Iraq war (2005). Librarians at the University of Missouri St. Louis refer to their embedded librarians as “course librarians” (Bielema, Crocker, Miller, Reynolds-Moehrle, & Shaw, 2007). When a librarian at the University of Wisconsin-Eau Claire monitored discussion boards and sent unsolicited e-mails to students through her university’s CMS, she used the terms “lurking librarian” and “collaboration by infiltration” to describe her work (Markgraf, 2004, p. 17-18).

The term “embedded librarian” carries different connotations depending on the setting. At Murray State University, a librarian was “embedded” in an academic department, meaning that her physical office was located outside the library and among the department’s faculty in a building across campus (Bartnik, 2007). Some libraries use the term “embedded” to describe librarians’ immersion in the face-to-face classroom settings (Hearn, 2005). Librarians at Meredith College use the term “embedded” to describe their infusion of information literacy education into the general education curriculum (Carlyle Campbell Library, 2007).

The authors will hereafter use the term “embedded librarian” to refer to any librarian who takes an active role inside the online CMS classroom -- be it in completely online or in hybrid classes. Levels of service may range from those who provide universal links to external Web pages to those who offer highly interactive content, mass communications, and one-on-one interactions.

The purpose of this article is to explore best practices for libraries and embedded librarians seeking to enhance services to online students through a CMS.

**Methodology**

In order to determine the best practices of embedded librarians, the authors sought information via two avenues: A thorough review of the professional literature and an online survey of academic librarians.

**The Literature Review**

The literature review covered professional library and education literature from the mid-1990s through 2007. The authors searched through English-language publications related to embedded librarians (and the various aforementioned alternate expressions for this practice) and more general forms of library support for online courses.

Course management systems have been categorized in the professional literature by a variety of terms, including “Web-based learning environments” and “asynchronous learning networks” (Beagle, 2000), “courseware” (Getty, Burd, Burns, & Piele, 2000), “course management software packages” (Cox, 2002), “online courses” (Kearley & Phillips, 2004), and “learning management systems” (Jackson, 2007). A quick glance at the software providers’ Web pages shows that they have also added their own descriptive labels to their products: “Virtual learning environments,” “course website software,” “learning content management systems,” and “virtual classroom systems.”

An analysis of the professional literature on library involvement in these course management systems reveals that while numerous authors have reported their own experiences working in online courses, none have surveyed a diverse sampling of institutions to analyze collectively the services being offered and the instructional methods employed. However, three distinct types of publications did emerge: early calls to action, institutional case-studies, and technical innovations.
Two articles stand out as early calls to action for embedded librarians. Eustis and McMillan (1998) described some of the challenges academic libraries faced as asynchronous learning was becoming more mainstream. They describe the imperative of dramatic change for libraries that comes with technology-mediated learning. While course management systems are not specifically mentioned, “asynchronous instruction” is considered a major factor in the dramatic changes facing academic libraries (p. 53).

Beagle (2000) noted that library access and resource integration were scarcely mentioned in the professional writing on Web-based learning environments, and that libraries were not being mentioned in software reviews of these products. He hinted at the embedded librarian concept by mentioning librarians who “proposed greater collaboration and participation in the instructional design and delivery process” in online courses (p. 377). Beagle’s article was soon followed by a flurry of institutional case studies that validated this new approach to library instruction.

Other librarians echo these calls to action by bemoaning the lack of library-integration into commercial CMS software packages and the need for librarian involvement in their design and implementation (Machevec, 2001; Shank & Dewald, 2003; Buehler, 2004).

The majority of the publications on library involvement in course management systems have been institution-specific case studies describing the efforts, successes, frustrations, and dreams of librarians who have transitioned their traditional reference and instructional services into their local online course environments. The focus is usually limited to one particular brand of CMS, though the principles of collaboration and innovation are often transferable. A few representative examples are described below.

Piele’s description of using WebCT at the University of Wisconsin-Parkside provides one of the first documented examples of librarians using course-management software (Getty, et al., 2000). She praises the ability to administer online surveys and quizzes with randomized question sets, automatic grading and record keeping, and the flexibility of the software.

George and Martin (2004) present a nice overview of their experience working with faculty in Blackboard at Eastern Kentucky University. While the focus of their article is on collaboration, they also provide a useful list of specific ideas for integrating library services into the various modules of standard Blackboard classes. This article provides a nice introduction to the topic for new embedded librarians.

York (2006) describes her experience working with online courses in WebCT at Middle Tennessee State University. She provides a day-in-the-life account of her experience, listing the types of questions asked by students and offering suggestions for how to best manage multiple courses while increasing interactions with students and instructors.

Jackson (2007) presents a detailed study of librarian involvement in learning management systems at the California State University’s twenty-three campus system. She found that while librarians were actively collaborating with faculty in the face-to-face classrooms, they were not active in their campuses’ learning management systems. As with much of the literature, one of the major themes of this article is collaboration among librarians, faculty, and the administrators of the campus’s system, and the author gives practical suggestions for how to accomplish this.

