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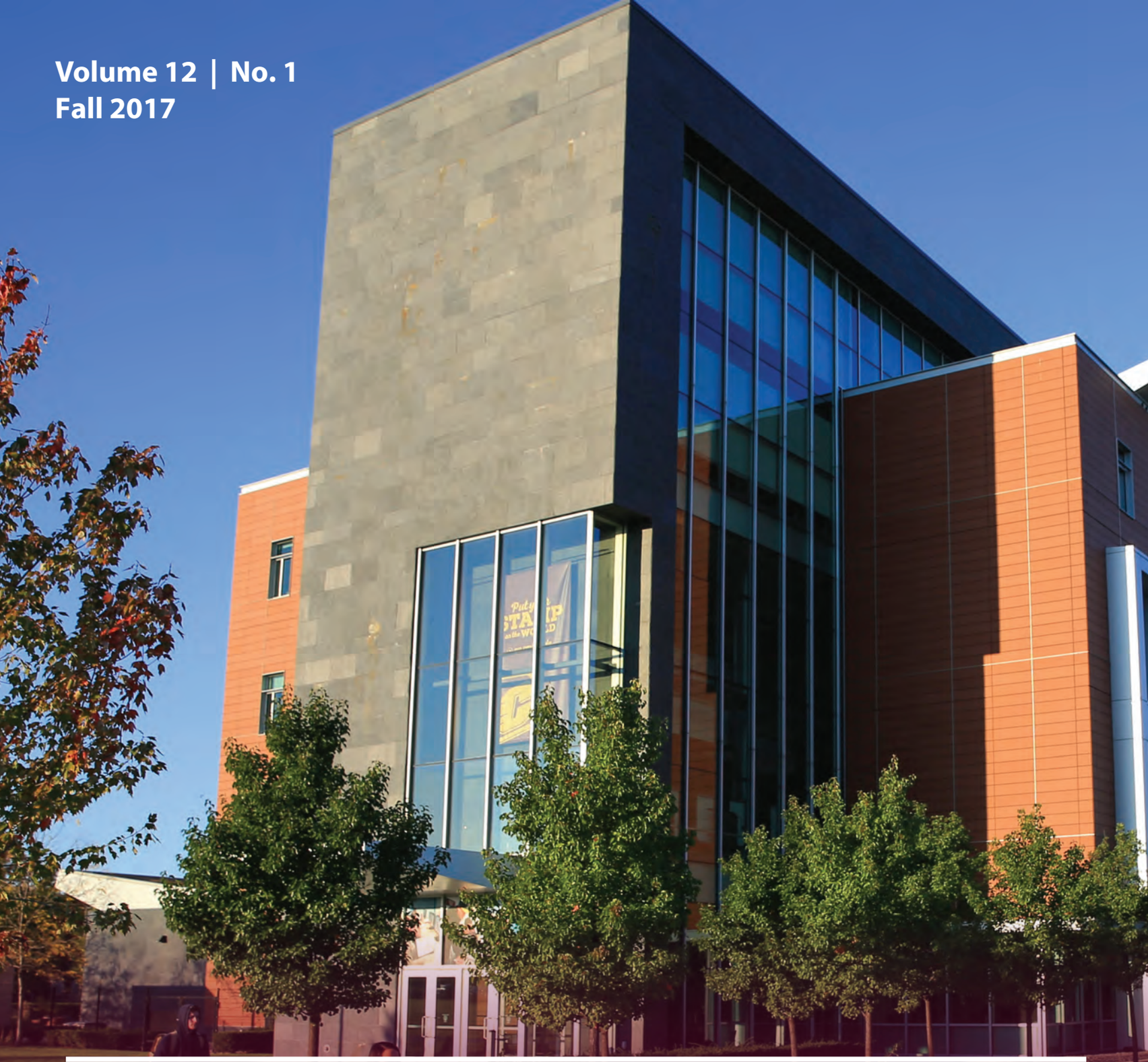

# THE CHARTER SCHOOLS RESEARCH JOURNAL

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Table of Contents
*The Charter Schools Resource Journal*
Vol. 12, No. 1

Editor's Note …… ….. i

Editorial Board …… ii

*A Texas Charter School District's Teacher Perceptions of Administrator Strategies That Contribute to Teacher Retention …….....* 1

by Cuneyt Akdemir, Ed.D., Director of Leadership Development, Harmony (Texas) Public Schools
Kaye Shelton, Ed.D., Associate Professor, Educational Leadership and Director, Center for Doctoral Studies, Lamar University, Beaumont, Texas

*Charter School Teacher Attitudes, Belief Systems, and Behaviors Associated with Substantive Student Academic Achievement ……..* 27

by Jennifer S. Goodman, Ed.D., Superintendent, Odyssey Academy, Galveston, Texas
Amy Orange, Ph.D., Assistant Professor, University of Houston-Clear Lake, Houston, Texas
Gary Schumacher, Ph.D., Associate Professor, University of Houston-Clear Lake, Houston, Texas

*Examining the Relationship between School Funding and Academic Achievement for Charter Schools .....……....…….……* 47

by Antonio Corrales, Ed.D., Assistant Professor, University of Houston-Clear Lake, Houston, Texas
Michelle L. Peters, Ed.D., Associate Professor, University of Houston-Clear Lake, Houston, Texas

*Continued on next page*

*How Read Aloud and Read Silently Interventions Impact on 4th Graders' Reading Proficiency – 2015 NAEP Scores Tell All* ……..……. 73

by Tammi Kolski, M.S., Doctoral Candidate, Central Michigan University
Mingyuan Zhang, Ed.D., Professor, Central Michigan University

Call for Papers ……...…… 103

# Editor's Note

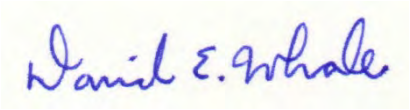
Welcome to the Fall 2017 edition of *The Charter Schools Resource Journal*. We are pleased to feature both university professors and also K-12 teachers and administrators as authors in this edition. We hope you find the information useful and interesting.

I would like to acknowledge and thank our expert editorial board for their time and talent. We could not do it without them. These educators come from across the country and volunteer their time to review and help in many other ways with each issue.

We are working hard to make this journal one of the premiere sources of information for all who are interested in scholarly examinations of charter schools. We invite you to share this issue with friend and colleagues. If you are interested in contributing, please see the "call for papers" at the end of the issue.

Thank you, and we will see you again in Spring 2018.

Professionally,



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# A TEXAS CHARTER SCHOOL DISTRICT'S TEACHER PERCEPTIONS OF ADMINISTRATOR STRATEGIES THAT CONTRIBUTE TO TEACHER RETENTION

Cuneyt Akdemir, Ed.D.
Kaye Shelton, Ph.D.

February 2017

ABSTRACT

The purpose of this narrative phenomenological case study was to explore administrator strategies related to teacher retention as perceived by teachers in one Texas charter school district. The researcher found that teachers perceived 19 administrator strategies as contributing to teacher retention. Strategies include being approachable, providing feedback to teachers, accommodating teachers' needs, recognizing and appreciating teachers, being in classrooms, maintaining a mentoring program, providing professional development based on teachers' need and choice, supporting teachers with student discipline, setting high and realistic academic expectations, maintaining parental involvement, maintaining team meetings, maintaining good work conditions, maintaining job security, offering salaries that are competitive with surrounding districts, reducing

## Introduction

Teacher attrition remains a significant problem facing all schools in the United States (Ronfeldt, Loeb, & Wyckoff, 2013; Sass, Flores, Claeys, & Perez, 2012) with as many as four million American K-12 teachers reporting disappointment with their jobs (Yarrow, 2009). In addition, more than one-third of teachers in the United States leave their jobs within the first five years (Archer, 1999; Ashiedu & Scott-Ladd, 2012; Ingersoll & Smith, 2003). Retaining quality teachers is very important to society as teacher movement impacts beyond just individual schools or districts (Xu, Hannaway, & Taylor, 2008). Losing quality teachers has led to an opportunity gap for both students and teachers (Hughes, 2012; Ingersoll, 2001; Lankford, Loeb, & Wyckoff, 2002).

Public charter schools are tuition-free public schools which function with the same funding as traditional public schools (Alberty, 2014). These schools have not been exempt from experiencing the high attrition rate of experienced teachers (Ashiedu & Scott-Ladd, 2012; Howell & Peterson, 2000; Redman & Lahy, 2012). In fact, Stuit and Smith (2010) acknowledged that teachers in charter schools are 130% more likely to leave teaching than teachers in traditional public schools. Furthermore, about 25% of teachers at charter schools leave after their first year (Briggs, 2011; Redman & Lahy, 2012). Since teacher retention affects all schools in the educational system, school-related factors that influence teacher retention provide valuable information to school districts, administrators and teachers to minimize this turnover rate (Sass et al., 2012).

## Literature Review Summary

As to the reasons why teachers leave the teaching profession, multiple factors were found to play an important role on teachers' decisions to remain in the profession (Curtis, 2012; Hughes, 2012; Prather-Jones, 2011; Walsh & Battitori, 2011). Ingersoll (2003) provided the following influences on dissatisfaction that determine teachers' decisions to leave the profession: poor salary, poor teacher support, student discipline problems, lack of faculty influence and autonomy, poor student motivation, lack of opportunity for professional advancement, inadequate time to prepare, intrusions on teaching time, and large class sizes. In addition, Hanushek, Kain, and Rivkin (2004) and Smith (2007) identified common reasons for teacher attrition as: noncompetitive and unequal salaries for teachers, poor working conditions in many schools, lack of targeted

recruitment incentives in high-need fields and locations, over-reliance on high-attrition pathways such as emergency hiring, and inadequate support for beginning and veteran teachers. Furthermore, salary can also be a deciding factor for teacher retention (Curtis, 2012; Darling-Hammond, 2003; Kersaint, Lewis, Potter, & Meisels, 2007; Petty, Fitchett, & O'Connor, 2012). Overall, recent research suggests that school-related factors play an important role in teachers' decisions to remain in the profession (Curtis, 2012; Hughes, 2012; Prather-Jones, 2011; Walsh & Battitori, 2011) including administrator strategies for teacher support, a positive school culture, and work environment including teachers' satisfaction of their contract, salary, job description, and workload will improve teacher retention in schools (Changying, 2008; Curtis, 2012; Petty, Fitchett, & O'Connor, 2012; Pirkle, 2011; Walsh & Battitori, 2011).

**Administrator strategies for teacher support**. Research shows that administrative support to novice and veteran teachers contributes to teacher retention (Kersaint Lewis, Potter, & Meisels, & 2007; Prather-Jones, 2011; Walsh & Battitori, 2011; Wise, Darling-Hammond, & Berry, 1987). School leaders who respect teachers, provide leadership roles to them, and empower them to make decisions regarding classroom and school experience higher teacher retention rates (Russell, 2005). In addition, discipline-specific, school-based mentors (Pirkle, 2011) and ongoing professional development opportunities (Guarino, Santibanez, & Daley, 2006) improve teacher retention. Teacher support, specifically in the area of instructional materials, impacts teacher retention as well as a lack of resources (Ingersoll, 2005; Liu, 2007). In addition, lack of access to professional advancement was cited as reason for teacher attrition (Pirkle, 2011).

**Administrator strategies for a positive school culture**. Another factor that impacts a teacher's decision to stay in the profession is school culture (Petty et al., 2012; Walsh & Battitori, 2011). Interestingly, school discipline has been an important area that influences school culture (Dumler, 2010; Ingersoll, 2001). Student behavior exists as one of the reasons that discourage potential teachers from entering the teaching profession and current teachers from remaining in the field (Barmby, 2006; Walsh & Battitori, 2011). Also, schools with a culture of high academic expectations and successful student results retain more teachers (Darling-Hammond, 2007; Guarino, Santibanez, Daley, &

Brewer, 2004; Masumoto & Brown-Welty, 2009). In addition, parental involvement and support has been found as a contributing factor to teachers' motivation and success (Cunningham, 2007; Hughes, 2012). Finally, collaboration between the school employees contributes to a positive school culture, which impacts teacher retention (Angelle, 2006; Feiman-Nemser, 2001; Ingersoll & Kralik, 2004; Makkonen, 2005; Russo, 2005; Wong, 2002).

**Administrator strategies for positive work environment**. Work environment in school districts directly influences teacher retention (Darling-Hammond, 2003; Ingersoll, 2001; Harris, 2002). In fact, teachers with a positive experience with their work environment are more likely to stay at their current school (Hirsch & Emerick, 2007). In addition, teacher job assignments and workload was found to be a contributing factor to teacher attrition (Allensworth, Ponisciak, & Mazzeo, 2009; Barmby, 2006; Hughes, 2012; Ingersoll, 2001; Murnane & Olsen, 1989; Pirkle, 2011).

## Methodology

The purpose of this narrative phenomenological case study was to explore administrator strategies related to teacher retention as perceived by teachers in one Texas charter school district. The study following research questions guided this study:

1. What administrator strategies regarding teacher support contribute to teacher retention?
2. What administrator strategies regarding school culture contribute to teacher retention?
3. What administrator strategies regarding work environment contribute to teacher retention?

By using a narrative phenomenological case study approach, the researcher may uncover rich information by capturing as many variables as possible to identify what administrator strategies contribute to teacher retention.

This qualitative case study implemented semi-structured interviews to collect in-depth data from teachers participated regarding their perception of administration strategies that contribute to teacher retention (Yin, 2006). Individual interviews with teachers allowed greater insight about teachers' perception of administrator strategies that positively impact teacher retention in a public charter school system. Furthermore, the

case study allowed the researcher to respond the research questions in-depth (Yin, 2006) which would have been difficult by quantitative methods (Rauch, Van Doorn, & Hulsink, 2014).

**Setting and Participants**

The school district selected for this study was a public charter school district with six campuses in an urban city in the state of Texas. The district is a part of a network of high-performing K-12 public charter schools across Texas with 48 schools, including in five metropolitan areas, focuses on providing science, computer technologies, engineering, and math education (STEM) to traditionally underserved students. The district serves more than 4,000 students at six campuses with a diverse demographics and backgrounds. Currently, 56% of its students receive free or reduced price lunch and more than 80% of them are nonwhite (45% Hispanic, 19% African American, and 16% Asian).

The participants of this study consisted of nine female and one male teachers of a Texas public charter school district, who were retained by the district as a teacher for at least five years. Teachers were chosen by purposeful sampling strategy, because the researcher wanted to purposefully inform an understanding of the research problem (Creswell, 2013). The criteria for teacher selection included:

- Having at least five years of teaching experience in the charter district chosen for the study.
- Having stayed for at least three sequential years of experience at the current campus.
- Being a current teacher in the selected charter district.

There were a total of 24 teachers who met the above criteria in the selected district and 10 were selected for participation in this study. The participants were limited to teachers as the focus of this study was to investigate the teachers' perceptions regarding the administrator strategies that contribute to teacher retention.

Teachers with five years of teaching experience in the system and three sequential years of experience at the current campus were chosen for several reasons. First, charter schools suffer teacher attrition issues more than traditional public schools (Briggs, 2011; Redman & Lahy, 2012) and the charter school system chosen for this study is not exempt from this important issue. Second, the school system recruits its administrators generally

from its faculty members. In general, a teacher with five years of teaching experience has the potential to become an administrator in the charter school system chosen for this study. Finally, the charter school system is dynamic in a way that teachers can move from campus to campus based on their request or based on campus needs.

The teachers who met the criteria were contacted via email that included an informational letter to explain the purpose of the study and asked if they were interested in participating in the study. The email was sent to each teacher who provided information regarding the study, a confidentiality statement, and the process of the interview. The email also included information regarding the study and the time needed to be committed. The participation was entirely voluntary. The researcher took necessary actions to protect the confidentiality of the participants as well as to make participants comfortable during the interviews. Non-biased language was used during the interviews to ensure the successful data collection and analysis.

**Data Collection and Analysis**

Individual, face-to-face, semi-structured in-depth interviews were held with each teacher to gain a great understanding of research questions and were scheduled with teachers at a convenient time and location. Before the study, interview questions were piloted to ensure the clarity and appropriateness of the questions. The first set of interview questions included ones regarding personal interests and career goals. Then, the questions moved to the teachers' perceptions of administrative strategies that impact teacher retention. Supplemental questions were asked in order to gain a better understanding of teachers' perceptions regarding administration strategies.

