Intentional Learning: A Process for Learning to Learn in the Accounting Curriculum

4.3.7 Technology

Like writing, the use of technology as a teaching/learning strategy cuts across all attributes of intentional learning and all courses in the accounting program. Technology may be seen as an accounting tool used in practice, as a teaching tool in the classroom, and as a learning tool to be used by individual students. This section will focus on using technology to enhance teaching and learning, that is, to encourage intentional learning.

Most accounting faculty use some kinds of technology in their courses. In class, the use of film, video, and overhead projectors is common. Some classrooms are now equipped with computers and screen projectors so that students or faculty can work computer problems before the whole class. Many faculty assign problems that must be worked on computers, using either specialized accounting software or spreadsheets. These are all useful ways to assure that future accountants will be comfortable with some of the technology they will encounter in the work place.

To encourage intentional learning, however, the use of technology should go beyond practicing certain accounting techniques or learning to use software or data bases. Students need to be actively engaged in asking questions, analyzing situations, exploring alternatives, solving problems. Technology should be a tool in this activity, not its focus. Kozma and Johnston have described award-winning educational software based on principles of active, not passive, learning. They suggest that using this software, "students become more active and engaged in the learning process; they learn for understanding and application rather than memorization; and they connect their new knowledge to that previously learned, to the ideas of other students, and to the real world outside the classroom" (1991,p.22). These are the kinds of learning experiences accounting students will need if they are to become effective, independent learners.

Before introducing a new technology, faculty should ask such questions as: What will students learn from this technology? Is this a better way to learn these facts, principles, techniques? What experience or practice will students gain from this technology? What attributes of intentional learning will they be using or developing? Students should also be encouraged to ask these questions about their own learning with technology. The answers to these questions may suggest ways to use technology to enhance learning. Some examples might be:

- A film or video might be used in class to illustrate a topic covered in lecture. How can the instructor ensure that students will be engaged intellectually? One way is to stop the film and ask students to make notes or raise questions or speculate about what will happen next. Another is to engage them in small group discussion after the film.
- Some publishing firms offer computer simulations tied to certain chapters or topics in their textbooks. These may require 10-20 hours of student effort, most of it out of class. Students might be asked to work on these in teams, so that they will question one another, reflect on and articulate what they are learning in the process of doing the exercise. They might also keep a journal of what they are learning individually or as a group.
- An award-winning, computer-based simulation exercise permits students to enter financial decisions into a hypothetical company's accounting information system and to see the effects of those decisions on the financial statements. Students can run the company for up to twenty years, and the program can model real-life consequences including being fired for the bad results of their decisions. The simulation helps students understand how financial decisions interact and how they affect a company's profitability and financial position. (Interactive Financial Statement Simulation, winner of 1990 EDUCOM Distinguished Software Award, Forrest W. Harlow, Jr., Angelo State University, author and publisher.)
- Videos may demonstrate an ethical dilemma in an audit situation or a personnel problem in a work team or a problem faced by a firm's chief financial officer. Such videos could be used for case discussion or written analysis and problem solving.

- Both Arizona State University and the University of Notre Dame use technology to teach basic accounting concepts. At Arizona State, a course required only of accounting majors uses computer-based instruction to teach the preparation of financial accounting information. At Notre Dame, faculty use computer software to teach the accounting (bookkeeping) cycle. Using a manual approach instructors might need four weeks to cover the material; Notre Dame faculty now cover it in about two weeks.

Technology can be used both to present a problem (on transparencies, film, video) and to solve it (using spreadsheets, data bases, computer software). The instructor's role in using technology is to select or create activities and guide students in learning from them. The instructor should lead students to ask questions about how they are solving a problem as well as about the problem itself or the decision to be made. They should be encouraged to reflect on the problem solving process and should be expected to adapt that process to other, different, complex problems. Students should be encouraged to see technology as a tool that helps them learn to learn and to solve the problems they will face in their profession.