

THE WEB AS AN ORGANIZATIONAL BEHAVIOR LEARNING MEDIUM

John D. Bigelow
Boise State University

Considerable experimentation is going on with the use of the Web or online medium as an alternative to the classroom (face-to-face) medium for postsecondary learning. In addition to providing the capability to present text and graphics, the online medium enables individuals to interact at a distance with others via conferencing, where individuals send text messages to a central site at which they can be read by others, and chat, where individuals join a site at a given time and send text messages that can be immediately read and responded to by others.

Controversy continues as to the appropriateness of online medium as a basis for education (Jaffee, 1998; Kennedy, 1998). Most studies suggest that it is possible to create an acceptable learning design in which most or all transactions occur via online media, as opposed to a classroom (Anonymous, 1998; Hiltz, 1997; Kearsley, Lynch, & Wizer, 1995; Kinzie, Larsen, & Kent, 1998; Kulik, 1994; Musumeci, 1998; Quintana, 1996). Still, there is room for doubt: New adopters can be expected to be enthusiastic about the results of their effort, not all types of courses have been tested, and students in these courses are by no means a representative sample. Can the quality of a Web-based organizational behavior (OB) course actually match—or even exceed—that of a classroom course?

The purpose of this article is to explore the suitability of the current online medium as an OB learning environment. I begin by discussing differences

Author's Note: Article is based on a session conducted at the May 1998 OB Teaching Conference, LaVerne, CA. Please address correspondence to John D. Bigelow, Boise State University, 1910 University Drive, Boise, ID 83725; phone: 208-426-1267; e-mail: jbigelow@bsu.idbsu.edu.

JOURNAL OF MANAGEMENT EDUCATION, Vol. 23 No. 6, December 1999 635-650
© 1999 Sage Publications, Inc.

between face-to-face and online media. I then list a number of types of learning activities commonly associated with OB classroom courses and discuss the impact of moving each to an online medium. Finally, I identify six areas in which moving to an online medium can enhance OB learning.

Differences Between Face-to-Face and Online Media

Although face-to-face and online media are both designed to allow interaction, their differences affect the nature of the interaction that takes place. Some of these differences are discussed below.

DIFFERENCES IN COMMUNICATION

Moving to an online medium changes the way people communicate and has its most noticeable impact on communication richness, communication rate, and the willingness of students to participate.

Communication richness. The online medium is “narrower” than that of the classroom. Whereas the classroom provides verbal, nonverbal, and visual/written channels of communication, the online medium presently provides communication via text messages, along with largely static visual images. This difference stems from limits to the online rate of information flow. In interactions, this means that nonverbals are lost: We can neither see nor hear others with whom we are in communication.

Online instructors may attempt to compensate by encouraging students to use “emoticons” or textual representations of feelings, for example, “:-)” is a sideward representation of a smile, whereas “>-(” represents a frown or disapproval (Kelly et al., 1997). Their use, however, does not entirely compensate for lack of nonverbal cues (Wang, 1996).

Communication rate. Classroom communication is largely oral. The Web equivalent is chat, which is presently conducted via keyboard entries. Because keyboarding is slower than speech, the rate of communication in a Web environment is significantly slower than that in the classroom. This is not without disadvantages: Students can read or review what a person said, have more time to think, and are aware that what they enter is less ephemeral than the spoken word. All these factors combine to lead to more thoughtful interactions.

Still, this can be a problem when a learning design involves a lot of interaction. For instance, a group may need to carry out team-building activities and

collectively go through several decision steps. This kind of activity typically requires many transactions carried out in rapid sequence. This in turn may require the instructor to redesign the course to make this communication possible, for example, by scheduling more time for groups, structuring or simplifying assignments, and training groups to communicate efficiently.

Student presence. Whereas the presence of a student in a classroom is apparent to all, a silent online student can be invisible. For this reason, most chat programs will register the entry of an individual into a chat room, allowing others to “see” and address a person who has not yet spoken. In conferencing, however, a student is not visible until he or she posts something.

The greater anonymity of online students is encouraging to some, and online instructors report better participation from some students than they would expect in a classroom. This may be due in part to the typically smaller online class size, whereas it is harder in a large classroom to ensure participation from every quiet member.

