

Lessons Learned From Comparing Web-Based and Traditional Classes

R. Andrew Schaffer
North Georgia College and State University

Abstract

I recently taught two sections of an undergraduate managerial ethics course. I offered one section in a traditional, classroom-based format with mini-lectures, small group discussions, and whole classroom discussions of various case studies and ethical situations and scenarios. I conducted the other section completely online using Indiana University's "OnCourse" software. This class section utilized asynchronous text-based "mini-lectures" (readings), chat room groups, and class e-discussions. Both sections covered the same material and used the same textbooks. While I learned a lot from comparing and contrasting these approaches (which I will share in part one of this paper), the experience also led me to consider how an e-learning methodology might be useful in traditional classrooms. It is this latter point that I find most compelling, and I cover that topic in part two of this paper. I believe that the information and ideas in this paper can be applied in many academic disciplines – not just in management programs.

I am a classroom teacher. I am proud of my classroom teaching successes, and I am equally proud that I have learned from my classroom experiments that failed. I am not proud of the time that elapsed before I embraced Web-based education and e-learning. I was one of those who insisted that the classroom experience, the face-to-face interaction between faculty and students, was mandatory for learning to occur. I argued more than once that only a very few subject areas could be successfully

taught in an e-learning environment. I was wrong.

A large and growing body of research indicates the value of e-learning. Very recent studies show that computer-based instruction helps overcome the limitations of large-group instruction, and computer-assisted instruction can enhance uniformity, relevance, and independent learning skills (Stone, Bongiorno, Hinegardner, & Williams, 2004). With the recent focus on outcomes assessment, it is important to note that electronic dialoging has a demonstrated positive correlation with learning outcomes (Webb, Jones, & Barker, 2004).

Studies like the two cited above, and many others, convinced me to launch a Web-based class. I was assigned to teach an undergraduate managerial ethics course, so I offered one section in the traditional classroom format and the other via the Web. These parallel offerings allowed me to compare and contrast the approaches for myself. I used the same textbooks, offered the courses at the same university to the same majors in the same semester, and of course, the instructor was the same person. Although this certainly doesn't create a research design or research sample, the similarities do allow for some meaningful comparisons.

Part I: Comparisons Between the Traditional and Web-Based Sections

Demographic Comparisons

While this paper offers some quantitative and qualitative comparisons of

the two sections, given the unscientific design, limited sample size, and the limitation of only two class sections, this summary is only meant to offer observations and suggestions and to provide information on the subject of traditional and e-learning approaches.

The traditional classroom section had 28 students. This class was predominately White (75%), with the remainder of the section being Black (18%) and Hispanic (7%).

Twenty-five students composed the Web-based section. This class was predominately White (80%), with the remainder of the section being Black (16%) and Hispanic (4%).

By gender, the classroom section closely followed the management program's overall distribution. The classroom-based section was 58% Women and 42% Men. The Web-based section, similarly, was 56% Women and 44% Men.

By age, the classroom section closely followed the undergraduate management program's distribution with 51% of students 18 to 25 years of age, 35% were 26 to 35 years of age, and 14% were 36 years and over. The Web-based section attracted a slightly older student base with only 45% of students 18 to 25 years of age. The 26 to 35 year olds accounted for 39% of the enrollment and the 36 and older group comprised 16%.

Comparison of Differences in Student Participation: Quantity and Quality

Students in the traditional classroom met twice per week for 75 mins per session over a 16-week semester. Students interacted with one another and with me as we discussed cases and reviewed ethical scenarios. However, some students tended to dominate discussions and took control of the classroom groups. Other students took a

very passive role in the classroom and did not offer much in the verbal discussions. Even when called upon by me or other students, those passive students would respond with comments like, "I don't know" or "I agree with 'Bill' and the comments he made."

However, active and passive students in the traditional classroom did perform equivalently when it came to written assignments. The quality of their work (based on assigned grade) was distributed as one might expect in an undergraduate course. What is striking is that there was no apparent correlation between the performance of the passive students in open discussions and those same students' performance on written work. In fact, the students who said little or nothing in class were some of the strongest performers on the written assignments.

By default, the Web-based section was all "written work." I required the students to read assignments, cases, and ethical scenarios at the same pace I was presenting them in the traditional classroom. However, in the Web-based class, I achieved "discussion" through asynchronous chat rooms set up for different cases and scenarios. Each student posted a minimum number of comments (determined by me and based on the complexity of the case) and also posted responses to at least three other students' comments about that case. In addition, students were required to respond to the comments posted to their initial comments.

