

Using These Postulates to Formulate a Program of Teacher Education

A program of teacher education based on the UGA CTL theoretical framework would have aspects of all perspectives represented in this paper. However, a strong bias towards teaching and learning in authentic contexts and settings would be present. This section does not describe a complete CTL program of teacher education. That task will be left to other CTL publications. However, some of the theories and postulates taken from the framework suggest important elements that might be included in the design of such a program. Primarily these elements rely on extensive use of blended constructivism and situated cognition theories and an emphasis on learning in authentic environments. The major elements might include:

- Early and often supervised teaching experiences
- Promoting multidisciplinary communities among novice teachers, professors, and mentors
- Reconsideration of student teaching
- CTL in action in teacher education courses
- Technical courses and internships blended with CTL postulates
- High performance expectations for novice teachers
- Emphasis on reflective practice
- On-going networks with expert practicing teachers

Most of these programmatic elements have been derived from a combination of blended constructivism and communities of practice theories. The blended constructivism allows learners and their teachers to explore internal and external environments as a context and setting for learning to teach. The communities of

practice literature attempts to account for how novices are socialized to a community, or in this case, the profession of teaching.

Early and often supervised teaching experiences. A future CTL teacher education model should begin with an assumption -- preservice teachers are students *and* teachers. Too many preservice teachers arrive at their student teaching experience with no real idea of what the teaching profession is really like. While this has changed somewhat for the better in recent years, young teachers are still not graduating with enough examined experiences in front of students.

Preservice teachers only observing a classroom are probably of limited value. Planned teaching opportunities under the supervision of a practicing teacher or teacher educator are needed. Metaphorically this would be to throw young teachers into the deep end of the pool, while supervising teachers and teacher educators fill the role of lifeguard.

To begin this program of contextualized teaching experiences, preservice teachers will be placed in a community of practice consisting of majors from a variety of educational disciplines. The novices would be inducted into the community during their first semester in education, probably even before they are officially accepted into the teacher education program. They would stay in this community throughout their entire program of teacher education. Teacher education faculty and a supervising teacher who is currently in practice will compliment each group and will also continue with the group until graduation.

Preservice teaching experiences are real and the problems encountered are vivid to the young teacher. These periodic teaching experiences will also be matched with

systematic reflective practice seminars. The seminars will be devoted to describing and reconstructing the authentic experiences. Young teachers will be asked to show a video or describe their instructional actions and the reasons they were taken. The teacher education faculty and the supervising teacher will participate in this discussion and provide facilitation and appropriate guidance. Of course CTL postulates will be represented in the planning, execution, and assessment of these lessons taught by the novice teachers.

The examination of these experiences is quite important. Systematic probing on the part of the facilitators can highlight the best of these practices while suggesting ways to improve. In addition, the culture of the community is to be reflective. That is to promote the practice of thinking about practice before, during, and after the fact.

To add efficiency and effectiveness, contextualized field experiences and material learned in required and elective coursework could be matched to maximize their impact. It might help to give an example of how this might work. A science education student might be enroll in GEOL 3010 - 3010L Earth Materials as one class required for an Earth Science emphasis within Science Education. This class is a good choice for this example because it is already contextualized and is offered using non-traditional teaching methods in the field. To further contextualize and maximize the novice teacher's use of new geological content, his or her CTL field experience for that same semester would be to design, teach, evaluate, and reflect on a contextualized lesson on x-ray diffraction. The supervising professor of the student's CTL community could facilitate the two experiences giving guidance in the design, implementation, and reflection on the meaningfulness of the combined experiences. The possibilities for

contextualizing technical content here are almost unlimited. Because contextualized experiences like this might be required every semester some educational planners might be inclined to reconsider the role and structure of student teaching experiences.