Still, I have encountered and heard of numerous instances of “online shyness”: a reticence on the part of some students to actually send a message for viewing by others. Some students who fear self-disclosure in class fear the same thing online. This, however, is not a general rule. Students who lack verbal fluency in the language of the classroom frequently report that they feel much more confident when communicating via conferencing or chat. Goldberg (1998) observed that about 50% of his classroom students and 30% of his online students are uncomfortable with class communication, but only about 10% are uncomfortable with both. These figures suggest that not only would participation in an online course be higher than that in a classroom equivalent but that a somewhat different mix of students would be involved.

DIFFERENCES IN TEAM DYNAMICS

As pointed out above, a slower communication rate can lead to problems for online teams requiring rapid sequential transactions. This should be less a problem in the near future, as live multimedia interactions become feasible. On the other hand, online teams tend to face fewer process problems. Scholtes (1992, pp. 6-36) lists 10 common problems that teams encounter. At least 3 of these are less of a problem in online teams: (a) Overbearing participants are less of a problem because these individuals cannot use nonverbal messages to assert themselves, (b) dominating participants are not able to control airtime because their entries cannot block the entries of others, and (c) reluctant participants encounter fewer barriers to contribution. The favorable

pro/con tradeoff of virtual teams is reflected in their growing acceptance in the workplace (Townsend, DeMarie, & Hendrickson, 1998).

DIFFERENCES IN ACCESS TO INFORMATION

Whereas a library is a part of every university campus, remote students of online learning will not necessarily be near a library. They, however, will have access to Web resources. It is a common practice for online instructors to include links to relevant resources. For students in business, these resources can be considerable: Every major domestic and foreign organization has an up-to-date Web page that includes useful information about it. There are Web pages for most disciplines that also provide useful resources such as new services (e.g., <http://crayon.net/>) or the capability to conduct Web searches.

By the same token, the Web is a less effective representative of the world of ideas. One indication of this is the popularity of online bookstores, for example, <http://amazon.com> and <http://www.barnesandnoble.com>, suggesting that the online population continues to be attracted to paper books. Some libraries offer search facilities and can even provide the text of some articles. Still, the bulk of written material found in libraries is not yet accessible online. Materials can be located via online search, but this must be followed by a trip to the library itself.

DIFFERENCES IN SELF-MANAGED LEARNING

The classroom setting provides a fair amount of structure for students. By registering for a course, they commit not only to a set of learning goals and activities but also to carrying out many of them in specific places and times. The online environment, in comparison, is less structured. Although an online course can be just as specific in its learning goals and activities, the student has much more flexibility in the where and when of carrying them out. Although this is a highly attractive feature to some students, it also requires a fair amount of discipline. Individuals with a full schedule can be tempted to put off learning activities to the point where they do not get done well or at all.

As a result, online students who are able to manage their learning are likely to stay, whereas others are more likely to drop or default. In part for these reasons, the dropout rate in online courses tends to be higher than that of classroom courses (Culmer, 1997, chap. 3). The dropout rate is probably also related to the kinds of people who choose the online learning alternative (Collins & Grunke, 1998).

DIFFERENCES IN DIVERSITY OF STUDENTS

The diversity of students in a course can constitute a valuable learning resource, particularly when addressing teambuilding, cultural, international, or equal opportunity topics. The diversity of a classroom course is constrained by the diversity of the local student population. The diversity of an online course, however, is far less restricted. Students can be enrolled from many geographic regions and cultures, as long as they have Internet access and can communicate in the language of the classroom.

DIFFERENCES IN COMPUTER INTERACTION

There exists a wide variety of computer-assisted learning software that can be applied to OB learning (Vance, 1993, chap. 10). Whereas most classroom courses cannot assume that all students can access requisite computer hardware/software, this is not an issue in an online class, where all students are using computers and standard software. Students can be provided with programs for use on their computers via download or CD-ROM. A more promising approach in the long run is to develop Web-ready software that resides on a Web server and employs a standard browser as its interface.

Impact of Moving OB Learning Activities to an Online Medium

A classroom can be viewed as a setting designed to make learning activities possible. Through the carrying out of these activities, learning goals are accomplished. One way of exploring the efficacy of online learning, then, is to identify the kinds of activities commonly associated with OB classroom learning and to consider how each would be affected by a move to an online medium. In an earlier work (Bigelow, 1993, p. 404), I developed such a list, which is recapped in the second column of Table 1. Below, I discuss the impact of moving each of these activities to an online medium.