The researcher recorded and took extensive notes during each interview to ensure proper transcription. The recorded interviews were transcribed within one week of the interview in order to identify themes and patterns. Coding of data and pseudonyms were used for each participant in order to support anonymity and confidentiality of data and records. The researcher then analyzed the responses to discover common patterns within the perceptions of teachers regarding the school related factors that impact teacher retention. After preliminary patterns were established, the responses were re-read to verify the existence of the patterns.

Qualitative research requires that qualitative researchers utilize validation methods to verify accuracy of what participants said during the interview (Creswell, 2013). Trustworthiness and validation were established by employing the following strategies: (a) triangulation; (b) peer review; (c) member checks; and (d) piloting the guided protocol. In addition, the researcher followed the guided protocol (Appendix A) during the interviews and asked the same questions to each participant in the same order.

## Summary of Major Findings

Major findings from this study were organized according to emerging themes and aligned with each research question (Creswell, 2013). Table 1 provides an overview of the findings. Research Question One investigated the administrator strategies regarding teacher support that contribute to teacher retention. Nine themes emerged: being approachable to teachers, providing feedback to teachers, accommodating teachers' needs, recognizing and appreciating teachers, being in classrooms, maintaining a

Table 1

*Summary of Findings by Research Question*

| | |
|---|---|
| **RQ1: Teacher Support** | • Be approachable to teachers<br>• Provide feedback<br>• Accommodate teachers' needs<br>• Recognize and appreciate teachers<br>• Be in classrooms<br>• Maintaining a mentoring program<br>• Provide professional development based on teacher needs and choice<br>• Maintain a strong curriculum with sufficient resources<br>• Create leadership opportunities |
| **RQ2: School Culture** | • Organize informal occasions for teachers<br>• Support teachers with student discipline<br>• Set high and realistic academic expectations<br>• Maintain parental involvement |

| | |
|---|---|
| | • Maintain team meetings |
| **RQ3: Work Environment Strategies** | • Maintain good work conditions<br>• Maintaining job security<br>• Offering a competitive salary<br>• Reduce teachers' workload<br>• Fair and flexible distribution of duties. |

mentoring program, providing professional development based on teacher needs and choice, maintaining a strong curriculum with sufficient resources, and creating leadership opportunities for teachers**.** Research Question Two investigated the administrator strategies regarding school culture that contribute to teacher retention. Five themes emerged: organizing informal occasions for teachers, supporting teachers with student discipline, setting high and realistic academic expectations, maintaining parental involvement, and maintaining team meetings. Research Question Three investigated the administrator strategies regarding work environment that contribute to teacher retention. Five themes emerged: maintaining good work conditions, maintaining job security, offering a competitive salary, reducing teachers' workload, and fair and flexible distribution of duties.

## Conclusions

Findings from this study show that administrators do impact teacher support, school culture, and work environment as these are factors that influence teacher retention. In addition, positive administrator strategies regarding teacher support, school culture, and work environment were indentified as contribute to teacher retention. These findings are consistent with the research regarding teacher retention (Darling-Hammond, 2003; Harris, 2002; Ingersoll, 2001; Jones, 2011; Kersaint et al., 2007; Petty et al., 2012; Walsh & Battitori, 2011; Wise et al., 1987).

### Administrator Strategies for Teacher Support

Research Question One identified the administrator practices regarding teacher support that contributes to teacher retention. A suggested conclusion is that administrators who communicate well with their teachers contribute to teacher retention.

The conclusion supports Dumler's (2010) research, who acknowledged that communicating key information in a timely manner, encouraging and making teachers feel welcomed, providing positive but honest feedback, and maintaining an open door policy was found important administrator behaviors that promote teacher retention. In addition, Cherubini (2008) suggested that the communication between teachers and principals played a statistical role for teachers' motivation to excel. Similarly, Greenlee and Brown (2009) found that principal behaviors affect teacher recruiting and retention in challenging schools.

Another conclusion that emerged could be that administrators who meet teachers' needs contribute to teacher retention. The conclusion is consistent with research findings regarding administrative support (Curtis, 2012; Kersaint et al., 2007; Wise et al., 1987; Walsh & Battitori, 2011). For example, Walsh and Battitori (2011) suggested that administrative support accounted for the primary area of importance for veteran teacher job satisfaction. In addition, Curtis (2012) argued that lack of administrative support is one of the primary reasons for teachers leaving the profession. Similarly, Prather-Jones (2011) found that administrative support plays a key role for teachers' decisions regarding their careers.

**Administrator Strategies for School Culture**

Research Question Two identified administrator practices regarding school culture that contributes to teacher retention. The findings suggest that administrators who create a safe and collaborative school culture for teachers, students, and parents contribute to teacher retention. This is consistent with Bulach's (2002) conclusion that a positive school culture needs teacher involvement in the decision making process, all faculty members should be treated fairly, and student discipline should be maintained with rules enforced equally for students and staff. In fact, Witmer (2005) suggested that the collaboration between administrators, teachers, and parents in this area is vital for student success. Furthermore, research was reported that a collegial working environment could enable a strong sense of belongingness that benefits the quality of a new teachers' experience and desire to stay in the profession (Baker-Doyle, 2010).

**Administrator Strategies for Work Environment**

Research Question Three identified the administrator practices regarding work environment that contributes to teacher retention. The first conclusion that emerged from was administrators who maintain good work conditions for teachers contribute to teacher retention. Working conditions of the school and the community impacts teacher retention (Darling-Hammond, 2003; Ingersoll, 2001; Harris, 2002). In fact, teachers who have positive perceptions about their working conditions have a greater chance to stay at their current school than the teachers who have negative perceptions regarding their work conditions (Hirsch & Emerick, 2007).

A second conclusion derived is that administrators who meet teachers' financial and job security expectations contribute to teacher retention. Economic factors such as salary impact teacher retention (Curtis, 2012; Darling-Hammond, 2003; Kersaint et al. 2007; Petty et al., 2012). In fact, the most important factor for recruitment and retention is whether teachers are well paid (Hernani-Limarino, 2005). Furthermore, job security influences employee retention (Jandaghi, Mokhles, & Bahrami, 2011; Probst & Brubaker, 2001). Teachers want to know they will have a job in the future.

## Implications for Practice

The variables that impact teacher retention have been researched for decades (Ingersoll & Smith, 2003; Murnane & Olsen, 1989; Walsh & Battitori, 2011) as teacher retention has been an ongoing problem for traditional public schools and charter schools (Sass et al., 2012; Stuit & Smith, 2010). This study was conducted in an effort to understand the administrator strategies regarding teacher support, school culture, and work environment that teachers perceive as contributing to teacher retention. Based on the conclusions emerged from the findings of this study, we offer the following 19 suggestions and implications for practitioners:

### Administrator Strategies for Teacher Support

1. School administrators should be open, available and approachable in order to make charter school teachers feel welcomed and comfortable to talk to administrators about their questions, requests, feedback or concerns (Day, 2007; Dumler, 2010). This would allow healthy communication and better understanding between the parties, which would contribute to teachers' comfort level with their administrators and schools.

2. School administrators should often provide feedback to charter school teachers whether it is positive or negative (Dumler, 2010; Johnson & Birkeland, 2004; Rosenholtz & Simpson, 1990). This would help teachers understand some important issues such as the expectations from administrators, recognition and appreciation of administrators, areas of improvement and concern, and reasons for some administrative decisions.
3. School administrators should be attentive to the needs of charter school teachers' and exercise skill in listening, negotiating, and communicating as a means to support them (Curtis, 2012; Jones, 2011; Kersaint et al., 2007; Walsh & Battitori, 2011; Wise et al., 1987). This would lead teachers to perceive their administrators as supportive and understanding.
4. School administrators should find ways to recognize and appreciate charter school teachers (Cherubini, 2008; Kopkowski, 2008; Walsh & Battitori, 2011). This can be done by simple daily greetings, providing positive feedback about something a teacher has done well, or informal occasions to get together with teachers in a different setting such as a picnic or social event.
5. School administrators should often visit charter school teachers' classrooms (Darling-Hammond, 2007; Dumler, 2010). This would allow them to know get to know their teachers, what goes on in classrooms, understand teachers' strengths and areas of improvement, see best practices to recognize and share with others, and have an improved communication with teachers.
6. School administrators should maintain a mentoring program for new and struggling charter school teachers (Darling-Hammond, 2003; Guarino et al., 2006; Kardos, 2005; Pirkle, 2011). This would allow those teachers to have the opportunity to work with a colleague willingly and comfortably to adapt to a new environment, a new profession, or to improve on areas of concerns, instead of being nervous to ask for help from administrators because teachers may consider asking help from administrators may impact administrators' perception about themselves.

7. School administrators should provide professional development that applies to charter school teachers' need and choice (Levin, 2008; Tapper, 1995). This would help improve and grow teachers in the areas of need. It would also improve the benefits received from professional development as it would increase the motivation of teachers to attend these programs to learn something that they do not actually know and that can actually be used in their classroom.
8. Charter school administrators should maintain a strong curriculum that includes adequate resources and materials (Greenlee & Brown, 2009; Hammond; 2005; Ingersoll, 2005; Liu, 2007; Murnane & Steele, 2007; Petty et al., 2012; Wynn et al., 2007). This would reduce teachers' workload as most of the planning and materials would by default be available to them instead of them creating these materials on their own. It would also help new teachers to adapt to the school and the job easier as teaching plans and materials would be laid out and clear. Having a strong curriculum would also help veteran teachers as they could use it as their main resources while they can add extra resources for more flexibility.
9. School administrators should create opportunities for charter school teachers to take leadership roles and responsibilities (Kersaint et al., 2007; Pirkle, 2011). This would help retain quality teachers who currently seek or who would seek in the future to take leadership positions to advance their career. It would also help recognize and appreciate quality teachers to assign some small-scale leadership roles such as mentoring, department chair, and a school committee member or chair.

**Administrator Strategies for Positive School Culture**

1. School administrators should organize informal occasions for charter school teachers (Ronfeldt, 2012; Walsh & Battitori, 2011). This would help creating a school culture where teachers feel themselves appreciated, safe, comfortable, and a part of the team.
2. School administrators should support charter school teachers for student discipline (Dumler, 2010; Ingersoll, 2001). Having the support of

administrators, teachers would feel comfortable managing classroom and discipline issues. This support would also allow teachers to feel safe, supported, and comfortable about their administrators.

3. Charter school administrators should set high and realistic academic expectations in order to create a positive school culture (Darling-Hammond, 2007; Dumler, 2010; Petty et al., 2012). High academic expectations set by administrators would help teachers establish high expectations in their classrooms. On the other hand, taking realities into consideration when setting those expectations would contribute to teachers' motivation to meet those expectations rather than getting worried.
4. Charter school administrators should maintain parental involvement (Cunningham, 2007; Elfers, Plecki, & Knapp, 2006; Ronfeldt, 2012; Stockard & Lehman, 2004; Walsh & Battitori, 2011). This would help boost the parental support and communication for teachers. It would also contribute to a positive school culture where parents and teachers feel that they belong to a nice community.
5. School administrators should maintain team meetings with charter school teachers (Kardos, 2005; Prather-Jones, 2011). Meetings like staff meetings, grade level meetings, and department meetings would contribute to collaboration of teachers and administrators.

**Administrator Strategies for Positive Work Environment**

1. Charter school administrators should maintain good work conditions (Allensworth et al., 2009; Hirsch & Emerick, 2007; Ingersoll, 2001; Luekends, Lyter, & Fox, 2004). Maintaining building and classroom in general and responding to teachers' maintenance requests and needs in a timely manner would contribute to teachers' happiness and satisfaction with school and administrators.
2. School administrators should find ways to maintain and improve job security of charter school teachers in order to improve teacher retention (Jandaghi et al., 2011; Probst & Brubaker, 2001). In fact, the uncertainty of job security at-will agreements cause is an area of concern for public charter schools. Charter

school administrators should look into options such as increasing the length of the agreement or changing the type of the agreement to improve on job security issues.

3. Charter school administrators should offer salaries that are competitive with surrounding school districts (Adams, 1996; Curtis, 2012; Darling-Hammond, 2003; Hanushek et al., 2004; Hernani-Limarino, 2005; Jacobson, 2007; Kersaint et al. 2007; Petty et al., 2012). This would help teachers' overall satisfaction with school and discourage them from looking at alternative options to earn more somewhere else. It would also contribute to retaining quality teachers because most schools need this type of teachers at any given time, especially in urban cities.
4. Charter school administrators should find strategies to maintain a reasonable teacher workload and to reduce it when possible (Barmby, 2006; Murnane & Olsen, 1989; Pirkle, 2011). In fact, reducing number of classes a teacher has to be prepared for has been highlighted as an efficient practice by the majority of participants in this study. This would help prevent teachers from feeling exhausted and stressed about their job, which would improve their overall satisfaction.
5. Charter school administrators should be fair and flexible when distributing teaching assignments and other duties (Allensworth et al., 2009; Johnson, Kardos, Kauffman, & Donaldson, 2004). This would help teachers perceive administrators as fair and accommodating. It would also help build a team culture where teachers appreciate that all teachers equally work hard for a common goal. Furthermore, it would allow teachers to accept additional duties and responsibilities easier and with more motivation.

## Recommendations for Future Research

This study was limited to ten public charter school teachers in one Texas charter school district. Through the process of face-to-face interviews, the researcher gained insight into possible implications for practice for this particular group of teachers and the district. On the other hand, generalizations cannot be made using the results of the research since the study may not be representative of a wider social setting. Therefore,

additional research with other charter school districts is recommended in order to develop a broader understanding of the phenomenon. For example, the recommended settings could be: other urban charter school districts; suburban charter districts; urban traditional public school districts and suburban traditional public school districts.

The study was a qualitative phenomenological case study that investigated teachers' perceptions on administration strategies regarding teacher support, school culture, and work environment. The researcher recommends a quantitative research based on the findings of this study. This quantitative research is recommended to include more and diverse participants in order to collect broader data and come up with some generalizations regarding administrator practices that contribute to teacher retention.

In addition, the participants of this study consisted of teachers who have been retained for at least five years in the selected charter district. On the other hand, the perceptions of novice teachers regarding administrator strategies that contribute to teacher retention might be different than perceptions of veteran teachers as their needs might be different. Therefore, the researcher recommends replication of this study with the participation of novice teachers.

Furthermore, this study concentrated on positive administrator practices that contribute to teacher retention. Nevertheless, the data shows that the charter district selected for this study experiences teacher attrition every year. Therefore, the researcher recommends future research on administrator practices that contribute to teacher attrition with participants who left the school district. It would be interesting to compare the findings of this study and the recommended study and look for commonalities.

Moreover, participants in this study brought up several administrator strategies implemented by the school district or school administration. Although these strategies might be contributing to teacher retention, they were eliminated by the researcher during the analysis process as not enough participants provided data about them during interviews. The researcher recommends further research on the effect of these eliminated administrator strategies on teacher retention. These strategies include:

- Leadership academy for teachers who are interested in becoming an administrator;

- Salary scale that uses different variables such as number of year experienced, degree earned, and subject taught;
- Monetary incentives for student achievement;
- Parent home visit program;
- Block scheduling of courses;
- Number of students in classrooms;
- Number of students with specific needs such as ESL or SPED in classrooms;
- Existence of a dedicated assistant principal for student discipline.

Additionally, this research included both primary and secondary teachers. The perceptions of those teachers might be different because they work in different settings. Therefore, the researcher recommends replicating this research for primary teachers and secondary teachers separately to examine the differences of their perceptions of the phenomenon.

Finally, this study included participating teachers that taught different subjects. The researcher realized during the analysis stage that there were major differences in the answers of teachers that taught different subjects for some questions on curriculum, instructional materials, and workload although they work under the same district. Therefore, the researcher recommends replicating this research for each teaching subject to examine same subject teachers' perceptions of the phenomenon.

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## Appendix A

## Guided Protocol

The purpose of this study is to explore a Texas network of public charter school teachers' perceptions regarding the administrator strategies related to teacher support, school culture, and work environment that have a positive influence on teacher retention. An important aspect of public charter schools has been the high attrition rate of teachers at experienced by many charter schools (Howell & Peterson, 2000). Concerns over the effects on student achievement and faculty retention are current research topics of interest for educational leaders in determining ways to keep quality of teachers as well as achievement at high levels in charter schools (Hughes, 2012).

The following research questions will be used in this study:

1. What administrator strategies regarding teacher support contribute to teacher retention?

2. What administrator strategies regarding school culture contribute to teacher retention?

3. What administrator strategies regarding teacher work environment contribute to teacher retention?

**Purpose Statement:** The purpose of this study is to explore a Texas network of public charter school teachers' perceptions regarding the administrator strategies related to teacher support, school culture, and work environment that have positive influence on teacher retention.