Reconsider the structure of student teaching. Most states require a student teaching experience as an important part of teacher certification. Under this proposal, novice teachers would experience many more clock hours of actual teaching experiences and internships than are required by most current student teaching programs. Contextualizing field experiences and requiring participation in reflective communities might change the need for a capstone-type student teaching experience. This is not to necessarily eliminate student teaching. However, it could be systematically spread over the entire teacher education program.

Another option might be to retain a formal student teaching experience, while changing its fundamental intent. One approach might be to change the concept to a period of socialization into the culture of public schools. This approach would allow students to learn and experience the daily concerns of teachers. They could learn about resumes, job interviews, annual teaching contracts, expectations for continued professional development, typical faculty obligations for student activities such as football games, dances, etc. This tactic would be consistent with the communities of practice literature that is based on the processes that groups use to socialize new members to their communities.

Promoting multidisciplinary communities among novice teachers, professors, and mentors. Another critical element would be promoting and maintaining a strong sense of community among novice teachers and their supporting

professors and mentors. Some universities, like UGA, find it very difficult to develop, continue and nurture programs that rely on cohorts – especially at the undergraduate level. It might be better if official cohorts could be maintained, but the logistics of students taking the same classes at the same time at a major research university are quite difficult, if not impossible. However, it is possible to maintain a multidisciplinary community of preservice teachers who might have common field-based experiences accompanied by reflective seminars. The actual experiences may be less important than their use for reflection for meaning, and the development of a social network for resources and support. The reflective seminars can be held late afternoons, evenings or even weekends.

Maintaining a sense of community among all novice teachers, their professors, and field supervisors would allow preservice teachers to gain and actualize expectations for how they will be socialized into their chosen profession. It also gives them access to knowledgeable people who are trusted and who have also been in the profession for a considerable time. The community gives a framework for understanding and learning the commonly accepted practices of the teaching profession.

As related to blended or social constructivism, the community approach affords a context and physical settings for learning that also promotes understanding of why certain practices are important. The novice teachers can learn how the environment influences their thinking and how their thinking influences the environment. Here blended constructivism working within a community context and school settings enables the socialization of new teachers.

CTL in action in teacher education courses. We cannot expect novice teachers to contextualize their beginning teaching unless the university professors are also willing to “walk the talk” in their own teaching practices. It makes little sense to talk about ways to employ CTL teaching methods in a sterile classroom environment. Methods and curriculum classes are easy to contextualize when they are conducted on-site at a local school. Other courses such as educational foundations and educational psychology can be contextualized by asking students to complete assignments that require them to visit, observe, and interview teachers, students, and administrators. This gives a global framework for understanding how existing educational institutions have adopted a philosophy or utilized learning postulates in their curricula. Of course a systematic program of reflection is recommended so that contextualized experiences can be maximized.

Although considerable logistics would be involved, these courses could be taught at local school districts. A compromise might be to teach teacher education courses both on campus and at a school site.

Technical courses and internships blended with CTL practices. Novice teachers must also complete a rigorous educational program in their content area. These courses should also be contextualized. An important principle here is that technical content should be learned with an eye open for how to teach this material to children.

An admitted bias here is to educate teachers to be pedagogical experts with a high level of competence in a technical area. First and foremost they are professional teachers who are technically competent. This is not to minimize the importance of

technical competence, but teaching is a very difficult profession that requires an expert's mastery of curriculum development, human development, psychology, sociology, and human relations. It does little good to assure a high level of technical expertise in the classroom at the expense of teaching proficiency.

Another important part of learning technical content is to experience it in everyday life. This version of a CTL teacher education program would require each novice teacher to spend time on an internship in his or her chosen field. A novice science teacher might spend a summer in the laboratories of a pharmaceutical company. A business education student might spend a summer in an insurance company learning how computers and software are applied. Once again internships are an important way that learners can learn in authentic settings. This practice is consistent with the blended constructivist learning theories where both internal and external mental perspectives are gained and enhanced.

