

Educating and Socializing to the Profession of Teaching

Many believe that the combination of constructivism and situated cognition represent a promising framework for educating and socializing novice teachers into the profession. Used appropriately and strategically, the combination of these social and psychological points-of-view can provide a wide-range of learning and teaching strategies that appeals to almost every “type” of learner.

Those teacher educators who are concerned with providing skills and knowledge used for teaching will find theoretical and conceptual support from any of the schools of constructivism. Those more interested in socializing novices and developing higher levels of competence at earlier stages of their career might investigate the communities of practice viewpoint. The good news here is that these theories appear to be somewhat compatible, enabling collaboration among teacher educators and a mix of teaching and learning strategies that can potentially make teacher education an even more exciting course of study for both novice and experienced teachers.

Enhancing Expertise

Both perspectives are seeking to promote expertise and use of knowledge on the part of the learner. From the perspective of theory and research on expertise, outstanding performance must be considered to occur within a given domain of knowledge as a result of contextualized training and practice (Ericsson & Smith, 1991). The assumption underlying the combined UGA CTL approach is that intelligent, flexible thinking emerges as the individual develops a rich cognitive understanding of a domain and the ability to use this knowledge in

multiple contexts. For example, an expert teacher presumably not only has years of education but has practiced the use of learned knowledge and skills.

Expertise is more than "book learning;" it is the ability to use that knowledge to solve problems within that domain. Outstanding performance within a domain is the outcome of years of study and training in a given field. While situated cognition assumes that learning is tied to the context, a constructivist approach may assume that learning is tied to mastery of a body of knowledge. As the learner acquires more expertise within a domain, that knowledge becomes more flexible and thus the student is more able to deal with novel and complex problems. A new teacher, it is believed, may not be able to deal with an unusual set of symptoms or may be fooled by a common encounter with a student that presents an uncommon set of symptoms. A more experienced, expert teacher will have had sufficient experience to deal with the novelty of unusual situations. From a situated point-of-view, however, a teacher in training might be immersed in an authentic situation – under appropriate supervision and using the tools and practices of the community – while he or she is learning to become a socialized member of the teaching community.

A psychological perspective on expertise would assume gradual emergence and increasing experience within a domain. It is believed that students as novices are unlikely to have a deep understanding of a domain and will focus on surface features of problems. Their problem solving will be more hit-or-miss than planned. As their skills and knowledge emerge with experience in the domain, they begin to have a deeper understanding of a domain and, as a

result, are able to create plans of action to solve problems. This ability comes from both a rich knowledge of a field and experience using that knowledge.

A sociological perspective would have the novice swimming in the deep end of the pool with a lifeguard close at hand to mentor, facilitate, instruct when necessary, and to promote reflection on the meaning of the learning experience.

Contributions of Reflective Practice

Reflective practice is an important step toward building expertise. All of our lessons in the use of socio-psychological theories strongly suggest that contextual learning alone is not sufficient. Contextualized experiences from anywhere along the continuum of context should be “examined” experiences. Such practices bring about opportunities to explore learning results for meaningfulness. It is one thing to have command of facts and figures, but it is quite another to be able to use those facts in a practical way. Reflective practice is one instructional strategy that exposes learners to the “next step of learning.” What does this mean to me? How will this help me solve problems that I encounter at work or in my community?

Both internal and blended constructivist along with situated cognition theorists, speak to the importance of reflective practice. A model that is often adopted when thinking of reflection is the work of Donald Schön (1990). His work on reflection in action and reflection on action is quite famous, and does appear to have application to the training of teachers. Reflection-in-action is a slight pause during practice to mentally connect current actions with a conceptual framework of theory that gives authority and legitimacy to what the professional

is doing at the moment. Bruning, Schraw, & Ronning, (1999) describe this practice as “*an on-the spot thought experiment*” (p. 222). A teacher practitioner might make a quick, but value free, judgment to test some type of alternative instructional strategy – a type of working hypothesis testing. Reflection-on-action is a look behind to connect with reflections-in-action previously taken and evaluate their effectiveness or efficiency. Both are metacognitive strategies that apply to both professional practice and, instructional strategies, help students understand how information might be applied in real life (Bruning, Schraw, & Ronning).

Of course, there are many ways to reflect and many metacognitive processes. When students are asked to verbally articulate their knowledge and their thought processes when solving a problem, the result can be a powerful opportunity for students to compare their thinking to that of others. When reflection is viewed in light of the possibility of multiple intelligences theories many teachers and their students can observe that there are many ways to be smart.

Contributions of Multiple Intelligence Theory

A theory that runs in the background of internal and blended constructivism and communities of practice concepts is Gardner’s work in multiple intelligences. Howard Gardner has challenged the traditional notions of intelligence in which a static test score is thought to represent a learner’s capacity in the areas of verbal expression and mathematics. As discussed previously in this report, Dr. Gardner believes that we are asking the wrong

question when we ask “Are you smart?” He states that we should be asking the question “How are you smart?” The expectation is that each of us enjoys special “gifts” that are used as an important modality for learning. Multiple modalities are believed to incorporate eight major intelligences (other researchers have identified others).

The use of multiple learning modalities are concerned with multiple ways of teaching, contextualizing instruction, correspondence between environment and assessment techniques, and the examination of knowledge from alternative perspectives (Blythe, White, Blythe, Gardner, 1992, & Gardner, 1995 & Gardner, 1990). Multiple modalities promote teaching that addresses learning other than the traditional verbal and math emphasis. It is also important to utilize many learning environments. This will encourage those modalities in environments where special skills are required. *“Sustained, hands-on practice with the procedures, materials, and problems of such a domain are crucial to achieving deep knowledge within it. Hence, MI theory places an emphasis on learning in context, particularly via apprenticeships”* (p. 34).

Assessment should also be conducted in ways that are consistent with the learning modality. Each skill needs to be assessed directly in a specific context. Lastly, learners should be allowed to explore topics in alternative ways.

Ambitions for Promoting Learning Transfer

As mentioned earlier, many scholars who represent social perspectives of constructivism are often skeptical of the psychological construct of learning transfer. Yet, it is a stated purpose of the UGA CTL project to promote learning

activities that might lead to multiple uses of acquired information -- code words for learning transfer. Those practicing from an external or internal constructivist view would probably also be supportive of the need to teach for transfer.

Blended constructivists may be more skeptical of routine and predictable learning transfer, while many of their situated cognition colleagues might be in complete denial. Jean Lave, educational anthropologist has been known to state flatly that "*...the only transfer I've ever seen was on a bus*" (Personal Communication, 1999). While most are not as strident as Dr. Lave, the concept of transfer has been subjected to many years of research only to find uneven and often unexpected results. This point is potentially a major conceptual division among the theorists in both camps.

St. Julien's view of connectionism may be the glue that has promise for connecting the paradigms of learning. When thinking about transfer as pattern recognition, St. Julien reminds us that this concept has historically belonged to the world of biology, physiologically based psychology, and neurology. He also points out that situated practices belong in the social world of culture, semiosis, and activity theory. Most are used to thinking that the biological and the sociological are naturally and best kept separate. "I think we are wrong" (St. Julien, 1997, p. 274). While it is biology and psychology that tell us about our mental processes, it is sociology and culture that determines how they are interpreted.