**Background and Get Acquainted Questions:**

A. How are you today? Can you tell me briefly about yourself?

B. How long have you been in education and in a charter school setting? What are your interests as an educator?

C. What are your future plans about your career?

**Research Questions:**

1. What administrator strategies regarding teacher support contribute to teacher retention?
   A. What administrator strategies regarding administrator-teacher relations contribute to teacher retention?

   B. What administrator strategies regarding mentoring and professional development contribute to teacher retention?
   C. What administrator strategies regarding curriculum and instructional materials contribute to teacher retention?
   D. What administrator strategies regarding opportunities for future growth contribute to teacher retention?
2. What administrator strategies regarding school culture contribute to teacher retention?
   A. What administrator strategies regarding student behavior and discipline contribute to teacher retention?
   B. What administrator strategies regarding academic expectations contribute to teacher retention?
   C. What administrator strategies regarding parental involvement contribute to teacher retention?
   D. What administrator strategies regarding collaboration between faculty members contribute to teacher retention?
3. What administrator strategies regarding teacher work environment contribute to teacher retention?
   A. How does at-will agreement contribute to teacher retention?
   B. How does teacher salary contribute to teacher retention?
   C. What administrator strategies regarding teacher workload contribute to teacher retention?

# Charter School Teacher Attitudes, Belief Systems, and Behaviors Associated with Substantive Student Academic Achievement

by

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## Abstract

The purpose of this study was to explore the factors that allow students to be academically successful at a charter school serving a predominantly economically disadvantaged, urban population. This qualitative multiple case study researched the most effective teacher attitudes, belief systems, and behaviors associated with high levels for academic achievement from the perspectives of teachers and students. Findings showed that teachers and students felt teachers' positive attitudes, strong relationships with students, and sense of responsibility for students increased student learning. Additionally, teachers' enjoyment of teaching, their content knowledge, and their abilities to present materials in multiple ways helped student master the content.



*Keywords: charter school, teacher beliefs, case study, student achievement*

As accountability standards continue to rise, student academic achievement is reportedly one of the major issues that schools today face. This challenge leads educators to search for factors that contribute to the most growth in student academic improvement. Huang and Moon (2009) reported that teachers are the most influential factor in a child's academic growth. The researchers further explained a student who has a poor performing teacher could be significantly hindered in academic growth. It is imperative that a child does not have more than one ineffective teacher in subsequent years. Bloom's (2012) research agreed that one of the biggest factors in students' success is that they have a strong teacher working with them. In their study, Akbari and Allvar (2010) found that teachers are one of the most important players influencing academic student achievement.

Quality teachers possess an attitude of care and trust (Hattie, 2009; Lovat & Toomey, 2007; Rowe, 2004; Stronge & Hindman, 2003). Bond, Smith, Baker, and Hattie (2000) agreed that effective teachers possess an attitude of respect for students. Stronge and Hindman (2003) further state that although it is difficult to define an effective teacher precisely, usually individuals can describe their favorite teacher using descriptors such as "caring, competent, humorous, knowledgeable, demanding, and fair" (p. 49).

Another teacher attitude associated with improved academic growth includes an attitude of commitment (Darling-Hammond, 2003; Darling-Hammond & Youngs, 2002; Greenlee & Brown). This teacher attitude is especially necessary with students in challenging, low-income, and low achieving schools because the opposite effect of uncommitted teachers is widening the achievement gaps. Muijs and Reynolds (2015) found that effective teachers are warm, supportive, enthusiastic, and have high expectations for their students.

One of the most important teacher belief systems is a teacher's strong sense of self-efficacy (Akbari & Allvar, 2010; Wagner & DiPaola, 2011). Akbari and Allvar (2010) define teacher efficacy as the belief that a teacher possesses about his or her competencies to increase student engagement and learning. Teachers with a strong sense of efficacy tend to be risk takers, have high expectations for themselves and their students, provide the opportunity for students to grow more academically, are more innovative, and utilize classroom management strategies that promote student motivation and self-esteem (Akbari & Allvar, 2010).

Hattie (2009) found that teachers who set high expectations and created positive relationships for their students were able to achieve higher levels of learning. Also, empirical research has shown that a positive teacher-student relationship improved student learning, behavior, and attendance while negative relationships were often related to students with problems in schools (Boon, 2011). Silva and Morgado (2004) found that two of the most impactful factors of academic achievement were effective, empathy-based teacher and student relationships as well as teachers having faith in students' capacity to learn which is tied to self-fulfilling prophecy.

Wiesman (2012) sought to research the alignment of student and teacher beliefs regarding motivation. He specifically found that one of the top five reasons students were more motivated to learn and achieve academically happened when the student and teacher have developed a positive rapport with one another. Love and Kruger (2005) posited that quality teachers with more experience believed that their success with their students was due to them motivating their students. They possessed the belief that all students can learn (Love & Kruger, 2005).

Bond et al. (2000) specified expert teaching performance into characteristics. Some of the qualities and behaviors of effective teachers identified were better use of knowledge, extensive pedagogical content knowledge, and deep representations of subject matter knowledge. In addition, Stronge and Hindman (2003) found that effective teachers "make the most of their instructional time" through "hands-on learning, problem solving, questioning, guided practice, and feedback" (p. 51). They also monitored the progress of their students and adjusted their instruction accordingly (Stronge & Hindman, 2003).

Akbari and Allvar (2010) found that teachers' behaviors were also influenced by their efficacy beliefs. The greater their belief that they can improve student learning, the more likely they were to behave in specific ways. Teachers were more likely to put forth more effort and increase the level of goals they set for their classes (Akbari & Allvar, 2010). They also tended to increase their level of planning and organization as well as use intellectual excitement and establish interpersonal rapport.

Each of these important teaching qualities and behaviors should be considered in the hiring process. Schumacher, Grigsby, and Vesey (2015) found that hiring practices

should hinge upon effective teaching practices. Specifically, the teaching behaviors necessary to identify in potential hires fell under one of the four categories of behaviors: "classroom management and organization, organizing instruction, implementing instruction, and monitoring student progress and potential. Collectively, the four domains… significantly impact student achievement" (Schumacher et al., 2015, p.146).

## Research Purpose

Although studies have been performed to research effective teacher qualities, such as those discussed above, limited studies have been conducted with public charter school teachers (Hill, Angel, & Christensen, 2006). Extremely limited research is available concerning studying teachers in charter schools, especially low income public charter schools.

The purpose of this qualitative study was to identify specific teacher attitudes, belief systems, and behaviors associated with substantive student academic achievement in a charter school serving economically disadvantaged students. The research used a multiple case study approach through interviews, observations, and open-ended survey questions for teachers in a predominately economic disadvantaged charter school (83% of the students qualify for the free or reduced lunch program) located in Southeast Texas. Specifically, the following research questions guided this study:

1) What perceived attitudes do teachers possess associated with substantive student academic achievement in low-income charter school classrooms?
2) What perceived belief systems do teachers possess associated with substantive student academic achievement in low-income charter school classrooms?
3) What perceived behaviors do teachers possess associated with substantive student academic achievement in low-income charter school classrooms?
4) What are student perceptions about the attitudes, belief systems, and behaviors of teachers whose students demonstrate substantive academic achievement?

## Theoretical Framework

This study was framed through the lens of Bandura's (1977) self-efficacy theory. His research of perceived self-efficacy focuses upon people's beliefs in their own capacity to affect experiences that influence their lives. This theory is the foundation of

maintaining an attitude of motivation, behaviors that lead to accomplishments, and belief of being emotional healthy. Hence, the connection between this qualitative study of effective teacher attitudes, belief systems, and behaviors is parallel to this theoretical framework of self-efficacy.

## Methodology

This multiple case study focused on identifying what teachers perceive to be their attitudes, belief systems, and behaviors that contribute to substantive student academic achievement. It also included student perspectives of their teachers' attitudes, beliefs, and behaviors that they felt contributed to their academic success. We selected a multiple case study approach to obtain rich, detailed descriptions from participants about their attitudes, beliefs, and behaviors (Stake, 2006). Each teacher served as a case and we conducted both within-case and cross-case analyses to look for patterns in the data at the individual level as well as across all cases. Student perspectives on teachers' beliefs, attitudes, and behaviors that contributed to their academic growth were considered in both the within-case and cross-case analyses.

### Site and Participants

Stellar Journey Charter School (a pseudonym), a predominately low income public charter school located in Southeast Texas, served approximately 750 children in prekindergarten through high school. The student demographics of Stellar Journey Charter School (SJCS) included approximately 83% economically disadvantaged, 69% Hispanic, 18% White, 9% African American, 53% at-risk, and 24% English language learners.

The number of children per grade level ranged from 10 to 110 students. SJCS, a growing charter school in Southeast Texas, had approximately 50 teachers including core teachers in prekindergarten through high school, electives, and special programs.

Teachers from SJCS were selected based upon their state test results for End of Course assessments. Initially, three secondary teachers were selected; an additional teacher was added after multiple students mentioned the same teacher as being beneficial to their learning and success in school. These teachers had the highest passing rates as well as the highest percentage of students reaching the top level of achievement. By recruiting teachers with the highest student achievement scores, we

hoped to learn what, if anything, about their beliefs, thoughts, and actions helped students learn effectively. In addition, nine high school students from SJCS were also interviewed through focus groups and individual interviews so we could gain insight into their perceptions of what their teachers believed and did to help them learn. We selected these students because they had attended SJCS for multiple years and had been exposed to numerous teachers. The students were

### Data Collection and Analysis

Data for the study included interviews and observations. The primary data source was face-to-face interviews. We also conducted classroom observations of each teacher participant, which allowed us to see teachers' instructional approaches and teacher-student interactions. Students participated in either a focus group or a face-to-face interview. We conducted follow up interviews, via phone or email, for clarification purposes and audio recorded all interviews and focus groups, which were later transcribed verbatim.

To analyze the data, we first coded for "teacher attitudes", "teacher beliefs", and "teacher behaviors" on the transcripts. Next, data were microcoded to capture sub-themes within these categories and provide an in-depth exploration of the participants' perceptions. The researchers also kept a reflective journal throughout the entire process of the study to document the research process and the researchers' biases to ensure that the results accurately reflected teacher and student perceptions.

## Findings

The findings of this study yielded several common themes regarding charter school teachers' attitudes, beliefs, and behaviors that teachers and students perceived supported student academic achievement. Each of these is discussed in the following sections.

### Teacher Attitudes

We chose to explore teacher attitudes because attitudes are feelings that can affect behaviors (Knox & Anfara, 2013). Several common themes emerged concerning teacher attitudes that lead to student academic success including a sense of responsibility towards their students, an attitude of caring, and an enthusiasm for teaching. Each of these is discussed in the following section.

Teacher attitudes centered on a sense of responsibility for their students; Bea shared that she felt a "sense of urgency" to teach students and ensure they learn "all day, every day". The teachers shared that they treated the students as if they were their own kids, and they would do whatever it took to ensure that they succeeded academically. As Briana commented, "It's not the next teacher's problem, it's my class, and my problem that I need to solve."

The teachers also cared about their students and this attitude permeated their classrooms. When Bea discussed her students, she became emotional even though she claimed to not be "really an emotional person but talking about them [made her] emotional." She said, "Maybe I really just care about them that much." Blake echoed Bea's attitude, stating, "Successful teachers care about their students, make time for their students, adapt when they face challenges, and give 110% whenever they are with their students." Their students echoed these comments, with many discussing how they know their teachers care about them. Jeff summed up the student views, stating, "They just really care about us."

Another attitude, according to teachers and students, relate to teacher enthusiasm for teaching. The teachers believed a key component of this was that SJCS supported these attitudes of collaboration and enthusiasm for teaching and learning. Briana described the culture at SJCS, saying:

> Teachers are given room to explore and try almost anything in their classroom. This freedom allows students to have experiences that public bureaucratic schools don't necessarily provide. Enriching the curriculum with outside experiences is an amazing component for a classroom, which [SJCS] provides in many forms. School culture does amazing things for students that would normally be disenfranchised in the public school arena. At [SJCS] everyone is included and the staff goes through great lengths to keep that spirit alive. It does wonderful things for in the classroom and the school as a whole."

Her comments illustrate how the climate at SJCS supported teachers and students. The freedom teachers were allowed at the charter school may have contributed to the attitudes that they held. By giving teachers more choice in how they taught, their enthusiasm for their content could come through, engaging their students and leading to

increased achievement. This was evident in the student data as well, with the majority of students saying that their teachers enjoyed and had a passion for teaching and really understood and loved their content. The students felt that their teachers were extremely focused on learning. One student shared, "And you can tell they like teaching and even the stuff they teach. They keep it exciting." Another commented, "She [Blake] has a really great attitude in class. She enjoyed teaching and she loved it and yeah, she had a really good attitude."

Teachers also wanted to ensure that students saw their positive attitudes. This was exemplified by Blake, who explained that she saw assessments as "evil and a time waste, but I never once let the students see that attitude". Even when students complained about the state assessment, she would redirect them so they would follow her same attitude; if she acted as if she hated the test, then the students would too and she worried this might impact their achievement. Instead, she modeled positive attitudes and saw the same from her students.

**Teacher Belief Systems**

Pajares (1992) defined beliefs as "the best indicators of the decisions individuals make throughout their lives" (p. 307). For this study, a belief system is seen as the ideas a teacher holds to be true concerning education and teaching. Multiple common threads developed from the teacher insights concerning teacher belief systems associated with academic achievement in low-income charter school classrooms. The teachers' belief systems focused on the importance of building relationships with students and parents, taking responsibility for their students, having high expectations for students, and the value of collaboration between teachers.

Briana's overarching belief system held a solid foundation in having high expectations for students. "I believe in students and hold them to a high standard," she said. She also felt that student-teacher relationship were essential to student learning and worked diligently to form bonds with her students by coordinating and helping them fundraise for an extended field trip to Washington D.C. Because of this level of commitment, she believed her students would "jump through hoops" for her because of everything she did for them to make a once in a lifetime experience happen for them. Briana believed the teachers that had the most success shared her similar characteristics

of believing in students, holding high expectations for them, and building strong relationships.

Teachers' beliefs in building relationships extended to the parents as well. The teachers all believed that involving the parents through communication was important to student success. Briana said that she used email, phone calls, conferences, and texts to keep in touch with parents, with an emphasis on maintaining contact with parents of students who were struggling. Blake felt that "the fact that the students knew I had such a good line of communication with their parents made for much easier classroom management". She believed that this open communication and parental involvement allowed her students to make academic progress.

The students also felt that the teachers in this study took responsibility for them and this helped them succeed. Regarding Briana, one student commented:

> I think she believed that even though sometimes the students would mess up, she would go back and help, and she wouldn't let students fall behind. I think she believed in that, like, don't let students fall behind and help them, no matter what.

This was a common perception from the students and nearly all of them mentioned that their teachers would help them master content and believed that they could be successful. Their perceptions that their teachers took responsibility for them in these ways made them feel supported and they felt this contributed to their success.

The final belief shared by teachers was that they must collaborate with one another to improve themselves and the school as a whole. The teachers collaborated in a variety of ways, but there was often a focus on the curriculum. Briana explained how the teachers worked together at SJCS, saying:

> [We worked] collaboratively across grade levels to make sure the TEKS that feed into each year are covered in depth. For instance, Civil War is covered in 7th grade and needs to be emphasized for the 8th grade teacher's success. I also had the privilege to work with an ELA teacher last year that helped emphasize the history of what they were learning through the reading and assignments in her classroom. And vice versa for me. I worked on the writing in the content that helped her emphasize her work. We collaborated cross curricular for our students.

These teachers believed that charter schools provide opportunities for collaboration more effectively than traditional public schools due to the increased flexibility. Teachers perceived that aligning the curriculum across grade levels and content areas may have contributed to students' academic success.

**Teacher Behaviors**

Common views concerning teacher behaviors emerged from the teacher and student data. Teacher behaviors were numerous and often overlapped the previously mentioned attitudes and belief systems, demonstrating that their beliefs and attitudes drove their classroom behaviors. In general, the teachers and students agreed that effective teachers must show enthusiasm for teaching and learning their specific content, be able to present the material in a multitude of ways, assess student learning, and build positive relationships with their students to ensure student engagement and success.