Internships also have a practical pedagogical side, that is story telling. The telling of real life stories impacts learners who are struggling to find meaning in the content being studied. Internships provide experiences on which teachers can draw to give applied examples. Without real life engagement, teaching can be sterile and devoid of meaning.

Another consideration here is to assure that education majors in technical courses are encouraged to see how content might be connected with other disciplines. It is often a disservice when math or language teachers are so focused on their field that they do not recognize how the world is interconnected. It is often in schools and universities that teachers learn to believe that academic topics are impenetrable silos.

Of course to contextualize technical content and to enlist cooperation among professors outside of the college of education is often very difficult. While not endorsing the concept of blending the college of education with a college of arts and sciences, cooperation between the colleges is critical to educating CTL teachers. At UGA, the CTL project has been a very important medium that has allowed more and better cooperation between the College of Education and the Franklin College of Arts and Sciences. Much more work remains in this area, but this project has promoted some positive changes.

High performance expectations for novice teachers. Regardless of reforms in teacher education, a focus on high standards is critical. At times, progressive programs such as the one suggested here can be viewed as touchy-feely or stereotyped as not challenging or too easy. Such a view would be a misconception of the intended CTL program for teacher education.

Becoming a teacher should be very difficult. Education should not be a major of last resort. UGA CTL faculty do not believe that contextualized teacher education is another way of “dumbing down,” it is in fact quite the opposite. The purpose for teaching and learning in context is to promote higher order thinking and the use of information to solve complex problems. CTL is not an instructional practice that supports training for factual recall. The purpose and utility of CTL is to create an educational environment where teachers and learners jointly engage in a pursuit of scholarly truth that is rooted in life’s real practices.

Contextual learning is often ambiguous and messy. Life’s problems are often complex to the point of being ill structured. These problems are way beyond common

sense solutions, or are so complex that interacting variables may prevent attempts to even frame the problem. We are asking today's teachers to contribute to our understanding of problems such as teen pregnancy, or ways to teach special needs children such as those suffering from fetal alcohol syndrome. While these are very difficult problems, they are the types of problems teachers face on a daily basis. Facilitating teaching is a very sophisticated form of instruction. What to do at any given moment is a constantly moving target. While it may take many years to become a master facilitator, the journey should begin early in the teacher education program with full recognition of how difficult and challenging it is to become an expert teacher. The need for high standards should not be interpreted as meaning that teaching should be an exclusionary profession. It does mean that the difficulty and the length of the journey should be made apparent throughout the program of teacher preparation. The future of our nation requires that our teachers be thinkers and problem solvers. A CTL teacher program must recognize this requirement and be rooted in high standards for excellence.

Emphasis on reflective practice. An on-going need among educators is to become reflective practitioners. The human mind is constantly seeking to make meaning of experiences. The major purpose of the suggested reflective seminars is to make meaning of contextualized experiences. Novices and their guiding teachers use this approach to establish and promote routine practice of reflection on and in action.

Reflective seminars done properly, can assist novice and experienced teachers when they are faced with questions about why they practice as they do. Teaching professionals need to have a philosophic and theoretical framework to inform their

teaching practice. Unfortunately, many of today's teachers find it difficult to articulate philosophic truths, realities, and values upon which they rely. The problem also extends to teachers' understanding of learning theories and how they inform daily practice. Try an experiment: Just ask a teacher '*what learning theory(ies) do you utilize in your teaching?*' It is quite likely that a strong majority would not be able to clearly identify a specific or combination of theories that are important to their approach to teaching. Compound the confusion by asking how their chosen learning theories are linked to their educational philosophy?

Any contextual program of teacher education should promote deeper comprehension, understanding, and utilization of philosophy and theory in the practice of teaching. One way to do that is to focus on the problem through strategic use of reflective seminars. If learning to teach is to be rooted in practice, what better opportunity to ask novices to articulate reasons for their actions. Further, teachers should be educated to routinely ask these questions of themselves. One way to promote reflective practice is to require it from the very beginning. This is a major reason that communities of practice have been selected as cornerstones for this proposed CTL approach. When reflection is skillfully adopted as a routine practice of the community, facilitating professors and supervising teachers have many opportunities for guiding and assisting in the interpretation of contextualized learning events.