The third category of professional literature on library involvement in online courses is more technical in nature. One recent example details an innovation in administering electronic reserve readings inside the CMS. Drew and Flanagan (2007) describe efforts to embrace the direct delivery of information to students inside the course shell by promoting durable links from database vendors and educating faculty on copyright issues. Similarly, Corrado and Moulaison (2006) describe how they used RSS feeds to integrate dynamic lists of new books into the course manage system at The College of New Jersey.
The Survey

In the fall of 2007, the authors submitted a twenty-one question online survey to three e-mail lists inviting academic librarians to report their own experiences participating in online courses. Two of the selected lists were for sections of the Association of College & Research Libraries (ACRL): The Education and Behavioral Sciences Section (EBSS-L) and the Information Literacy Instruction Section (ILI-L). The third list was OFFCAMP-L, a list for off-campus and distance librarians.

The survey was open for ten days and yielded a total of 159 respondents. Participants were given the option of listing their home state and/or institution. Based on the 81 respondents who offered such information, librarians from 36 U.S. states and four Canadian provinces were represented. Librarians from 69 individual institutions chose to identify their schools, with only four schools having more than one respondent.

Online course offerings varied by institution. Survey respondents were asked about the number of exclusively online courses (no face-to-face meetings) offered at their institutions, and the largest percentage (24%) reported more than 100 online courses per semester. Another 2% work at institutions with 10-50 online courses, and 10% offer fewer than 10 per semester. Twenty-two percent were unsure of the number of online courses offered, and 5% reported no exclusively online courses.

Institutions which have practicing embedded librarians reported that 73% of their embedded librarians assist completely online courses, while 76% are also embedded in hybrid courses that meet face-to-face and are supplemented by online content.

The librarians who had experience embedding themselves in their campus’s online courses proceeded through all 21 questions, while those who had not actively participated in online courses were automatically taken to the end of the survey in which they were asked questions about perceived barriers to such services on their campuses. Because not every question was universally relevant, the number of responses per question ranged from 23 to 159. Several questions featured an optional comments box, and many respondents left remarks that helped frame the authors’ discussions of the results.

The results from this survey were analyzed along with the findings from the literature review to determine a set of best practices for embedded librarians.

Best Practices for Embedded Librarians

1) Know the Campus CMS and its Administrators

A variety of commercial CMS are available, each with its own special features. Most offer the same basics, including organized access to course content and built-in methods of communicating with instructors and other students, but librarians should get to know their local system, its potential for library instruction, and its limitations.

Seventy-six percent of the survey respondents’ institutions use Blackboard or WebCT, which recently merged. Six percent use Angel, 4% use Desire2Learn, and 13% work in a variety of other CMS, including Moodle, Sakai, and Jenzabar. A number of institutions are using multiple CMS, and a few have created their own “home grown” systems.

Most institutions offer their instructors training on using the CMS, and 60% of respondents reported attending such sessions. Training is recommended for librarians not only for learning the ins and outs of the CMS, but also to introduce themselves to IT staff and instructors as interested players in the online curriculum. Just as collaboration with faculty is important in the face-to-face classroom, Riedel (2003) also stresses the importance becoming collaborative partners with instructional designers and CMS administrators (p. 483).
Embedded librarians delivering library instruction and services are often subject to software design limitations, though some technically savvy librarians have been able to tweak the CMS to work more fluidly with library resources (Lawrence, 2006). For example, Blackboard offers “building blocks” that allow for seamless proxied access to libraries’ subscription databases (Blackboard, Inc., 2007; Jackson, 2007, p.459; Lawrence, p. 251). Specialized instruction for librarians is often available upon request from campus CMS administrators.

2) Get a Library Link in the CMS

One of the easiest ways to embed the library into the CMS is to have a default library tab or link inserted into every new course shell by the CMS administrator. Librarians should advocate, at the very least, for links to library resources in course management systems, and this can be accomplished even if they do not have direct access to individual courses. By working with the CMS administrators on campus, libraries can ask to have a link to the library main page included in the course management template. On a grander scale, some libraries have helped create dynamic library portals that link students to content relevant to their course subject or even their specific course (Lawrence, 2006; Rochester Institute of Technology Libraries, 2003). Such portals may also provide contact information for librarians who are subject specialists.

Fifty-nine percent of survey participants indicated that they maintain links to the library Website within the course management system, and 45% manage subject-specific links. Direct links to library resources are important if students are to consider a research option beyond Web searches. Moreover, as Cohen (2002) points out, many course management systems link to commercial digital libraries that may charge students an additional fee for content (p. 12).

3) Go Beyond the Library Link

A library link in the CMS is a great start and is often a hard fought battle with reluctant CMS administrators, but librarians should try to do more and get directly involved in individual courses.