All of the teachers described behaviors related to enthusiasm for their teaching. From the excitement in their voices as they discussed activities they created to their excitement during lessons, these teachers displayed engaging behaviors when they taught. For example, Blake described how she engaged her students in the curriculum using a variety of activities:

> I firmly believe that if you are bored while teaching, then the students are even ten times more bored than you. Whenever I start to fall into a rut or get bored I change it up. This keeps both myself and my students engaged in what we were learning. Some examples of ways I supplement the curriculum are by using KhanAcademy.com as an assessment tool, getting kids out of their seats to do Task Card Walks, QR Code Activities, and even creating worksheets that are Maze or Zombie themed!

She shared a story about how one of her quiet and polite students asked, "Why are there no zombies in Algebra?" This was the catalyst to her creating a Zombie Polynomial Flip Book. When she distributed the activity to the students the very next day, "they were all shocked!" She described how they had "so much fun in math class" and it was one of her favorite lessons of all time. This demonstrates Blake's willingness to make learning fun for her students even if it means some additional work for her to create the lessons.

The students also felt that Blake, Prim, Briana, and Bea created engaging activities for them, presented the course content in multiple ways and kept them motivated. One student shared how he previously struggled with math, but his teacher's approach helped him to understand the concepts:

> I always had trouble with math, I was the slowest kid in the high school. She [Prim] would show different ways to do things like examples and stuff, and they're actually the kinds of stuff that can help me with math throughout high school.

Another student discussed the various ways Briana used fun activities so students could understand history better. She explained, "She [Briana] used to make us do board games and flash cards, sometimes re-enact stuff like the stock market crash." Examples like these were common when the students discussed their teachers, with numerous instances of teachers focusing on creative ways to help them master content.

The teachers also constantly assessed their students through observations and other ongoing means so they could adjust and reteach to meet the needs of all of their students. These behaviors led to increased student achievement, according to the teachers. Briana discussed how she used assessments "to find out where each student stands individually". Prim used a slightly different approach to assessment in her classroom. While she engaged in both formal and informal assessment of student learning, she also held students accountable by using a weekly grade sheet so that the students could have ownership of their grades and progress. Then the students would take the initiative to ask her if they could come in during tutorials or make corrections to improve their grades. "I would always meet them half way as long as they were willing to put forth some initiative and effort," she shared. Her behaviors encouraged students to take responsibility for their own learning and she felt this contributed to their academic success. It also served as a way for students to assess themselves.

Students felt that the relationships their teachers built with them was an important behavior that resulted in increased learning. One student commented, "They [the teachers in this study] really changed our lives in a good way." During a focus group, the students discussed how much they learned in Briana's class through the games she played and the

jokes she made, offering evidence that the engaging activities and personal connections Briana made with her students increased their learning.

## Implications

### The Teacher Makes the Difference in Student Academic Achievement

That the teacher makes the difference was the focus of numerous studies (Bloom, 2012; Hattie, 2009; Rowe, 2003; Stronge, 2002). Stronge and Hindman (2003) as well as Stronge and Tucker (2000) confirmed that the teacher matters by showing that the teacher is the single most influential factor in a school that contributes to student achievement. Therefore, "we can greatly improve student achievement if we come to an understanding of what constitutes an effective teacher and then seek out teachers who demonstrate those desired qualities and behaviors" (Stronge & Hindman, 2003, p.49).

The findings of this study confirm the perception that the teacher makes the difference. The student voice was loud and clear that their success was anchored on specific talented teachers such as the ones involved in this qualitative study. The students agreed with Bloom (2012) when they stated that their effective teachers believed in them and that they could learn just as well as any other students. A good teacher can reach children regardless of their circumstances (Bloom, 2012). Bloom's research showed that effective teachers can help students raise their grades irrespective of their family background, ethnicity, economical status, etc. In fact, Bloom (2012) found a direct correlation between the greater the quality of the teacher and increased chievement in student performance. Consequently, this study supports the idea that teachers do make the difference in student achievement.

### Teacher Attitudes

This study also confirmed prior research, supporting that an effective teacher emulates a positive attitude about life and teaching (Stronge & Hindman, 2003). As a person, a teacher possesses an attitude of caring and fairness, is a reflective thinker, and has high expectations for self and each learner. All four teachers as well as the students echoed Stronge and Hindman's (2003) research findings about the positive attitude necessary for effective teachers. All participants also adamantly agreed that teachers must care for, support, and respect students. Effective teachers are respectful towards and show trust in students, which leads to stronger student and teacher relationships

(Stronge & Hindman, 2003). The participating students supported that their best teachers' attitudes showed that learning was important and that they were passionate about teaching. These were perceived as key factors to productive classrooms.

The students also consistently voiced that their most effective teachers were always there for them, which supported the research as an attitude of commitment (Darling-Hammond, 2003; Greenlee & Brown, 2009; Ingersoll, 2003). This study also supported the research that a direct correlation exists between student academic achievement and teacher job satisfaction with several teachers and students commenting how it was obvious that the best teachers liked teaching and the school in which they worked (Knox & Anfara, 2013; Mertler, 2002).

The participants in this study also solidified the research supporting a teacher attitude of reflexivity and tenacity (Huang & Moon, 2009). This research and previous research (Huang & Moon, 2009) supported the overall message of identifying what those attitudes are and which teachers possess them, which is imperative to the success of schools and student academic achievement.

**Teacher Belief Systems**

The premise that teacher quality and quality teaching are linked with values and beliefs was extensively regarded as truth by many researchers (Arthur, 2010; Clement, 2007; Lovat & Toomey, 2007; Rowe, 2004; Westcombe-Down, 2009). A teacher's belief system was considered the best indicator on the basis of decision making. Beliefs, more than knowledge, influence how a teacher plans, makes instructional decisions, implements classroom practices, organizes, defines tasks and problems, and are the strongest predictors of behaviors (Kagan, 1992; Pajares, 1992). The teachers and students in this study confirmed the research-based beliefs about the importance of helping students make connections, beliefs of teacher efficacy, and beliefs about establishing high expectations.

All participants' comments aligned with prior research that effective teachers have high expectation for themselves as well as their students (Stronge & Hindman, 2003) and that these effective teachers possessed a "do what it takes" belief to help students reach high expectations (Love & Kruger, 2005). These teachers also shared the belief that they are responsible for their students (Love & Kruger, 2005). Therefore,

valuable teachers know how to have high expectations for their students as well as for their teaching, which will push students to achieve academically (Berliner, 2004; Huang & Moon, 2009; Muijs & Reynolds, 2015; Weisman, 2012).

This research also supported the research-based belief that teachers must build effective relationships with their students. Every participant was passionate about the importance of building relationships. These beliefs about relationships were perceived as the basis of motivating students to achieve academic success.

**Teacher Behaviors**

Earlier studies of effective teaching based upon personality led to more reliable research focused upon teacher behaviors which positively affect student achievement. Stronge and Hindman (2003), as well as Muijs and Reynolds (2015), studied effective teacher behaviors through questionnaires and classroom observations. Their research found that student outcomes are strongest when effective teaching behaviors are present. The literature reviewed revealed effective teaching behaviors to fall under the following three categories: creating an effective classroom climate, supporting effective teaching practices, as well as behaviors of expert teachers (Muijs & Reynolds, 2015; Stronge & Hindman, 2003).

This study also supported the findings of the literature review. Specifically, the teachers and students interviewed agreed with the research findings of Muijs and Reynolds (2015) in which the initial positive classroom climate factor the authors found included teacher behaviors that supported an orderly and businesslike learning environment.

The most mentioned teaching behavior was the effective use of instructional time which supported findings from Muijs and Reynolds (2015) and Stronge and Hindman (2003). Multiple teachers mentioned this as a very important aspect of their students' academic achievement. The same authors' research about monitoring the progress of their students and adjusting their instruction accordingly was also echoed throughout this study, in addition to supporting the research-based behavior that successful teachers must create a positive classroom climate with effective classroom management behaviors. This research also supported similar findings by Bond et al. (2000) which reported that effective teachers monitor learning and provide feedback to students.

In addition to classroom climate, management, instructional time, and monitoring learning, the findings in this study supported Muijs' and Reynolds' (2015) results that teacher behaviors must support effective teaching practices such as utilizing a multitude of teaching strategies to reach every student. Different students may need content explained in different ways according to the students' levels and strengths (Muijs & Reynolds, 2015). Several of the teachers and students discussed this effective teacher behavior when interviewed. The participants also supported the researched based practice of the teacher actively helping students.

Akbari's and Allvar's (2010) research discussed teachers' teaching styles shining when their personal educational philosophy is manifested through their instructional practices. A couple of the teachers and students reiterated this discussion through the importance of education showing through the teachers' behaviors in the classroom.

The participants also supported the additional behaviors identified by Bond et al. (2000) which included better adaptation and modification of goals for diverse learners. This study also supported Huang and Moon's (2009) thoughts that a school could make the greatest gains in achievement simply by improving the quality of teacher behaviors.

This study's findings also paralleled research presenting specific behaviors of expert teachers. Bond et al. (2000) specified expert teaching performance including better use of knowledge, extensive pedagogical content knowledge, and deep representations of subject matter knowledge. Both teachers and students mentioned these three aspects that they stated supported academic achievement. Also, Akbari and Allvar (2010) found that teachers' behaviors are also influenced by their efficacy beliefs. The greater their belief that they can improve student learning, the more likely they are to behave in specific ways. Teachers also tend to increase their levels of planning and organization as well as use intellectual excitement and establish interpersonal rapport. This research aligned with Akbari and Allvar's (2010) findings as well as with Berliner's (2004) research supporting that expert teachers are skilled in their content, working with students, taking more time to plan, planning more than one activity or strategy to teach a concept, and knowing their students' academic levels.

This qualitative study of effective teacher attitudes, belief systems, and behaviors definitively paralleled the theoretical framework of self-efficacy (Bandura, 1977). Each

teacher interviewed truly believed that she could greatly influence her students' academic achievement regardless of their intellectual level or background. They were certain that their effective teaching practices including their positive attitudes, their relationship building skills, and their solid belief that their students could learn would positively affect student academic achievement. The students even remarked that these teachers loved teaching, were passionate about their subject matter, and cared about them. The teachers set high standards for themselves and their students and stayed strongly committed. Universally, these teachers possessed confidence and efficacious outlooks on their abilities as effective teachers who could make a difference in their students' learning and lives.

In summary, it is imperative that schools hire the most effective teachers for their students. Finding teachers who are a good fit for the specific school is also important. Administrators and hiring teams should use these specific teacher attitudes, beliefs, and behaviors to identify these teachers. Administrators should also support these same qualities by instilling them through ongoing professional development, coaching, and evaluation processes to best support student academic achievement.

## Conclusion

In conclusion, the teacher does make the difference in student achievement. Therefore, it is imperative that schools hire the right fit and most effective teachers for their students. In doing so, administrators and hiring teams must be aware of specific teacher attitudes, beliefs, and behaviors associated with student academic achievement. Administrators must also infuse these research based practices through ongoing professional development, coaching, and evaluation processes to best support student academic achievement. This study showed consistency in researched based specific teacher attitudes, belief systems, and behaviors that were associated with greater student academic achievement.

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Examining the Relationship between School Funding
and Academic Achievement for Charter Schools

by

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## Abstract

The purpose of this correlational study was to examine the relationship between school funding and academic achievement for charter schools. Funding and STAAR testing data were obtained from a purposeful sample of 118 charter schools in Texas, identified as being operational during the 2012-13, 2013-14, and 2014-15 academic school years. Results indicated that a relationship existed between school funding and student achievement and closing performance gap levels of STAAR Test, but not between school funding and academic growth of STAAR test.



*Keywords*: academic achievement, charter schools, school funding

## Introduction

Recent years have shown a considerable surge in the nationwide debate in regards to publicly funded charter schools and their effectiveness to educate children (Chabrier, Cohodes, & Oreopoulos, 2016). State education institutions typically select and authorize which charters to fund, deliver continuing supervision and support, as well as producing renewal resolutions by the time that the charter contract term has expired which tends to be five years (Tuttle, Gleason, & Clark, 2012). Even when charter schools are typically not exempt from standardized testing and state legislation, they commonly operate with a high degree of independence in terms of curriculum, finance, human resources, and general operations, purposely designed as an educational groundbreaking alternative to improve academic performance (Cohodes, 2016).

The way that publicly funded charter schools are conceived and operated has been questioned by many of the proponents of traditional public schools, which are subjected to all the customary state rules and regulations (Fryer, 2014). Even when charters normally have to prepare extensive applications for their approval similar to business plans, including long selection processes where they have to present their particular mission, vision, and goals, the final criteria for the selection may be a paradigm full of political interests (Furgeson, 2012). Another factor into question is the level of preparation to meet students' needs of those applying for the charter (Cohodes, 2016). It is common to see charter schools' owners and leaders hire family members and friends, as well as make ineffective financial decisions in terms of high salaries for administrators and poor educational investments (Gawlik, 2016).

Educational investments to increase academic performance have been reported to not only harvest higher employment and earnings, but reduce overall expenditure on health care and welfare, as well as less involvement in the criminal justice system (Belfield & Levin, 2007). Examining the impact of the general operation and configuration of publicly funded charter schools on student academic performance, specifically the way charters invest school funding, may contribute to the overall analysis in regards to the impact of school funds on academic performance. Considering this reality, there is much less research on the specific contributions of publicly funded charter schools, their specific investments on educational programs, and the

consequential impact on student achievement. The present study will be a contribution to former analyses that have been seeking answers to the question: Is there a relationship between school funding and academic achievement for charter schools?

## Research Problem

During the past year Charter schools have become a prevalent and common social phenomenon within the United States' (U.S.) educational system with more than 7,000 schools and three million students enrolled across the nation. These statistics represent more than five percent of all public elementary and secondary students in the country (National Center for Education Statistics [NCES], 2015). The main premise behind this initiative was to implement innovative educational programs to improve academic achievement (Mills, 2013). Even when there is a considerable amount of research in regards to charter schools, most of the focus has been directed towards comparing charter schools to traditional public schools in terms of competitive advantages (Kelly & Loveless, 2012). These comparisons have showed mixed results when looking at the effects that charter schools may have on student achievement (Preston, Goldring, Berends, & Cannata, 2012); however, there is less research in regards to the way charter schools operate and invest their resources, and the consequential outcome on academic performance (Berends & Waddington, 2016).

When analyzing the general operations of a charter school and the resulting impact on academic performance, it is important to consider the fact that charter schools may be easily closed (Davis, 2013). When facing closure, enrolled students may have to look for educational alternatives to continue their academic careers and this may have a negative effect on student performance (Baude, Casey, Hanuskek, & Rivkin, 2014; Ladd, Clotfelter, & Holbein, 2015). A clear example of this dynamic occurred during 2014 when approximately three percent of all charter schools were closed (National Alliance for Public Charter Schools, 2015b).

On the other hand, charter school proponents state that school closures are undesirable consequences but minor casualties of war when considering the tremendous benefits that this innovative concept brings for parents and students in terms tuition and no restricted admittance by attendance zone (Chabrier et al., 2016). Charter schools' defenders celebrate the fact that these schools can elevate innovation in local education

markets by competing with traditional public schools to attract students, which in the end may have a positive effect on student achievement (Penning & Slate, 2011). However, research shows that the capacity of a charter school may not be sufficient to meet students' needs when the school geographic location is inconvenient (Robertson, 2015). This reality may be more evident within economically disadvantaged students who may be less likely to attend a school further from home (Linick, 2016).

Innovative educational programs promoting alternative venues for economically disadvantaged students may have a profound impact on students' academic performance and their lives (Boberg & Bourgeois, 2016). According to experts, the educational accountability movement in America has had several negative and positive impacts on the way schools do business (Baker, 2012). Among the negative aspects, it is important to mention the fact that teachers and students spend a considerable among of time learning through a test (Carman, 2013). This reality may hinder the possibility of students to be exposed to innovative, profound, and entertaining educational experiences, especially for economically disadvantaged students (Ritter, Jensen, Kisida, & Bowen, 2016).

