Expert Opinion

Making clinical reasoning visible: moving clinical education beyond skill checklists

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Clinical education is the defining space in health professions programs where classroom knowledge becomes patient care. It is also the space where an enduring weakness in our educational structures is most visible. We often document learning through skill checklists, completed hours, and preceptor verification, even though safe practice depends on a learner's ability to interpret cues, weigh uncertainty, prioritize competing concerns, communicate with patients, and adapt decisions when context changes. Skill verification is necessary, but it is not sufficient. A learner can perform a procedure correctly while relying on incomplete assumptions or flawed reasoning. When educators assess only what is visible, the thinking that produced the action may remain unexamined.

This matters across health professions education. Nursing, athletic training, physical therapy, physician assistant education, medicine, and related fields all depend on clinical environments where learners must move from knowing information to using information with patients. Literature on clinical education has repeatedly warned that practice-based learning can become overly task oriented when educators do not intentionally attend to meaning, judgment, and reasoning.[1,2] The goal of clinical education should therefore shift from asking whether students can complete a task to asking whether students can explain, defend, reconsider, and transfer their thinking.

Situated learning provides a strong foundation for this shift. Knowledge is not simply transferred from faculty member to student. It is shaped by the activity, context, and culture in which it is used.[3,4] Learners enter clinical settings as developing members of a community of practice. They observe how clinicians notice relevant cues, talk with patients, manage uncertainty, prioritize risks, and justify decisions. Observation can be powerful, but only when it is made intentional. Without guided participation, learners may imitate routines without understanding the reasoning that gives those routines clinical meaning.

Cognitive apprenticeship translates situated learning into concrete educational practice. Its central premise is that expert thinking must be made visible so learners can observe, articulate, practice, and refine the cognitive processes required for clinical competence.[5,6] In a clinical setting, this means that preceptors and faculty should model reasoning aloud, coach learners through ambiguity, scaffold participation based on readiness, ask learners to articulate rationales, and create opportunities for reflection. Reviews in health sciences education support cognitive apprenticeship as a useful framework because it connects authentic practice with deliberate development of reasoning and professional judgment.[7,8]

Debriefing is one of the most practical structures for making reasoning visible. Although debriefing is commonly associated with simulation, its educational value extends to clinical education because it creates a structured opportunity to examine actions, emotions, judgments, assumptions, and alternative decisions after patient care.[9,10] Effective debriefing is not a brief critique of performance. It is a facilitated conversation that helps learners examine why they made a decision, what cues they noticed or missed, what assumptions influenced their interpretation, and how their thinking should transfer to future patient

encounters. Structured debriefing approaches have been associated with improved clinical reasoning and meaningful reflection on practice.[11-13]

The practical implication is that health professions programs should redesign clinical education around the visibility of reasoning. Assessment forms should include prompts that require learners to identify the patient-specific cues that shaped their decisions, the alternative explanations considered, the rationale for the selected plan, the evidence or prior learning used, and the way the plan would change if the patient's presentation changed. These prompts do not need to be lengthy. A concise written rationale or a brief verbal explanation can reveal more about learner development than a checked box confirming that a skill was completed.

Preceptor development must also move beyond compliance training. Too often, preceptor education focuses on program policies, evaluation forms, and documentation requirements. Those topics matter, but they do not equip clinicians to teach reasoning during busy patient care. Preceptors need simple, repeatable strategies that can be used within clinical workflow. They can ask the learner to commit to an interpretation before receiving feedback. They can use a short think aloud to model expert reasoning. They can separate technical correction from reasoning correction. They can end an encounter with two questions: What did you think was happening, and what would change your plan next time? These small routines can transform clinical education from passive exposure into guided reasoning.

This recommendation must remain realistic. Clinical educators often balance patient care, productivity, supervision, and teaching. A model that requires long conferences after every encounter will not be sustained. The stronger approach is to normalize brief, high-yield practices that fit clinical life. A two-minute pre-encounter prompt, a five-minute post-encounter debrief, or one focused end-of-day reflection can meaningfully shift attention from task completion to clinical judgment. The purpose is not to add another administrative burden. The purpose is to make the existing clinical experience more educationally intentional.

Programs should also recognize that making reasoning visible supports equity in assessment. Checklists can mask variability in the quality of clinical experiences because two learners may receive the same skill verification while having very different opportunities to reason through patient care. When programs require students to explain their thinking, faculty and preceptors can better identify who needs additional challenge, who needs remediation, and who is ready for increased autonomy. This improves progression decisions and helps ensure that clinical education is not merely a record of exposure, but a defensible developmental process.

Health professions programs cannot abandon skill verification, nor should they. Graduates must perform essential skills safely and effectively. However, skill performance should be understood as the floor of clinical education, not its ceiling. The central obligation of health professions education is to prepare graduates who can adapt knowledge to complex, changing, patient-specific realities. To meet that obligation, clinical education must consistently bring learner reasoning into view. We should support preceptors not merely as supervisors of activity, but as educators who shape how learners notice, interpret, decide, act, and continue learning.

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