Thirty-six percent of the surveyed embedded librarians reported that they provide students with links to specific resources, such as books, articles, and databases. These embedded librarians can confer with students about more specific information needs. While some survey respondents reported communicating with student directly via e-mail (39%) and discussion boards (33%) within courses, other respondents indicated that though they were embedded in courses, they were not added at a level that would allow them to e-mail students or post to discussion boards.

Twenty-two percent of respondents take on an instructor’s role by writing and administering quizzes. Some of these respondents reported that they teach free-standing information literacy courses, while others manage research modules within a variety of courses. Getty, et al. (2000) give four examples of information literacy units built into courses using four different course management systems. Unit management is fairly simple in a CMS, since all systems have built-in quiz-building and gradebook components. With a few changes, a unit developed for one course can be customized and transferred to another course. This is one advantage over Web-based tutorials, which are often fairly generic. Also, library units that are built into for-credit courses may “be taken as seriously as the other course units” (p. 354). Quizzes hosted inside a CMS will often allow for randomized question sets that allow for more flexibility than Web-based tutorials.

4) Don’t Become Over-extended...Recruit Some Help!

Interacting directly with students in an online course can be time-consuming work, and librarians who offer the service are usually adding it on to a full plate of other duties. Embedded librarians also find that the familiar problems of faculty ambivalence and student procrastination occur just as frequently in the virtual classroom. For these reason, many librarians are reluctant to take on very many courses.
Among respondents to this survey who are embedded as active participants in a course, the greatest percentage (41%) are involved in fewer than five courses. While some institutions have only one librarian available for direct embedding in courses, others have many librarians offering the service. The greatest percentage of respondents said that two to five librarians are embedded (34%), while 22% have only one librarian at their institutions directly assisting online courses. Of these sole embedding librarians, 69% are managing only one to five courses, though 38% of them are working at institutions with more than 50 online courses. Even those institutions with more than one embedded librarian are not reaching many classes. The largest percentage (52%) reported having multiple librarians embedded in only 1-10 total classes per semester. Thirty percent of respondents reported no direct embedding of librarians at their institutions.

Regardless of how many librarians are offering the embedded librarian service, few online courses are being reached by directly embedded librarians. Data from this survey suggest that, at best, librarians are actively involved in no more than 10% of online courses at most institutions. The exception is at institutions where librarians are automatically enrolled in all courses. One respondent commented that “we are in every course whether or not the faculty member uses the CMS.”

In her survey of librarians in the California State University system, Jackson (2007) found that some librarians are daunted by the idea of navigating the CMS without training. Librarians with experience being embedded should set up a training session for other interested librarians, preferably with a CMS administrator who may be able to give trainees instructor access to an empty course shell so that they can explore all aspects of the system (George & Martin, 2004, p. 595).

5) Be Strategic with Course Selection and Time

Respondents were also asked how often they check in on courses in which they are embedded: the greatest percentage (26%) only check in on courses once a week; 25% check in a few times a week, but another 25% check in once every day, including weekends; 14% check on courses more than once a day, including weekends, and another 9% check every day but take the weekends off. Based on these results, there is no clear consensus as to how often an embedded librarian should monitor a course. The best answer may lie in the nature of the course (e.g., are there many research assignments or only one?) and the ability of students to access a librarian outside of the CMS (e.g., did the librarian provide an external e-mail address and/or phone number?). One of the most important considerations is that students’ questions are answered promptly. As Bielema, et al. (2007) point out, in the online world, there is “an expectation of a quick turn-around (usually 24 hours or less)” (p. 342).

When asked whether or not students are required to complete a research assignment in the courses with embedded librarians, 44% responded “often” and another 44% responded “always.” It seems only logical that librarians would be added “precisely because there is a research paper assigned,” as one respondent noted in the comments, but 13% reported that students are only “seldom” or “never” given research assignments. One of the authors of this article frequently finds herself in such courses. It is a better use of a librarian’s time to be embedded only in courses in which students are required to locate resources for an assignment. For courses without an existing research component, the librarian may offer to create a research learning module for the course, as a few respondents noted that they have done.

6) Be an Active Participant in the Class

There are several ways that an embedded librarian can be an active participant in a class. If given the authorization, librarians can post contact information (and even a personal photograph) in the faculty information section of the CMS course (George & Martin, 2004). It is also helpful to have a faculty member introduce the librarian to the class through the course announcements section.

Another way to be an active participant in the class is to communicate directly with students through discussion boards and e-mail. Some well-meaning faculty require students to participate in library discussion threads hosted by embedded librarians, but as Matthew and Schroeder (2006) point out, the result is often “a slew of random questions, unrelated to course content” that can “feel like busy work for

both the students and the librarian” (p. 63). Survey respondents revealed that students are rarely required to discuss research assignments with embedded librarians. Only 9% of respondents reported that students are “always” required to discuss assignments with the librarian. One respondent noted in the comments section that “one instructor requires my signature on each student’s survey strategy – each year.” Students are “often” required to consult 19% of surveyed librarians. But students are “seldom” or “never” required to talk to the embedded librarian in 73% of cases (32% and 41%, respectively). Still, most respondents reported a great deal of student contact. According to 70% of respondents, students “often” or “always” contact the embedded librarian (63% and 7%, respectively), and only 30% reported that students “seldom” contact them.