During the past several years there has been an ongoing and heated discussion in America and around the world in regards to how public resources are invested and managed (Webb, 2008). Public education has been one of the main protagonists in that dynamic. Getting public funds to the classrooms is a very difficult matter when one considers the significant bureaucracy contained within the structure of the public-school system (Sims, 2008). The size of the school district may play a role in the way that funds are distributed and the way that the bureaucratic processes are being managed (Stewart, 2009). Small school districts seem to be more effective producing academic greater performance than larger ones (Egalite & Kisida, 2013; Fowler & Walberg, 1991; Ready, Lee, & Welner, 2004; Stewart, 2009; Williams, 1990). This reality is relevant when considering that charter schools tend to be significantly smaller than regular public-school districts (Chabrier et al., 2016). However, the problem related to public funding in education may be persistent regardless of school sizes when considering the fact that many educators do not have a clear understanding about effective ways to invest money in the classrooms (Pike, Kuh, McCormick, Ethington, & Smart, 2011; Zych, Ortega-Ruiz,

& Del Rey, 2015). The following review of the literature will address the dynamics between school funds, academics, and school size.

## Literature Review

### School Funding and Academic Achievement

There is strong evidence regarding the relationship between school funding and student achievement at the secondary level. Sanford and Hunter (2011) conducted a quasi-experimental study assessing the impact of changes in Tennessee's performance funding policies on retention and six-year graduation rates at four-year public institutions, from 1995 to 2009. The study conducted three separate analyses to measure the impact of retention rates as a performance-funding model, the impact of the adoption of six-year graduation rates as a performance funding measure, and the impact of the state's decision to double the money tied to retention and six-year graduation rates. Findings determined that the initiative by the state to financially reward improvement in student achievement did not produce significant changes in Tennessee's retention and graduation rates. These results would suggest that current funding levels, such as those in Tennessee, might have been insufficient to promote positive academic outcomes.

In a similar study, Houck and Kurtz (2010) examining the relationship of school funding and the consequential academic performance outcome measured in terms of graduation rates. The research associated calculated versus reported graduation rates across 16 Southern states comprising the Southern Region Education Board (SREB). Calculated graduation rates were determined by using five-year cohort measures of graduation success and reported graduation rates were those graduation rates actually conveyed by the states to the NCES. The study included five years of fiscal and demographic data from NCES and implemented a coefficient of variation to examine the distribution of graduation rates and key resources across and within states, as well as standardized regression coefficients to examine associations between demographics, resources, and newly calculated graduation rates. Levels of funding, purposes of funding, and state level contexts were all found to be positively and significantly associated with increased graduation rates across all 16 states.

Payne and Biddle (1999) conducted an investigation looking to find a relationship between insufficient levels of school funding, economically disadvantaged status, and

academic performance. The study developed a statistical analysis by utilizing U.S. schools' data from the Second International Mathematics Study between 1982 and 1990, a national sample that can be related with distinguishable school districts and offer equivalent achievement data for other developed countries. The study found that the level of funding, economically disadvantaged status, and mathematics achievement are intimately correlated.

Trying to evaluate California's Intervention/Under-performing Schools Program (II/USP) and analyzing whether schools receiving additional resources outperformed schools that did not, Goe (2006) concluded that the academic achievement of schools participating in the II/USP was not significantly different from the performance of similar non-II/USP schools, when variables such as prior academic performance, number of teachers, and types of students were controlled. The study sampled three years of school level reported data of all the California schools with valid Academic Performance Index (API) and those California schools that applied and received II/USP funds. The study completed examinations by level (elementary, middle, and high schools), by II/USP cohort, and by year. The findings of the study established that the level of funding of an academic program may have a direct impact on student achievement.

Henry, Fortner, and Thompson (2010) conducted a study trying to analyze the relationship between school funds and academic performance by examining a two year experimental educational initiative in North Carolina that provided additional funds per pupil to economically disadvantaged districts in the state. The study was established from 2004 to 2006 and it included 337 high schools and 230,000 students. Findings suggest that the additional level of funding were effective at diminishing high school academic achievement gaps between economically disadvantaged students and their non-economically disadvantaged counterparts.

Chabrier, Cohodes, and Oreopoulos (2016) conducted a study by analyzing 113 charter schools and the potential impact of lottery systems to select students, attendance rate, and academic performance. Findings revealed that on average each year enrolled at one of these schools increases math scores by 0.08 standard deviations and English/language arts scores by 0.04 standard deviations. The study also concluded that the increments on academic achievement were a product of school practices such as "No

Excuses" attitude towards students, even within economically disadvantaged students. This study creates a clear connection between charter school common practices and academic performance.

**School Size and Academic Achievement**

In an attempt to study the relationship between student achievement and the size of a school within a variety of student socioeconomic levels, Stewart (2009) developed a study comparing five size categories of Texas high schools with similar socio-economic conditions based on the University Interscholastic League's (UIL) guidelines. This is an organization in the state of Texas that sets procedures and establishes conferences to participate in competitions among public schools. The number of students attending each type of school varied from 195 students or less to 1,985 students or more. Findings from this study concluded that smaller schools experienced higher passing rates on the state standardized tests than the larger schools. The implications of that particular study may establish a clear relationship between school/district sizes and academic achievement. This parallelism is more enlightening when considering that small school districts in Texas have less than 1,600 students and that high school students are required to pass several standardized tests to graduate. At the same time, the findings of the study corroborate the fact that smaller schools have been forced to become more resourceful in the use of their limited resources, specifically throughout the effective utilization of school funds in order to increase academic achievement.

The most effective school size for pre-K through 12th grade schools to achieve higher academic achievement has been an issue of debate for several years (Monk, 1988). The school size is defined within a permanent dynamic between class sizes and school district sizes. Throughout a vast review of recent research and literature, Williams (1990) found that being a large school district is not a synonym of being cost effective based on economy of scale; the size of a school district will probably determine the size of the schools; school district sizes in rural areas are mostly small and trying to merge these districts with larger ones may affect student performance; and finally, small school districts are capable of being highly effective graduating students from high school. In regards to school funding, Williams (1990) specifically found that small school districts were particularly effective accessing funds from different sources and investing those

resources on research based teaching strategies and technology. Small school districts tend to operate within Zero based budgetary processes, which allows them to constantly reevaluate their programs and investments.

Ready, Lee, and Welner (2004) conducted research looking to summarize current studies in regards to educational equity and school organization, mainly focalizing the analysis on school size and school overcrowding. The study found that high schools tend to be larger than their ideal size, which may restrict teachers' ability of getting to know their students in depth. Larger high schools may have difficulties implementing differentiated instruction within the curriculum, and in general terms these schools may have a tendency to obtain lower academic achievement than others. Additionally, it was also found that larger high schools may affect economically disadvantaged students the most by creating intrinsic difficulties within their structures and dynamics for these students to academically perform.

Fowler and Walberg (1991) developed a study looking to research in depth the effects of school size and several school outcomes. The analysis contemplated 293 public secondary schools in New Jersey considering characteristics such as school size and student socio economic status. The study concluded that district size and socio-economic status were the most influential and consistent factors related to academic achievement. More specifically, the greater the percentage of economically disadvantaged students, the lower the student performance. It was established that smaller school districts and schools in general have a tendency to produce better academic outcomes, regardless of the districts' or schools' characteristics.

Trying to analyze the impact of school size on student achievement, Egalite and Kisida (2013) studied the academic behavior of one million students in four states representing a variety of geographic regions across the U.S. This study analyzed how student achievement varied according to schools' different sizes from grades 2-10 between years 2007 to 2011 and found that large schools have a negative effect on student achievement, specifically in reading and math predominantly for grades 6-10. Considering the necessary resources to establish academic programs and curriculum to promote student achievement in reading and mathematics within different schools' sizes,

the conclusions of this research create a clear relationship between academic performance and school funding in small districts and schools.

## Theoretical Framework

The dynamic between school funding and academic performance is framed within the education production function theory (Baker, 2012). The production function theory is an economic concept developed in 1953 by Joan Robinson. This theory basically establishes whether there is a relationship – or actually establishes a relationship between inputs and outputs in a production process. An education production function concept is just a variation of the production function theory applied to the educational world. Originally, this educational theory attempted to connect several factors and issues affecting student learning, such as schools, families, peers, and neighborhoods, to various final outputs or results, such standardized test scores, graduation rates, college enrollment and completion, as well as level of success at the marketplace (Baker, 2012).

The education production function as a concept was originally introduced by James S. Coleman in the Coleman Report (1966), where it established the effect of several educational factors on student achievement. Later work by Hanushek (1989) established a practical conceptual analogy between the arrangements of "production" and academic achievements. The education production function theory asserts that the educational inputs or factors affecting student achievement, such as funding invested, influence final outputs such as passing rates and high achievement levels on standardized testing.

The education production function theory has ruled the age-old debate about the part that money plays on academic achievement during the past years (Baker, 2012). Given that public education is funded with tax payers' money, this is clearly a topic, which can be easily polarized between those providing arguments towards one side or the other of the issue. Baker explains that the majority of studies, which based their theoretical framework on the production function theory have had a historical tendency to implement statistical examinations of the effects of a specific group of educational contributions and student inputs on student results. It is important to highlight that there are other methods for which the final outcome is very similar: rate of return analyses (Betts, 2001) and cost-function analyses (Berne, 1996). However, each one of these

methods commonly base their approach on defining a mathematical relationship between expenditure and knowledge level or costs versus production. In conclusion, the education production function theory generates a concrete trail to establish a relationship between educational investments such as level of school funding, and a consequential result based on student achievement. This theoretical formula launches the primary foundation of this research.

## Method

### Participants

According to the Center for Research on Education Outcomes (CREDO, 2015), there are an average of 326 students per Texas charter school. The overall student demographics for Texas charter schools are as follows: 22% African American, 57% Hispanics, 15% white, 4% Asian, 73% live in poverty, 7% special education, and 18% are Limited English Proficient (LEP). Utilizing the Texas Education Agency (TEA) Academic Excellence Indicator System (AEIS), a purposeful sample of charter schools in Texas, identified as being operational (open) during the 2012-13, 2013-14, and 2014-15 academic school years, were chosen for participation in this study. Given that charter schools have to meet academic and financial state standards for three consecutive years in order to remain operational (open) and not get closed down by the state and The state of Texas did not require schools to be accountable for their State of Texas Assessments of Academic Readiness (STAAR) scores until the 2012-2013 academic school year, these three consecutive years were chosen to analyze.

### Instrumentation

According to TEA (2015), STAAR is Texas' current standardized testing program. STAAR was implemented during the 2011–12 school year to measure the extent to which students have learned and are able to apply the knowledge and skills defined in the state curriculum standards. The STAAR testing program includes STAAR, STAAR Spanish, STAAR L (linguistically accommodated version), STAAR A (accommodated version) and STAAR Alternate 2 (for students who have significant cognitive disabilities). STAAR assessments are usually given for the following subjects and courses: Reading - grades 3–8; Mathematics - grades 3–8; Writing - grades 4 and 7;

Science - grades 5 and 8; Social studies - grade 8; English I; English II; Algebra I; Biology; and U.S. History.

A performance index is a measure of district or campus achievement in a specific area. Index scores are based on ratios and range from 0–100. A district or campus must meet or exceed the target score on an index in order to demonstrate acceptable performance in that area. There are four performance indices each aligned to a stated goal of the accountability system: Index 1 -Student Achievement provides a snapshot of student performance based on passing rates across all subjects; Index 2 - Student Progress measures year-to-year academic growth; Index 3 - Closing Performance Gaps emphasizes the academic achievement of economically disadvantaged students and the two lowest-performing racial/ethnic groups; and Index 4 - Postsecondary Readiness emphasizes the importance of a high school diploma as the foundation of success in college, the workforce, job training programs, or the military (TEA, 2015). Targets vary for each index and depend on the school type: elementary, middle, high school/K-12, and whether the campus is an alternative education accountability (AEA) based on percentages of at-risk students and enrollment. For purposes of this study, only Indexes 1-3 were analyzed.

### Data Collection and Analysis

Using TEA's AEIS, three years (2013-2015) of district data (i.e. achievement and school funding) were downloaded into Excel and imported into a SPSS database for further analysis. The data were analyzed using descriptive statistics (i.e. mean, median, standard deviation, and range) and Pearson's product moment correlations (Pearson's *r*). Findings were reported for each academic school year along with results for 2013-2015 combined. A combined value across the three academic years was calculated by computing the average value for all charter schools operational (n = 118) during the specified time frame for Index 1, Index 2, Index 3, and school funding. A significance value of .05 was used for this study.

## Results

### School Funding & Student Achievement of STAAR Test

Index 1 of the performance indexes measured student performance across all testing subjects. Findings indicated a statistically significant positive relationship existed between school funding and the passing rate of the STAAR test (Index 1), $r(118) = .206$,

$p = .025$, $r^2 = .042$. As the amount of school funding increased, so did the passing rate of the STAAR test. Four percent of the proportion of variation in the STAAR passing rate can be attributed to school funding. Tables 1-3 provide the descriptive statistics and Pearson's *r* results for each participating year and for the averages of the three years combined.

Table 1

*Descriptive Statistics - % Passing STAAR*

| | N | Average | SD | Range |
|---|---|---|---|---|
| 1. 2013 | 171 | 65.9 | 16.9 | 85 |
| 2. 2014 | 184 | 68.7 | 16.5 | 89 |
| 3. 2015 | 168 | 71.9 | 14.4 | 81 |
| 4. 2013-2015 | 118 | 70.0 | 13.7 | 82 |

Table 2

*Descriptive Statistics – School Funding*

| | N | Average | SD | Range |
|---|---|---|---|---|
| 1. 2013 | 171 | 1,672,077.0 | 5,101,787.7 | 50,008,535 |
| 2. 2014 | 184 | 1,908,455.0 | 6,800,385.1 | 62,577,723 |
| 3. 2015 | 168 | 2,242,327.0 | 8,713,944.0 | 80,410,779 |
| 4. 2013-2015 | 118 | 2,266,893.2 | 5,564,132.9 | 43,641,210 |

Table 3

*Percentage of Students Passing STAAR Correlated with School Funding*

| | N | *r*-value | *p*-value | $r^2$-value |
|---|---|---|---|---|
| 1. 2013 | 171 | .210 | .004* | .044 |
| 2. 2014 | 184 | .188 | .010* | .035 |
| 3. 2015 | 168 | .158 | .041* | .025 |
| 4. 2013-2015 | 118 | .206 | .025* | .042 |

*Statistically Significant ($p < .05$)

**School Funding & Academic Growth of STAAR Test**

Index 2 of the performance indexes measured year-to-year student progress or academic growth. Findings indicated a statistically significant relationship did not exist between state/local school funding and academic growth of STAAR test (Index 2), $r(117) = .056$, $p = .549$. In other words, the amount of school funding did not have anything to do with the academic growth of STAAR test. Tables 4-6 provide the descriptive statistics and Pearson's *r* results for each participating year and for the averages of the three years combined.

Table 4

*Descriptive Statistics - % Academic Growth*

| | N | Average | SD | Range |
|---|---|---|---|---|
| 1. 2013 | 157 | 33.7 | 10.2 | 68 |
| 2. 2014 | 121 | 39.3 | 8.0 | 41 |
| 3. 2015 | 165 | 35.8 | 10.3 | 63 |
| 4. 2013-2015 | 117 | 36.2 | 9.4 | 63 |

Table 5

*Descriptive Statistics – School Funding*

| | N | Average | SD | Range |
|---|---|---|---|---|
| 1. 2013 | 157 | 1,768,214.0 | 5,281,751.5 | 50,008,535 |
| 2. 2014 | 121 | 2,352,542.0 | 8,016,708.6 | 62,542,248 |
| 3. 2015 | 165 | 2,213,478.0 | 8,785,135.8 | 80,410,779 |
| 4. 2013-2015 | 117 | 2,288,800.0 | 5,583,832.4 | 43,641,210 |

Table 6

*Percentage of Students Passing STAAR at Advanced Levels Correlated with School Funding*

| | N | *r*-value | *p*-value | $r^2$-value |
|---|---|---|---|---|
| 1. 2013 | 157 | .068 | .398 | .005 |
| 2. 2014 | 121 | .037 | .684 | .001 |
| 3. 2015 | 165 | .049 | .535 | .002 |
| 4. 2013-2015 | 117 | .056 | .549 | .003 |

*Statistically Significant ($p < .05$)

**School Funding & Closing Performance Gap Levels of STAAR Test**

Index 3 emphasizes the academic achievement of economically disadvantaged students and the two lowest-performing racial/ethnic groups. Findings indicated a statistically significant positive relationship existed between all school funding and the advanced achievement levels of STAAR test (Index 3), $r(118) = .202$, $p = .028$, $r^2 = .041$. As the amount of school funding increased, so did the advanced achievement levels of STAAR test. Four percent of the proportion of variation in advanced levels can be attributed to school funding. Tables 7-9 provide the descriptive statistics and Pearson's *r* results for each participating year and for the averages of the three years combined.

