

Learning, Teaching & Innovative Technologies Center



Middle Tennessee State University

Just-In-Time Teaching

Do your students come to class prepared? Have they read the required materials prior to class? Are your students engaged and motivated? If your students are doing all these things, congratulations you have achieved much success in the classroom. However if you are like most of us, you are looking for new ways to involve students in their own learning. Gregor Novak, professor of physics at Indiana University Purdue University Indianapolis (IUPUI), has developed a teaching and learning technique that does that -- Just-in-Time Teaching (JiTT) which promotes student preparedness and engagement. JiTT is a learning and teaching technique that utilizes web-based assignments and in-class instruction to promote active engagement without creating a lot of extra work for the instructor.

JiTT assignments help students to:

- manage study time,
- study in short sessions frequently,
- understand lessons in more depth,
- make relevancy connections,
- develop or expand critical thinking skills,
- question confusing or complicated material, and
- to participate in discussions.

JiTT assignments help the instructor by:

- preparing students for the lesson prior to class,
- incorporating web-based assignments that narrow the time and space gap between classes,
- creating evaluation and continuous analysis of student understanding,
- actively engaging the students in their own learning, and
- by making learning easier.

JiTT combines web-based exercises such as WarmUps and Puzzles with collaborative recitation to actively engage the students. WarmUps and Puzzles are assignments posted on the class web site that are due several hours prior to each class (Just-in-Time). WarmUps are given prior to lesson introduction and are used to introduce the information and provoke inquiry in class. They also let the instructor assess the students' knowledge and understanding so that the lesson may be adjusted accordingly. Puzzles are used to bring the topic to a conclusion and they work much the same way as the WarmUps; students access the Puzzles from the web site and post their answers electronically a few hours before class.

The second part of the JiTT involves collaborative recitation. Collaborative recitation involves dividing the students into small groups and having them solve problems or issues on a whiteboard and sharing their ideas with other groups while the instructor circulates throughout the groups and provides feedback. Another variation

of that would be to divide the students into small groups and have each group develop a short PowerPoint presentation on the problem or issue. Novak recommends conducting the collaborative recitation on alternating days from the interactive lecture.

How do you use JiTT? Pre-class short assignments are developed and posted on the class web site in two categories: WarmUps and Puzzles along with short essays and URL links that pertain to the assignments. Students complete the assignment and send it electronically to the instructor several hours prior to class. The WarmUp might contain one question about the required reading or you might ask the students to ask a question on the material that needs clarification. Puzzles conclude the topic and can include short exercises that involve problem solving or analysis. Novak recommends keeping the assignments brief in order to facilitate quick reading for class discussion.

You may want to alternate the web-based assignments with collaborative recitations to help improve peer instruction, interaction and promote critical thinking and communications that are a vital part of any business or occupation.

Learning technologies should be designed to increase,
and not to reduce, the amount of personal contact
between students and faculty on intellectual issues.

(Study Group on the conditions of Excellence in American Higher Education, 1984)
(Taken from Just-In-Time Teaching web site at <http://webphysics.iupui.edu/jitt/resources.html>,
viewed 1/31/2006.)

References

1. Just-In-Time Teaching web site, <http://webphysics.iupui.edu/jitt/resources.html>, viewed January 31, 2006.
2. Rozycki, William. "Just-in-Time Teaching." Indiana University's newsletter *Research and Creative Activity*, April 1999 Vol. XXII, No. 1, viewed on the web: January 31, 2006, <http://www.indiana.edu/~rcapub/v22n1/p08.html>.