A few respondents noted in the comments section that although students are not required to contact the librarian, they are often encouraged by the instructor to do so. However, other respondents said that faculty rarely acknowledge their presence. Students are far more likely to utilize the embedded librarian if the instructor seems to place value on the service. At a minimum, embedded librarians should ask the instructor to introduce him or her in the course and encourage students to ask questions (Matthew & Schroeder, 2006). The librarian should also remind students of his or her presence at various points during the semester if there has been little interaction (York, 2006).

7) Market the Embedded Librarian Service

The majority of survey respondents (62%) reported that they market their embedded librarian services by sending e-mail to faculty. Other ideas included posting information about the service on the library’s Website, mass-mailing promotional flyers to faculty, posting informative links on the CMS, and directly contacting faculty through departmental meetings, campus workshops, and one-on-one conversations. Twenty-nine percent of the respondents who are practicing embedded librarians reported doing no marketing at all.

As discussed in the introduction, one obstacle to marketing an embedded librarian service is that there is no consensus on what to call this practice. While roughly two-thirds of the survey’s respondents do use the term “embedded librarian” to describe their work, others reported using language like, “my librarian” or “personal librarian” when enrolled in individual courses. One survey respondent referred to his or her role as an “integrated librarian,” and several more noted that they just refer to themselves as “librarians.” This latter group seems to suggest that though the instructional venue and method of delivery has changed, the work of embedded librarians is no different than that of librarians who teach in the face-to-face setting.

Whatever they call it, librarians should clearly describe what they can and will do as an instructional partner in an online class and communicate this with their faculty in order for them to take an interest. A little marketing effort at the beginning will pay dividends in future semesters. As Matthew and Schroeder (2006) point out, satisfied instructors will quickly spread the word to their colleagues (p. 62).

Conclusion

Best practices are ever-changing and ever-evolving. The best practices that emerged from this study point to the continued need for collaboration among librarians, teaching faculty, CMS administrators, and instructional designers.

As more classes continue to be supplemented by or transposed into the online environment, there is an imperative for librarians (and not just distance librarians) to get on board. In 2000, Beagle said, “Librarians currently providing support for asynchronous learning environments argue that their experiences should be seen as bellwether for all library services in the future” (p. 377). Eight years later, this has proven to be a very prescient statement.
References


Workshops
Usability Testing of Library Websites

Stefanie Buck
Jon Dillon
Western Washington University

Abstract
We will give an overview of usability testing of library Web pages based on our experiences at Western Washington University library. There will be opportunities for “hands-on” usability testing as well as discussion about practices and methods, including post-test analysis and reporting.

Participants will:

- Define usability and understand common usability metrics;
- Identify methods used for conducting user research;
- Identify different usability testing methods;
- Develop objectives and tasks for a usability test;
- Run a brief usability test on a Website; and
- Understand methods for recording, analyzing, and reporting usability data.

Participants will be provided references to other resources on usability testing.

At the end of the workshop, participants will be able to set up and run a basic usability test.
Off Campus and Off the Web Site: Reaching and Teaching Library Users Online on Social Networks

Beth Evans
Brooklyn College Library

Eric Fisher
University Libraries, Ball State University

Abstract
The workshop will provide models of best practices and a guided, hands-on opportunity for developing a library presence on the social network sites MySpace and Facebook. Participants will leave with a sound understanding of how to build and maintain an effective presence on a social network and a beginning framework for a library profile on MySpace and Facebook. Participants will learn how to use platform-specific resources available through the network communities as well as layout, text, still images, audio-visual materials, applications, widgets and their imaginations to deliver expected library services as well as unexpected and publicly engaging surprises. Furthermore, participants will establish individual guidelines and timetables for developing and maintaining their profiles to assure that the sites remain fresh, useful and engaging for their distant learner community.
Online Collaborations with Elluminate™ Live!

Judy Green
Kathy Murray
Jerry Voltura
University of Alaska Anchorage

Abstract
Is your university offering more distance courses? Have you ever tried to provide instruction about the details of searching EBSCO to a class over the telephone? Are you looking for a way to meet with out-of-state colleagues without traveling? Does your university have access to Elluminate Live? If you answered yes to one or more of these questions, this workshop is for you!

Elluminate Live!, a real-time virtual classroom software product, is used for highly interactive live online instruction, collaboration, demonstrations, and meetings.

