

# Essay: Technology in the Classroom: Teaching Business Marketing in the 21st Century

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## *INTRODUCTION*

Since the invention of writing there has been a continued passing parade of new technologies, each of which it is claimed has the potential to “revolutionize learning.” These technologies are released in a flurry of excitement but often end in disappointment when evaluation studies fail to reveal the much-anticipated improvement in learning (Alexander 1995). During the last decade and a half, American higher education has invested about \$70 billion in information technology goods and services, as much as \$20 billion of which has gone to the support of teaching and learning (Geoghegan 1994). But despite the size of this investment in instructional technology, numerous examples of innovative and successful instructional applications, and a growing comfort level with technology among both faculty and students, instructional technology has not been widely adopted by faculty, nor has it become deeply integrated into curricula. By some estimates, no more than five percent of faculty utilize information technology in their teaching as anything more than a “high tech”

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substitute for blackboard and chalk, overhead projectors, and photocopied handouts (Geoghegan 1994). Alexander (1995) cites a review of a number of studies by Clark (1983) that questioned the methods of instruction used in the computer based instruction (CBI) "experiments" and suggested that CBI authors have simply computerized methods of programmed instruction rather than capitalizing on the possible "added value" of using computers. It seems surprisingly obvious that there is no reason to expect the quality of learning to improve if we simply transfer a learning experience from one medium to another (Alexander 1995).

In spite of past disappointments, the ramifications of adopting technology into instructional settings can be significant and far reaching. As a direct result of technology implementation, methods of information delivery by instructors and reception by students in the future will be very different than traditional methods employed today. From a practical standpoint from the educator's perspective, Green and Gilbert (1995) suggest that technology in the classroom will allow the same number of faculty to teach more students at the current level of learning or allow campuses to serve the same number of students with fewer faculty.

The purpose of this essay is to review current technology-driven instructional methods and prognosticate how teaching marketing will be redefined at the university level in the future. The essay addresses issues and comments relative to marketing instruction in general. Educators can apply these technologies to the teaching of both consumer and business-to-business marketing.

### ***WHY USE TECHNOLOGY IN THE CLASSROOM?***

It is no secret that computer-based instructional technology is evolving at a rapid pace with new applications being developed and adapted almost daily. In discussing learning using different media, Kozma (1989) states that computers help students connect the real worlds to the symbols that are used to represent them in the classroom. Computers can be used to create micro worlds, or as simulations of real world events, that facilitate learning non-concrete ideas or building complex mental models of knowledge domains.

Ellis (1996) cites Schmidt (1996) who found that since the early 1980s educators have been pressured to provide students with skills,

knowledge, and attitudes needed to be successful in a technological workplace and globally competitive marketplace. In the Secretary of Labor's Commission on Achieving Necessary Skills (SCANS) Report, the commission identified "using technology" as one of the critical competencies required to be competitive in a global economy. Examples of such emerging technologies are multi-media "virtual classrooms," the use of sophisticated presentation software, use of the World Wide Web for research and data collection and Internet facilitated distance learning. This world of computer learning is relatively uncharted to date.

According to Robert Robicheaux (1996), marketing students need to develop a differential advantage in order to compete after graduation. He believes that technology is going to be this differentiator creating a new type of student that is prepared to function effectively. A study of technology use by marketing students, Miller and Mangold (1996), suggests that students consider these technology-based sources to be important to business professionals but attach a relatively low rating to their skills at acquiring information through these sources. In an unpublished study of use of technology by marketing students at the Pennsylvania State University and Louisiana State University (Wilson and Vlosky, no date), it was found that 43 percent of the students did not use computers in their marketing courses. Fifty-seven percent of respondents said that technology was used in the classroom for less than one-quarter of the marketing courses they had taken. In many instances, the only technology used was the replacement of acetate overheads with Powerpoint® slides.

