Premium blend

by Kathleen Frankle

Blended e-learning is the key to successful Web-based training and education, as the University of Maryland's CITE program manager explains

Courses taken over the Internet (referred to as Web-based courses or e-learning) have become the fastest-growing segment of the education and training community. For example, the University of Phoenix Online, which delivers only e-learning courses, is the largest private university in the USA, and it has only been in existence since 1976.

The combination of busy schedules and exploding technology is forcing more and more people to use e-learning to satisfy their education and training needs. It offers many benefits including flexibility, reduced travel and interactivity of course material.

The Consortium for ITS Training and Education (CITE) was formed in late 1998 to provide transportation engineering students and professionals with an integrated curriculum covering the technologies and management subjects associated with ITS. This curriculum includes a broad range of material related to transportation engineering, computer science, systems engineering and project management. CITE is a unique organization of more than 100 universities and industry associations focused on providing comprehensive advanced transportation training and education throughout the world.

CITE courses are all delivered in an interactive Web-based format and are available 24 hours a day, seven days a week. After four and a half years, CITE offers 28 individual short courses, two full semester courses, five courses in Spanish, and three certificate programs made up of six courses each. A 'Careers in ITS' course is also offered to inform freshman and sophomore college students of the opportunities in the advanced transportation field.

Despite CITE

In spite of the many benefits of e-learning, many students are dissatisfied with its lack of personal interaction with the instructor and other students. The schedule flexibility also results in low completion rates, since there are no mandatory dates for students to finish their work. The concept of blended learning has been introduced to overcome these problems.

The blended learning concept combines Web-based courses with other types of more traditional instruction. Although the idea of combining multiple presentation formats is not new, it has proved extremely effective when applied to e-learning.

Blended learning is an exciting concept because it recognizes the variety of learning strategies used by students, and the need to utilize more than one type of teaching method. In essence, it permits educators to match the delivery technique with students' learning styles and requirements. Blended learning clearly provides more participation, more enthusiasm and ultimately, greater learning success. CITE has found that this approach overcomes most, if not all of the drawbacks of e-learning.

In November 2002, CITE offered its first blended learning course jointly with the World Bank's Global Development Learning Network (GDLN), when it delivered its introductory ITS course to more than 160 students in five countries.

The effectiveness of the blended training is further demonstrated by the nature of the discussions taking place during the teleconferences.

Instruction consisted of on-line interaction with the CITE material, interspersed with video-conferences where students were asked to present information on ITS applications in their own countries, as well as discuss the course material. The course included three two-hour video-conferences set over a period of a week and a half.

As a part of the course assignments, students participated in group discussions on questions posed by the instructors. The answers to these questions were debated within each group at the local level and subsequently shared with the other participating sites during the video-conferences. In this way, a high level of interaction was achieved among the students and with the instructor.

The success of this course led to the refinement and subsequent development of other blended offerings in which tele-conferencing was substituted for the video-conference. The teleconference format was selected for reasons of cost and accessibility. CITE's blended courses combine what we believe are the best features of instructor-led and Web-based instruction. The features of these courses include:

- Live discussions with the instructor through the use of conference calls;
- Convenient, flexible Web-based learning;
- Workshop problems designed to reinforce the concepts being taught and promote interaction with other students;
- A specific time schedule in which to complete the course;
- Networking and interaction with students and instructors through the use of class problems posted on a discussion board.

Mix and match

Since 2003, CITE has offered two blended courses: 'Traffic Signal Timing' and 'Managing High Technology Projects in Transportation'. The 'Fundamentals of Database Management Systems' and 'Introduction to Telecommunications Technology' courses will be offered in a blended format from February 2005.

Blended courses have been a huge success for CITE, as shown by quantitative performance measures. For the period 1 June 2003 to 31 May 2004, blended course students accounted for 56 per cent of all students taking CITE courses. During that same time period, CITE increased the number of students taking courses by 298 per cent from the previous year's 12-month student total. The completion rate for students enrolled in blended courses is 91 per cent compared to a 54 per cent completion rate for regular Web-based courses.

In the final survey given to all students on blended courses, the students were asked the following question: "In a regular Web-based course, you take it at your own pace (no specific deadlines) and there is no live interaction with the instructor, only access via email. In this course, we blended three features of instructor-led courses with a regular Web-based course… If both of these formats were available to you for a future course, which would be your preferred delivery mode?"

Only 11 per cent of the students selected the traditional Web-based formats while 89 per cent preferred the blended format.

Unconventional education

The effectiveness of the blended training is further demonstrated by the nature of the discussions taking place during the teleconferences. In a conventional classroom course, most students are from the same agency or same geographical area. Students in blended courses, however, offer a variety of geographic and organizational backgrounds. As a result, a rich combination of differing approaches and experiences is offered, which provides an educational experience superior to classroom and traditional distance learning alternatives.

To ensure the pedagogical quality of the courses, CITE requests that students complete an on-line survey after taking their final exam. This gives students an opportunity to comment on all aspects of the course and provides CITE with valuable feedback on the various course components and their effectiveness. These surveys are completed and submitted anonymously. Some of the survey comments received from students taking the blended courses are listed below:

- "Definitely a worthwhile learning experience;"
- "I am a former university professor. I can say that it was an excellent course – well designed, presented, and conducted. I would rate the course as excellent and would rec-ommend it to others;"
- "Great course, will recommend strongly to other ITS engineers."

Below is a sampling of answers to the question, "What did you like most about the course?"

- "The teleconferences and the response postings were the best features;"
- "Flexibility to do the course when I had time while also being able to share experiences of instructor and other students;"
- "The review of other students' ideas and resolutions to problems. This gave me a broader view;"
- "That it was an online course with an instructor;"
- "Real-world experience discussions during the conference calls;"
- "The course content, structure, conference call, discussion forum and learning aids;"
- "The interactivity of the course learning process."

Getting the right blend

CITE's experience with blended courses is not unique. The Rochester Institute of Technology (RIT) Online Learning Department produced a final report for a blended learning pilot project for the academic year 2003-2004 that showed similar results.

RIT reported that nearly 75 per cent of all students in the pilot indicated they like the blended learning format, and course completion was excellent with less than 5 per cent withdrawing or failing. This example, combined with other similar reports, demonstrates that the blended learning approach is definitely superior. As a result, CITE has embarked on a series of new projects in which additional blended offerings will be developed, and new teaching strategies explored. ■

Kathleen Frankle is program manager for the Consortium for ITS Training and Education at the University of Maryland. She can be contacted at: kfrankle@umd.edu Further information can be found at the following Web pages: www.ltimagazine.com/ltimagazine/ article/ http://www.learningcircuits.org/2001/ apr2001/Hofmann.htm http://distancelearning.rit.edu/