Join two librarians and an Instructional Design Specialist from the University of Alaska Anchorage for a hands-on session in using Elluminate Live! Bring a teaching module or collaboration idea to work on in order to increase the usefulness of this workshop.

This session is geared to both potential and current users. Current users will be invited to share their experiences, insights, and opinions.

After this session, attendees will be able to:

- Recognize the primary applications of Elluminate Live!
- Discuss how this software is currently being used at your institution, if applicable.
- Identify uses of Elluminate Live! in your work environment.
- Apply functions of Elluminate Live!, such as white board, chat, sharing applications, recording for later viewing, and sharing documents from your instruction and collaboration activities.
- Evaluate the usefulness of Elluminate Live! software for your specific purposes.
Peer-review 101: Get Ready to Make Your Mark

Sandra Lee Hawes
Saint Leo University

Elizabeth Richardson
Edinboro University of Pennsylvania

Johanna Tuñón
Nova Southeastern University

Marta Lee
Regent University

Jane Hutton
West Chester University

Abstract
Through exercises, participants will uncover their “inner peer-reviewer.” After completing the workshop, they will be able to assess their own abilities to act as informal, collegial peer-reviewers for other librarians. Participants will exercise their editorial and peer-review skills on excerpts of unpublished manuscripts and compare them to the comments of experienced journal editors.

Learn how to act as an informal peer reviewer for your colleagues. Find out if you have what it takes to be a peer reviewer for an academic journal. Workshop participants will learn and practice the skills they need to serve as peer reviewers for their colleagues or for scholarly journals. Workshop presenters will use visual presentation software to demonstrate common writing errors made by unpublished authors in their submissions to peer-reviewed academic journals. Suggestions from editors about what should and should not be written in scholarly articles will be discussed.

Presenters will offer suggestions about approaching the writing process, including a demonstration of how to insert editorial comments on electronic documents.

Workshop participants will work in small groups of no more than 10 per group. Participants will receive excerpts from previously submitted draft manuscripts. Groups will discuss and suggest revisions to these excerpts before they receive copies of the same excerpts showing editorial comments made by experienced journal editors. Participants can then compare their peer reviewing efforts to the peer review work of the journal editors. Presenters will facilitate the work of each group.

Bibliographies and supplementary handouts will be provided as take-home materials. All materials used in the workshop will be watermarked and participants agree not to pirate materials. Participants will not be given full manuscripts or author information. Original authors and editors have granted permission for the use of their materials for this workshop.
Beyond Screencasting: Using Adobe Captivate to Create Scenario-Based Library Instruction

Michael L. Porter
Nova Southeastern University

Abstract
The objectives of the workshop will be to:

- Introduce participants to the concept of Web-based scenario instruction;
- Distinguish between traditional and Web-based scenario instruction;
- Understand the value of developing Web-based scenario instruction;
- Explore Adobe Captivate as a tool for developing Web-based scenario instruction;
- Explore uses for Web-based scenario instruction; and
- Create a sample Web-based scenario instructional learning object using Adobe Captivate.

Providing instructional services to distributed learners that emulates face-to-face instruction continues to be a challenge for most academic librarians. By incorporating “scenario-based instructional” strategies, librarians can effectively provide instruction that mirrors the real-world of library research into the distributive learning environment. Adobe Captivate allows librarians to create reusable instructional learning objects that can be used to create anytime, anywhere instruction that can be used to meet the flexible learning needs of distributed learners. By introducing librarians to the concept of “branching” to create individualized instructional learning objects, librarians will be able to develop content that can be integrated into any teaching and learning environment. These Web-based scenario instructional objects are developed to provide learners with feedback as they proceed through their chosen path of learning. In any case, Web-based scenario instruction is a strategy that can be used to supplement face-to-face instruction because it provides distributed learners with real-world library research experiences.

Workshop Requirements:

Participants will need to install a copy of the Adobe Captivate 3 software on their personal computer/laptop. This software is available for free from Adobe as a 30-day trial. Participants will be required to register with Adobe prior to downloading the software. Workshop files will be given to participants during the workshop to develop sample projects.
Posters
A Library Questions Discussion Board in an Online, Graduate Research Course

William Denny
California University of Pennsylvania

Abstract
Academic librarians have a long tradition of collaborating with classroom faculty in order to enhance their courses. This tradition continues today in the online environment where a librarian can play an active role in an online course. Faculty members at California University of Pennsylvania have a service available to them where the Distance Learning Librarian is embedded in their online courses. Professors created a Library Questions Discussion Board in the online courses and the Distance Learning Librarian monitors and answers any questions posted by the students.
Poke me! Distance Librarians and Social Networks

Jack Fritts
Benedictine University

Abstract
Distance librarians have led the way in the adoption and adaptation of
technologies in the service of distance learners. There has been much
discussion recently about the use of social networks to attract student
attention to library resources. This poster session will look at distance
learning librarians and their use of these tools in support of their user
groups. This project looks at the use of Facebook and MySpace
specifically by participants and attendees of the 9th through 12th Off-
Campus Library Services Conferences. Data will be collected both by
scans of Facebook and MySpace and through direct contact with the
selected focus group.
Using a Blog to Create an Organic FAQ

Dan Gall
University of Iowa

Abstract
While we're often very helpful, librarians do not know everything and distance education students, like anyone else, develop strategies to solve their own problems and get the information they think they need. Starting in January 2008, I'll explore using a blog for questions from distance students. By making students' questions and our answers to them available in a searchable form, students can find answers to questions that are frequently asked and get an idea of the problems faced by other students.