On-going networks with expert practicing teachers. The socialization and education of teachers is a process that extends well beyond the completion of a formal preservice teacher education program. Many local districts have recognized this

problem and have adopted a formal mentoring program. The UGA CTL model suggests that it is appropriate for the university to maintain a formal relationship with the graduated professional. One aspect of such a program would be to provide the preservice teacher with a mentor with whom they can keep in contact during the trying early years of teaching. Mentorship can also be formalized by offering systematic professional development seminars. Perhaps the real impact of such a program, however, is to maintain informal relationships that provide a safety net for new and maturing teachers. Too many good teachers are lost to the profession because they have no one that they can turn to for help.

These are a few elements that might be included in a CTL program of teacher preparation. No attempt has been made to describe a comprehensive program. The elements that have been included in this discussion do come from the emerging theoretical framework described in this paper.

Some Concluding Thoughts

The journey and the processes that have brought us to this emerging framework have had beneficial effects. At some level many of the UGA faculty and administration have taken the theory and spirit of contextual teaching and learning to heart. Many students have also been exposed to postulates of CTL. Those who participated in the complete core of CTL classes were definitely immersed in the concept and have gained an appreciation for a different way to practice.

The CTL framework that has emerged is one plausible way to contextualize teacher education. It is offered in the spirit of experimentation and providing a foundation for formal research into contextualized teacher education. One can assume

that within a research university there will be discussion about what course of action is best. It is the nature of academicians to disagree. Of course, this skeptical nature is only one of the cultural tools within our community of practice. There may never be “consensus” among faculty about this framework or how it should be used. This is as it should be. At a major research university the charge is to search for the truth, employ the results of our inquiry into teaching, and make life better through service. In educational practice there are many truths, many approaches to teaching, and many ways to make life better. It hoped that this framework gives researchers and teachers room to breathe while still pursuing a greater understanding of contextual teaching and learning and its importance for the education of teachers and our nation’s children.

References

- Berns & Erickson, (2000). *CTL Constructs*. Retrieved 8/25/01, from <http://www.bgsu.edu/organizations/ctl/navigation/constructs.html>.
- Biggs, J. (1996). *Enhancing teaching through constructive alignment*. Higher Education, 32, 347-364.
- Blythe, T., White, N., & Gardner, H. (1995). *Teaching practical intelligence: What research tells us*. West Lafayette, IL: Kappa Delta Pi.
- Borko, H. & Putnam, R.T. (1996). Learning to teach. In D.C. Berliner & R.C. Calfee (Eds.), *The handbook of educational psychology* (pp. 673 – 708). New York: McMillian.
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32-42.
- Bruning, R.H., Schraw, G.H., & Ronning, R.R. (1999). *Cognitive psychology and instruction*, (3rd ed). Columbus, OH: Merrill.
- Bruner, J. (1966). *Toward a theory of instruction*. Cambridge, MA: Harvard University Press.
- Detterman, D. K. (1993). Case against transfer. In D. K. Detterman & R.J. Sternberg (Eds.), *Transfer on trial*. Norwood, N.J.: Ablex.
- Dillenbourg, P.; Mendelsohn, P.; and Schneider, D. (1994). The distribution of pedagogical roles in a multi-agent learning environment. In R.Lewis, and P.Mendelsohn., eds., *Lessons from Learning*. North-Holland. 199--216.

Ericsson, J. A. & Smith, J. (1991). Prospects and limits of the empirical study of expertise: An introduction (pp. 1-38). In K. A. Ericsson & J. Smith (Eds.). *Toward a general theory of expertise*. Cambridge, M.A.: Cambridge University Press.

