



Nova Southeastern University
Graduate School of Computer and Information Sciences

Introduction to Online Pedagogy for New Doctoral Students

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INTRODUCTION TO ONLINE PEDAGOGY FOR NEW DOCTORAL STUDENTS

The Graduate School of Computer and Information Sciences at Nova Southeastern University began offering online graduate programs in 1983. In 1985, it developed the first electronic classroom. Today, the school has about 1700 graduate students in four master's and five Ph.D. programs. In addition to its traditional on-campus classes, the school conducts more than 250 online graduate classes per year, about one-third of the university's total online offerings. The school has online students in every state and in 43 foreign countries. As part of its programs in computing technology in education and information systems, the school's faculty and Ph.D. students conduct a considerable amount of research and experimentation in online learning environments with emphasis on online pedagogy.

This paper discusses the fundamentals of online pedagogy and introduces new doctoral students to techniques they are likely to experience in their programs at the Graduate School of Computer and Information Sciences.

Orientation

The school requires that new students attend a one-day orientation at the university. It also provides a web-based orientation and a comprehensive CD-ROM that provides a full set of literature, videos of the campus, etc.

Conveying a Sense of Class, School, and University

The online learning environment is a logically coherent environment that presents a sense of class, school, and university. Each class is a *teacher-present* environment that is, in effect, always in session throughout the term. Each class has its own web page. The class web page might include items that are static for the duration of the course as well as dynamic items that change while the course is in process. Here is a list of items you might find in class web pages (not every class will have every one of these): a welcome message, professor's overview, instructions on how to get started, the course description, course objectives or learning outcomes, a course outline, required text(s), instruction methods to be used including modes of interaction, lecture notes, tutorials and demonstrations, an annotated bibliography, a weekly schedule including assignments and readings, how to submit assignments, special weekly or daily announcements, a class list and student biographies, weekly solutions, sample student projects, links to Internet resources, grading criteria, and how to contact the course professor, program office, and computer support offices. Class web pages may also provide buttons which, when clicked, transport the student to tools such as threaded discussion boards (also called *bulletin boards*), chat rooms, the university's electronic library, an online assignment submission system, live electronic classrooms, canned lectures, a CD-ROM, and a record of the student's grades.

Teacher-present also means that there will be a professor who is actively in charge of the class, actively facilitating learning, creating and maintaining the feeling of a course in motion, communicating frequently, and responding to students. The course professor keeps the flow going. Online faculty will notify students in

advance of exceptions to the flow they have established. If they are unable to do so, the program office will provide whatever assistance is necessary.

The online learning environment also includes institutional web pages, one for the school and one for the university. These web pages provide access to catalogs, brochures, guides for students, policies, distance library services and the electronic library, school and university computer systems, organizations, and other important resources. They also provide access to processes such as registration, course evaluation, and financial services.

Timing

The faculty and administration of the school understand that online students are sensitive to timing regarding online interactions. By his or her prior actions each course professor instills a sense of expectation regarding matters such as responding to student emails and postings on threaded discussion boards. The faculty and administrators of the school do their best to respond to student email in 24 hours but not later than 48 hours. If this is impossible, they will notify students in advance or arrange for an automated response that explains the exception (illness, vacation, conference travel, etc.) and tells students when things will return to normal.

Approach to Pedagogy

There is neither an ideal online learning environment nor an ideal approach to online pedagogy. Faculty members do their best to provide environments and approaches that facilitate student learning and enhance student productivity. Some faculty include live lectures in their courses while others do not. Many believe that online education provides a better learning model, one in which students learn more because they play a greater role in the learning process. Typically, in the online environment, students become more responsible for their learning and must assume a more active role. Many believe that online students typically interact with their fellow students and their course professors more than they would in an on-campus environment. This model is often called *learner-centered*. Many believe that the online learning environment facilitates a higher degree of student-student and student-faculty interaction because, in effect, the class is always in session and because students are more comfortable communicating with their course professors and more comfortable communicating with and learning from their peers.

Synchronous vs. Asynchronous Methods

The term *synchronous* is used to describe live interactions such as live online lectures or chatroom sessions. During synchronous events, faculty and students are all logged in at the same time and they interact in real time. The term *asynchronous* is used to describe interactions that do not require the participants to be logged in at the same time. Since the school's programs usually span all time zones on Earth, synchronous is problematic and requires extra effort to avoid disenfranchising some subset of the students. The school understands that some students pursue online education because they can handle only asynchronous — they are unable to log in at appointed times because they travel, work odd hours, and so on. If synchronous

techniques are going to be used in a class, faculty members will record all live sessions for later playback online by students, including lectures plus question and answer interactions. If office hour chats are planned, faculty will vary the time-of-day schedule to give everyone a chance to get involved. They may schedule two or three a day if appropriate. While PlaceWare Auditorium, and similar synchronous tools, support the use of live voice during the slide show, we have found this to be unreliable, especially for students who live multiple time zones away, so live voice is rarely used.

Students should understand that asynchronous online methods are very different from traditional on-campus methods and that they requires a different approach to pedagogy. The faculty and school make every effort to adequately prepare students for online learning. Faculty will tell students what to expect in their classes in terms of the approach to pedagogy and how they plan to guide students through the course to achieve the desired learning outcome.