Further, by encouraging distant students to comment on both the questions their peers ask and the answers I give, students can share strategies that have worked for them and solutions to problems they have in common.

By sharing in this way, I hope not only to learn more about how distant students work and adjust my services accordingly, I also hope to build a sense of community among our far-flung distance students. Ideally, they will see that other students have similar problems to theirs and, I hope, share solutions.

Questions are submitted to me through an e-mail form or by e-mail. I copy the questions in new blog entries and add searchable tags. Once posted, students can read the blog, search for topics using the blog search and add their own comments. Over time, the questions and comments will grow to become a useful resource.
Student Satisfaction with Document Delivery Services at Central Michigan University

Anita Gordon
Central Michigan University

Abstract
Three separate surveys were administered to student-users in the Document Delivery (DDO) database to determine their level of satisfaction with services provided. The surveys were given three separate times within an 18 month period; May 2005, February 2006, and November 2006. During this time period DDO went through a transformation of databases used to request material and to send material electronically. One of the objectives of the surveys was to see if the change led to an increase in user satisfaction. Some of the questions asked were to determine the professionalism of the student staff, the quality of the delivered material, the way the material was requested, availability of office staff/office hours and the ease of document retrieval. Total percentages will be tallied and compared between each survey and survey question. A determination will try to be reached to see if the difference in databases had anything to do with user satisfaction. Student comments, good and bad, will be shared.
Refining Information Literacy for Distance Students: Web Tutorial and Librarian Consultation

Kevin Harden
Averett University

Abstract
The poster session presents bibliographic/library instruction in a format most appropriate for distance students in business. A web-based tutorial is used to deliver a library orientation to relevant resources and an introduction on how students should search, collect, evaluate, attribute, and relate information in a paper or project. The web tutorial is augmented by a 1-hour “consultation” with a librarian, via the phone, to ensure understanding of the material presented. This library instruction is an embedded course in both the undergraduate and graduate level business programs and affords students a 1-hour course credit. All exercises are executed as web forms and a user survey provides student evaluation of the program. Students complete this library instruction in a week time frame prior to the Business Statistics Research course to ensure relevancy. The web tutorial and consultation alleviates the burden of travel to the satellite campus sites for the librarian and additional program cost to the institution for adjunct librarians. This online delivery of library instruction is not new; however, when it is coupled with a consultation with a qualified librarian, it impacts learning and facilitates program evaluation.
**Border Crossings Or …Where In The World Is Prince George?**

**Theresa Kappas**  
Gonzaga University

**Abstract**

Approximately 400 of our 1500 distant students live and take classes in Canada. These School of Education “cohorts” meet at various sites in British Columbia and Alberta for classes that are delivered face-to-face by professors from our institution in the US and adjunct professors from Canada. From the earliest days of these off-campus programs, the library has been actively involved in promoting and providing library services to these students. Library instruction has taken the form of video presentations, downloadable step-by-step instructions, online tutorials, one-on-one phone conversations and a somewhat successful attempt using an online classroom format. However, the most popular and effective library instruction we provide is on-site classes delivered by a librarian. Armed with a laptop, handouts, back-up PowerPoint slides, maps, hotel reservations and passports our librarians have traveled through some of the most scenic areas of North America to amaze our distant students with the resources available to them through the library. This poster session will describe the ways our library connects with our Canadian students, many of whom are in remote areas and face interesting challenges of their own - poor (or no) Internet service and old (or no) computers. Included will be information about the specific challenges our librarians face when providing on-site library instruction in Canada (travel budgets, firewalls, outdated computer labs, border crossings, driving under the influence of kilometers, etc.) and the preparations needed before going out of the country and into an unknown classroom. A recent teaching excursion to three different and distant cohorts in British Columbia will be highlighted. Handouts will include copies of our distant services brochure, class materials distributed to students and the checklist we consult before leaving campus. A laptop will be on hand showing our Distant Services for Canadian Students’ webpage. This session will be of interest to anyone who provides face-to-face instruction outside of their main campus. It may also be valuable to those librarians serving patrons who have uncultivated technology skills or antiquated computers (or both!).
Is it Cheating? Creating an Academic Integrity Tutorial for Graduate Students

