New Technologies and Innovations in Agricultural Economics Instruction

edited by

David L. Debertin
Mary A. Marchant
Stephan J. Goetz

August, 1992

Proceedings of a Conference and Workshop hosted at the University of Kentucky, February, 1992. This conference was co-sponsored by the Southern Agricultural Economics Association and endorsed by the American Agricultural Economics Association.

Classroom Innovations: Acquiring Equipment Funds and Release Time

Lynn W. Robbins*

What are my experiences with innovative techniques and classrooms? I spend some of my time recruiting students, using innovative technologies (hypermedia with compact laser disk and touchscreen interactive video). I administer the remodeling of our College lecture rooms to include the possibility for using innovative technologies. Currently, we are in the process of designing and upgrading the College's computer classroom. One of the university's general-access computer clusters is also my bailiwick. And, we are beginning to design a teaching wet lab. I have also written a grant proposal--as one of many authors--to IBM in conjunction with our Colleges of Engineering and Business to make New Mexico State University a computer integrated manufacturing computer center. That is, the engineers would use the equipment to generate holographic imagery in the designing of tools interfaced directly with machining equipment, which in turn, will robotically machine the parts. The Agricultural Economics faculty at New Mexico State would be involved because the computer-integrated manufacturing technology would allow faculty to teach and research in the area of agribusiness scheduling, processing and distribution (including maquiladoras). Faculty would teach and research in the areas of just-in-time processing, management coordination, technology adoption, landscaping, and computer-assisted design systems, using multidisciplinary approaches.

On funding, my hypothesis is that state teaching funds can be used to build an innovative classroom if you begin early enough to get into the college and university strategic planning, funding, and prioritization process. Otherwise, grant sources are your alternative. The release time should follow the same hypothesis. From the AG*SAT experience, we may be able to draw cost parallels. The University of Kentucky is a member of AG*SAT, as are most of the southern region colleges of agriculture. AG*SAT is a consortium of universities nationwide that work to offer satellite classes. Producing a satellite course takes at least twice as much "before-the-semester" preparation time than a typical class, probably much more. The same is true for preparation during the semester. If a typical, 3-credit semester class is allocated 25% of a semester time, at least another 25% will be required in an innovative classroom.

In the September 4, 1991, *Chronicle of Higher Education*, Philip S. Crooke, a professor of mathematics who teaches in an electronic classroom, states, the technology creates, ". . . a tremendous overload. It has doubled and tripled my workload in teaching and has hurt my research" (p. A27). The same source pointed out that Vanderbilt's electronic classroom costs about $600,000 plus ". . . the faculty needed machines in their offices to master the software before the classroom opened." Says Malcolm Getiz, Associate Provost for Information Services, "They scrambled the first year, trying to stay two weeks ahead of the classes."

Given this rather loose set of hypotheses, I should take a few minutes to describe the survey I used to help get at this topic. I sent a simple, four-question survey to 37 institutions in the West and South. The overall response rate was 73%. I looked at the responses by region and found no substantial differences, so overall results from the 27 usable surveys are presented. Respondents were told, "An instructor wishes to use innovative teaching techniques in your college. The cost of the equipment will be $25,000 and the instructor needs three months of release time to prepare computer programs and

*Robbins is Associate Dean of Instruction. New Mexico State University

supporting material to offer the class." The questions were:

1. What is your advice for obtaining the $25,000 worth of equipment?
2. How would the instructor go about getting the release time?
3. What are the chances of receiving the release time?
4. How long would be needed from request to implementation of the class?

Not surprisingly, grant funds was the top fund source suggested. College and university funds were listed as a close second. Specifically, the USDA's higher education program and various foundations were listed as grant sources. Importance of college and university matching funds was stressed as a way to increase the chances of grant funding. The key point emphasized from many respondents' addendum comments was the critical need for a well thought-out and carefully developed, convincing written plan. College and university funding were especially dependent upon such a proposal. Such written proposals would more easily flow through normal university funding priority procedures to obtain either the full amount or the match.

Release time was of little concern to most respondents. Seventeen of the 27 respondents said, "Just do it!" Somewhat surprisingly, over one-third said to find another person to help reduce class load or for the instructor to "take the time out of his/her hide." If the equipment money is secured, academic deans do not rate finding release time as a problem. Only three respondents thought the chances of receiving release time were small or unlikely.