Table 7

*Descriptive Statistics - % Passing STAAR Advanced Levels*

| | N | Average | SD | Range |
|---|---|---|---|---|
| 1. 2013 | 170 | 64.8 | 16.9 | 85 |
| 2. 2014 | 183 | 37.0 | 10.7 | 63 |
| 3. 2015 | 167 | 38.8 | 10.2 | 57 |
| 4. 2013-2015 | 118 | 48.0 | 11.2 | 62 |

Table 8

*Descriptive Statistics – School Funding*

| | N | Average | SD | Range |
|---|---|---|---|---|
| 1. 2013 | 170 | 1,693,887.5 | 5,117351.6 | 50,008,535 |
| 2. 2014 | 183 | 1,894,047.0 | 6,818,800.5 | 62,577,723 |
| 3. 2015 | 167 | 2,271,176.0 | 8,736,989.5 | 80,410,779 |
| 4. 2013-2015 | 118 | 2,266,893.2 | 5,564,132.9 | 43,641,210 |

Table 9

*Percentage of Closing Performance Gap Levels of STAAR Test Correlated with School Funding*

| | N | *r*-value | *p*-value | $r^2$-value |
|---|---|---|---|---|
| 1. 2013 | 170 | .226 | .003* | .051 |
| 2. 2014 | 183 | .164 | .027* | .027 |
| 3. 2015 | 167 | .182 | .019* | .033 |
| 4. 2013-2015 | 118 | .202 | .028* | .041 |

*Statistically Significant ($p < .05$)

## Discussion

Throughout this study, the collected evidence predominantly indicated that school funding influences academic achievement. This is supported by the education production function theory, where educational inputs, such as funding invested, influence final outputs such as passing rates and high achievement levels on standardized testing (Hanushek, 1989). This is also consistent with research conducted by Sanford and Hunter (2011) and Houck and Kurtz (2010) who found that funding levels may influence educational results. Being even more precise and direct, this conclusion corroborates findings from Baker (2012) where it is clear that school districts with more money have a bigger capacity to offer better educational prospects to their students.

Given that the relationship between school funding and academic achievement has been historically controversial and debatable (Baker, 2012), it was important to analyze several intrinsic factors influencing funding within a charter school context. This study found that there is a relationship between districts' sizes, more specifically small districts, and the level of influence that school funding has on academic achievement (Egalite & Kisida, 2013; Fowler & Walberg, 1991; Ready et al., 2004; Stewart, 2009; Williams, 1990). This is relevant when considering that most charter schools are small in comparison with regular school districts (Chabrier et al., 2016). This may be connected with the fact that small districts might have a greater ability to communicate their student expectations, because of possibly having less bureaucratic processes, fewer administrators to disseminate their messages, and less institutional barriers to execute their policies and reach their students (Egalite & Kisida, 2013). This is in agreement with Stewart (2009) who fund that small schools tend to produce better academic results than the larger ones.

A deeper analysis concerning the relationship between the level of funding and academic performance within charter school contexts should include the level of freedom that charter schools have within their educational programs and curriculum. This study found that the level of freedom that charter schools have within their investments in terms of curriculum and programs may not have a direct influence on the academic growth of STAAR test (Index 2). However, this study found that the level of autonomy that charter

schools have within their educational investments may positively influence their general academic achievement, specifically student achievement of STAAR test (Index 1) and academic growth of STAAR test (Index 3). This is congruent with findings reported by Cohodes (2016) where it was established that the level of freedom that charter schools have to invest and innovate on educational programs in comparison with regular school districts may positively influence academic performance. This reality opposes the thesis that charter schools may need more state and federal regulations to increase their functionality and performance (Tuttle et al., 2012).

## Implications

In order to increase academic performance, especially within charter school variables, policy makers may want to consider the configuration of the school districts, specifically their size, when determining districts' level of funding. This may be justifiable when considering that small districts, in particular charter schools, may have a greater ability to communicate their student expectations; they may have less bureaucratic processes; fewer administrators to disseminate their messages; fewer restrictions in how to invest their funds; and in the end, fewer institutional barriers to execute their policies and reach their students (Egalite & Kisida, 2013). At the same time, it may be critical to consider the level of freedom that charter schools have to invest and innovate on educational programs and expand that level of freedom by providing more support. This may be a policy that could potentially become applicable to small regular school districts as well. As corroborated by this study, there is clear evidence that the level of freedom that charter schools have to invest and innovate on educational programs seem to be a valuable tool to increase academic performance.

Policy makers may want to reconsider the time frame to decide if a charter school should remain open or close. If charter schools and small districts seem to be more effective than larger ones producing academic performance, then it may be wise to extend the state evaluation period to decide about the future of charter schools and small districts considering that in the middle term they may increase academic performance. This was evident in the study when analyzing the influence that school funds may have on the academic growth of standardized testing. A deeper analysis may be necessary to

determine at what point in time, if any, school funding may start positively influencing the academic growth of standardized tests. Those potential findings may help policy makers to determine how long a charter school should remain open or close. This would avoid students, parents, and educational communities to go through a closing process and the potential undesirable consequences that such dynamic implies (Tuttle et al., 2012).

On the other hand, policy makers may want to analyze in depth the configuration, application, and level of funding of different educational programs on charter schools: career and technology, accelerated instruction, bilingual, and athletics among others. If charter schools seem to be effective producing greater academic performance within current levels of funding throughout different academic programs, it may be productive to consider increasing those levels of funding. This is corroborated by Sanford and Hunter (2011) and Houck and Kurtz (2010) who found that funding levels may influence educational results.

Finally, federal and state education agencies, charter schools, and schools in general may want to consider investing a considerable amount of time investigating the best ways to invest educational resources. This approach is similar to the one applied in the corporative world in regards to research and development. Successful companies in the private sector spend a substantial amount of time and resources consolidating their research and development departments (Baker, 2012). By having a clear road map regarding where to invest current and additional resources, charter schools and schools in general may considerably reduce the level of uncertainty in regards to student performance, which may put pressure on policy makers to increase levels of funding based on proven results.

## Conclusion

The societal and academic impacts of charter schools have been well researched. Charter schools and small districts in general tend to be more effective producing greater academic performance than larger ones (Egalite & Kisida, 2013; Fowler & Walberg, 1991; Ready et al., 2004; Stewart, 2009; Williams, 1990). The rhetoric about the potential impact that money has on student performance has been repeatedly examined during the past decades, throughout a vast amount of literature and studies that expose the role of school finance reform in the aggregate matters (Baker, 2012). Given that charter schools

are growing at a fast pace within the U.S. educational system during the past several years (Mills, 2013), it is imperative to increase the knowledge and understanding of the relationship between school funding and its subsequent impact on academic performance of charter schools and small districts. Considering the fact that charter schools are serving approximately three million students across the nation (NCES, 2015), this study could potentially provide a significant contribution not only to more than five percent of all public elementary and secondary students in the U.S., but to the overall discussion about the impact that money has on academic achievement.

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How Read Aloud and Read Silently Interventions Impact on
4th Graders' Reading Proficiency - 2015 NAEP Scores Tell All

by

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Abstract

Learning to read is a developmental process when all children do not reach various stages of achievement at the same time. Read aloud and read silently are widely used interventions for teaching elementary school-aged students how to read. The focus of this study is to explore the relationship between NAEP reading scores of 4th grade students nationwide and the student perceived frequency of read aloud and read silently interventions utilized in the classroom for the year 2015. Being provided time at least "often" to read in the classroom showed to positively impact the reading achievement scores compared to the scores of students who were not provided time for independent reading. The productive use of classroom time for reading, whether read aloud or read silently during the school day, is critical to the development of both the skill and will of the child to read. Having data available on the teachers reported the use of classroom time dedicated to each reading intervention and how that compares to the student perceptions would require the NAEP test to offer such questions concurrently in future examination distributions.

## Introduction

Reading is the heart of education. The knowledge of almost every subject in school flows from reading. Therefore, “the more you read, the more you know; and the more you know, the smarter you grow” (Trelease, 2006, p. 3). The National Assessment of Educational Progress (NAEP), first administered in 1990 in math and in 1992 in reading, is the largest nationally representative and continuing assessment of what America's students know and can do in various subject areas (“NAEP – Overview”, 2016). NAEP results serve as a common metric for all states and selected urban districts as they are administered uniformly. The nationwide assessment stays essentially the same from year to year, which permits NAEP to provide a clear picture of student academic progress over time. NAEP provides results on subject-matter achievement, instructional experiences, and school environment for populations of students and groups within those populations but it does not provide scores for individual students or schools (“NAEP - Overview”, 2016). NAEP results are based on representative samples of students throughout the nation at grades 4, 8, and 12 for the main assessments, having chosen these grades because they represent critical junctures in academic achievement. The NAEP analysis is used as markers for indicating the degree to which Common Core State Standards (CCSS) recommendations have penetrated schools and classrooms. The CCSS implementation models were used to analyze NAEP scores from 2009-2015. All but a few states scheduled full implementation of the standards, including assessments, by the end of the 2014-2015 school year (Loveless, 2016). The 2011 and 2013 implementation indexes are based on information provided by state policymakers as to the breadth and ambitiousness of state implementation plans (Loveless, 2016).

Learning to read is a developmental process when all children do not reach various stages of achievement at the same time. When it comes to reading there is a continuum of learning and specific reading behaviors that can be identified at each of the five developmental stages of learning to read (“Developmental Stages”, n.d.). Stages of Reading Development is a 1983 model developed by early childhood education theorist Jeanne Chall with reading teachers continuing to use it. In this model, Stages 1 and 2 (typically acquired in grades 1, 2, and 3) can be characterized as the time of learning to read. Stages 3 to 5 can be characterized, roughly, as the reading to learn stages.

Beginning at Stage 3 (grades 4-8), students use reading as a tool for learning, as texts begin to contain new words and ideas beyond their language and their knowledge of the world (Chall & Jacobs, 2003). Words and concepts in such material are often beyond the everyday experience of children. To read, understand, and learn from these more demanding texts, the readers must be fluent in recognizing words, and their vocabulary and knowledge need to expand, as does their ability to think critically and broadly (Chall & Jacobs, 2003). Chall and Jacob (2003) concluded if children are unable to make the transition from Stage 2 to 3, their academic success was usually severely challenged.

Teachers have often reported a "fourth-grade slump" in literacy development, particularly for low-income children, precisely at the point of the Stage 2-3 transition (Chall & Jacobs, 2003). One possible reason for the fourth-grade slump may stem from the ability level of the student in their oral and/or silent reading skills (Trainin, Hiebert, & Wilson, 2015). In the Chall and Jacobs (2003) research, they realized the vocabulary scores of students in grades 2 and 3 were on par with the general population studied. At these levels, the words tested were of high frequency and were familiar. It presented a problem to the 4th grade and beyond student reader when the words became less common.

Research by Jay and Wu (2001) showed a positive interaction between the students reading ability and those students who were given in-school independent reading time, in addition to regular reading instruction. Compared to students who were not provided time for independent reading, these students did significantly better on measures of their reading achievement scores (Gambrell, 2007). Read aloud and read silently are widely used reading interventions for teaching elementary school-aged students how to read (Gambrell, 2007; Garan & DeVoogd, 2008; Gardiner, 2001; Rasinski & Hoffman, 2003; Scolforo, 2015). The practice of reading aloud is helpful because most students have higher listening comprehension than reading comprehension, and auditory learners tend to understand what they hear better than what they read (Trelease, 2006). In the 1970's, Sustained Silent Reading programs became popular. This method provided students with opportunities to read silently each day which Gardiner (2001) showed to improve students' attitudes toward reading; encouraged students to read more books and develop better skills in reading comprehension, vocabulary, and spelling; and increased students' reading speed.

The focus of this study is to explore the relationship between NAEP reading scores of 4th grade students nationwide and the student perceived frequency of read aloud and read silently interventions utilized in the classroom for the year 2015. Looking specifically at the two reading interventions and the dedication of time in the classroom each day to reading - either read aloud and/or read silently - can help reinforce the importance of this allocated classroom time on 4th grade student reading achievement. As teachers and education stakeholders are faced with decisions on how to best utilize classroom time to meet state and national standards, while still individualizing lesson plans to meet the needs of all students equally, this study looks to show the merit in utilizing read aloud and read silently reading interventions in elementary school classrooms.

The research questions being addressed in this research are:

1. How often do students report their teacher asked them to read aloud during reading class and its relation to the 2015, nationwide, 4th grade students NAEP reading scores?
2. How often do students report their teacher asked them to read silently during reading class and its relation to the 2015, nationwide, 4th grade students NAEP reading scores?

Our theoretical framework for this research adopts a scientific inquiry-based approach. The scientific inquiry-based approach, according to the *National Science Education Standards* (NRC, 1996), the *Benchmarks of Science Literacy* (AAAS, 1994), *International Society for Technology in Education*, (ISTE, 2014), and *Next Generation Science Standards* (NGSS, 2013), is investigation driven and science process initiated. It also goes beyond the mere development of process skills such as observing, inferring, questioning, interpreting, and analyzing data. It combines these processes with scientific knowledge, scientific reasoning, and critical thinking to develop scientific knowledge (Lederman, Antink, & Bartos, 2014). Scientific inquiry will guide us in examining the nature of the data (Yao, Zhong, & Zhao, 2008). By following the scientific inquiry, we will begin with an extensive exploration of the dataset (NAEP) and then design our data-based research questions to mine the data systematically since there is no single set of sequential steps to follow in the scientific inquiry (Lederman et al., 2014; Sandoval,

2005). The focus of the research is the goal of the data mining – the discovery of knowledge from data (Piatetsky-Shapiro, 1996). With the scientific inquiry-based approach and data mining focus, we established our theoretical framework for this quantitative data mining research.

## Literature Review

As students grow in their reading proficiency, using teaching interventions like read aloud and read silently in the classroom can help students reach reading mastery. The skills needed for successful use of each type of learning intervention are different for each student and lead to varied learning outcomes. Reading has the potential to improve with the right kind of practice. The productive use of time for both reading aloud, as well as reading silently during the school day, is critical to the development of a student's will to read at their full literacy potential (Gambrell, 2007). A summative review of the literature on the efficacy of two reading strategies - read aloud and read silently - is provided, in addition to insight for the use of the National Assessment of Educational Progress in assessing the reading development of 4$^{th}$ grade students in a nationwide school analysis.

### National Assessment of Educational Progress (NAEP)

The NAEP data provide a picture of student academic progress over time. To ensure that a representative sample of 4$^{th}$, 8$^{th}$, and 12$^{th}$ grade students are assessed, NAEP is given in a sample of schools whose students reflect the varying demographics of a specific jurisdiction. Within each selected school and grade to be assessed, students are chosen at random to participate in NAEP ("NAEP - State", 2011). NAEP offers results on subject-matter achievement, instructional experiences, and school environment for populations of students nationwide ("NAEP – Overview", 2016). A strength of the NAEP analytical approach is modeling data longitudinally, allowing each state to serve as its own control (Loveless, 2016). A weakness of the NAEP analyses of cross-sectional data, as opposed to longitudinal data, makes it particularly vulnerable to producing spurious correlations and does not investigate whether changes in particular practices have caused gains or losses in student achievement; meaning it cannot determine causality ("NAEP - Overview", 2016).

### Fourth-grade Reading Slump Phenomenon

The saying ‘it is never too early to begin reading to children’ reinforces when children are infants, there are benefits to their literacy and language skills development when books are read both to and with them (Dunst, Simkus, & Hamby, 2012). Table 1 reflects the six stages of reading development. Reading is conceptualized not as a process that is the same from beginning stages through mature, skilled reading, but as one that changes as the reader becomes more able and proficient (Chall & Jacobs, 2003).

Table 1. Stages of Reading Development. Chall and Jacobs (2003).

| **Stage** | **Grade** | **Reading Skill** |
|---|---|---|
| Stage 0 | Pre-school | Pre-reading |
| Stages 1 and 2 | Grades 1, 2, and 3 | Learning to read |
| Stage 3 | Grades 4, 5, 6, 7, and 8 | Texts begin to contain new words and ideas beyond their own language and their knowledge of the world. |
| Stages 3 to 5 | | Reading to learn |
| Stage 5 | Grades 9 and higher | Mature, skilled level of reading in which readers construct and reconstruct knowledge from their own reading. |

Teachers have often reported a "fourth-grade slump" phenomenon in literacy development, precisely at the point of the Stage 2-3 transition—from learning to read to reading to learn (Chall & Jacobs, 2003). One possible reason for the fourth-grade slump may stem from lack of fluency and automaticity when words became less common yet greater in a number of abstract, technical, and literary words in their reading content (Chall & Jacobs, 2003). If learners are unable to make the transition from Stage 2 to 3, their academic success is usually severely challenged (Chall & Jacobs, 2003).