Bonnie Oldham
University of Scranton

Abstract
Librarians at the University collaborated with the Instructional Designer from the University’s Center for Teaching and Learning Excellence and with other University faculty to create an Academic Integrity Tutorial which was launched during the fall 2007 semester. This tutorial was designed for first-year and transfer students so the scenarios that were used targeted the research needs of traditional undergraduate students. The Dean of the School of Management was impressed with the success of the undergraduate tutorial and suggested that a tutorial focusing on the needs of graduate students be created. Not only do the research needs of graduate students obviously differ from undergraduate students, but many of the graduate courses were being delivered online. The University already delivered many of its graduate courses online, had two online master’s degree programs in Education, and would be adding an online MBA program as well as establishing an international campus for its MBA program in Hong Kong. The Library Dean charged the Librarians to again collaborate with the University’s Instructional Designer and with other University faculty to create an Academic Integrity Tutorial for graduate students, the goal of which was for them to begin to think critically about ethical issues in doing research. There were several challenges, which needed to be overcome in the design process: 1. Graduate students, used to collaborating on the job, are not always aware of the implications of collaborating on course assignments. 2. International students do not always understand the concept of intellectual property. 3. The scenarios could not be generic as for the undergraduate tutorial, but would need to vary by discipline.
Library 3.0 @ Appalachian State University

Geri Purpur
Louise Ochoa
Appalachian State University

Abstract
Since 2004, the Distance Learning Library Services team at Appalachian State University (ASU) has been providing live reference services to students in a 3-D virtual learning environment called the Appalachian Education Technology Zone (AETZone). The AET Zone is utilized for online distance education courses in instructional technology, library science, educational leadership, and curriculum and instructions programs. In 2006, the AETZone was a recipient of the 2006 Campus Technology Innovators Award. The immersive, virtual reality technology is provided by Activeworlds, a Massachusetts software company. Activeworlds was selected because of low bandwidth requirements for use, scalability, and cost-effectiveness. Users are represented by avatars, an online identity that physically navigates the environment. Communication is made possible through text chat, and typed telegrams. An independent video conferencing system allows for VOIP, document, and desktop sharing. The library has been an integral part of the AET Zone from the beginning. The Distance Learning Library Services team began collaborating on a virtual library with faculty members from ASU’s instructional technology program in May of 2004. Since then, the AETZone has evolved from one world to four worlds. In the fall 2006, librarians built a new library in the Commons world. The Commons world is where all faculty, students, alumni, and guests enter the AETZone. While the new library building was still in the design stage, we conducted a usability study to determine functionality, user level of satisfaction, and user response to the metaphorical component. The study enabled us to refine and improve the building design, thus increasing its functionality and usefulness. The new library is called the Information Gardens. We chose a garden theme to represent a place for growth, transformation, and exploration. The Information Gardens contain individually themed gardens which house a variety of materials. Throughout the Gardens a mix of traditional and non-traditional objects are used to represent library resources and services. Virtual reference services are provided on a regular weekly schedule as well as scheduled tours during the first few weeks of each semester. We have also been experimenting with new activities such as an article blog and Read-Out for Banned Books week. The video conferencing system facilitates provision of bibliographic instruction to many of the off campus classes. Many institutions are experimenting with virtual reality systems for instruction. Providing library services in these environments is a new frontier for librarians. This presents many new issues such as who will design and build, how to staff, what services to offer, and how to access resources. This session will highlight the issues and challenges involved with offering library services in a 3-D virtual learning environment.
Blogs, Wikis and Writing: Proactive Reference in Writing-Intensive Courses

Todd Quinn
Northern State University

Abstract
In the fall 2006 semester, writing faculty and library faculty began experimenting with new approaches to information literacy instruction to take advantage of Web 2.0 and help students better understand the different resources and types of information available online and in print. The current information literacy program is an integrated approach and the foundation of the program is five hours of information literacy instruction within the English Composition I and II courses. Since all the students and faculty have tablet PCs, two writing faculty members and a librarian decided to utilize blogs and Wikis as learning tools for research assignments. One professor used a Wiki and the other asked his students to create blogs. The blog or Wiki is created and students post information about their research and provide access to their respective professor and a librarian. The writing professors provide comments on each student's blog/Wiki page about his/her work (e.g. thesis statement) and the librarian provides comments (during or after IL instruction) on the resources each student has found and/or other resources (online or print) available on his/her topic. In this presentation, we will examine how librarians have used this opportunity to enhance information literacy instruction and to provide proactive assistance.
Homegrown Online Video Tutorials

Pauline Lynch Shostack
Onondaga Community College

Abstract
Our library, like many small academic libraries, constantly struggles with how to best provide instruction to distance students. One option we decided to explore was creating online video tutorials. We had seen how effective these videos were on other library Websites and we knew that libraries had been creating these types of tutorials for years. But, how could we create these types of videos when we didn’t have the technical expertise, funds, and/or IT support? This poster session will provide some tips and strategies for creating homegrown online video tutorials based on our library’s experience.
Bringing the Library to Blackboard