Lead time estimates ranged from three months to two years. Over one-half of those responding to the question estimated a 6-12 month lead time would be required to implement the class.

I disagree that 6-12 months would be sufficient. It is critical to expect such a request will have to move through the entire university bureaucracy financial prioritizing process and, at least at New Mexico State University, 12 months would be a minimum time span, from request to initiation of the class. A critical point brought out by this survey was well summarized by one respondent. The respondent said, "Requests for equipment of the level and time commitments specified could be incorporated into a normal work schedule and equipment purchasing within the college so that over a period of a few years, a dozen or more faculty could be so accommodated. But this is not the problem I have encountered. A major question is, how do you motivate or provide incentives to faculty to be more creative and innovative in the classroom? How do you persuade a mid-career faculty member to take a one-year sabbatical and completely reorient his or her program to accommodate the new technologies, the new equipment, the new economics, or a new political environment in the world?" The comment, which restated my hypothesis, was not solicited. I was pleased it was offered.

There are at least four other considerations which are critical to acquiring and maintaining an innovative classroom. The first of these relates to the last quote. That is, how do you persuade a faculty member to be an innovative teacher? I recently chaired a committee to review our College's evaluation and reward system to see if it could adequately include college-wide goals. One very important finding is especially pertinent to this discussion. As we were putting the report together, we talked about the importance of a system that could accommodate, if not motivate adaptability. We said "we should encourage the development of new skills and program emphases and then orient to new funding sources and student needs. Such reorientation generally requires considerable time involvement with little traditional measures of progress. To appropriately reward such orientation, we all must be held accountable for a long-term planning perspective that rewards appropriate reorientation, even at short-term cost, in traditional measures of output. This long-term perspective may be encouraged, for example, by developing five-year plans for faculty and strategic plans for departments. But whatever

the approach, we must reward performance that includes adaptability."

A second "other." The role of a faculty design committee is essential to the proper design, full acceptability and use of the facility. Grant funds may be the only dependable source for an individual who wants to buy innovative teaching technologies. However, an individual innovator plus an administrator can be the core of your remodeling committee. Include key university support staff on the committee. Whether it is a renovation committee or a design committee, an architect and a janitor would be important contributors. Be sure to receive advice from computer, telephone, and television people. Having someone like the university architect or engineer participate as a full member is critical to ensure communication with the university office that will provide construction and installation oversight. Having consultation visits from computer, telephone, and television representatives will help alleviate such coordination problems as having three separate input-output boxes and the cost of "pulling" wires on three or four separate occasions. Another potential problem can be avoided by the choice of furniture and room design to make cleaning easier. Also, the committee can design a facility for its ultimate highest and best use. For example, the committee could plan for duct work or conduit necessary for equipment that cannot be afforded initially, but could easily be added later with proper planning. If an individual conceives, designs, and implements a high-tech classroom in isolation, it would only be by chance that others would choose to participate and use the facility. The individual would be better off to generate support through a faculty committee. By going through the system, the priority becomes not an individual, but a departmental, college or university priority. The trade-off for increasing the probability of successfully achieving an innovative classroom is the loss of one or two particular items the innovator favors.

A third "other" item relates to cost. Be certain to include the cost of software and site licenses in budgeting for your innovative classroom. These costs are critical. The days of pirated software are gone. It is more expensive to be unethical. Take the long-run, hedonistic approach. Pirates are being prosecuted. Pirating could cost faculty jobs and the university a bundle in fines. The University of Oregon, according to the September *Chronicle of Higher Education*, paid $130,000 and the sponsorship of a workshop on copyright law and software use. They had also illegally copied manuals. Since 1988, the Software Publishers Association has filed 70 lawsuits against businesses.

Finally, a note on maintaining an innovative classroom. An escrow account or other revolving fund should be included in your plan to ensure that you are not teaching history in your innovative classroom, or at least teaching on historic equipment. With all the preparation-investment, it would be easy to let the technology pass you by, so you teach with the same innovative technique until it is no longer innovative. Therefore, by planning for change, having the money to replace equipment, instructors will be able to keep up.

In conclusion, it is essential to have a well-developed, well-thought-out, convincing written plan for an innovative classroom requiring dollars and release time. One should pursue all sources of funding. The plan should be included in the regular university, college, and departmental priority scheme. By following this approach, the innovative faculty member will soon increase the probability of receiving funds.