Fox, R. (2001). *Constructivism examined*. *Oxford Review of Education*, (27) 1, 23-34.

McDermott, J. J. (Ed) (1981). *The philosophy of John Dewey*. Chicago: The University of Chicago Press.

Mayer, R. (1996). *Learners as information processors: Legacies and limitations of educational psychology's second metaphor*. *Educational psychologist*, (3/4), 151-161.

John-Steiner, V. (1997). *Notebooks of the mind: Explorations of thinking*. New York: Oxford University Press.

Lave, J. (1998). *Cognition in practice: Mind, mathematics and culture in everyday life*. Cambridge: Cambridge University Press.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

Lindsay, L. (2001). *Transformation of learners in a community of practice occupational therapy field*. Unpublished doctoral dissertation, University of Georgia, Athens.

Lynch, R.L. (2000). [New directions for high school career and technical education in the 21st century](#). ERIC/ACVE Major publications. ERIC Clearinghouse on Adult, Career, & Vocational Education: Columbus, OH.

Newman, D., Griffin, P., & Cole, M. (1989). *The construction zone: Working for cognitive change in school*. Cambridge, UK: Cambridge University Press.

Parnell, D. (1995). *Why do I have to learn this?* Waco, TX: CORD Communications.

Phillips, D. C. & Soltis, J. C. (1998). *Perspectives on learning*, (3rd Ed). New York, New York: Teachers College Press.

Resnick, L. B. (1987). Learning in school and out. *Educational Researcher*, 16(9), 13-20.

Rogoff, B. (1991). *Apprenticeship in thinking: cognitive development in social context*. New York: Oxford University Press.

Schell, J.W. & Rojewski, J. W. (1995). *Community and technical college teaching for thoughtful results*. *Community College Journal of Research and Practice*, 19 133-150.

Schell, J. W. & Black, R. S. (1997). Situated learning: An inductive case study of a collaborative learning experience. *Journal of Industrial Teacher Education*, 34(4), 5-27.

Schön, D. (1990). *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*. San Francisco: Jossey-Bass.

Spoon, J. & Schell, J.W. (1997). Aligning Student Learning Styles with Instructor Teaching Styles. *Journal of Industrial-Technical Teacher Education*, 35,(2), ¶ 38.

Secretary's Commission on Achieving Necessary Skills (1991). *What work requires of schools: A SCANS report for America 2000*. Washington, C.D.: U.S. Department of Labor.

Skinner, B. F. (1966). *Science and human behavior*. New York: Macmillan.

St. Julien, J. (1997). Explaining learning: The research trajectory of situated cognition and the implications of connectionism. In D. Kirshner & J.A. Whitson, (Eds), *Situated cognition: Social semiotic and psychological perspectives*, (261-279).

Mahwah, NJ: Lawrence Earlbaum Associates.

Thorndike, E. L. (1913). *Educational psychology: The psychology of learning*. New York: Teachers College Press.

Von Glasserfeld, E. (1995). *Radical constructivism: A way of knowing and learning*. London: Falmer Press.

Vygotsky, L. S. (1978). *Mind in society*. Edited and Translated by M.Cole, V. John-Steiner, S. Scribner & E. Souberman. Cambridge, MA: Harvard University Press.

Watson, J. D. (1930). *Behaviorism*. New York: W.W. Norton.

Westheimer, J., & Kahne, J. (1993). Building school communities: An experience-based model. *Phi Delta Kappan*, 75(4), 324-329.

Wenger, E. (1998). *Communities of practice*. Cambridge, U.K.: Cambridge University Press.

White, N., Blythe, T., & Gardner, H. (1992). Multiple intelligences theory: Creating the thoughtful classroom. In A. Costa, J. Bellanca, and R. Fogarty (Eds.), *If minds matter: A foreword to the future*. Palatine, IL: Skylight.