From my point of view as the instructor, it was much easier to quantify each student's level of participation in the Web-based class. In addition, I had more time to objectively review and reflect on the quality of the Web-based students' comments compared to student interactions in the traditional classroom.

The series of interactive assignments in the Web-based class resulted in a wider, deeper, and more challenging exchange of thoughts and ideas than I observed in the classroom section. My experience with the Web-based class supported Rigou, Sirmakessis, and Tsakalidis (2004) who argue that Web-based learning environments give e-learning new potential by enabling interactive, current, and user-centric learning tools. Online learning communities can exploit the knowledge and experiences of community members. They can better serve each individual depending on personal preferences, goals, and needs.

Comparative Student Performance

Research studies comparing traditional classroom versus Web-based courses have reached different conclusions about student performance. For example, research on a graduate course in social work at the University of Louisville found the actual content knowledge gain was better for the traditional classroom sections (Faul & Frey, 2004). However, similar comparison research with an undergraduate psychology course in human development at East Carolina University reported significantly higher outcome measures for the Web-based course (Eppler & Ironsmith, 2004). A multi-campus study in Europe reported mixed outcomes. Results indicated that if student group members had to share and exchange knowledge to reach a joint solution they achieved better results in synchronous settings (Schweizer, Paechter, & Weidenmann, 2003). Additional research suggests that learner behaviors in online environments often do not match instructor expectations because the chat tool does not adequately match the educational task (Linder & Rochon, 2003). These authors posit that instructors and learners often fail

to receive adequate instruction before using e-learning tools.

In my two-section, non-scientific comparison, a simple t test with an alpha level of .05 revealed that students in the Web-based section performed significantly better (1.15 GPA points higher) than the traditional classroom students, $t(1, 51) = 3.61$, $p = .009$. Similar to Faul and Frey's (2004) findings, my Web-based students reported significantly higher satisfaction scores for the course than the traditional classroom section. In addition, my end-of-semester instructor evaluation scores were higher (although not statistically significant) for the Web-based section. Table 1 summarizes the comparative information presented above.

Part II: Potential Applications of E-Learning in Traditional Classrooms

"E-learning" is often viewed as synonymous with distance education, but why not apply e-learning principles in a traditional classroom? Based on their experience and research, Eppler and Ironsmith (2004) argue that a combination of teaching formats, including Web-based approaches, fits the needs of a growing population of students. While the literature often focuses on translating traditional classroom methods into electronic delivery, why not consider this the other way around? Aspden and Helm (2004) posit that the presence of virtual learning environments in an on-campus setting can alter the dimensions of existing learning and teaching relationships, and can draw teachers and students closer together.

In-Class Electronic Discussions

As I summarized the comparative information presented earlier in this paper, I began to conceptualize how methods

Table 1***Comparison of the Traditional and Web-Based Managerial Ethics Classes***

Pedagogy/Methodology	Traditional Classroom Section	Web-Based Section
Textbooks	<i>Business Ethics</i> by Jennings (West) and <i>Annual Editions: Business Ethics</i> (McGraw-Hill)	<i>Business Ethics</i> by Jennings (West) and <i>Annual Editions: Business Ethics</i> (McGraw-Hill)
Meeting Times	Twice per week, 75-minute class periods	No set meeting times Asynchronous chat
Interaction with Instructor	All face-to-face Occasional e-mail inquiry	All Web-based
Interaction with Other Students	All face-to-face	All Web-based
Group Work	Self-selected groups In-class discussions of cases and ethical scenarios	Asynchronous responses to student-posted comments and questions
Assessment	Written case summaries Written answers to homework questions Class participation Three short-answer examinations	Written case summaries Written answers to homework questions Class participation Three short-answer examinations
Grading of Participation	Instructor recorded quantity of comments per student and assigned an immediate grade for quality/depth of comment	Instructor counted quantity of posted comments per student and assigned a grade for quality/depth of comment after reading and reviewing all posted comments
Average Student Grade	2.35/4.0 (“C”)	3.50/4.0 (“B”)
Average Instructor Evaluation Score	4.62/5.0	4.73/5.0

utilized in Web-based courses may be incorporated into other types of classroom environments and to what advantage. Perhaps the most interesting thing I learned from comparing the two class sections was the quantity and quality of participation in the Web-based course. If Web-based discussion threads can markedly increase the level and depth of participation, why not use similar electronic techniques in a traditional

classroom? Imagine an in-class discussion where students are required to post comments and respond to other students’ comments. With this approach, you have created an assignment where student performance can be measured, evaluated, and (unlike a traditional class discussion) printed and handed back to each student. There is even software available that tracks student accesses to sites and allows student

participation and performance statistics to be readily monitored (Stone, et al., 2004).

