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ABSTRACT

According to the Northwestern University (2002) Web site, smart classrooms also can be called "electronic or technologically enhanced classrooms." Smart classrooms create new educational opportunities by integrating networking, computers, and audio visual technology. In this paper instructional technology, in particular, the "smart classroom" is examined from an administrative perspective. The smart classroom and its potential challenges, along with possible solutions to those challenges, are addressed. Finally, both internal and external funding mechanisms are briefly explored. The Smart Classroom Partnership Model is appended. (Author/AEF)

Running head: ADMINISTRATING TECHNOLOGICAL ADVANCES

(Approximately 2,000 words)

Funding Smart Classrooms: Administrating Technological Advances

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Abstract

Instructional technology, in particular, the "smart classroom" is examined from an administrative perspective. The smart classroom and its potential challenges, along with possible solutions to those challenges, are addressed. Finally, both internal and external funding mechanisms are briefly explored.

Funding Smart Classrooms: Administrating Technological Advances

In the election of 2000, the state of North Carolina overwhelmingly passed a 3.1 billion dollar higher education bond referendum. This successful referendum translated to approximately $100 million dollars of new construction and renovation for my institution, Western Carolina University. My college, the College of Arts and Sciences, received nearly $50 million dollars of this money, which was earmarked for four different state building projects.

Fortunately, some of this bond money could be used for "sufficiently equipping" these renovated (or new) buildings. If you have ever been involved in major building projects, you understand that it is both a blessing and a curse. Without question, sorting through the various technological needs was also a blessing and a curse. While it has been an excellent opportunity to improve our classroom technology, it has been a very complicated undertaking requiring an abundance of administrative time and effort.

Accordingly, what I would like to address today is the topic, "Funding Smart Classrooms: Administrating Technological Advances." I certainly am not an expert on new technology in the classroom. I am, however, constantly dealing with such issues of new technology from an administrative perspective, which, hopefully, will be of interest to you. My comments will focus on (1) the various definitions of "smart classrooms," (2) potential "challenges" associated with such classrooms, and (3) possible smart classroom "solutions."

What is a "Smart Classroom?"

According to the Northwestern University (2002) web site, smart classrooms also can be called "electronic or technologically enhanced classrooms." As such, they "create new

opportunities in teaching and learning by integrating networking, computers, and audio visual technology." As discussed on the preceding web site, their twenty-eight smart classrooms are equipped with the following items:

- Ceiling mounted LCD projector and projector screen
- Resident networked computer w/CD and Zip Drive
- Laptop connectivity for both Macintosh & PC
- VCR
- Sound system
- Wireless mouse
- Touchscreen Control
- Telephone

Depending on the classroom, other equipment may include:

- Resident Macintosh
- Microphone (wireless handheld and/or lavaliere)
- Slide projector
- Stereo Sound
- Cassette Player
- DVD capability

At my university, most of our smart or demonstration classrooms have an initial "set up" budget of approximately $15,000. With that limitation, we are able to purchase the following equipment:

- Ceiling mounted projector and projector screen
- Instructor work station (with Mac and PC)
- Elmo presenter
- VCR
- Wall mounted speakers

The "Smarter College Classroom Home Page" (2002) discusses four levels of technology in the smart/computer classroom: (1) basic AV/TV classroom, (2) smart plug-and-show presentation classroom, (3) interactive computer classroom, and (4) two-way communication classroom. All levels beyond level one require an ongoing financial commitment that can be considerable when you factor in repair and replacement. Beyond level three, the financial

commitment is enormous. If, in fact, an educational institution can afford to go to level four technologies, it would probably require a specific facility, such as a designated outreach center.

Valenti (2002) provides a more global perspective on the smart classroom reflecting that the instructional "ends" have remained fairly consistent for more than one hundred years. He states that our "classrooms are still primarily a venue for lecture, although today it is more likely a technology-enhanced lecture" (p. 52). In the communication discipline, Valenti's assessment may be debatable regarding the predominant use of the lecture as an instructional practice. Even if we grant that the "ends" have not changed, the "means"—or at least the potential "means"—have changed drastically. Such change, however, can lead to a vastly more complicated educational environment not without potential problems.

Potential Challenges

Williams (2002) reflects on the often-neglected concern for effective on-going "maintenance" of computer classrooms (CCs). Williams' assessment is based upon a review of scholarship of CC administration and an informal survey of CC administrators (p. 339). As I know all too well the best of technological intentions can come to a screeching halt without competent and on-going maintenance. Of course, such maintenance takes a substantial financial and philosophical commitment.

According to Valenti (2002), commitment to technology has a very high price tag. He states: "It is not unusual for the audiovisual technology budget to be $2 to $3 million for one academic building; $1 million is quite ordinary today" (p. 60). In our current time of financial difficulties, the number of educational institutions capable of affording truly effective technology becomes limited. Unfortunately, institutions without sufficient state appropriations or huge endowments suffer. Valenti concludes that student recruitment can even be negatively affected

by this problem: "The campus technology environment plays a key decision-making role when students are selecting an institution" (p. 62).

Indeed, maintenance and general financial resource problems related to smart classrooms could have very negative consequences. Smart classrooms—as well as other instructionally related technologies—have significantly altered what we do as administrators. When I first became a full-time administrator in 1987, such technology occupied a relatively small amount of my daily routine. Today, almost half of what I do is either directly or indirectly related to instructional technology. As I look at my appointment schedule for any given week, this becomes readily apparent. Also, the next time you peruse the Chronicle of Higher Education please note job announcements for deans. In recent years, most deans' positions seek applicants with a good knowledge of the role of technology in higher education.