Provision of information via text, handouts, lecture, video, and guest presentations. Most online courses follow the common classroom practice of using a text, so this practice need not be changed. Handouts are very easy to implement online by publishing them on a Web site or conferencing system or by e-mailing them to students. Videos (and audiotapes) can be translated to file formats (e.g., MPEG, RealMedia or QuickTime files) that can be viewed by online students on their computers.

TABLE 1
Impact of Moving Common Classroom Learning Activities to an Online Medium

Level	Learning Activity	Communication	Team Dynamics	Access to Information	Self-Managed Learning	Student Diversity	Computer Interaction
Class	Provision of information via text, handouts, and lecture						
	Class discussion	Largely negative				Largely positive	
	Class as organization, media-specific learning	Mixed				Largely positive	
Dyadic/small group	Team projects and exercises	Mixed	Largely positive	Largely positive		Largely positive	
	Experiential exercises	Mixed				Largely positive	
	Role-plays and skill practice	Mixed				Largely positive	
Individual	Reading assignments			Largely positive	Largely positive		
	Individual assignments including papers, case analysis, theory application, and research						
	Self-assessment						
	Computer exercises						Largely positive
	Exams, feedback						Largely positive

NOTE: Blank cells indicate little to no impact.

If a lecture is intended purely as an information presentation, it can be replaced with a Web-published essay or audio/video file. Although instructors lose the opportunity to scan students for signs of understanding, it is possible to follow up each lecture with a conference- or chat-based discussion.

Guest presentations can be videotaped, and the videotapes published on the Web. An advantage to doing this is that a presentation can be used many times, whereas guest presenters may be reluctant to conduct multiple live presentations. Chat or conferencing systems can be used as a basis for dialogue among guests and students.

Class discussion concerning cases, course concepts, and personal experiences. In general, class-level discussion becomes less viable. This is not because of technological or bandwidth barriers but for two reasons. First, class-level activities tend to be media intensive: Classroom instructors typically do not only receive verbal messages from students but also scan the class for nonverbal cues, which they may use as a basis for directing the discussion. Online instructors can conduct discussions via text-based conference or chat, but student nonverbal cues are not visible to the instructor and cannot be used in this way.

Second, because it is rarely possible to find a time when all members of an asynchronous class can meet at the same time, an online class-level discussion would have to be conducted via asynchronous conferencing. Because the time gap between one student's entry and another's response could be days, a classroom discussion of a few minutes would be infeasibly slow as an online conference, requiring weeks or months.

Class as organization and other activities in which the classroom media is used for learning. Learning goals sometime relate to the medium of interaction. For example, an instructor teaching oral communication may have students give presentations in class, or an instructor teaching about OB concepts and dynamics may develop classroom designs that illustrate them (e.g., O'Brien & Buono, 1996). In these examples, the option of using the classroom medium to further learning is not available in an online course. It is possible, of course, to develop outside assignments for online students who employ local face-to-face settings, such as work, family, or local student groups, but these options are equally available to classroom students.

Team projects and exercises in which the group context is used as a basis for learning and/or for carrying out a collective task. The formation of classroom groups for the purpose of carrying out projects is a common classroom practice. In OB classes, teams may also be formed to learn about group/team

dynamics and the development of teambuilding skills. As in a classroom, an online instructor can designate teams and give them assignments. In addition, he or she must provide an online space for each team—typically a private conferencing and/or chat area.

Because online communication tends to occur at a slower rate, online teams may be pressed to carry out needed communications in the time available. On the other hand, online teams tend to have better member participation and fewer process problems. On balance, I have found that students generally do adapt to an online team format and that online teams can effectively carry out team projects.

I find that students, whether in face-to-face or online teams, tend to focus on task and not on process. They thereby risk creating chronic process problems that hinder their team's ability to function. Perhaps for this reason, we are seeing increased attention in educational institutions to teambuilding skills—more obviously in face-to-face teams, more recently in online teams.

