

CTE This Week
(January 24 – 28, 2005)

"It requires troublesome work to undertake the alteration of old beliefs"

~John Dewey

Teaching Tip of the Week "Just-in-Time Teaching"

A quick and dirty description of "Just-In-Time Teaching" (JiTT) compares it to putting the "Study Questions" once found at the end of textbook chapters up on the Web. But there's a lot more to it. For one thing, the affect generated by JiTT differs markedly from that associated with a student pondering study questions alone in the dorm. The questions and exercises posted for students on the Web before each class meeting become the grist for that class meeting, not a quiz per se or a tidying up of understanding before getting on with the dispensing of another huge chunk of content. In this pedagogy, student questions, student understanding (and misunderstanding), student learning become the focus of instruction, and dialogue replaces lecture.

The mechanics of JiTT appear overtly simple: professors post a number of queries (commonly called "warm ups") on a course web site prior to each class meeting. Students must log on and post replies to these by a certain deadline (usually a few hours before class). Professors review the student replies before class and make the understanding, partial understandings and complete misunderstandings the focus of the class meeting. Indeed, the concepts being explored and the students grappling with understanding replace traditional lectures in JiTT, according to Scott Simkins, professor of economics at North Carolina A&T and an enthusiast of the pedagogy. So aside from using the Web, how does JiTT differ from simply having students read study questions and bring their own questions to class? Practitioners would say the whole latent premise of the question is misleading. For one thing, as Marshall McLuhan wrote in *Understanding Media* (1964), "the medium is the message." The immediacy, the "in timeness," the sense of personal control associated with the Web matter a great deal. They convey a message of involvement and interaction rather than a message of questioning an authority. The equality of involvement sets the stage for a far different class meeting than the serial, oral confessions of what individual students did not understand, which responding to study questions might do.

"This approach lets us get into students minds," says Simkins, "it helps make their thinking visible." "It changes the character of the classroom," he continues. "The comments we are responding to are 'their stuff,' not my stuff from lectures or stuff from the book; so there's a different kind of involvement and a different level of involvement."

As class meetings shift from being presentation and discussion of blocks of material and into an ongoing learning dialogue, everything becomes more fluid. That unsettles some professors.

"Professors sometimes are not as confident about working on their feet or working without a net so to speak," says Simkins. But those who make the leap find a quality of "buy in" from students that transforms their teaching. Says Simkins: "They see you as focusing on 'them,' on their needs; they don't see you as just presenting information. You're caring about them, not just presenting information."

The deep focus on student learning so changes students feelings about the class that they report it motivates them to go further, ask questions, look things up that they wouldn't have before. And yet, as with so many felt differences, the improvement currently eludes psychometric testing. As Simkins writes: "Regress analysis of pseudo-control/treatment group exam results, controlling for demographic and academic differences among students, suggest that there is a small, measurable, positive effect on cognitive learning with JiTT-based pedagogy."

That hasn't deterred instructors at some 80 institutions from adopting the approach and setting up a website to share information about it - at www.jitt.org.

Resources at CTE - Come by and take a look at some of the articles and books in our library. If you would like a copy of any of the articles abstracted below, contact the CTE (cte@tcu.edu).

You might be interested in:

- **Just-In-Time Teaching in Biology: Creating an Active Learner Classroom Using the Internet** by Kathleen A. Maars and Gregor Novak (Indiana University, Purdue University, Indianapolis). *Just-in-Time Teaching (JiTT) is a teaching and learning approach that combines the best features of traditional in class instruction with the communication and resource potential available via the Web. We describe here how JiTT can be used to teach biology to undergraduate and graduate level students, both science majors as well as non-science majors. A key characteristic of JiTT is the creation of a feedback loop between the classroom and the Web using Internet "Warm Up" assignments that are due prior to class time. By examining student responses to Warm Up exercises before class, faculty members can determine the level of understanding, prior knowledge, and misconceptions that students bring to class. Classroom time can then be spent addressing these misconceptions while discussing course content.*
- **Just-In-Time Teaching in Economics** by Marcelo Clerici-Arias (Stanford University). *This article explores my experiences using Just-in-Time Teaching in a Principles of Economics course at Stanford University in the winter quarter of 2001. I hope to provide at least a partial view of why JiTT is an important teaching technique in the toolbox of the economics teacher and how we can incorporate it into our classrooms..*
- **An e-Business Class Using Just-in-Time Teaching and Cooperative Learning with a Constructivist Approach** by Nina McGarry and Mary J. Granger (George Washington University). *This paper reviews the inventiveness of faculty combined with the resources of the WWW in creating a just-in-time course for seniors studying e-Business. Additionally, the instructor incorporated cooperative learning adhering to a constructivist teaching approach. Adherence to just-in-time teaching using cooperative learning following a constructivist approach supports the goals of rapid access to the latest information, exchange of ideas, and evolution of new concepts. It was an opportunity to develop a real project, incorporating meaningful skills learned in other business disciplines, with the potential for enhancing their future careers. This course is an exposure to searching for and using the most current and vital information necessary to thrive in the changing situations. It also enables student to learn how to learn..*

Upcoming Events at CTE - Mark Your Calendars!

- **eCollege Gradebook** - In this workshop you will determine what aspects of your course should be graded, and you'll add these items to your online Gradebook as gradable items. You can then assign a total-points-possible value to each gradable item. Aside from calculating students current grades and progress in the course, you can use the Gradebook to post comments for each grade, grant students additional time for taking an exam, create links to course content that students may need to review, and view students activity in the course. You can also create custom gradable items as they relate to the course, such as participation, group projects, extra credit, assignments, etc. Prerequisites: Must have a eCollege course shell. Go to <http://www.rsvpreister.com/event.php?682> and scroll down to the Gradebook workshop. Friday, January 28th from 2:00 - 5:00.
- **"Service Learning: Successful Programs and Best Practices" - A Starlink Presentation** - This teleconference will not only demonstrate the importance of service learning to students and their community, but will show proven ways to start and grow a service learning program at your college. February 3, 2005 from 1:30 - 3:00. You can access this program by coming to the CTE or from any television that is connected to the TCU cable system. Call Cathy Vahrenkamp (ext. 7434) or email CTE (cte@tcu.edu) to let us know that you are coming to this Starlink presentation.