

THE EFFECTIVENESS OF THE INTERNET FOR MBA COURSE DELIVERY: THE INSTRUCTOR'S PERSPECTIVE

Jerry Gosen
University of Wisconsin-Whitewater
Management Department
Whitewater WI USA 53190
262-472-3956
gosenpuj@uww.edu

ABSTRACT

The purpose of this paper is to assess the relative effectiveness of delivering learning on the Internet. The method was to interview nine college professors who have taught both on line and in the traditional classroom. Professors were asked to compare the Internet with the traditional classroom as to learning delivery effectiveness and were also asked questions about conducting discussions and grading on the Internet and about the consequences of both the convenience inherent in and the necessary structure that accompanies on-line teaching. Among the results according to this sample of professors: teaching on the web has more weaknesses than strengths, the web was inferior when interaction and when one-on-one assistance were important for learning, it was superior when learning from the written word was important, the structure necessary for web delivery prevents flexibility, and the convenience reinforced impulses to avoid classroom intensity.

INTRODUCTION

E-businesses have had an adventurous ride. After an early development phase, these businesses, at least in the United States, seemed to acquire an atmosphere of invincibility. The perception was that E-businesses, would thrive and grow without hindrance, and people invested in them seemingly without scrutiny. Then in the last half of 2000, reality set in, and many E-businesses went out of business.

A similar pattern seems to be happening with Eeducation. Taking courses via computerized networks is now an established phenomenon, and Internet education is now a growth industry. While web-based courses were a rarity only a decade ago, they have become an accepted means of providing higher education, and their popularity is increasing. According to Duvall [5] for example, a web sight now exists offering 1.5 million internet courses available through 3,000 different institutions.

The educational delivery industry is extremely enthusiastic about this medium. Apparently, it has latched onto the web with an accomplish-all attitude, without serious consideration of its advantages and disadvantages. It appears that those creating, developing, and implementing web course delivery have not studied the medium thoroughly enough to understand when it is effective and

when it is not. One could argue that such explorations have not been adequately undertaken for other teaching methods, and this is true. However, there are inherent limitations in teaching on the web, in particular the lack of learner-teacher face-to-face contact. Given this seemingly fundamental limitation, it is important to develop an accurate understanding of what the web can do well and what it cannot.

This calls for research. Most of the literature available E education either advocates its advantages or describes its growth or potential [4] [5] [6] [7] [8] [10] [14] [15]. A few papers offer critiques [10] [14] and a few published papers report research assessing the effectiveness of web-based education.

Much of this available research assessed Internet education from the student perspective, and much of it used student responses to Likert-type questions as measuring devices. Arbaugh [2] used student perceptions of learning, technology usefulness, and flexibility to assess Internet medium quality. Christensen et. Al [3] measured receptivity to distant learning, Arbaugh [1] measured perceptions of interaction difficulty, and Webster & Hackley [13] measured student perceptions of media richness, their own learning outcomes, and self-efficacy. Some studies have used objective measures to assess Internet course effectiveness. Arbaugh [1] used a multiple choice-test to measure learning and the number of comments made by a student to measure of participation, and the same author [2] assessed the medium by measuring interaction patterns among students. It should be noted that none of the above studies were comparison studies. In none was Internet effectiveness compared with that in the traditional classroom. One study has been undertaken in which Internet effectiveness has been compared to that from another medium and should be noted. However in this study [12], Internet teams were compared with face-to-face teams instead of Internet classes with face-to-face classes. Solving a mystery puzzle was the task to be accomplished, and both groups were equally effective in solving the puzzle. The Warkentin et. Al study [12] is meaningful because it suggests that the Internet interaction is as effective as face-to-face interaction, at least for some tasks.

This paper assesses the medium from the instructor's perspective. It appears that no other study has explored the perspectives of instructors in attempting to assess Internet-

education effectiveness. Doing so makes sense, as college instructors are the professionals in college education delivery.

This study's general purpose was to explore the perspective of college professors as to the effectiveness of Internet course delivery. There were six specific purposes. The first was to ascertain whether instructors who have both Internet and classroom experience think the Internet is as effective as a teaching-learning medium as the face-to-face classroom. The second was to determine the learning processes for which the Internet is more effective than the classroom and those processes for which the web is less effective. The third through sixth purposes pertained to specific features of Internet delivery. The third was to compare how instructors handle discussions on the Internet to that in the classroom, the fourth was to compare how instructors graded on the Internet with that in the classroom, the fifth was to explore instructor perspectives of the consequences of being very structured on the web, and the sixth was to explore the consequences of the convenience available to students on the web.

