Overview of the Contextual Teaching and Learning Project at the University of Georgia

The preservice contextual teaching and learning project at the University of Georgia began in Fall 1998 with a three-year contract from the U.S. Department of Education to develop a model of excellence for contextual teaching and learning in preservice teacher education. The result of this work was the development and implementation of a teacher education model where students (a) completed courses, seminars, and other experiences in professional education and content areas which integrated contextual teaching and learning concepts into instruction; (b) used experiences in community, workplaces, and school contexts to inform teaching and learning; and (c) were prepared to use CTL strategies in professional practice. In September of 2001, the U.S. Department of Education extended the CTL contract at UGA for 18 months. The purpose of the new work was to better understand the applications of CTL strategies by novice teachers in actual teaching contexts.

Preservice Teacher Education CTL Model

The original preservice CTL project was a joint project of the School of Teacher Education and the School of Leadership and Lifelong Learning in the College of Education and also involved faculty from the College of Arts and Sciences and the School of Professional Studies at UGA, as well as participants from the Athens Area Chamber of Commerce, local school systems, and local business and industries. The UGA-based project staff initially involved 28 full-time faculty members and department heads from nine different departments. By the conclusion of the three-year funding cycle, participants included more than 60 UGA faculty from 15 different departments, over 1,000 preservice teacher education students, at least 16 different business and industries, and countless public school personnel.

The preservice program model developed at UGA over the course of the three-year project included development of some new courses and revision of many others, highlighted as follows:

Pre-professional Courses

Two existing, required courses for teacher education in educational psychology (Learning and Development in Education) and educational foundations (Social Foundations of Education) were revised to include contextual teaching and learning principles and applications.

Community Work Experiences

Academic Service Learning, an existing elective course involving service projects in various community agencies, was redesigned to include structured field projects in business, government, and other professional work settings. Another existing elective course, Internship in Business and Industry, was offered to students interested in completing an extensive internship in private, corporate, or nonprofit sectors. In addition, students were involved in other classes or seminars with business or community short-term internships, tours, field trips and interviews, focus groups, and other nonschool contexts to help them connect knowledge with real-world applications.

Seminars

A series of core CTL seminars were developed to involve students in field experiences that connect education and the
world outside of schools. These seminars were entitled (a) Disciplinary Knowledge: Basic Principles and Ways of Knowing; (b) Workplace and Community Experiences: Connecting Academic Learning to Out-of-Classroom Contexts; and (c) Contextual Teaching and Learning in Schools.

**Disciplinary Courses**

Required courses in curriculum and methods of teaching, subject matter disciplines, and student teaching were revised to incorporate contextual teaching and learning examples and concepts so that students could experience and apply CTL strategies in school and non-school settings. Elective courses were added in some departments to enrich the preparation of teachers specifically in contextual teaching and learning. A 12-credit, interdisciplinary, freshman core program (i.e., four courses) with considerable CTL approaches was introduced in the College of Arts and Sciences.

Over 50 courses in the Colleges of Education and Arts and Science were revised to include strategies identified with contextual teaching and learning. Course changes have been grounded in the supporting theories and literature underpinning situated cognition, constructivism, multiple intelligences, and experiential learning. Illustrative teaching approaches incorporated in the teacher education and arts and science courses and thus taught to teacher education students include:

- Problem-based learning
- Project-based learning
- Inquiry-based instruction
- Work-based learning
- Service learning
- Collaborative or cooperative learning
- Authentic assessment

**Findings from Preservice Teacher Education CTL Model**

Based on our review of the extensive materials developed in the various departments, programs, and courses, five primary outcomes were identified from the three years of work on developing and implementing a model for contextual teaching and learning in preservice teacher education\(^1\) and reported in 2001:

1. Curriculum and instruction in preservice teacher education at UGA have changed and, for some courses and some programs, profoundly so. Faculty and students report much more use of real-world contexts, linking education and the working world, use of varied teaching methods and assessments, and creating connections with content and applications and thus facilitating students’ transfer of learning. We found contextual teaching and learning to be very different than traditional classroom teaching and—although implemented differently in different courses, departments, and programs at UGA—approaches identified with CTL became increasingly evident throughout the preservice teacher education programs over the three years of development.