It appears that many team skills, such as those involved in decision making, developing a mission, developing team ground rules, and creative problem solving are not medium specific; rather, they are central to team development, regardless of the team's interaction medium. Other ancillary skills, however, are more media specific—for example, keyboarding, getting online, computer use, establishing alternative communication backups, use of emoticons, "netiquette" (Miller, 1998), and establishing efficient online communication processes.

Experiential exercises in which OB dynamics are created, experienced, and processed. OB teachers using an experiential approach may draw on a number of exercises in which dynamics are created for learning purposes. Many of these exercises involve physical materials, such as information in envelopes, cardboard shapes, play money, tinkertoys, and so on. The underlying purposes of these exercises rarely have to do with developing skills in manipulating physical materials, and this suggests that many experiential exercises could be redesigned to be expressed in an online medium. Translation to an online medium would require rethinking the essential purpose of the exercise, then developing online equivalents of the materials, for example, envelope icons that can be opened by double clicking, drag-and-drop Legos, and so on. Doing this would require a large startup cost, although perhaps not as large as creating the initial idea. Once done, the online instructor might notice some advantages in that there are no material costs, and materials do not wear out or get lost.

Role-plays and skill practice in which interpersonal situations are created and played out. Many OB topics concern interpersonal situations and the dynamics that occur in them, for example, assertiveness, active listening, conflict management, decision making, delegation, feedback, persuasion, and joint problem solving. Many of these situations can be established and set in motion in a small group/dyadic exercise, and students can, through playing roles, learn about these situations and how to manage them.

These role-plays may be difficult to emulate in an online environment, for two reasons: First, they can involve large amounts of interaction. Carrying out this interaction online requires a great deal of keyboarding, greatly slowing down the interaction. Second, nonverbal interaction can be important in some of these interactions, and these cues are not transmitted in the online dialogue. Interactive audio/video, not presently viable online, should make online role-plays much more feasible in the next few years.

Frequently, interpersonal skillfulness is more a function of how the interactor is thinking about the situation and less a function of his or her media fluency. To the extent this is the case, it may be possible to develop online exercises that help prepare students for live situations, by helping them learn about how they think about situations, the consequences of their actions, and how to develop more effective responses. For example, many students become derailed in conflict situations because they react to provocative statements and escalate the conflict. An online interactive case in which students receive provocative comments and can experiment with the consequences of different kinds of responses might help them to act more effectively in an actual situation.

Some OB skills are less centrally focused on live interaction. For example, motivational skills involve the ability to develop and implement a motivational plan, regardless of the medium used to implement it. Competency in interactions associated with negotiation, collaborative problem solving, and delegation has more to do with the content of interaction than of delivery. Moreover, some OB skill areas are largely intrapersonal, having only indirectly to do with interaction. Self-awareness, a common OB topic, involves development of self-understanding, with little implication of a media action, save for demonstrating learning—similarly for creativity, stress management, and time management. The learning of these skills can be facilitated online as well as it can in the classroom.

The online medium, then, must be given a mixed rating when considering role-plays and skill practice. At present, it does not provide the communication rate and richness required by some interactions. On the other hand, it does allow activities that can help prepare people for these interactions and

can work quite well in learning areas less associated with the face-to-face medium.

Individual assignments including reading assignments papers, case analyses, theory application, and research. It is a common classroom practice to assign projects to individuals or groups, and the output of these projects is commonly a paper document. Students submit these documents either in class or by dropping them off at the instructor's office. This process is easily carried over to an online medium. Because most student documents were probably first developed as computer word-processing files, the files themselves are readily sent to the instructor via e-mail/attachment or the Web medium (i.e., via an html form).

Self-assessment, where students learn more about themselves, usually through introspection and often aided by self-assessment instruments. Many OB texts include personal instruments, for example, Myers-Briggs, Quinn's Competing Values Framework (Quinn, Faerman, Thompson, & McGrath, 1996, p. 26), or Kouzes and Pozner's (1997, pp. 341-351) Leadership Style Inventory. These are useful not only for developing self-awareness and as a basis for developing a personal learning agenda but also as lead-ins to particular OB topics and when surfacing student personal beliefs pertinent to these topics.

