

## Success for Both Students and Faculty in the Virtual Classroom

Barbara Christe  
Indiana University-Purdue University at Indianapolis

### Abstract

When students face a computer monitor instead of a chalkboard, creative tools are necessary to be a successful instructor. Tips for achievement in this environment, which have been acquired over ten web-based course offerings, will be discussed. Experiences to be presented have been garnered from offering asynchronous, on-line classes to students without geographic restriction.

Important areas of discussion will include the unique interaction of the instructor with students, in the role of coach rather than presenter; methods to foster student interaction and group work; the prevention of “scrolling learning” and ideas to impart information in ways other than black print on a white page. Also, experience with the implementation of classes provided on-line at Indianapolis University – Purdue University at Indianapolis (IUPUI) has shown that faculty and students can be more connected with each other when linked via computer, as opposed to traditional classrooms, when this feature is nurtured and developed. How this has been enabled will be presented.

While course content is prepared prior to the beginning of the semester, continual preparation and review is required. Faculty describe the feeling that class is never over. The students are constantly on their minds. Students have a high expectation of accessibility, including weekends. Promoting student satisfaction involves a great many “virtual office hours.” Adding to student satisfaction is the use of feedback to help the students feel as if they can “make a difference,” that is, direct the course discussion. The general information presented will describe how to get over the “first-time” syndrome for faculty, staff and administrators.

### I. Introduction

Widely touted as a tremendous frontier as an educational delivery method, the huge potential of the world-wide-web demands exploration. Educators can face limitless numbers of students in their classes, certainly a daunting concept! While the desire to enlighten many is strong, the tool is a weak one without preparation and understanding. Instructors must be creative or face dismal failure! IUPUI has offered engineering technology courses within the biomedical electronics division of the electrical engineering department nine times over an eighteen-month period, with many more semesters planned. The many trial and error experiences IUPUI are marvelous opportunities for observation and imitation.

The courses discussed in this paper are asynchronous. Students have no set time to “meet.” This allows for flexible student participation, often working around employment schedules.

Milestones are set through the semester to keep students “on-track.” Most students are not located near campus and do not have physical access to such support services as the bookstore, registrar or computer network center.

## II. Getting Started

First and foremost, do not underestimate the time required for initial set-up and preparation. The enormous investment prior to the start of the class will pay off with interest in the long run.

Focus areas include:

- Development of a syllabus filled with depth and guidance
- Decisions regarding appropriate technologies to be used within the class, including voice, video, etc.
- Development of a section for students which contains information about
  - university integrity,
  - academic schedules,
  - tips for success (including time management),
  - contact information for the instructor,
  - technical assistance sources,
  - positive outcome identification, that is, explain the advantages of successful completion of the course, for example, discuss the benefits of life-long learning as well as potential career improvements.
- Use of experts (individuals in the field of specialization who have very specific knowledge in a particular area) to create focused content
- Selection of tools for assessment and inter-student communication

Investigate the nature of student learning as it develops in an on-line class. Participants must synthesize information the instructor provides and ask questions about it. This is called *inquiry-based learning*. The role of instructor is also changed. Distance educators are facilitators. It is important to elicit conclusions from the students as they view the course content. Carefully craft assignments to reflect this process. Do not require a simple rote repetition of facts.

Prepare tutorials for students who need extra material. These basic materials are often already available on the web. Links to explanatory sites will provide additional support. Likewise, use the web to locate extensions and applications of the course material for the participant who would like to go farther and deeper into the content. This enrichment can prevent the dryness often associated with pure theory presented in a class.

## III During the course

Essential to the successful class, the instructor must monitor students – grading assignments and trading emails are not enough. It is also crucial to track the time commitment of the participants. A common result of the physical distance experienced by a distance education student is apathy and failure to spread out the work over a semester. Reminders from the instructor are a critical component to assuring a successful outcome at the end of the class.

Foster the social interaction among the students. This is an unusual role for an engineering instructor, but an essential one. Link the students using ice-breaking exercises, which introduce participants to one another. Recognize that on the first day of “class” all students are electronically linked through the class. This does not occur in the traditional classroom. Make use of this connection and exploit it to foster inter-student support.

Do not expect web-based classes to neatly fit into office hours in a traditional way. Answering questions daily or almost every day will alleviate the frustration that can occur when a physical distance separates participants. Availability is key to successful course offerings for both students and faculty.

#### IV Assessment

Creativity is necessary when teaching a web-based course. Allow students to respond to the bulletin board postings of other students. Track minutes spent on class content pages for a measure of course participation. Of course, traditional exams, taken on-line, are also a useful tool. A good distance educator will also mix in group projects, web-searches and other assessment ideas that might be impossible in the traditional classroom. Think of the Internet as an additional resource for student evaluation.

#### V Resources

“Study Guide for Distance Education: A Systems View”

URL: <http://www.hfni.gsehd.gwu.edu/~etl/deguide.html#chapt6>

“Distance Education: A Primer, Instructional Issues”

URL: <http://www.utexas.edu/cc/cit/de/deprimer/instructional.html>

“Issues in Distance Education Course Design: A Literature Review”

URL: [http://www.awl.com/englishpages/tech\\_model13\\_review.htm](http://www.awl.com/englishpages/tech_model13_review.htm)

A collection of links and commentary to the growing literature on distance learning.

<http://www.voght.com/cgi-bin/pywiki?DistanceLearning>

#### VI Conclusion

Break all the rules! Be creative! Search the Internet for other on-line classes and get practical ideas. Seek technical help when necessary to make things possible. Find administrators that support the on-line concept of education and will help smooth the bumps that occur when students do not visit campus (I.D.s, bookstore and registrar issues, etc.). Quality instruction relies on many skills. Web-based courses require some new techniques as well as the redefinition of some old abilities. Most important, distance educators must communicate their enthusiasm for the subject in new and different ways to enhance student success and satisfaction.

**BARBARA CHRISTE**

Barbara Christe is an Assistant Professor and Program Director of Biomedical Electronics Technology in the Electrical Engineering Technology Department at IUPUI. She has authored four on-line classes and is a leader in continuing education for currently employed biomedical equipment technicians using the web. Barbara has a BS in Engineering from Marquette University and a MS in Clinical Engineering from Rensselaer at Hartford.