The possibilities of what can be taught through the aid of computers and multi-media are seemingly endless and very rapidly developing (Vickery 1996). However, whether or not technology in the classroom results in improved learning and test scores remains to be seen. For example, Miller and Mangold cite Reisman (1993) who reported that the use of multimedia approaches in a computer applications course resulted in higher test scores than more traditional approaches while Coye and Stonebraker (1994) reported no such improvement in an operations management course.

One good reason to use technology in the classroom is because students are demanding it. In the study by Wilson and Vlosky (unpublished), nearly three-fourths of marketing students surveyed felt that it was important to use technology in the teaching of marketing.

However, on the downside, 31 percent felt that the use of technologies was ineffective in their learning of marketing. The study identified a potential gap, at least at the two universities, between student demand and education supply of technology in the marketing classroom.

### ***ADVANCED TECHNOLOGY CLASSROOMS***

Many universities have made a commitment and investment for the hardware, software and support necessary to offer interactive multimedia educational instruction to marketing students. As the name implies, interactive multimedia programs allow students to become more involved in the learning process by fostering interaction with other students and the instructor (Tippins and Su 1996). Instead of passively listening to a lecture or reading a textbook, students using interactive multimedia are given some control in deciding the speed and direction of the learning process (Davies 1995).

One example of a multimedia learning application is at the School of Business at Indiana University in Bloomington. A variety of technology has been installed in several classrooms so that faculty can use the latest software, incorporate electronic presentations into their teaching, present video, and/or connect to the Internet. Technology in their high-tech classrooms includes computers, video, CD-ROMs, VCRs, laserdisc players, document cameras, and audiotape players. Capabilities in these rooms include networking, digital/video projection, and enhanced lighting. Technology Services, with support from Electronics, maintains these classrooms and provides training about how to use the technology. Each of these classrooms is networked to the School of Business Classrooms Local Area Network (LAN) with a complete array of software available. Instructional support services also can help faculty get ideas about how to effectively incorporate the technology available in these classrooms into their instruction (Anonymous 1996a).

An integral component of the multimedia learning environment is the use of interactive CD-ROM. CD-ROM discs can store over 600 megabytes of information (one megabyte = one million characters). In addition to storing text, the CD-ROM is also capable of storing audio and visual graphics. Because of its speed and storage capacity, CD-ROM has become an ideal storage medium for interactive

multimedia programs (Tippins and Su 1996). In describing benefits of interactive CD-ROM, Tippins and Su (1996) state that while a textbook or class lectures are usually rigidly structured, CD-ROM-based learning tools possess very few limiting restrictions. Students are able to branch off in various directions, learning as they venture through each program. By being able to move through different topics at a comfortable pace, students get the added benefit of not having to move on to new material until they are comfortable with the current task at hand. Additionally, they believe that CD-ROM allows for more student interaction. Whether in small groups or as a class, CD-ROM lessons encourage students to participate and discuss among themselves how best to proceed through the lesson. Students find that, in a team setting, they are able to work through problems and make decisions more efficiently.

A number of integrated marketing courses that use both textbooks and CD-ROM have been developed. At Louisiana State University, some sections of the introductory marketing course are being offered using this format. A study is underway to evaluate the relative effectiveness of using CD-ROM only, textbooks only, and a combination of CD-ROM and textbook in the teaching of marketing.

Van Winkle (1996) cautions that a number of practical hurdles have to be overcome before multimedia courses can be successfully implemented and presented in the classroom. Considerations of infrastructure, equipment, personnel, and pedagogy need to be taken into account early in the planning stages of any single or coordinated multimedia teaching effort.

### ***INTEGRATED SOFTWARE***

Integrated software packages, such as Microsoft Office® or Lotus SmartSuite® typically include a word processor, spreadsheet program, database, and communications into one low-cost package. With an integrated software package, teachers have a “one stop” solution to a majority of their computing needs, such as writing lesson plans, tests, electronic grade books, student databases, and remote computer dial-up. Presentation software packages, such as Microsoft PowerPoint® or Lotus Freelance Plus®, allow teachers and students to create dazzling overhead slide shows, electronic screen shows, and 35

mm slide packages. Integrating visually exciting visual aids into platform instruction helps get and keep students' attention. Desktop publishing software, such as Microsoft Publisher®, gives teachers the ability to create brochures, newsletters, custom textbooks, and other educational products that are of professional quality.

