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Overcoming Resistance to Instructional Technology

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OVERCOMING RESISTANCE TO INSTRUCTIONAL TECHNOLOGY

THE number and quality of innovations in modern communication technologies have expanded rapidly (Gates, 1996). Communication instructors have explored the new technologies with an eye toward producing enhanced learning outcomes (e.g., Althaus, 1997; McComb, 1994). However, as with almost every innovation, some faculty resistance to the use of technologies as strategic instructional options has occurred. Overcoming that resistance is of crucial importance to the ability for communication departments to stay on the forefront of instructional innovations. This essay argues for the need to integrate current technology into on-site communication classrooms and presents seven actions that communication administrators can take to overcome faculty resistance.

Within this decade, to communicate effectively in one's social and professional life, people must be able to competently use communication technologies (Gates, 1996). Unless we assist student-learners in acquiring skill and comfort with modern communication devices, we will not be preparing them to develop the basic skills required for communication success. We in communication administration simply cannot allow ourselves, our departments, our faculty, or our students to fall behind the learning curve of technology associated with the essence of "communication excellence" in modern society.

The evidence of enhanced learning outcomes in content-oriented communication classes continues to grow with increases in the wise utilization of these new instructional strategies. Even a brief perusal of our education journals early in the evolution of instructional technology related to computer and WWW tools leads to the conclusion that appropriately applied technology enhances the learning outcomes of students (Berge, 1994; McComb, 1994; Phillips & Santoro, 1989; Romiszowski & de Hass, 1989). One of the major values of instructional technology is that rather than minimizing the role of the human instructor, that instructor actually uncovers a means for greater learning impact upon individuals in the class. Rapid advancements in this area continue to be well documented (Althaus, 1997).

The massive utilization of communication technology in distance learning efforts across the nation clearly demonstrates the effective utilization of instructional strategies in one context from which we can make appropriate adjustments to another context—the on-site classroom. Few universities do not now offer at least one online course. We would be wise to learn what they are doing well in distance learning that may have practical impact in our on-site classrooms. (See for example www.lucent.com/cedl and hre.ed.uiuc.edu/hre/trlistserv.html.)

Technology, whether in the form of video, audio, information processing, or other technical elements paves the way to new and better human development accomplishments in communication classrooms. The critical success factors are no longer tied to development of user-friendly technologies but rather to the continued exploration of human factors associated with producing the maximally effective learning environment. We in communication are uniquely prepared to be at the cutting edge of this effort.

Improving instruction through the integration of technology is an incremental long-term process, dependent on faculty initiative and requiring a great deal of effort, resources, and support (Green, 1996; Staman, 1990). The process of diffusion of innovations is typically characterized by a slow initial rate of adoption, followed by a faster “take-off” period, and ending with a declining rate of new adoptions (Rogers, 1995). Green’s Campus Computing survey (1994, 1997) indicates that in the mid-1990s, the use of information technology on college campuses nationwide had reached a “critical mass” of users, signaling the beginning of this take-off period. We are now on the crest of discovery, adoption, and resistance associated with instructional technology in the classroom.

Indeed, there is still resistance from some faculty and administrators. Some fear that increases in technology will decrease the human relationship between instructors and students, thereby influencing the students’ motivation to learn and the affective learning of students toward the content area, faculty, department, university, etc. There is also resistance from some faculty who simply are very comfortable with their current instructional methodology and do not want to learn “new” approaches to educational methods. However, instructors who are focused upon delivering the absolute highest quality information with the absolute highest quality impact can be encouraged to explore and use the new technologies to expand and enhance the learning environment and produce greater learning outcomes for their students. Our challenge is to reach out to these teachers and, where appropriate, add to their potential instructional strategy options.

Administrators are in a position to help create conditions that promote the adoption of instructional technology by faculty. They can encourage and support faculty, obtain necessary and appropriate resources, and create a good climate for change. To accomplish this, administrators may need to promote change not only within their unit, but also at the college or university level. Following are seven actions for promoting the use of instructional technology based upon a combination of research, theory, project descriptions, suggestions, and experience.