2. Teacher education students, especially, noted and reported on the changes they were seeing, particularly in instruction, and the effects they felt contextual teaching and learning strategies would have on their subsequent work as classroom teachers. They became knowledgeable of CTL practices and planned to incorporate them into their own curriculum plans and instructional strategies when they became teachers.

3. There was a significant effect between the number of CTL classes taken on students’ perceived preparedness to use contextual teaching strategies and their intentions to use these strategies in their future teaching. The more immersion students had with CTL strategies, the greater their intention to incorporate them into their work as classroom teachers.

4. University faculty professional development activities—such as tours of local business and industry sites, workplace internships, conversations and debates about teaching and learning, involvement in committee work focusing on teaching and learning, seminars, and internal and external collegial networking—were very important to establish context for the work, develop a conceptual framework, and implement CTL at the University of Georgia. Further, and because of our attention to faculty development, we believe there is now greater understanding on the part of university faculty of businessperson and employee concerns about the poor quality of education they perceive some young people to be receiving

\(^1\) NOTE: Extensive materials are available for review on the UGA College of Education website at [www.coe.uga.edu/ctl](http://www.coe.uga.edu/ctl). Of special note is the September, 2001 report: A Model of Excellence for Contextual Teaching and Learning in Preservice Teacher Education: Final and Summative Report.
and perhaps greater faculty sensitivity for different student learning styles, different education and career paths for students, and different ways of presenting and learning subject matter.

5. We did create a model of excellence that can be transported to other colleges of education and, if collaboratively implemented with a college of arts and science, the community (including business and industry partners), professional educators, and other stakeholders should result in teacher education graduates who are well versed in and capable of delivering instruction through contextual teaching and learning strategies. Our model, of course, was developed within the context of the College of Education at the University of Georgia.

Research on Use of CTL by Novice Teachers

In late 2001, the Department of Education extended the work of the CTL project at UGA to study novice teachers’ implementation of contextual teaching and learning approaches in public middle and high school classrooms. This research examined how a small group of CTL-trained novice teachers (N = 8) used CTL principles and practices with their students to (a) enrich subject matter, (b) engage students in learning, and (c) increase student mastery of subject matter.

This study primarily adhered to qualitative, descriptive, case study approaches and utilized field-based ethnographic methods of data collection, analysis, and reporting. It focused on the following research questions:

- How does the teaching practice of CTL-trained novice teachers differ from more traditional approaches of teaching the subject matter?
- Which CTL strategies do CTL-trained novice teachers use in classroom teaching contexts?
- What are the facilitators and barriers to implementation of various CTL strategies in actual classroom practice in school settings?
- What effect does use of CTL strategies have on selected measures of student achievement such as student engagement and mastery of subject matter content?

Information about the CTL teaching practices of novice teachers was collected through several methods. University faculty researchers: (a) conducted on-site classroom observations of teacher and student activities in schools of the participating novice teachers; (b) conducted individual and group interviews and discussions with novice teachers about their views and use of CTL strategies in teaching; (c) reviewed instructional materials developed and used by the novice teachers; (d) reviewed samples of student work; (e) held structured discussions of CTL applications by novice teachers in community of practitioners seminars and in Internet-based chat rooms; and (f) collected data from surveys and focus group discussions with the students of novice teachers. Individual reports were prepared for each of the novice teachers, 2 in math, 3 in science, and one each in technology, family and consumer science, and marketing education. A cross-case analysis was conducted, using the four research questions as a basis, and themes and categories emerged from the data. Finally, reports were prepared on each of the 8 cases, the cross case analysis, the results of the surveys and focus groups with public school students enrolled in the classes of the novice teachers, and the work of the community of practitioners seminars.2

In Table 1, a synthesis of the data is provided, using the four research questions that guided the study. Table 2 summarizes findings not integral to the four research questions, but informative about novice teacher implementation of CTL.