The Threaded Discussion Board

A contemporary asynchronous class usually provides a well-structured and rich website that includes links or buttons that connect students to the tools that will be used in the class. Important asynchronous tools that support faculty–student and student–student interaction include *threaded discussion boards* (also called *bulletin boards* or *discussions*) and email. The most important of these is the discussion board because it can be very effective at providing structured, whole-class interaction on an asynchronous basis. The *threading* feature permits grouping of discussions according to topic, and the indentation feature shows who is responding to whom and in what sequence. There is a level of view in which only the subjects or the first lines of the posting are shown, so that a quick glance at the threads, indentations, and topics is enough to convey the nature and flow of the discussion. The course professor will structure the discussion board and take deliberate action to stimulate meaningful discussions and keep the flow going. Many add points for participation. For example, if a text is used, the course professor might structure the discussions by chapter. If an exam is coming up, a thread discussing it might be created. If structured by chapter, students can ask questions about some of the material presented in the book. When one student has a problem understanding some material, in most cases, several other students will be experiencing the same problem. Often another student will answer a question before the course professor does. When this happens, the course professor often supports the response, if correct, and might provide additional information.

The asynchronous portion of the online learning environment facilitates student–faculty and student–student interaction 24 hours a day. The threaded discussion board provides students the opportunity to think more carefully about what they want to say and to edit their contributions before final posting. Another advantage of this tool relates to student writing skills. The discussion board has the potential to enhance writing skills more than would normally occur in traditional on-campus classes, through increased practice in writing.

Submission of Assignments

In our experience, the worst mechanism for submitting assignments in online classes is postal mail, especially for students who live outside the United States since arrival times are unpredictable and, in some cases, arrival is problematic. The same hold for the return of graded work. The best way is to use a dedicated online assignment submission system. The Graduate School of Computer and Information Sciences developed one such system, called *Electronic Student/Electronic Teacher* or *ESET*, that permits students to prepare their assignments in a wide range of multimedia formats, submit them online, and receive automatic confirmations. The course professor can go into the system to grade assignments, which are organized by class, and can use colored highlighters, handwrite on the document, insert text, audio, etc., and, in effect, use a wide range of multimedia formats when they review and grade it. The student can determine if the course professor has looked at the document and can see the grade when assigned. After the work has been graded, the student can see the course professor's comments and scoring. The original document remains unchanged. Many faculty members will require you to use ESET. Some may require use of email attachments prepared in prescribed formats. Faculty who use WebCT may require students to use its *assignments* tool.

Learning Resources

Online students must be able to obtain course textbooks quickly. We recommend that students purchase their books online. Barnes & Noble College Bookstores, as the university's official bookstore, offers comprehensive bookstore services to our local and online students. While students have the option to purchase textbooks from other online and local sources, there are benefits from purchasing from the university's bookstore (on-campus or online), including better availability and the ability to directly apply financial aid to book orders. The university's bookstore provides the full-spectrum of shipping options. The school insures that required textbooks are available, and then posts them on its website at least one month prior to the start of the term. Students should place their orders early enough to ensure delivery prior to the start of the term. This has worked out very well for our students, especially those who live outside the U.S., because of the reliability of overnight international carriers.

Online students are provided access to the same library resources normally available to on-campus students. The university's Distance Library Services are accessible from a website that provides online students with the ability to conduct index and catalog searches, request books, journal articles, and other documents using online forms, and to contact a reference librarian. Students may also communicate with the Office of Distance Library Services using email, telephone, and fax. The university's *Electronic Library* provides online access to hundreds of databases and thousands of full-text journals online. All materials mailed by the library are sent by first-class mail. When books are borrowed, the student has to pay a small charge for third-class postage to return them. Books are loaned for one month. Periodical copies or ERIC documents need not be returned.

Administrative and Technical Support

The program office is responsible for student advising, administrative and financial support, technical support, and orientation of new students. The school's Office of Network and Software Services provides online and telephone help to students regarding the online learning environment. The university's Office of Information Technology provides assistance regarding the use of certain tools.

Course Evaluations

To maintain and improve the quality of its courses and programs, the school asks students to provide class evaluations at the end of each class. It provides a mechanism for students to fill out evaluation forms online. All evaluations are guaranteed anonymity.

The Role of Technology

The university and the school support a range of stand-alone pedagogical tools. Our faculty members can select from a range of tools so long as they are supported by the school or university in terms of training and help-desk, and are covered in our website, our online orientation and our orientation CD. In some cases, a faculty member will use a tool on an experimental basis. In such cases, the faculty member will provide whatever support is necessary. The online class syllabus will specify what tools will be used and how they will be used. Since our students are in graduate technology programs they are generally quite comfortable with technology. Our menu includes: Allaire Forums (arguably the best threaded discussion board), ESET (our own assignment submission system (also arguably the best around), WebCT, PlaceWare Auditorium, a chat system, and a range of emailers. It should take no more than a few hours for a student to learn to use the tools selected for a given class. The university and the school insure the relative stability of tools both for students and faculty.

Measurement of Student Performance

Online short-answer timed exams may be used, but most of the school's faculty prefer the equivalent of take home, open book exams that require a considerable amount of problem solving. Faculty believe that between homework assignments and exams, they can get a very accurate measure of the individual student's capabilities, learning and performance.

A Final Word

Online courses are neither weaker nor stronger than on-campus courses in terms of student learning; they're just different. Some researchers have concluded that student learning is superior in online courses. While we are not ready to make this claim, we are convinced that expected learning outcomes for online courses are the same as those for identical on-campus courses.