Action One: Know your faculty

Approaches for encouraging faculty to use technology in teaching will differ depending on the degree to which they are inclined to adopt such innovations. Rogers (1995) categorized adopters by their level of innovativeness. Moore (1991) collapsed Roger’s five adopter categories into three: early adopters, mainstream, and late adopters. Early and late adopters each typically represent about 16% of potential adopters and the mainstream accounts for the remaining 68%. In the early 1990s, the diffusion of instructional technology in higher education was stalled. It had penetrated to the early adopters, but did not begin to spread to mainstream faculty until 1995 (Geoghegan, 1994b; Green, 1996).

Part of the cause of the stalled diffusion of instructional technology was an assumption that what worked for early adopters would work just as well for others (Geoghagen, 1994b). Early adopters tend to favor revolutionary change, are visionary, focus on technology, and are risk takers (Geoghagen, 1994b). On the other hand, those in the mainstream tend to prefer incremental change, are conservative, and tend to focus on process and problems. Because of these differences, the two groups require very different approaches. Not recognizing and responding to these differences will increase the likelihood that instructional technology will fail to penetrate to mainstream faculty (Geoghagan, 1994b).

Efforts to promote the use of instructional technology should begin where there is least resistance, by allocating resources to early adopters, who are willing to try new things (Dalton, 1989). Early adopters then have the potential to influence mainstream faculty positively. Mainstream faculty may be resistant, if not antagonistic, to demands from the administration, sales pitches from vendors, or urging of local support staff (Gilbert, 1995). Although these faculty members may be suspicious of early adopters, mainstream faculty are more open to influence from people who share common interest in, and understanding of, their academic subject-matter. Effective change agents must share commonality with potential adopters and must advocate for and empathize with them, understand their needs and wants, and have expertise with the innovation (Dalton, 1989).

Action Two: Be aware of faculty concerns

Faculty need different types of assistance depending on the type of concerns they have about using technology in teaching (Wedman & Strathe, 1984, 1985). Four levels of faculty involvement with technologies should be considered when encouraging them to adopt instructional technology:

- 1) Information – Individuals are cautiously curious, but not directly involved. They prefer to view technology from a safe distance and need information presented in a non-threatening way.
- 2) Exploration – Faculty begin to try different computer applications that are perceived as being potentially rewarding. At this stage, they need help with computer-related skills.
- 3) Utilization – Individuals have the skills and are ready to implement. They are concerned with resources, management issues, and consequences. They need assistance from colleagues who have experience with a particular application.
- 4) Collaboration and Innovation – Faculty are interested in discovering or developing new or improved applications. They want to share ideas and need help linking with others.

Todd (1993) found that faculty who were inexperienced computer users had the highest levels of information concerns. They wanted to find out what resources were available and how much time and energy were required to use them. In contrast, experienced users were more concerned with how instructional technology affected students and how to modify their use of it based on experiences with students. They also wanted to coordinate efforts or engage in joint planning with others to maximize the innovation's effect. Identifying the source of resistance is a major step toward developing appropriate solutions.

Action Three: Use technology yourself

Administrators need to set the pace and provide leadership via their own use of technology (Albright, 1996; Baer, 1994). Many administrators use technology to perform their administrative duties (e.g. a spreadsheet for budgeting, memos to faculty via e-mail, department web page, etc.). Administrators should also become familiar with computer and Web terminology and the functions of basic types of software by consulting with campus com-

puter support staff, reading magazines and books, and attending conferences. If possible, solicit the assistance and advice of knowledgeable faculty in your department.

Administrative leadership must move beyond using technology merely for administrative and research purposes. The leaders must also embrace technology as an instructional strategy in their own classroom. One of the first steps is to identify appropriate applications that will enhance learning outcomes for students. While there is fairly widespread agreement among faculty that technology can enhance the quality of teaching and learning (Green & Eastman, 1994), Spotts and Bowman (1995) found that fewer than 50% of faculty predicted they would actually use new instructional technology in the coming year. To entice such individuals to “take the plunge,” it is important for the administrator to identify and demonstrate applications that have compelling value. Emphasize simple projects that a number of faculty can implement to reach as many students as possible, rather than “mega-projects” that drain resources and impact a smaller number of faculty and students (Albright, 1996). It is important to establish early successful experiences so that other faculty will follow by example (Staman, 1990). Potential applications are changing as quickly as technology evolves. Current web-related instructional strategies include extended student access to information, course web pages, teacher/student e-mail exchanges, teacher/student threaded discussions and chat rooms, and the use of text, audio, and video conferences with students and guest speakers.