METHOD

Internet Education at University of Wisconsin-Whitewater

At present, the Internet MBA program at the University of Wisconsin-Whitewater parallels the traditional classroom program. The requirements are the same, and while not all the courses in the MBA program are offered on the Internet, the majority are, and enough courses are offered so that students can attain a University of Wisconsin-Whitewater MBA entirely on the Internet. In addition, students can take some courses on line and some in the classroom.

Web classes at UW-Whitewater (UWW) have many similarities to those in the classroom. They are taught by a single faculty member. The content and learning objectives of web classes are generally the same as those taught in the classroom. Courses proceed over a determined length of time, either a semester or a half-semester. Students are expected to complete assignments, exams and other activities by a predetermined time. Finally, at UW-Whitewater, the person who develops a course is the same person who delivers it.

There are also differences. Discussions on the web are often allowed to proceed over days or even weeks instead of being confined to a portion of a two and a half hour class. Often, multiple discussions take place at the same time. Weekly assignments are used more frequently in web classes to increase student interaction and act as an aid to motivate students to keep up with the course content (just as meeting once or twice a week in the classroom motivates students to keep pace). Finally exams and quizzes tend to be 'open

book' for obvious reasons. At present UW-Whitewater does not use an external testing service.

The courseroom software package used by the university, Learning Space from the Lotus Corporation, provides a schedule, mediacenter, profiles, courseroom and assessment manager as its tools for structuring and delivering the course. In addition, a CD (or multiple CDs) with instructor-delivered audio/visual presentations almost always accompanies course delivery. 'Live' chatroom software is also available to aid students in their group work. Finally, email is used extensively by students to communicate with each other and with the instructor for clarification, organization, and problem solving throughout the course.

Internet classes are taught entirely on the Internet. Classes do not meet face-to-face. Class size is almost always greater on the web at UWW, partially because course delivery is more expensive on line (and increased numbers of students per class compensates for this) and partially because there is more demand for web courses. There is more administrative support for web classes than classroom classes as well as more administrative direction.

Exhibit 1: Respondents

Instructor	Specialty	Years of teaching experience	# of courses taught on Internet	# of sections taught on Internet
YG	GM	26	1	3
JW	GM	26	1	1
DM	ComSys	18	1	1
TB	POM	15	2	4
WD	GM	14	4	11
SH	HR	14	1	1
BL	ComSys	11	1	1
DW	HR	11	1	2
JB	GM	6	1	1

Sample

The sample consisted of nine professors from the Management Department of the University of Wisconsin-Whitewater. All nine are tenure-track professors; seven have tenure. Exhibit 1 lists the professors, their specialty, years of teaching experience, and number of courses and sections taught on the Internet.

Professors from a single department at a single university were chosen to keep interpretations of data as simple as possible. These professors experienced the same technology, the same course structure, and the same program and administrative requirements. Difficult-to-interpret results would emerge from a sample of professors from a variety of universities, with different software and different administrative requirements.

Procedure

All professors were interviewed. There were six questions, five open-ended. The interview questions are contained in exhibit 2. Interviews lasted between 20 and 40 minutes. For any question, respondents could give more than one answer. While all interviews began with the opening question in exhibit 2, the entire interviews were conducted so that questions were asked out of order if the natural flow of conversation so dictated.

RESULTS

In response to the question asking respondents to compare the learning effectiveness of the Internet and the classroom, of the nine professors interviewed, two said students learned as much in their web classes as they did in the classroom, four said students

Exhibit 2: The interview schedule

<p>OPENNING QUESTION:</p> <p>Which of the following 4 statements is truest for you?</p> <p>1 2 3 4</p> <ol style="list-style-type: none">1. Students learn as much in my courses when I teach on the web as they do when I teach the same courses in the classroom.2. Students learn more in my courses when I teach in the classroom than they do when I teach the same courses on the web.3. Students learn more in my courses when I teach on the web than they do when I teach the same courses in the classroom.4. It is very hard for me to compare what the students learn on the web with that learned in the classroom. <p>OTHER QUESTIONS</p> <p>I want to interview each of you as to why you made the choice you made. The interview should take no longer than 20 minutes.</p> <p>Here are some of the questions I will ask:</p> <ol style="list-style-type: none">1. Why did you choose the statement you chose?2. a. If you chose #1, are there some things (concepts, skills, etc.) better learned on the web and other things better learned in the classroom? If so, what are they? b. If you chose #2, what things (concepts, skills, etc.) are learned better in the classroom, and what makes the classroom better? c. If you chose #3, what things (concepts, skills, etc.) are learned better on the web, and what makes the web better? d. If you chose #4, what does one learn in each of the media and how?3. I also want to know how you handled discussions on the web and the outcomes.4. Did you test on the web, and were you satisfied? If you did not test, on what basis did you grade?5. Did you find that you had to be more structured on the web? What were the outcomes of that?6. The web is promoted as very convenient? What are the consequences (positive and negative of the convenience)?
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learned more in the classroom than they did on the web, and three said it was difficult to compare what students learned on the web with that learned in the classroom.