These instruments can be implemented in the classroom as paper-and-pencil activities, but implementing them via computer offers far greater opportunities for processing score data, incorporating comparison data, and organizing results into a readable format—and doing this quickly, without a great deal of instructor effort. Many existing instruments, such as the Leadership Style Inventory are already available in a computer format for the PC, although fewer are Web-ready, that is, installable on a Web server and accessible via a Web browser.

Computer exercises, where student learning is enhanced through computer interaction, for example, via tutoring, interactive cases, simulations, or augmented self-assessment instruments. Since the early 1980s, there has been an ongoing stream of interest in the use of microcomputers in management and OB education. Many computer programs, such as management training software, interactive cases, personal assessment instruments, management expert systems, interpersonal simulations, team decision support systems, and group diagnostics software have been developed (Vance, 1993, chap. 10). Yet, such programs have yet to receive wide acceptance in the classroom.

Why not? One possibility is that computers do not have much promise in education. Yet, at least some of these programs reflect improvements in activities that are already being conducted in the classroom, for example, use of self-scoring instruments for self-assessment or interactive cases in which the case unfolds as the student makes choices.

A more likely reason for low acceptance is that universities, university educators, and students still must pay a large startup cost to make these programs available to all the students in a class. A classroom instructor wishing students to use a program typically must find out about the program, preview it, obtain it, have it installed in a local lab, introduce students to the program, and help those who have problems with the technology. Because such PC-based computer programs do not have a standard interface, much of this startup cost must be paid again as students move to the next activity. These costs are far less for a Web-based program because students already have the technology and already are familiar with the interface.

Exams and feedback, which refers to not only the testing process but also all class activities that are assessed and the results fed back to students. Classroom examinations are typically proctored in a classroom, using paper-and-pencil formats. In addition to using essay, short answer, and matching questions, instructors usually have access to "bubble sheet" technology, for automatic scoring of multiple choice and true/false questions.

With the advent of commercially available Instructional Management Systems (IMS) such as WebCT, Blackboard, TopClass, and Web-Course-in-a-Box, it is now possible to develop exams with all the elements mentioned above and to give exams via a Web-connected computer. Such exams may be made available generally on the Web or designed so that they must be taken in a proctored computer lab. Although instructors must still score essay questions one by one, scoring results are automatically fed into student databases, and both student and exam statistics are easily generated. Student feedback can be released immediately or at a time set by the instructor.

Once the technological hurdles are passed, an online exam system would seem to be generally preferable to a paper-based classroom system. A greater variety of exam question types can be used, student access to feedback is improved, exams need not be constrained to the length of a class period, the mechanics of keeping up a student database are simplified, and makeup exams are easier to handle.

The process of providing feedback on individual/group assignments is somewhat more difficult to move to an online medium. The double-spaced, typewritten paper document is well adapted to review, modification, and feedback. It is not easily apparent how one processes a folder of electronic

documents as efficiently as a stack of papers. When assessing documents, some online instructors wind up printing out the documents and marking up the papers as they would for a classroom course.

It is possible to envisage and even prototype a paperless process. Currently, I have my students submit documents online via a form that stores the submission in an MS-Access database field. In scoring, I read the document directly from the field, write comments in another field, and enter a score in a third. The whole process is electronic, and the results are available online to students as soon as I finish. Although current IMSs do permit online scoring, the process is not yet as highly evolved as its paper equivalent.

Summary and Discussion

The results of the discussion above are summarized in Table 1. Here, the impacts of moving a number of OB classroom activities to an online medium are given scores for each of the six media differences described earlier: "largely positive" if the impact on the activity is generally beneficial, "mixed" if the impact is mixed, a blank if there is little to no impact, and "largely negative" impact is generally detrimental. The large number of blank cells in this table (45 of 66) indicates that for the most part, media is not an important issue in moving most OB learning activities from classroom to online.

The activities that appear to be most difficult to transfer are ones in which large amounts of interaction are involved and/or involve learning specific to the face-to-face medium. In some of these areas, however, benefits were also seen: Although online teams may encounter communication problems, they can also expect more thoughtful interactions. Although considerable work would be required to recast experiential exercises in an online context, doing so could make conducting these exercises easier and less costly. Whereas some highly interactive and media-specific role-plays would probably not translate well into an online context, others would, because they do not intrinsically involve face-to-face interaction.