### ***THE INTERNET AND MARKETING EDUCATION***

The Internet offers marketing instructors and students the opportunity to communicate and exchange information nationally and internationally. Although only a handful of on-line courses are currently available over the Internet, the number is expected to increase rapidly in the next few years (Service 1994). Indeed, educators and publishers have started to worry about a time when the Internet might become like public-access cable television, clogged with programs and courses that are mediocre or, even worse, filled with inaccuracies. "Quality control is really important, especially in science," says James Lichtenberg, vice president of the Association of American Publishers. Because publishers have traditionally played that role, Lichtenberg predicts that they will move into on-line course distribution as the field grows (Service 1994).

Internet communication can facilitate many learning opportunities for marketing students. In one example, a Purdue University pilot study instituted in the Spring of 1996, had students in a marketing principles course augment textbook instruction with the Internet and E-mail (Seibert 1996). The Internet was used to access course-specific information (syllabus, announcements, handouts and assignments) and general information to complete assignments. E-mail was used for communication with the instructor and for course announcement distribution. Students in this pilot program found that the Internet and E-mail could be used to gather marketing intelligence from around the world and seek out information that may not be published. In the two short years since that pilot study, the use of E-mail and other Internet functions in marketing instruction are commonplace. Most marketing curricula include some element of Internet interaction including data acquisition, market research and collaborative research projects. Table 1 conveys a small sample of the many opportunities that exist for Internet supported marketing instruction.

Distance learning deserves particular mention as this dimension of education can significantly expand the reach and level of learning opportunity to a wide population of potential students. Ten advantages of using distance education and Internet courses in curriculum are (Anonymous 1996b):

1. You can serve students anywhere—remote or rural areas where students do not have a community college or university nearby.
2. You can teach courses that normally could not be taught at a specific institution because of the lack of a qualified instructor.
3. The student becomes an “active” learner rather than a “passive” learner.
4. This technology will empower learners to be lifelong masters of their learning.
5. The Internet enables the teacher’s role to shift from that of a “knowledge dispenser” to a “learning facilitator.”
6. The Internet will liberate students and instructors to explore previously untapped worlds of information both inside and outside traditional classroom walls.
7. Learning will become more interactive; therefore it will become more relevant and stimulating.
8. With the use of the Internet, technology will become a vehicle for widespread educational reform.
9. Parents, community members, business people, and other educational institutions will be more closely connected with learners, teachers, and the entire educational process.
10. Because this is self-directed learning, students can work at their own pace and their own schedule.

### ***THE WORLD WIDE WEB***

If the Internet global network is akin to a sanctum of information and commerce, the World Wide Web is the means to enter this domain. The World-Wide Web, also known as WWW or just the Web, is a network of servers, “talking across the Internet,” that know how to display text and graphic information (Vlosky and Gazo 1996). Much of the Internet’s growth can be attributed to the proliferation of Internet access programs called browsers such as Netscape Communica-

TABLE 1. Internet Supported Marketing Instructional Activities

<b>Links to Corporate Sponsors and Partners</b>
Would interact with students in an electronic mentoring role (cyber mentors)
Answer general questions in the context of classroom activities
Technologies: e-mail, WWW, 2-way video/audio links
<b>Distance Learning</b>
Wide band access to students' homes
Interact with professors at host institution and at other institutions
Take tests interactively
Submit papers electronically
<b>Student/Faculty Special Marketing Interest Groups</b>
Set up listserves
Encourage dialog with others in the field of interest
Exchange of ideas
<b>Cross Regional/National Classroom Project Teams</b>
Collaborate with professors so students can collaborate across universities
Electronic presentations
Linked via WWW, e-mail

tor® and Microsoft Internet Explorer®. Capable of displaying formatted text, graphics, and links to other WWW sites, a Web home page provides the most visual presence possible on the Internet. The WWW, which has only been in existence since 1992, offers the benefits of the "information superhighway" with protocols, client/server technology and takes advantage of the global telecommunications infrastructure that is already in place (Abate 1993). The WWW presents the first tangible example of the world of the future with information just a click away with low barriers to entry for information providers. World Wide Web home pages on the Internet can generate substantial customer interest for companies and general interest for researchers.