Web Effectiveness in Helping Students Learn

Two of the respondents said that the web was more effective than the classroom in helping students learn from printed, i.e., textual and case, material. Four said that the web, because it provided for asynchronous discussions with no competition for air-time, helped students to think through and compose 'meatier' responses during discussions. One said students gained skills in developing virtual groups on the web, and one said students learned computer-related skills when taking a course on line. Of the nine respondents, seven provided the above answers, and for these seven, there were 1.43 instances of effectiveness mentioned per respondent (and if you count all nine respondents, there were 1.11 instances of effectiveness per respondent). Two interviewees offered no ways in which the web was effective (compared to the classroom) in helping students learn.

Web Ineffectiveness

All nine mentioned ways in which the web was ineffective or less effective than the classroom. Six pointed out that in the classroom students could learn better from interactions between people. Of those six, all mentioned that learning from interaction among students was superior in the classroom, and two pointed out that it was easier to learn from interactions with the instructor in the classroom than on the web. In the classroom and not on line, an instructor can use body language, tone inflections, and the black board to help communicate his thoughts and explanations.

Three said the web format made it too easy to avoid being thoroughly involved in the course; three said that learning from spontaneous discussion was less likely on the web; three said it was much more difficult to help students who were having material-mastery problems when teaching on the web. Two worried that one could not be sure who was taking quizzes and doing assignments when students were responding only on the Internet. Two said that it was difficult to know how students were reacting to instruction on the web; two said there was a disproportionate amount of group work necessary on the web; one said it was close to impossible to work on communication skills with a web format; one pointed out that it was hard to give feedback on the Internet; and one said that the asynchronous nature of discussions made it hard for everyone to be involved in discussions. There were 2.89 instances of ineffectiveness mentioned for the web per respondent.

Discussions

Exhibit 3 shows the differences between the ways which the professors managed discussion differently on the web than in the classroom. As indicated in exhibit 3, eight used small

groups for discussions on the web, while five used them in the classroom. Instructors were more likely to have contact with these small groups when in the classroom than on the web. They were more likely to have problems keeping track of student contribution on the web. In addition to the information in exhibit 3, four of the nine said a greater percentage of the course grade was devoted to discussions on the web, and one graded participation on line but not in the classroom. One of the nine said that discussions in the classroom were more focused than those on the web, that on the web, it was easier for students to “go in their own direction” without consideration of the topic being discussed.

Exhibit 3: Differences in managing discussions between the web and classroom

	# of resp. indicating on the web	# of resp. indicating in the classroom
Use of Small Groups	8	5
Have Groups report to full class	0	3
Interacted with groups as they were proceeding	0	2
Had trouble assessing a given student's contribution	4	0
Spent too much time tracking participation for grading purposes	4	0
Found it easier to give feedback to the groups	1	0

Grading

Two of the respondents said they graded the same in their Internet classes as they did in the classroom. Four said they graded on quantity of discussions and quantity of assignments turned in to a greater degree on the web than in the classroom. Of those, one offered that he graded on a greater number of specific assignments on the web and on a fewer number of larger projects (for example, a term paper) in the classroom. A second said that the material covered and questions asked on the assignments in web classes were the same as that covered and asked on the more comprehensive exams in the classroom. One allowed students to replace more grades on the Internet than in the classroom. Two used closed book tests for their MBA's in the classroom and abandoned that practice for the web.

Structure

Seven of the nine agreed that teaching on the Internet requires more structure than teaching in the classroom. For four of the respondents, the structure was in the form a greater preparation before actual course delivery. For two, it was in the form of a high quantity of short, easy-to-grade assignments.

For three of the respondents, the added structure produced positive consequences. One said that the structure, if it were implemented well, reduced student alienation, one said the structure added certainty in that everyone knew what must be done, and the third said that the need for structure helped him to think through the flow and the interrelationships among the units of the course.

For five of the interviewees, the added structure meant negative outcomes. Four said that the added structure prevented flexibility. It was difficult, on the web, to keep current or change the course as events or student characteristics suggested, and difficult on the web to adapt instruction to the knowledge level of the students. One said that the structure served only as a police function, preventing those who wanted a easy ride from the course from getting it. One said the need to attend to structure prevented him from spending time and energy helping students learn. One said that the structure prevented carry-over from one learning module to the next.

Convenience

All respondents acknowledged that the web was more convenient for students. Five offered positive outcomes associated with convenience. Three acknowledged that more people could take classes and attain the benefits of a graduate business education. One said that it was a good medium for those who could not attend classroom sessions. Two said that on the Internet, students could be focused on the course when they wanted to and be away from it when they had other priorities.