I envision two relatively simple approaches to blending Web-based discussions into a traditional class. The first approach is to use a computer lab as a classroom and conduct the discussion, case analysis, or review of textbook questions on a synchronous chat room. You are conducting the same basic classroom discussion; you are just doing it electronically. A second approach that requires even less advance planning is to assign homework to be completed on an asynchronous Web chat room. Students would simply sign on and complete the homework at a time of their choosing (but, of course, before an assigned due date).

Electronic discussion forums provide students with additional processing time. While the pace of a classroom discussion may be too fast for some students to process what they want to say and then jump in, an electronic forum allows students extra processing time. Students with less experience in the subject matter, less confidence, or public speaking fears can read the discussion thread, think about a response, type their response, and even think about and modify their response before hitting the “enter” key.

Many undergraduate students suffer from “production blocking” (Nemeth, Personnaz, Personnaz, & Goncalo, 2004). Production blocking occurs when an individual tunes out an ongoing conversation to think about and formulate a question or comment they want to make. This person is so intent on getting the wording of their question or comment just right that they do not hear or process the current conversation. In classrooms, you see production blocking in action when a student asks a question that you have just answered or when a student repeats a comment that another student has just made.

With electronic discussion forums, this problem should be eliminated. Students can read the current discussion thread and see what has been submitted before they enter their comments. If something is already posted that they wanted to state, they can add support to that comment and expand on it.

Anonymous Participation

Another option to try in an electronic discussion forum is anonymity. Give every student a code number so students cannot identify the participants’ comments (but you can for grading purposes). Anonymous participation puts everyone on equal ground. In an anonymous chat room there are fewer (or no) irrelevant issues associated with White vs. Black vs. Hispanic, different academic majors in the class, different GPAs, Juniors vs. Seniors, Greeks vs. non-Greeks, Men vs. Women, etc. Everyone can participate and have their comments and questions evaluated at face value without any intervening variables that may bias the receivers’ evaluations.

An additional advantage of this technique is that the instructor can also participate anonymously. This would make the instructor’s comments equal to everyone else’s. Imagine, if you dare, a classroom discussion where any student could challenge the instructor’s comments and assertions, and the rules of the forum dictate that the instructor would have to defend his or her position! What a rich and challenging educational experience that could be for everyone involved. It would also give instructors feedback on how well they are actually communicating their message and subject matter.

Other Issues

One potential problem with this type of e-learning is that lengthy processing times do not represent actual real world conditions; conditions where individuals in work settings may not have the luxury of long periods to contemplate complex issues. In these real-life settings, people must respond quickly to be heard or the opportunity to state an opinion is lost. Thus, I would propose that this e-learning technique be used in introductory courses where students are learning to process the opinions of others, form their own responses, and then articulate those responses. The use of electronic discussion forums should be supplemented with additional courses that require public speaking and discussion and debate in “real-time” settings.

I have noticed that some teachers take a team approach to course development and delivery, especially when experimenting with new technologies. However, research indicates that blending e-learning and a traditional classroom approach works best when the e-learning course developer is the same person who teaches the traditional classroom version of the course (Barabesh, Guberman-Glebov, & Baruch, 2003).

Conclusion

The current generation of traditional college students (and an increasing number of nontraditional students) is quite comfortable with electronic chat. The proliferation of chat rooms, instant messaging, and text messaging provides students with a level of comfort that teachers need to exploit. In fact, it is we, the instructors, who will probably need to bring ourselves up to speed with the technology, techniques and jargon of e-chat (Ryan, Carlton, & Ali, 2004). While most of us can

probably interpret the smiley face :) and the wink ;) are we up to speed that “b/c” means “because” and “lol” means “laugh out loud?” Will we allow our students to use Internet slang in our academic chat rooms or will we uphold the traditional standards of written English? These questions, and hundreds more, will need to be thoughtfully explored and researched as we move farther into the e-learning frontier.

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