The challenge for educational developers is to use this knowledge of learning, together with an understanding of the features of the WWW, to design learning experiences which promote a deep approach to learning so that "what" students learn is a deep understanding of the subject content, the ability to analyze and synthesize data

and information, and the development of creative thinking and good communication skills (Alexander 1995). With this proviso in mind, the WWW offers a number of learning opportunities for marketing students. Areas that will be dramatically changed with WWW technology include the conveyance of information about individuals, classroom environments and research efforts.

### ***CHALLENGES AND SUCCESS***

Although the need to adopt technology into the classroom environment is exceedingly clear for some educators, others are not embracing these approaches for a number of reasons. The problem is that only a very small proportion of faculty are actively developing or using such applications, and that once developed, they rarely find their way beyond the individuals or teams whose innovative efforts brought them into existence in the first place. The vast majority never reaches more than a tiny handful of “mainstream” teaching faculty (Geoghegan 1994). For many, the application of technology in the classroom constitutes a dramatic departure from teaching platforms that have been used forever. The transition to technology is often too overwhelming for faculty. In a conversation with the author, a professor said that he couldn’t wait to retire so he did not have to learn to use computers to help him teach.

In a study commissioned by the Learning and Technology Committee of the Further Education Funding Council, UK, it was found that successful integration of educational technology into the curriculum in order to maximize learning gains needs careful planning, supported by teachers who are confident in the potential that such facilities offer (Smith 1994). The study indicated that at present, there is a lack of strategic planning which takes account of the use of technology to support teaching and the delivery of curriculum. Existing computing facilities were not found to be utilized to their maximum potential, as teachers lack experience in using technology to deliver the curriculum and there are few teaching and learning models to draw on.

One possible solution to this problem is to departmentally develop and support a structured, and perhaps required, technology training and development program for faculty. This program would involve hands-on training and ongoing technical support administered by trained technology-based educational facilitators.

To expand on comments made by Hoskinson (no date), we offer some guidance for instructors who wish to employ technology in the classroom. First, the instructor needs to be technically proficient in the system used in teaching. This can be as simple as knowing how to “point and click” icons or as complicated as audio/video real-time linkages. Regardless of application, only current technology should be used. In addition, an analysis should be conducted to identify appropriate applications of technology and gaps in student needs relative to capabilities. Maximize available time by teaching students only those tasks that are critical to being a functional, “computer literate” user and those that support course objectives. Teach computer usage as a tool to accomplish a specific task.

Boettcher (1996) points out that life-cycle funding is another critical success factor for effective technology-based instruction. Implementing technology requires funding for start-up as well as maintenance. Funding also needs to include support personnel, an often overlooked part of long-term maintenance. Constant interruptions in service are not workable as faculty generally do not have the expertise or time to maintain equipment.

### **SUMMARY**

Ellis (1996) cites the Business Education Forum Policy Statement Number 53 (McDowell 1993) that states “. . . business educators must review their instructional goals and strategies in light of advances in technology to ensure that identified student outcomes encompass that technological skills need today and in the future . . . ”

To quote Judith Boettcher (1996) “. . . Providing technology classrooms on our campuses today means thinking substantively about the intersection of teaching and learning processes with the capabilities of information technologies. When you consider the infrastructure and organizational issues surrounding this intersection of teaching and technology, you find that implementing technology classrooms is not for the faint of heart; indeed, it takes deep courage.”

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