Certainly there are numerous advantages to new technology in the classroom—and otherwise. For many administrators, however, this can have a cumulative effect. Unless administrators are particularly adept with technological issues and/or have capable assistance, there is simply "more to deal with" given these advancements.

Possible Solutions

Riley and Gallo (2000) strongly encourage thorough investigation before implementation of such technology. Given what they label as the "ferocious pace of technology advancement over the past five years," the requirements for training and education must follow suit (p. 4). While we often aspire to the preceding goals, my experience has been that they seldom are truly implemented.

Valenti (2002) views "flexibility" as central to any workable solution to a variety of instructional technology problems. In an interesting discussion, he compares the most effective

computer classroom to a "black box" theater. Specifically, a "black box" theater is inherently flexible as the relationship of the audience to the stage can take on numerous traditional and non-traditional configurations (p. 56). The smart classroom generally should have similar flexibility in order to increase its optimum use and lifespan. My experience would certainly support the preceding solution recommendations.

Without question, instructional technology issues need to be seriously addressed before, during, and after implementation. Some of these fairly obvious issues involve an initial needs assessment, a designated network manager, an appropriate technology committee, and the use of external consultants as necessary.

Once equipment has been purchased other issues surely will emerge: on-going resources for repairs and upgrades, qualified and available on-campus personnel to meet these needs, periodic review and assessment of current practices, and departmental technology "mentoring" which addresses individual needs. I am sure that others on this panel will address a very fundamental issue for those of us who teach communication courses, that is, "when" and "why" to use, for example, a power-point presentation?

Planning beyond the here and now is, of course, important to our task. A sense of upper administration commitment—financially and otherwise—is a vital part of this planning process. Similarly, periodic "technology continuing education" for administrators would be helpful. Indeed, if administrators are out of touch with current instructional technology the entire institution can be negatively affected. (For a pictorial representation of the elements necessary for effective smart classroom creation and operation, please see the Appendix.)

Finally, we all must realize that possible financial solutions to educational technology should not only be sought "internally" but "externally" as well. We have previously alluded to

internal remedies; however, external financial assistance is often quite necessary. Grant seeking for instructional technology is certainly another obvious avenue to pursue. Perhaps not so obvious is to seek benefactors and/or organizations that are inclined to contribute to technologically based causes—such as instructional technology. Given the huge and on-going needs in this area, advancement offices should seriously consider hiring individuals with special expertise in new technology.

Conclusions

I have discussed instructional technology, in particular, "smart classrooms" from an administrative perspective. I have briefly examined the smart classroom phenomenon and its potential challenges and possible solutions. Clearly, I have only provided a brief overview of these important higher education issues related to technology.

In closing, the 2000 North Carolina higher education bond referendum should provide my university with some once-in-a career opportunities for both better facilities and instructional technology equipment. State facilities in North Carolina are built to last approximately one hundred years. Since this is obviously not the case with new technology, our work has "only just begun." We must continue to make judicious technological commitments and choices all along the way.

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Appendix:

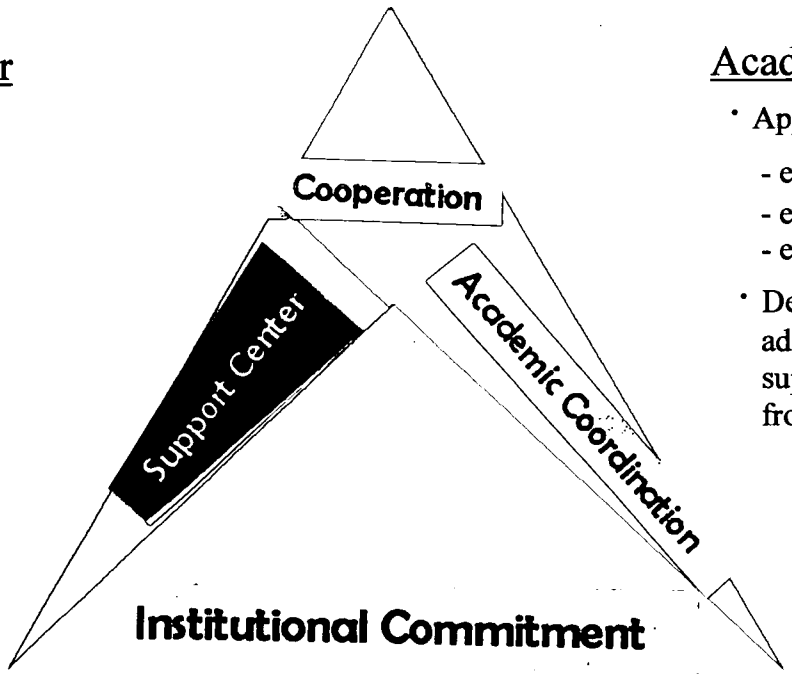
THE SMART CLASSROOM PARTNERSHIP MODEL

Media Support Center/Academic Areas Cooperation

- Coordination of education & maintenance functions
  - designated contact person from each area

Media Support Center

- Initial installation
- Record maintenance
  - warranties
  - contracts
- Equipment maintenance
  - clear chain of command for same day response to problems
  - 6 month schedule for dust removal on VCRs, projectors, and computer equipment



Academic Coordination

- Appointed leader provides
  - equipment use education
  - equipment policies
  - equipment security
- Department secretary/ administrator initiates support center requests from faculty users

Institutional Commitment

- Focus on applied technology
  - recognition of need for effective teaching
  - recognition of need for students' education
- Start-up funds
- Maintenance funds
- Replacement funds
  - recognition that teachers and their assignments become technologically dependent
- Administrative liaison at the level of Associate Dean or equivalent

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