**Reading Strategy: Students Reading Aloud During Their Reading Classroom Time**

The use of oral reading as a method for developing reading skills and improving overall reading achievement is an instructional intervention that has taken place in

classrooms for decades (Reutzel et al., 1994; Sassenrath, 1972; van den Boer, van Bergen, & de Jong, 2014). Some of the more common read aloud interventions are moving away from traditional round-robin practices toward more literature-based practices (e.g., shared book experience, shared reading) and strategy-focused instructional models (e.g., dialogic reading, buddy reading and PALS). Students develop strategies important for a variety of listening and speaking situations as they observe and listen to experienced readers read. Students may read aloud to each other, in small groups, or to a whole group at the request of a teacher. Delo (2008) found when incorporating read aloud in the classroom, many students with weak reading skills choose to read aloud, wanting to share their accomplishment with their peers. Thomas Sticht (as cited in Hirsch, 2003, p. 21) showed that "oral comprehension typically places an upper limit on reading comprehension; if you don't recognize and understand the word when you hear it, you also won't be able to comprehend it when reading." This emphasizes how oral comprehension generally needs to be developed in younger students if we want them to be good readers. The practice of reading aloud is helpful because most students have higher listening comprehension than reading comprehension and auditory learners tend to understand what they hear better than what they read (Trelease, 2006).

Changing how oral reading is practiced, from reading for expression to reading for checking word recognition, was the genesis of the Round Robin reading technique (Rasinski & Hoffman, 2003). The Shared Book Experience (SBE) is a form of oral reading instruction involving multiple readings of an assigned text with oral support or assistance by the teacher (or a more experienced reader) while a student reads (Rasinski & Hoffman, 2003). In shared reading, children participate in reading, learn critical concepts of how print works, get the feel of learning, and begin to perceive themselves as readers (Rasinski & Hoffman, 2003). A study by Baker et al. (2013) explored how dialogic reading lessons could be both systematic and explicit while maintaining the enjoyable nature of the experience for teachers and students. This study confirmed that integrated read aloud routines conducted in whole-classroom settings had a positive effect on higher-order skills (oral language outcomes, phonological awareness, print concepts, comprehension) as well as vocabulary skills (Baker et al., 2013).

Buddy reading and Peer-Assisted Learning Strategies are two examples of partner reading interventions. Buddy reading is a read aloud strategy that provides each student an opportunity to develop their reading fluency in a more natural, conversational way. By helping their partner, each student internalizes and solidifies those teaching/scaffolding behaviors that are reflective of sound reading strategies (Garan & DeVoogd, 2008). Peer-Assisted Learning Strategies (PALS) has shown to yield positive results on young students reading comprehension and attitude towards reading (Lee, 2014). The PALS intervention, pairs strong and weak readers who take turns reading, rereading, and retelling. This being a more conversational reading approach, has shown to have a valuable impact on learning (Lee, 2014).

According to data in the NAEP 4th grade reading assessment the relationship between oral reading fluency and general reading achievement determined "Students who read orally with the greatest fluency tended to score highest in overall reading achievement, and those who read with the least fluency tended to have the lowest levels of reading achievement" (Rasinski & Hoffman, 2003, p. 513). Therefore, oral reading has a place in school curriculum. It is not the sheer quantity of oral reading that takes place in the classroom but the type of oral reading that makes the difference. There is widespread agreement that oral reading has an important role to play in the development of a student's' reading ability; improving their fluency, comprehension and word recognition (Garan & DeVoogd, 2008; Rasinski & Hoffman, 2003; Scolforo, 2015).

**Reading Strategy: Students Reading Silently During Their Reading Classroom Time**

As far back as the early 20th century, the concept of silent reading has been researched as a strategy for learning to read (Gist, 1917; Holmes, 1985; Trainin, Hiebert, & Wilson, 2015). The Sustained Silent Reading (SSR) program is a recognized silent reading program for use in elementary schools. Increasing students' enjoyment of reading and enhancing students' language and literacy development are the primary goals of the SSR program. Gardiner (2001) showed in his research that students who enjoyed reading also read more books and developed better skills in reading comprehension, spelling, and vocabulary. Children in kindergarten, primary, and middle school grades who

demonstrated a voluntary interest in books were not only "rated to have better work habits, social and emotional development, language structure, and overall school performance, but also these children scored significantly higher on standardized reading tests" (Gardiner, 2001, p. 2). An innovation from the traditional SSR program was the Scaffolded Silent Reading (ScSR) program (Reutzel, Fawson, & Smith, 2008). In this approach, students are held accountable for reading widely across selected literary genres, setting personal goals for completing the reading of books within a timeframe, conferring with their teacher, and completing response projects to share with others the books they read. Kuhn et al. (as cited in Gambrell, 2007), reported that increasing the amount of time children spent in reading appropriately challenging texts with scaffolds lead to improvement in both word reading and reading comprehension.

The rationale for using either SSR or ScSR was to have students practice reading at their independent reading levels to develop fluency, increase vocabulary, enhance comprehension, and improve generalized reading abilities (Krashen, 2005). Although students' vocabularies decelerated in grade 4, their reading comprehension scores still held up well against norms (Chall & Jacobs, 2003). This suggests that the students used context well to compensate for their weakness in word meanings. However, the 4$^{th}$ grade student's comprehension scores declined when there were too many difficult words (Chall & Jacobs, 2003). As predicted by Chall and Jacob (2003), later reading development will usually suffer if children lack in certain aspects of reading. Consistent with the developmental nature of reading, the later one waits to strengthen reading weaknesses, the more difficult it is for the child to cope with the increasing literacy demands in the later grades. Time spent reading independently interacts positively with a student's reading ability and has an increased impact on certain components of their reading achievement (Jay & Wu, 2001). Having students use both read aloud and read silently interventions are a good way to role model positive reading behavior, to introduce students to books they may not normally have read, and to help create a positive attitude toward books and reading in general.

## Methods

The National Assessment of Educational Progress (NAEP) is the largest nationally representative and continuing assessment of what America's students know

and can do in various subject areas. NAEP assessments are administered uniformly with the results serving as a common metric for all states and selected urban districts ("NAEP - Overview", 2016). NAEP data provide a picture of student academic progress over time as the assessment stays essentially the same from year to year. ("NAEP - Overview", 2016).

## Participants and Sampling

The National Center for Education Statistics (NCES) described the sampling and data collection protocols used for collecting nationwide NAEP 4th and 8th grade reading data every two years ("NAEP - Sample", 2016). In all cases, the selection process utilized a probability sample design in which every school and student had a chance to be selected, and standard errors could be calculated for the derived estimates ("NAEP - Sample", 2016).

**NAEP sampling and data collection.** Sampling for the 4th grade and 8th grade reading assessment used a multistage sampling design that sampled students from selected schools within selected geographic areas across the nation (Klecker, 2014). For each assessment cycle, a sample of students in designated grades within both public and private schools throughout the United States (and sometimes specified territories and possessions) was selected for assessment ("NAEP - Sample", 2016).

**Public school selection in state assessment years.** The sample selection of public school students nationwide for their state assessment involved a complex multistage sampling design with the following stages:

- Select public schools within the designated areas,
- Select students in the relevant grades within the designated schools, and
- Allocate selected students as assessment subjects ("NAEP - Sample", 2016).

## Data Analysis

**NAEP data explorer.** The NAEP Data Explorer (NDE) "creates customizable tables and graphics to display NAEP assessment results across multiple years, and are broken down across a variety of student groups. Results can further be filtered by content areas" ("NAEP Tools", 2016, para. 1). The present study used the online NDE to identify

the national 4th grade reading proficiency scores and questionnaire items on two reading interventions (read aloud and read silently) for the year 2015.

(1) How often does your teacher ask you to read aloud? Options: Never or Hardly Ever; Sometimes; often; Always or Almost Always (answered by students). [ID: R846801]

(2) How often does your teacher ask you to read silently? Options: Never or Hardly Ever; Sometimes; often; Always or Almost Always (answered by students). [ID: R846901] ("NAEP Tools", 2016)

Descriptive tables and tests of statistically significant differences were calculated and presented by NDE ("NAEP Tools", 2016). In several instances, the tables were re-formatted without editing the data in the tables (Klecker, 2014). Cohen's *d* effect sizes (Cohen, 1988) were calculated by using an online effect size calculator found at (Becker, 2000a). Effect size is a standard measure that can be calculated from any number of statistical outputs. One type of effect size, the standardized mean effect, expresses the mean difference between two groups in standard deviation units ("Effect Size", n.d.). "Though the values calculated for effect size are generally low, they share the same range as standard deviation (-3.0 to 3.0), so can be quite large" ("Effect Size", n.d., para. 8). Cohen (1988) defined *d* as the difference between the means, M1 - M2, divided by standard deviation, *s*, of either group. The meaning of effect size varies by context, but the standard interpretation offered by Cohen (1988) is 0.8 = large (8/10 of a standard deviation unit), 0.5 = moderate (1/2 of a standard deviation), and 0.2 = small (1/5 of a standard deviation). *d* is a descriptive measure where if the mean difference is positive it is in the direction of improvement, or in the predicted direction (Becker, 2000b), and indicates that the effect increases the mean. If the mean difference is negative it is in the direction of deterioration, or opposite to the predicted direction (Becker, 2000b), and indicates the effect decreases the mean.

## Results

In this section, the two NAEP questions regarding the frequency 4th grade students (nationwide) were instructed to read aloud and to read silently during their reading classroom times, and its impact on student reading achievement scores, will be presented by showing the average scores and percentages of different groups in each

variable. The results of independent t-tests with an alpha level of 0.05 will be reported and analyzed in association with the literature review.

**Absence of Frequency (N) in Tables**

The National Assessment of Educational Progress (NAEP) Data Explorer tool does not include the number of students either in the overall data (100%) or within sub-strata of the data ("NAEP Tools", 2016. Consequently, tables in this Results section include the percentages of the sample that are in the sub-strata reported without the expected frequency (N) (Klecker, 2014).

**Data Analysis**

The average scale score, nationwide, for 100% of the 4th grade students on the 2015 NAEP Reading Assessment was 223 (scale-range 0-500) with a standard deviation of 37. Differences in scores by questions are presented in tables throughout the results section.

Table 2. How Often Does Your Teacher Ask You to Read Aloud in Class? [R846801]

| Never or Hardly Ever | | Sometimes | | Often | | Always or Almost Always | |
|---|---|---|---|---|---|---|---|
| 22% | | 47% | | 22% | | 9% | |
| M | SD | M | SD | M | SD | M | SD |
| 224 | 37 | 223 | 36 | 227 | 35 | 209 | 40 |

Scale Range 0=500

In Table 2, the average scale reading comprehension scores for the read aloud intervention is presented. The average scale score of the 4th grade students who reported that they "never or hardly ever" read aloud in reading class (22%) was 224 (SD = 37). The average scale score of the students who "sometimes" read aloud in reading class (47%) was 223 (SD = 36). The average scale score of the students who "often" read aloud in reading class (22%) was 227 (SD = 35). The average scale score of the students who "always or almost always" read aloud in reading class (9%) was 209 (SD = 40).

Table 3. Difference in Average Scale Scores Between Variables, For Read Aloud [R846801]

Nationwide, 2015

| | Never or hardly ever (224) | Sometimes (223) | Often (227) | Always or almost always (209) |
|---|---|---|---|---|
| **Never or hardly ever (224)** | | > Diff = 2 P-value = 0.0140 Family size = 6 | < Diff = -3 P-value = 0.0000 Family size = 6 | > Diff = 16 P-value = 0.0000 Family size = 6 |
| **Sometimes (223)** | | | < Diff = -5 P-value = 0.0000 Family size = 6 | > Diff = 14 P-value = 0.0000 Family size = 6 |
| **Often (227)** | | | | > Diff = 19 P-value = 0.0000 Family size = 6 |
| **Always or almost always (209)** | | | | |

| **LEGEND:** | |
|---|---|
| < | Significantly lower. |
| > | Significantly higher. |
| x | No significant difference. |

NOTE: Within country comparisons on any given year are dependent on an alpha level of 0.05.

Table created by NAEP Data Explorer ("NAEP Tools", 2016)

Table 3, created by NAEP Data Explorer ("NAEP Tools", 2016), presents mean differences and the results of multiple independent t-tests. NAEP Data Explorer analyses had alpha set at 0.05. The average scale scores of students (22%) who "often" read aloud in reading class (M=227; SD=35) was significantly ($p < 0.001$) higher than the average scale scores of students (22%) who "never or hardly ever" read aloud in reading class (M=224; SD=37). The average scale scores of students (22%) who "often" read aloud in reading class (M=227; SD=35) was significantly ($p < 0.001$) higher than the average scale scores of students (47%) who "sometimes" read aloud in reading class (M=223; SD=36). The average scale scores of students (22%) who "often" read aloud in reading class (M=227; SD=35) was significantly ($p < 0.001$) higher than the average scale scores of students (9%) who "always or almost always" read aloud in reading class (M=209; SD=40).

Table 4. Effect Sizes of Differences in Scores When the Read Aloud Intervention was Used During Reading Class

| **Read Aloud** | | Cohen's *d* |
|---|---|---|
| Always or Almost Always | Often | -0.48 |
| Always or Almost Always | Sometimes | -0.37 |
| Always or Almost Always | Never or Hardly Ever | -0.39 |
| Often | Sometimes | 0.11 |
| Often | Never or Hardly Ever | 0.08 |
| Never or Hardly Ever | Sometimes | 0.03 |

Effect size measures are the common currency of meta-analysis studies that summarize the findings from a specific area of research (Becker, 2000b). In Table 4, the effect size of the read aloud intervention is presented. The Cohen's *d* effect size of the difference between the average scale score of students who reported to "always or almost always" read aloud in reading class and that of the students who "often", "sometimes"

and "never or hardly ever" read aloud in reading class were respectively *d*=-0.48, *d*=-0.37, and *d*=-0.39. The Cohen's *d* effect size of the difference between the mean average scale scores of students who "often" and "sometimes" or who "often" and "never or hardly ever" read aloud in reading class were respectively, *d*=0.11 and *d*=0.08. The Cohen's *d* effect size of the difference between the mean average scale scores of students who "never or hardly ever" and students who "sometimes" read aloud in reading class was *d*=0.03. While the Cohen's *d* effect sizes were all small (< 0.5) and did not indicate major differences, they are consistent with the findings from Table 6. However, the students in the "often" read group seemed to do better than the students in the "sometimes" read and "never or hardly ever" read group.

The greatest effect size (*d* = -0.48) was between the mean scale scores of students (22%) who "often" read aloud in reading class and the mean average scale scores of students (9%) who "always or almost always" read aloud in reading class. This finding is consistent with the findings of studies reviewed for this study (e.g., Lee, 2014, Baker, et al., 2013, Garan & DeVoogd, 2008; Delo, 2008; Rasinski & Hoffman, 2003). Collectively, their research results support the positive aspect oral reading has in classroom instruction on the development of a student's reading ability.

Table 5. How Often Does Your Teacher Ask You to Read Silently in Class? [R846901]

| Never or Hardly Ever | | Sometimes | | Often | | Always or Almost Always | |
|---|---|---|---|---|---|---|---|
| 7% | | 20% | | 32% | | 41% | |
| M | SD | M | SD | M | SD | M | SD |
| 211 | 39 | 214 | 39 | 229 | 35 | 225 | 35 |

Scale Range 0=500

In Table 5, the average scale reading comprehension scores for the read silently intervention is presented. The average scale score of the 4th grade students who reported that they "never or hardly ever" read silently in reading class (7%) was 211 (SD = 39). The average scale score of the students who "sometimes" read silently in reading class (20%) was 214 (SD = 39). The average scale score of the students who "often" read

silently in reading class (32%) was 229 (SD = 35). The average scale score of the students who “always or almost always” read silently in reading class (41%) was 225 (SD= 35).