Online teams come out very well in this rating. Despite communication issues (which are likely to lessen as Web technology develops), teams can benefit from greater member participation, fewer process issues, access to Internet information resources, and greater member diversity.

The online medium has a positive impact on access to information, self-managed learning, student diversity, and computer interaction. Access to information on the Web can be highly useful when instructors wish to develop student inquiry and critical thinking skills. There appears to be

increasing recognition of the importance of self-management skills, and the online medium supports learning these skills. Diversity issues have come to the fore in recent years, and the potential for engaging students in diverse groups and classes can be a very useful resource when teaching students to manage diversity well. Finally, the online medium makes it much easier for instructors to incorporate activities involving computer-assisted instruction. As time passes and the number of online students increases, the availability of such programs must inevitably increase.

OB Learning Areas Potentially Enhanced Using Online Medium

An important implication of this article is that although not all OB activities may translate equally well to an online medium, there are some areas in which this medium may offer greater learning benefits than the classroom. Six of these are listed below.

Media-specific learning. Whereas the classroom lends itself to developing fluency in face-to-face media skills, so does the online medium lend itself to learning online media skills. These include basic computer and Web skills, computer-based communications, and virtual teambuilding.

Inquiry skills. Whereas classroom students can be expected to have access to libraries, online students can be expected to have access to the Internet. Although not a substitute for a library, in some respects, it offers advantages over a library in developing inquiry skills: It is vast, diverse, highly accessible, and current. Moreover, because information on the Web varies in validity, students must exercise critical thinking in interpreting their findings.

Diversity and international learning. The online medium provides two advantages here. First, it offers access to the Web, which is current and international in scope. Thus, it provides an opportunity for students to learn about and research current events globally. Second, it allows the opportunity for interaction with individuals globally. These individuals may be in the course or may serve in a guest capacity. Text-based interaction makes it easier for individuals not fluent in the language of the classroom to interact. In fact, Web-based translators such as the one provided by Alta Vista (see <http://babelfish.altavista.com/cgi-bin/translate>) offer the possibility of interaction among individuals who do not share a common language.

Self-assessment instruments. Such instruments can be a powerful precursor to a course, to some course topics, and to developing self-awareness. As discussed earlier, online assessments can be more easily implemented than pencil-and-paper versions. In addition, they make possible the automatic generation of sophisticated and individualized statistics that can be presented in an organized and easily readable format.

Interactive cases and situations. Unlike most textbook cases, interactive cases can unfold. As individuals make choices, both the consequences of their decisions and further information become known. In this respect, they are more realistic representations of actual situations. When teaching managerial skills, "micro" interactive cases, involving an unfolding interpersonal situation, can help individuals to orient to situations and learn how to think in them. For many individuals, this may be the most significant part of their skill development.

Simulating systemic OB dynamics. Whereas it is possible to simulate micro-OB dynamics in the classroom, some of the more complex, organizational-level OB topics—such as organizational design, organizational change, complex decisions, ethical and other dilemmas, and organizational culture—are much more time consuming and difficult to emulate in a face-to-face medium. They can, however, be simulated in a computer program, and students can learn about them by interacting with the simulation and experiencing the results. "IBSim" (see <http://www.ibsim.com>), an international business simulation game and "IBMDMS" (see <http://www.mhla.net/mcdonald>), a competitive organization simulation, provide examples of how systemic simulations may be designed and how engagement with them can provide a powerful and intrinsically motivating learning experience.

Conclusion

Is the Web a suitable medium for OB learning? This article gives a qualified "yes": Whereas some OB learning may be better addressed in a face-to-face environment, much learning may be as well addressed in an online medium—and for some areas, online may well be the medium of choice. One implication is that it would make sense to consider hybrid learning designs, where both media are used in a course, or a course is divided into online and face-to-face components. Perhaps the most important implication, however, is that the Web provides important opportunities for OB instructors to

improve their teaching and that we can expect to see many interesting developments in online OB teaching as we realize these opportunities.