Findings from Case Studies of Novice Teachers

Based on all evidence in this case study research, contextual teaching and learning strategies enabled the CTL novice teachers to manage, motivate, and ultimately teach students effectively. The novice teachers did implement CTL strategies in their teaching practices. All tailored the strategies to meet the needs of their students and the demands of their discipline. All found facilitators and barriers to the implementation process. While the eight novice teachers implemented CTL strategies in unique ways, all data indicate that CTL strategies enhanced student engagement and metacognition and thus improved student achievement and content mastery.

The students of the novice teachers noted that the classes taught by these teachers were considerably different than those taught by other teachers in that they embodied CTL principles to a greater degree than most classes in the same content area. Further, students from all classes perceived these novice teachers as caring deeply about them and their learning. The highest ranked item on the student survey was the students’ self assessment that they had learned a lot more from these teacher when compared to others in the same content area. In addition, students clearly and consistently rated these classes as more

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2 Full reports can be viewed on the project's website, www.coe.uga.edu/ctl/casestudy/Final.pdf
interesting and more engaging. An unexpected result was that the students described these novice teachers as highly effective classroom managers who used strategies simultaneously to teach, control, and motivate them to behave appropriately.

Differences noted between these CTL-focused classrooms and a more traditional classroom had a strong connection with the teachers' philosophy of teaching and learning. The fact that these teachers gave the students responsibility and freedom in the classroom spoke volumes about their belief in their students and demonstrated how a community of learners can function. The teacher was a key component but not the central component in these classrooms. Teachers in more supportive environments (e.g., from principal, colleagues, the students themselves) tended to implement more CTL strategies; conversely, those who were less comfortable with their ability, or were pressured to "stay on task," and "stick with the book," or didn't think their subject matter lent itself well to CTL used fewer CTL strategies.

Novice teachers in elective subjects such as technology education and family and consumer science used CTL strategies more frequently and with greater complexity than those in math and science. Hands-on, real-world, and project-based strategies were, in effect, the norm in elective classes and students clearly saw how these courses were useful in their future. Science and math were thought by the novice teachers to be more abstract and thus more difficult to contextualize and thus CTL strategies were used less frequently. Researchers noted, however, that novice teachers missed many opportunities to incorporate CTL strategies. School administrative factors also may have limited implementation of certain CTL approaches which require student time away from school, additional financial support, and significant additional teacher time to initiate and execute, particularly activities such as work-based or service learning.

The novice teachers, researchers, and students in this study all commented on more traditional teacher-directed "grill and drill" teaching styles and rote memorization that are perceived to prepare students better to pass state-required tests in core subjects. Students called this style of teaching "boring" and uninteresting. Novice teachers didn't want to use much of it, but felt pressured by their peers in the same content area to "cover" all of the topics and constrained by their own concerns that the students, indeed, pass the tests. Researchers noted that educational reform laws virtually require teachers to adhere to a standardized curriculum and to drill students on the facts and concepts that, in all likelihood, will appear on the state standardized tests.

Most involved with this study agreed that we need to continue to document and understand the way that CTL supports student achievement in areas of learning that are beyond recall of content assessed by standardized examinations. Consistent with other research evidence, this study found that students who are actively engaged in working on real-world matters that are known to them are more motivated to master academic content. Researchers have known for years that there is little mental development without the interest of the learner, which is prerequisite to garner attention and engagement in the subject. Through the use of CTL strategies, we concluded that (a) engagement and motivation of students was increased, (b) student attitudes toward learning were improved, (c) behavior was improved, and (d) resulting interactive effects led to deeper understanding, retention, and application of knowledge by students. These are important outcomes of education that contribute to improved student achievement. Further study of this critical connection between instructional strategies and student achievement is warranted.

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Project Directors:
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Project Web Site:
http://www.coe.uga.edu/ctl