Table 6. Difference in Average Scale Scores Between Variables, For Read Silently [R846901] National Public, 2015

| | **Never or hardly ever (211)** | **Sometimes (214)** | **Often (229)** | **Always or almost always (225)** |
|---|---|---|---|---|
| **Never or hardly ever (211)** | | < Diff = -3 P-value = 0.0050 Family size = 6 | < Diff = -18 P-value = 0.0000 Family size = 6 | < Diff = -13 P-value = 0.0000 Family size = 6 |
| **Sometimes (214)** | | | < Diff = -15 P-value = 0.0000 Family size = 6 | < Diff = -11 P-value = 0.0000 Family size = 6 |
| **Often (229)** | | | | > Diff = 4 P-value = 0.0000 Family size = 6 |
| **Always or almost always (225)** | | | | |

| **LEGEND:** | |
|---|---|
| < | Significantly lower. |
| > | Significantly higher. |
| x | No significant difference. |

NOTE: Within country comparisons on any given year are dependent on an alpha level of 0.05.

Table created by NAEP Data Explorer ("NAEP Tools", 2016)

Table 6, created by NAEP Data Explorer ("NAEP Tools", 2016), presents mean differences and the results of multiple independent t-tests. NAEP Data Explorer analyses had alpha set at 0.05. The average scale scores of students (41%) who "always or almost always" read silently in reading class (M=225; SD=35) was significantly ($p < 0.001$) higher than the average scale scores of students (7%) who "never or hardly ever" read silently in reading class (M=211; SD=39). The average scale scores of students (32%) who "often" read silently in reading class (M=229; SD=35) was significantly ($p < 0.001$) higher than the average scale scores of students (7%) who "never or hardly" read silently in reading class (M=211; SD=39). The average scale scores of students (20%) who "sometimes" read silently in reading class (M=214; SD=39) was significantly ($p < 0.001$) higher than the average scale scores of students (7%) who "never or hardly ever" read silently in reading class (M=211; SD=39). The average scale scores of students (41%) who "always or almost always" read silently in reading class (M=225; SD=35) was significantly ($p < 0.001$) higher than the average scale scores of students (20%) who "sometimes" read silently in reading class (M=214; SD=39).The average scale scores of students (32%) who "often" read silently in reading class (M=229; SD=35) was significantly ($p < 0.001$) higher than the average scale scores of students (20%) who "sometimes" read silently in reading class (M=214; SD=39). The average scale scores of students (32%) who "often" read silently in reading class (M=229; SD=35) was also significantly ($p < 0.001$) higher than the average scale scores of students (41%) who "always and almost always" read silently in reading class (M=225; SD=35).

Table 7. Effect Sizes of Differences in Scores When the Read Silently Intervention was Used

During Reading Class

| **Read Silently** | | Cohen's *d* |
|---|---|---|
| Always or Almost Always | Often | -0.11 |

| | | |
|---|---|---|
| Always or Almost Always | Sometimes | 0.30 |
| Always or Almost Always | Never or Hardly Ever | 0.38 |
| Often | Sometimes | 0.41 |
| Often | Never or Hardly Ever | 0.35 |
| Sometimes | Never or Hardly Ever | 0.08 |

In Table 7, the effect size of the read silently intervention is presented. The Cohen's *d* effect size of the difference between mean average scale scores of students who reported to "always or almost always" and the mean for students who "often" read silently in reading class was *d*=-0.11. The Cohen's *d* effect size of the difference between the mean average scale score of students who reported to "always or almost always" read silently in reading class and the mean for students who "sometimes" and "never or hardly ever" read silently in reading class were respectively *d*=0.30 and *d*=0.38. The Cohen's *d* effect size of the difference between the mean average scale score of students who reported to "often" read silently in reading class and the mean for students who "sometimes" and "never or hardly ever" read silently in reading class were respectively *d*=0.41 and *d*=0.35. The Cohen's *d* effect size of the difference between mean average scale scores of students who reported to "never or hardly ever" and the mean for students who "sometimes" read silently in reading class was *d*=-0.08. The Cohen's *d* effect sizes were all small (< 0.5). The greatest effect size (*d* = 0.41) was between the mean scale scores of students (32%) who "often" read silently in reading class and the mean average scale scores of students (7%) who "never or hardly ever" read silently in reading class. This finding is consistent with the findings of studies reviewed for this study (e.g., Garan & DeVoogd, 2008; Gambrell, 2007; Krashen, 2005; Gardiner, 2001). Their research results also indicated similar patterns: dedicating classroom time for silent reading improves not only the students reading abilities but also their enjoyment and interest in reading, which correlates back to enhanced language and literacy development.

Table 8. Average Reading Scale Score when Read Aloud [R846801] by Read Silently was Used

in the Reading Class [R846901]

| Read Silently | Never or Hardly Ever | | Sometimes | | Often | | Always or Almost Always | |
|---|---|---|---|---|---|---|---|---|
| | Average Scale Score | SD | Average Scale Score | SD | Average Scale Score | SD | Average Scale Score | SD |
| Never or Hardly Ever | 212 | 41 | 213 | 37 | 214 | 40 | 197 | 41 |
| | 29% | | 45% | | 17% | | 9% | |
| Sometimes | 210 | 40 | 212 | 38 | 223 | 35 | 204 | 42 |
| | 15% | | 44% | | 29% | | 12% | |
| Often | 229 | 36 | 228 | 34 | 235 | 32 | 218 | 38 |
| | 16% | | 52% | | 23% | | 9% | |
| Always or Almost Always | 229 | 34 | 225 | 35 | 226 | 33 | 209 | 39 |
| | 28% | | 44% | | 19% | | 9% | |

Table 8 presents the means and standard deviations of the NAEP 2015 (national) 4th grade reading scores by the frequency of how often students were engaged in reading silently in the reading class and its relevance to how often they were engaged in reading aloud in the reading class. The highest average scale score on Table 8 (M=235, SD=32) is for the students who "often" read silently in reading class and who also "often" read aloud in their reading class. This score is 6 points higher (Cohen's *d* effect size *d*=0.18) than the next two highest average scale scores (M=229, SD=36 and M=229, SD=34, respectively) obtained by students who "often" or "always and almost always" read silently in their reading class but "never or hardly ever" read aloud in their reading class. The average scale score for the students who reported to reading "often", both aloud and silently in their reading class is 23 points higher (Cohen's *d* effect size *d*=0.63) than the

average scale score (M=212, SD=41) obtained by students who reported to "never or hardly ever" either read aloud or read silently in their reading class. This finding is consistent with the findings of studies reviewed for this study (e.g., Garan & DeVoogd, 2008; Gambrell, 2007; Trelease, 2006; Gardiner, 2001; Jay & Wu, 2001) supporting the need for teachers too often include both read aloud and read silently opportunities during their reading classroom instruction time.

The nationwide group of 4th grade students in 2015 who reported to "often" read aloud and read silently in their reading class exceeded the overall average score (M=223, SD=37) by 12 points with a Cohen's *d* effect size of 0.35.

## Discussion

The knowledge of almost every subject in school flows from reading. Practice helps students become better readers and student's reading abilities have the potential to improve with the right kind of practice (Gambrell, 2007). The productive use of time for reading, whether using read aloud or read silently interventions during the school day, is critical to the development of both the skill and will of students to read. Fourth-grade represents a critical juncture in academic achievement and is the time when a fourth-grade slump in reading comprehension scores has the greatest potential to occur (Chall & Jacobs, 2003). This should prompt all reading teachers to incorporate productive time for students to read during the school day to develop, and nurture, the student's full literacy potential. The results from the NAEP data noted above looked specifically at the frequency which 4th grade students perceived time being dedicated in their reading classrooms for two reading interventions - read aloud and/or read silently - and the impact these reading interventions had on nationwide 4th grade student reading achievement scores as reported in the 2015 NAEP datasets. Data analysis through use of descriptive statistics indicated general tendencies in the data to be seen, variability in a distribution of scores, as well as a comparison of how scores related to all others (Creswell, 2015). The results from this study found that the more often teachers dedicated time for students to read had a significant effect on their achievement scores compared to the overall 4th grade reading comprehension scores; such practices were extensively reported in research studies (Gambrell, 2007; Garan & DeVoogd, 2008; Rasinski & Hoffman, 2003).

Measures of variability, as reflected in the tables showing mean or standard deviation scores, help to see how dispersed the responses are (Creswell, 2015) in relation to the student asked questions within the overall NAEP questionnaire instrument. Percentiles provide another type of descriptive statistic, measures of relative standing, describing a distribution of scores and how an individual's score lies in comparison with other scores (Creswell, 2015). When the 4th grade students were asked how often their teacher asked them to read aloud in class, nearly half (47%) indicated that being asked to read aloud in class takes place "sometimes." When the 4th grade students were asked how often their teacher asked them to read silently in class, collectively, 73% indicated they were being asked to read silently in class "always/almost always" (41%) or "often" (32%). Being provided time for reading in the classroom is consistent with the research by Jay and Wu (2001) who found students who had in-school independent reading time, in addition to regular reading instruction, did significantly better on measures of reading achievement compared to students who were not provided time for independent reading.

The NAEP results are based on representative samples of students ("NAEP – Overview", 2016). Therefore, a *p*-value was computed to determine the probability (*p*) that a result could have been produced by change if the null hypothesis were true (Creswell, 2015). The purpose of this study was to examine the relationship between the frequency of time dedicated to reading either aloud or silently in the 4th grade classroom and the overall reading achievement scores of 4th grade students nationwide. The significant effect of the four answer options the students had to choose from (never or hardly ever; sometimes; often; always or almost always) was calculated separately for the read aloud question (Table 3) and the read silently question (Table 6). Consistently, high significance between students scaled scores was shown when students were always or almost always allowed to read aloud in the classroom compared to the three other response options (often; sometimes; never or hardly ever). Read aloud is a positive instructional strategy that has been established as beneficial in improving students' background knowledge and academic vocabulary which are key ingredients of reading comprehension (Scolforo, 2015). Read aloud provides teachers the opportunity to engage students in the literary process, expand vocabulary, improve listening skills, and at the same time provide content knowledge to increase the student's' knowledge base

(Scolforo, 2015). The commitment of valuable class time for read aloud lessons is noteworthy and underscores the importance of teachers incorporating read aloud interventions during their classroom reading time. The significant effect of the four answer options the students had to choose from (never or hardly ever; sometimes; often; always or almost always) for the read silently question showed high significance between students scaled scores when they were allowed often to read silently in the classroom. Most notably when students answered reading silently was allowed often compared to the never or hardly ever or sometimes answer options. This supports the rationale for the use of a read silently technique when students practice reading at their independent reading levels to develop fluency, increase vocabulary, enhance comprehension, and improve wide reading (Krashen, 2005). Ultimately supporting a primary goal of utilizing read silently programs and increasing students' enjoyment of reading.

A practical measure of whether means of scores differ is simply to look at the differences and determine whether the difference is meaningful in a practical sense (Creswell, 2015). Effect size identifies the strength of the conclusions about group differences or about the relationship among variables in a quantitative study (Becker, 2000b). When examining the mean scores for two groups, an effect size of 0.5 or above is often a standard used ("Effect Size", n.d.). A separate analysis of Cohen *d* effect sizes provided causal evidence showing that students who were allowed classroom time too often or always/almost always for in-school independent reading did significantly better on measures of reading achievement compared to students who were provided never or hardly ever time for read aloud or read silently interventions. The examination of the mean scaled score for the students who reported to reading often, both aloud and silently in their reading classrooms, compared to the mean scale score obtained by students who reported to never or hardly ever reading either aloud or silently in their classroom, produced an effect size outcome of $d$=0.63. This above-average finding supports the need for teachers to dedicate valuable class time for both read aloud and read silently interventions in the classroom, on at least an often basis.

This study has shown that time spent reading independently is shown to interact positively with students reading ability, resulting in a positive impact on the 4$^{th}$ grade students reading achievement scores in the 2015 NAEP report. Oral comprehension

(through use of the read aloud teaching intervention) needs to be developed in our youngest students if we want them to be good readers. Use of read silently techniques to enhance students' language and literacy development, as well as build their interest in reading, is also shown in this data analysis to positively impact 4th grade student reading achievement outcomes. As noted by Gambrell (2007), reading has the potential to improve with the right kind of practice, and practice helps students become better readers.

## Conclusions

Fourth-grade is a time when students are able to read on their own and many students are starting to read for enjoyment. This makes 4th grade critical for using the most effective methods for reading instruction. T was to explore the relationship between the 2015 NAEP reading achievement scores of 4th grade students nationwide and the time dedicated in the classroom each day using the reading interventions of read aloud or read silently. The reading scores for 4th grade students in the results of the 2015 NAEP reports were most statistically noteworthy when students reported their classroom reading time was spent often for read silently interventions. Per the literature, the read silently instructional intervention allows for students to read at their own pace while choosing topics and books that interest them (Krashen, 2005). The speed and effortlessness with which readers' process text is one of the most critical skills of good readers. When readers struggle with fluency, it can negatively affect their comprehension and motivation to read (Hasbrouck, Ihnot, & Rogers, 1999).

The use of read aloud as a classroom instructional strategy has been supported by numerous studies that have reported its effectiveness in increasing reading comprehension (Baker et al., 2013; Rasinski & Hoffman, 2003; Sassenrath, 1972; Scolforo, 2015). Comparatively, the results of this study showed a convincing significance between 4th grade students scaled scores when they were always or almost always allowed to read aloud in the classroom compared to the three other response options (often; sometimes; never or hardly ever). Read aloud is a positive instructional strategy that provides teachers the opportunity to engage students in the literary process, expand vocabulary, improve listening skills, and at the same time provide content knowledge to increase the student's' knowledge base (Scolforo, 2015). Rasinski and

Hoffman (2003) identified that it is not the sheer quantity of oral reading that takes place in the classroom but the type of oral reading that makes the difference. Students who read orally with the greatest fluency tended to score highest in overall reading achievement, and those who read with the least fluency tended to have the lowest levels of reading achievement (Rasinski & Hoffman, 2003).

Incorporating time in the classrooms of elementary school-aged children for reading can promote students transitioning from learning to read to reading to learn; potentially then reducing the number of children falling into the fourth-grade slump of their literacy development. Kuhn et al. (as cited in Gambrell, 2007) reported that increasing the amount of time children spend in reading appropriately challenging texts with scaffolds leads to improvement in both word reading and reading comprehension. Teachers who are looking to maximize their effectiveness in reading can look to the results of this study and become intentional to incorporate more read aloud and silent reading interventions into their pedagogy.

**Limitations to this Study**

Additional reading practice is beneficial to all students; however, the amount of time spent in independent reading should match the student's reading ability and capacity to maintain attention. Each student has learning differences that require teacher monitoring for independent reading to successfully increase reading achievement. The studies reviewed on both reading interventions - read aloud and read silently. There are limitations to each classroom reading intervention (Delo, 2008; Garan & DeVoogd, 2008; Rasinski & Hoffman,2003; Gardiner, 2001; Hasbrouck, Ihnot, & Rogers, 1999).

NAEP provides results on subject-matter achievement, instructional experiences, and school environment for specific populations of students. Fourth-grade was chosen for this study as it represents a critical juncture in academic achievement. While offering a large database of information, limitations to NAEP exist. In a perfect world of educational assessment, students might be administered annually a lengthy, unbiased, reliable, valid examination of their abilities. Every standard and skill of the sample population would be adequately measured. The data would run easily using any common statistical package, allowing flexibility of analyses and choice of platform. For pragmatic reasons, NAEP does not offer a perfect world educational assessment. NAEP does try to

obtain a representative sample of the population of each state while weighing each student's scores accordingly ("NAEP – Overview", 2016). To minimize the actual classroom time burden, each student gets only a portion of the total test. During the NAEP analysis, these selected students with their selected items yielded meaningful scores.

**Suggestions for Further Research**

This study looked at the perceptions of the students regarding the frequency of time dedicated during classroom reading to use of the read aloud and read silently instructional interventions. Having data available on the teachers reported perceptions of the frequency of classroom time dedicated to each reading intervention and how that compares to the student perceptions would require the NAEP test to offer such questions concurrently in future examination distributions. If that data would become available, it could inspire additional research to be conducted comparing the perceptions of the students with that of the teacher regarding the frequency of both reading interventions utilized in the classroom daily and how, or does, that impact the NAEP reading achievement scores of 4$^{th}$ grade students nationwide. Questions to both teachers and students specific to the different techniques available for read aloud and read silently interventions in the classroom would flush out support for their positive impact on 4$^{th}$ grade students reading achievement scores as reflected in the NAEP data outcomes.

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