Action Four: Review potential barriers

Numerous authors have identified potential barriers to using technology in teaching (Albright, 1996; Geoghegan, 1994a; Gilbert, 1996; Green, 1997; Green & Eastman, 1994; Kozma, 1979; Kozma & Johnston, 1991; Staman, 1990). Consider which of the following obstacles are most problematic and determine whether and how you can overcome them. Commonly reported barriers include:

- lack of computer hardware or outdated hardware in offices, classrooms, and labs
- not enough appropriate, easy-to-use software
- insufficient training and support
- lack of expertise with using technology
- not enough time for learning, development, and planning
- few rewards for teaching, in general, and for improving instruction with technology
- lack of awareness, information, or models to follow
- difficulty breaking habits to change teaching methods and curriculum
- little involvement and/or commitment on the part of the administration
- lack of institutional planning
- insufficient funds and/or no recurring budget for technology.

Each problematic area has its own special challenges. The first step is to explore thoroughly all the available resources right in your own department, on your own campus, on the Web, and through vendors.

Action Five: Explore and obtain resources

The technology infrastructure is a critical catalyst for innovation and integration (Green, 1996). Not only are these resources necessary, but by providing them, the institution also sends an important signal to faculty that it values the use of instructional technology for enhancing learning outcomes (Wedman & Strathe, 1984, 1985). Important re-

sources include hardware, software, training and ongoing support, as well as release time and/or summer pay for participating in training or for course development (Albright, 1996; Baer, 1994; Brace & Roberts, 1996; Kozma & Johnston, 1991; Gilbert, 1995; Staman, 1990; Topp, Mortenson, & Grandgenett, 1995).

Action Six: Communicate realistic expectations

An institutional climate is needed that encourages use of technology, with positive attitudes toward technology extending from senior administration on down (Albright, 1996). Sustaining good will and realistic expectations will be critical to morale during the adjustment period and especially for faculty who are just starting to climb the learning curve (Green & Gilbert, 1995). Avoid irritating people by making promises that cannot be kept. Remember that mainstream faculty prefer incremental change. Inappropriately high expectations based on the experience of early adopters may make subsequent users quite uncomfortable (Geoghegan, 1994a). Expectations for technology use in teaching can be communicated by discussing it regularly at department meetings, engaging in goal setting, obtaining funding for technology, and providing support (Topp, et al., 1995). Combining expectations with support sends a strong message that technology integration is valued by the administration. It is important for faculty to see visible signs of administrative support and commitment before spending time and energy on pedagogical innovation (Baer, 1994, Geoghegan, 1994b; Wedman & Strathe, 1984; 1985).

Action Seven: Provide rewards and recognition

Universities need to identify, recognize as role models, and reward individuals who are active users of technology in teaching (Albright, 1996; Spotts & Bowman, 1995). Kozma (1979) found that extrinsic reward was a good predictor of technical innovation, whereas intrinsic motivation was a good predictor of non-technical innovation. Unfortunately, only 12% of institutions recognize or reward information technology use by faculty (Green, 1997). Administrators can advocate for and help to develop policies to reward faculty for good teaching in general, as well as for using technology to improve teaching and learning in merit, promotion, and tenure decisions (Baer, 1994). An annual award could even be provided for outstanding achievement in the use and development of instructional technology (Brace & Roberts, 1996). At the very least, be sure that such efforts to integrate technology do not go unnoticed. Create visibility on campus, as well as externally, for the successful technology-related efforts of faculty members (Baer, 1994).

CONCLUSION

Instructional technology is here, alive and well. The ability of a department to remain at the cutting edge of instructional innovation depends upon the ability of the administrator to convince and motivate faculty in this area. These seven actions will assist in moving faculty up the adoption curve and producing enhanced learning outcomes for their students.

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