Taking Control of Your Classroom: Using Classroom Control Software to Enhance Teaching and Learning

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Abstract

This paper will focus on a classroom control system for an electronic college classroom used at Southeastern Louisiana University. LINKNet-II system from Applied Computer Systems, Inc. was obtained through a Center for Faculty Excellence CITI (Center’s Innovation Teaching Initiative) Grant. The software is designed to enhance student learning through controlled, hands-on experience that encourages interpersonal communication, brainstorming, problem solving, and group work. Instructors can broadcast information to individual workstations or to the entire class and randomly access or monitor students’ computers to see who is having problems, who is not “on task,” or where repetitive problems are occurring. Use of this classroom control system helps to create a community of learners with students and instructors working together.

Background Information

Whether as a requirement or as an elective, Library Science 102: Introductory Research Skills enrolls over 1,800 students per year from various majors and departments at Southeastern Louisiana University. As the course has evolved to reflect the current state of information literacy, it has become more of a hands-on electronic information retrieval course. Databases, online catalogs, and Internet searching techniques are best learned through experience and practice rather than lecture and demonstration alone.

The primary objective of redesigning the Library Science 102 classroom was to provide equipment for each student enrolled in the course to have his or her own workstation. In order to make maximum use of the classroom laboratory, we installed a classroom control system that allows us to utilize computers as teaching tools. The classroom control system also allows the instructor to demonstrate sample searches on the students’ computers, thus providing another medium of instruction other than the traditional lecture format.

Southeastern Louisiana University offers a variety of university sponsored grant opportunities to promote technology integration into the classroom setting. In spring 2002, the library applied for a Student Technology Fee Grant to purchase furniture and computer equipment for each student enrolled in Library Science 102. During this time we also submitted a Center for Faculty Excellence CITI (The Center’s Innovative Teaching Initiative) Grant to partially purchase the classroom control system LINKNet-II from Applied Computer Systems, Inc. (http://www.acs-linksystems.com). After reviewing several different classroom control software and hardware systems (Instruction Section Teaching Methods Committee, 2003), our rationale for choosing the LINKNet-II
classroom control system included the capabilities or features unmatched by other products. They include the following:

- Instructors can broadcast the information they want the students to see directly to the students’ monitors;
- Instructors can randomly access or monitor students’ computers to see who is having problems, who is not “on task” or where repetitive problems are occurring;
- When students work either singly or as a group or experience problems with an assignment, instructors can provide personalized assistance directly from the instructor workstation
- Because the instructor can demonstrate directly onto the students’ monitors, large-screen project units become unnecessary;
- Instructors can “broadcast” examples of students’ work as examples to the entire class.

What is LINK?

LINKNet II is an interactive video, keyboard, and mouse hardware system which allows the instructor to monitor and control student’s workstations in a networked environment. The LINK System uses a single 15-pin daisy chain cable incorporating video, keyboard and mouse signals into a single 15-pin DB connector, including a single return cable. Below are some of the classroom control system specifications (Applied Computer Systems, Inc., 2004).

- **Blank Screens** – used to lock the keyboard and mice to show a “Black” screen to gain student’s full attention.
- **Transmit to All** – used to send a particular computer display image (power point, web pages, etc.) to an individual station or to entire class.
- **Scan Individual/Scan All** – used to view an individual or entire class computer workstation. The “Scan All” feature allows the instructor to see who is having problems, who is not “on task,” or where repetitive problems are occurring.
- **Keyboard Control** – used by the instructor to enable a keyboard and mouse or to take over any workstation.

Implementation of the Classroom Control System

Many reservations regarding the implementation of a classroom control system arose: How hard was this thing going to be to use? Was it worth it? How about privacy issues? If we found a student writing something that was very personal, was it against the privacy laws for us to read it, even accidentally? Was this just going to be another piece of software that sometimes worked and otherwise was just a pain? What about instructor teaching styles? Would this work for all of us?

The Applied Computer System, Inc. representative arranged a demonstration of the classroom control system for us. Most of the instructors were rather amazed, during the demonstration, how easy the software seemed to be to use. It was kind of like a
microwave oven attached to a mouse. With one simple click of the mouse you can blank computer screens and transmit information to any of the trainee workstations. Our new classroom design made it impossible for the instructor to see individual computer screens, but the software allowed the instructor just to click on a number that related to numbers on the computers and see what a student was doing. This solved the privacy problem, at least to our satisfaction, by demonstrating during the first class that we could see each computer workstation, and students would not necessarily know when we were doing that.

As for teaching styles, the software accommodates us all very well. For example, each instructor teaches very differently: Some use active learning styles. Some instructors bring a student’s work up on the individual screens or on the projector and discuss that student’s work. Others prefer to keep the projector running all the time, using the instructor to projector function, demonstrating the assignment, and then “unfreezing” students’ pc’s, and letting them work either on their own or in pairs. If anyone is having trouble, we work as a community to solve a problem, assuming that if one student does not understand, perhaps there are others who need more help. So there is a great deal of flexibility built into the system.

Classroom Enhancement

An immediate benefit of the classroom control software is quicker and more responsive access to electronic library and/or web resources. Through the control courseware, the instructor can efficiently give individual attention to twenty-eight students with minimal disruption. This classroom control system has returned rich dividends in increased instruction effectiveness and greater student understanding. Observations from student participants and instructors provide us with a source of information feedback. Additionally, the system enables the instructors to make more effective use of classroom time by reducing the need for repetition since hands-on instruction will allow the instructor to immediately perceive student need.

The classroom control system can also be used for disciplinary purposes. Most students do not complain about that. For example, one day Charles was looking at Jackson, Mississippi, instead of doing his work. When asked what he was doing, he nearly fell out of his chair since the instructor was half way across the room. That does not happen much any more. Students enjoy the hands-on aspects of the course, while working with the instructor in a new way. We highly recommend it!

References