Seven offered negative consequences associated with convenience. Four said that the convenience reinforced the lack of motivation and commitment. One said the opposite, that because the course is always available on a nearby computer, that for the serious student, there is no escape to an 'ever-present' course. Two said that the availability of the web made it too easy for those who could make it to the classroom but wanted to avoid its intensity and interaction. One pointed out that the convenience results in large classes, which in turn requires the instructor to spend time and energy keeping track of participation, and thus the experience becomes too bureaucratic.

DISCUSSION AND CONCLUSIONS

This study's general purpose was to gain the instructor's perspective as to the effectiveness of Internet course delivery. The first specific purpose was to attain the opinions of instructors who have both Internet and classroom experience on the relative effectiveness of the Internet versus the face-to-face classroom. The results for this sample show a tendency towards a “the classroom is more effective” answer, as while four of the nine said the classroom was superior to the Internet for learning delivery, none said the Internet was superior to the classroom. In addition, whereas only seven

of the nine indicated ways that Internet was superior to the classroom, all nine suggested ways in which the classroom was superior to the Internet. Respondents offered more examples of web ineffectiveness per person than examples of web effectiveness. Also, while five mentioned negative outcomes from the increased structure that accompanies web delivery, three mentioned positive outcomes, and while seven stated negative consequences associated with that fact that the web is convenient, five stated positive outcomes.

One of the study's purposes was to determine the ways in which the web is more effective than the classroom and the ways in which it is less effective. According to these respondents, the web was superior in helping students learn printed material, learn computer-related skills, develop virtual teams, and respond more thoughtfully during discussions. The web was inferior in learning from interactions, in particular spontaneous interactions, both among students and between teachers and students. It was harder on the web for these teachers to help students having trouble with course material. The web was inferior in that avoiding involvement in the course seemed easier on it. Respondents also pointed out that it was difficult to learn communication skills on the web and that it was hard for professors to know how students were reacting to their instruction on the web. These results suggest that the Internet does limit certain kinds of learning. Learning from interactions and spontaneity and learning communication skills ideally require face-to-face contact. These are impossible if a course is entirely on the web. On the other hand, some of what respondents said the web could do better than the classroom are possible in the classroom. Certainly, students enrolled in a classroom can learn printed material, and instructors can manage discussions so that students have time to think before they talk.

In the introduction, I implied that the education delivery industry should find out what the web does well and what it does poorly. It appears from these results that it does well in helping students learn from printed material, think through what they want to say, and in helping them to deal with virtual groups. It appears to do poorly when it is important that learning occur from interactions among participants, and it's not a good medium when material is difficult and help from the instructor is important for mastery.

Regarding discussions, eight of the respondents said they used small groups, four to a greater degree on the web than in the classroom. Four said they graded on participation in the small groups the greater degree on the web. Apparently, group work seems to be a necessity on the web if there are large classes. Discussion is a natural outgrowth of contact with course content, but it is time-consuming for the instructor to actively conduct an asynchronous discussion with large (more than 20?) students. So to insure that all are involved, small groups are indicated.

However from this sample, there was at least some indication that the instructor was distant from small group interaction, that it was difficult for the small group to focus, and that learning from interactions was relatively difficult on the web. Furthermore, some said they had trouble assessing the quality of participation in their small groups, and some said it was an effort to keep track of every individual's contribution during discussions, an effort that distracted the instructor for interacting with and helping students learn. So in this sample at least, Internet courses were being managed with a technique somewhat counter-productive for learning.

While the results of this study might reflect the perceptions of other Internet users, generalizing from these results would be extremely suspect. The number of respondents is too small. It is very possible that the present study's results reflect only those conditions at the University of Wisconsin-Whitewater. The research methodology (the open-ended interview) is imprecise, and the interviews in this study more than occasionally turned into a free flowing discussion which varied in pattern and emphasis with the individual respondent. This diversity may have affected the results.

Nevertheless, the topic covered in this study is important. This course delivery medium is a popular but controversial. It is convenient for students but time consuming for faculty. Whether it is effective cries out for empirical research. This study is exploratory, but the interview questions and answers begin to lay a foundation for future research. The following questions are among those that can be answered with future research studies, perhaps more rigorous than this one.

*In what ways is the Internet superior to the classroom in effecting learning related outcomes, and in what ways is the classroom superior to the Internet?

*Are Internet students less motivated and committed than classroom students?

*To what degree (if at all) does the lack of face-to-face contact prevent course learning?

*Is there a class size limit below which relationship development can take place on the web so that learning from interaction can occur?

*Does the structure and reduction of size of learning units prevent the assignment of larger, more integrative, challenging assignments, which result in less higher level learning?

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