Joanne Smyth
University of New Brunswick Libraries

Abstract
This academic library system has embarked upon a series of initiatives to bring the fullest array of resources into the Blackboard learning environment. In a three-part plan, we have established: 1. Blackboard 'course' (Library Elements) which includes step-by-step instructions for instructors to use in building library-subscribed art images (from ArtStor), music files (from Naxos Music Library and Smithsonian Global Sound), individual e-journal articles, RefShare lists of readings with resolver links to full text, and electronic reference source entries directly into course content. 2. Directions for using open URL and Digital Object Identifiers to link to library resources, and 3. Pre-set, yet programmable, course-based library modules that offer the same type of granular, customized library resources that we have been able to offer with our subject guides (with SingleSearch facilities, RefShare reading lists, links to native interfaces and suggested Reference sources), and are automatically offered to every course with a Blackboard presence. Instructors have the option of hiding the modules, using them as offered, or fine-tuning them to suit the needs of their particular course. We have also integrated Library Elements into the Blackboard instruction for course designers and faculty, and have arranged with individual instructors to include an "Ask the Librarian" discussion group within Blackboard for particular classes, so that students have ready access to Reference assistance. These initiatives have raised the profile of the Library and its resources within this academic community, and reaffirmed the Library's place as the primary research resource, even in the Blackboard environment.
Deer in the Headlights: Customization of an Online Information Literacy Class for Returning Students

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Abstract
This poster session describes the collaborative efforts of the distant learning and health sciences librarians at a medium-sized state university to develop a dedicated online information literacy class for a specialized cohort of students. In the Fall of 2007, the Dean of the School of Nursing asked the Distance Learning Librarian to implement an online version of the required information literacy credit course for the increasingly popular RN-to-BSN Nursing program. The dean was eager to provide program prerequisites online to students living and working roughly within a hundred mile radius of the University’s main campus. All students are working healthcare professionals, many with family responsibilities as well. Additionally many are returning to college for the first time in a number of years. Most lack experience with instructional courseware and are often unaware of the electronic evolution of library services and resources. The 1-credit online information literacy class was previously offered intermittently to all undergraduate majors. It required in-library assignments and on-site assessments. Instruction was neither discipline specific nor oriented to non-traditional students. It did not effectively address the distance education needs of working registered nurses geographically dispersed throughout the region. In the spring of 2008, the Distance Learning Librarian and Health Sciences Librarian customized the existing semester-long online information literacy class for the RN-to-BSN cohort. Librarians began with the existing BlackBoard course shell and tailored it for the information needs of practicing nurses turned students. Instructional examples were drawn from nursing, allied health, and medical library resources. Controlled vocabulary lessons included MeSH and CINAHL Subject Headings. Assignments focused on student use of electronic books and full-text journal articles. APA citation style was introduced to help prepare students for research papers that would be required in nursing courses. BlackBoard features were utilized to promote student comfort, sharing, and understanding. Use of the BlackBoard threaded discussion boards provided a forum for working professionals to ask librarian-instructors technology and content questions. Sustained attention to the BlackBoard course environment provided a comfort level for nurses returning to the classroom and a rapidly changing library. Specific learning objectives were developed for the new information literacy course. Students were expected to effectively utilize nursing related databases including CINAHL and ProQuest Nursing. Students were expected to identify other relevant health information resources including government databases. Students were expected to create an annotated bibliography of relevant and authoritative health resources applying APA style to their citations. Traditional in-person assessment was retained. Written mid-term and final exams were administered at several easily accessed remote-site locations. Additionally the instructors solicited anecdotal feedback from students twice during the semester. A formal student assessment of the class occurred at the end of the semester. The design,
evolution, and implementation of the specialized credit-bearing information literacy course will be chronicled in the poster session.
Teacher as Researcher: Librarian and Faculty Collaboration in Teaching the Literature Review in a Distance-Delivered Teacher Education Program

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Abstract
A professor of education at a state university in Alaska invited an academic librarian to co-teach a distance-delivered graduate seminar on qualitative research in school and classroom settings. The seminar (ED626) was taught via audio-conference (i.e., teleconference) and augmented with a course Website (UASOnline) and an asynchronous online course conferencing system (Discussion Board). We will describe a lesson on conducting a systematic and reproducible literature review, co-taught, over the course of several class meetings, to the public school teachers who participated in our graduate seminar in fall 2005. These public school teachers, who lived and worked in remote, rural, and Alaska Native communities throughout the state of Alaska, were enrolled in distance-delivered graduate programs in education at our university. Our purpose in co-teaching this graduate seminar was to teach the teachers (i.e., our graduate students) to systematically gather and analyze primary and secondary data sources in their own schools, classrooms, and communities in order to empower their instructional practices, (re)discover their status as teacher-researchers and professional educators, and improve the quality of their students’ educational experience.
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