References

- Anonymous. (1998). *Evaluation of online learning: Studies comparing online and traditional methods* [Online]. Available: <http://webclass.cqu.edu.au/Resources/Evaluation/#Online> versus Traditional.
- Bigelow, J. (1993). Managerial skills texts: How do they stack up? *Journal of Management Education*, 17(3), 399-415.
- Collins, S., & Grunke, M. (1998). Anywhere, anytime, online: An assessment of online courses at Kansas City Kansas community college [Online]. Available: <http://www.kckcc.cc.ks.us/ss/sp981.htm>.
- Culmer, W. C. (1997). *The convergence of hypertext and computer mediated communication: A case study in graduate education using the World Wide Web* [Online]. Available: <http://www.educ.drake.edu/doc/dissertations/culmer/toc.html>.
- Goldberg, M. (1998, December). Remarks made at WebCT workshop, Idaho State University, Pocatello.
- Hiltz, R. (1997). Impacts of college-level courses via asynchronous learning networks: Some preliminary results. *Journal of Asynchronous Learning Networks* [Online], 1(2). Available: http://www.aln.org/alnweb/journal/jaln_issue2.htm#Hiltz.
- Jaffee, D. (1998). Institutionalized resistance to asynchronous learning networks. *Journal of Asynchronous Learning Networks* [Online], 2(2). Available: http://www.aln.org/alnweb/journal/jaln_vol2issue2.htm#jaffee.
- Kearsley, G., Lynch, W., & Wizer, D. (1995) *The effectiveness and impact of computer conferencing in graduate education* [Online]. Available: <http://gwis.circ.gwu.edu/~etl/cmc.html>.
- Kelley, D., Scott, S., & Seddon, R. (1997). Reading and writing today. In *Five essays: Issues of Internet textuality* [Online]. Available: <http://loki.stockton.edu/~kinsell/titresources/5essays/projects.html>.
- Kennedy, K. (1998, October). *Conflicting purposes of education: Will improving access to higher education undermine quality?* [Online]. Available: <http://smcccd.cc.ca.us/smcccd/faculty/kennedyc/rsch/paper1.htm>.
- Kinzie, M. B., Larsen, V. A., & Kent, T. W. (1998). *Online learning via real-time discussion of Web-based case materials* [Online]. Available: http://gea01.pangea.org/inet96/c5/c5_1.htm.
- Kouzes, J. M., & Posner, B. Z. (1997). *The leadership challenge*. San Francisco: Jossey-Bass.
- Kulik, J. A. (1994). Meta-analytic studies of findings on computer-based instruction. In E. L. Baker & H. F. O'Neil, Jr. (Eds.), *Technology in education and training*. Hillsdale, NJ: Lawrence Erlbaum.
- Miller, M. (1998). Newsgroups and netiquette. *Suite101.com* [Online]. Available: http://www.suite101.com/article.cfm/higher_education/6136.
- Morton, B. (1997). Is the journal as we know it an article of faith? An open letter to the faculty. *The Public-Access Computer Systems Review* [Online], 8(2). Available: <http://info.lib.uh.edu/pr/v8/n2/mort8n2.html>.
- Musumeci, D. (1998, November). Cost reduction in foreign language curriculum [Online]. Presented at the Fourth Annual Asynchronous Learning Networks Conference. Available: <http://www.aln.org/conf98/Presentations/mesumeci/mesumeci.htm>.

- O'Brien, C. D., & Buono, A. (1996). Creating a networked, learning organization in the classroom. *Journal of Management Education*, 20(3), 369-381.
- Quinn, R. E., Faerman, S. R., Thompson, M. P., & McGrath, M. R. (1996). *Becoming a master manager*. New York: John Wiley.
- Quintana, Y. (1996). *Evaluating the value and effectiveness of Internet-based learning* [Online]. Available: http://moevax.edu.tw/inet96/c1/c1_4.htm.
- Scholtes, P. R. (1992). *The team handbook*. Joiner Associates. See also <http://pscholtes.com/> and <http://www.curiouscat.com/management/scholtes.htm>.
- Townsend, A. M., DeMarie, S., & Hendrickson, A. R. (1998). Virtual teams: Technology and the workplace of the future. *The Academy of Management Executive*, 12(13), 17-19.
- Vance, C. M. (1993). *Mastering management education: Innovations in teaching effectiveness*. Newbury Park, CA: Sage.
- Wang, H. (1996). Flaming: More than a necessary evil for academic mailing lists. *Electronic Journal of Communication* [Online], 6(1), Available: http://www.cios.org/getfile/wang_V6N196.