Web-Supported Interaction in an MBA Course

Web-based technology provided personalization and increased interaction in a Harvard Business School MBA course

By **Daniel Quinn Mills** with **Matthew Salloway**

Although critics have often claimed that online instructional technology results in depersonalization, an innovative experiment at the Harvard Business School has demonstrated the opposite. The Masters of Business Administration (MBA) course combines traditional classroom learning with synchronous online learning. Most instructors focus their online efforts on putting content online in an increasingly sophisticated manner involving text, video, and other formats. This course focuses on putting instructor–student interaction and student–student interaction online, accompanied by less-sophisticated content presentation. In other words, this course focuses not on delivering content to individual students, but on creating an interactive online class that maximizes student participation.

The online elements of the course currently supplement the classroom experience. Rather than use the classroom for student–instructor interaction, the course reserves the classroom for interaction with visiting executives. The interaction between instructor and students — which is background to classroom interaction with executive visitors — takes place online.

Important pedagogic reasons (discussed later) underlie the use of the online classes and their role as the primary mechanism for instructor-directed learning. Note for now that we've found this a particularly valuable innovation for large courses with many students, which reduces the intimacy of the instructor–student interaction in the classroom itself.

The course design permits students to interact among themselves under instructor direction in both a large classroom setting and in the more intimate, interactive environment of the online meeting. The online classes aren't restricted to content delivery, but extend to critical educational interaction. In fact, the small online classes provide an intimacy and depth of interaction not achievable in the large classroom environment of 102 students.

In the small online meetings, which are limited to 20 participants, students have the opportunity to experience this intimacy with both the professor and other students. Participating from remote locations encourages students who might hesitate to participate in the large classroom setting. In general, the participation of students and instructor in give-and-take discussion — that is, the Socratic method or the method of case discussion — is an extremely effective pedagogic method online, just as in the classroom.

Educational Methods and Objectives

Harvard Business School offers the course discussed in this article as part of the MBA program. The traditional course and the online classes now accompanying it fulfill specific pedagogic objectives while contradicting common wisdom about online instruction.

Course Description

Management in Perspective is a spring semester elective taken by second-year MBA students. It has 102 students enrolled — a number dictated by the seats available in the course's large, amphitheater classroom on campus. While typical business school courses use the case method as a basis for classroom discussion, this course took an alternative approach by providing longitudinal exposure to a limited number of companies through direct classroom visits by top-ranking executives. The executives represent a variety of industries, such as Internet infrastructure, financial services, venture capital, cellular telephones, and contract manufacturing.

Over the 14-week period of the course, students have the opportunity to interact in depth with the executives in several classroom sessions. During these sessions, students follow the concerns of each firm's top executives in real time. Rather than being topic focused, as most MBA courses are, this course is firm focused, giving the students an opportunity to delve deeply into various companies' situations.

Before the executives visit the class, students receive background reading on their firms. During the class meeting the executive shares short- and long-term concerns. The group discusses the topics raised by the executives and others advanced by students on the basis of their previous study of the company (via cases and Internet-

Figure 1

Record of Online Class
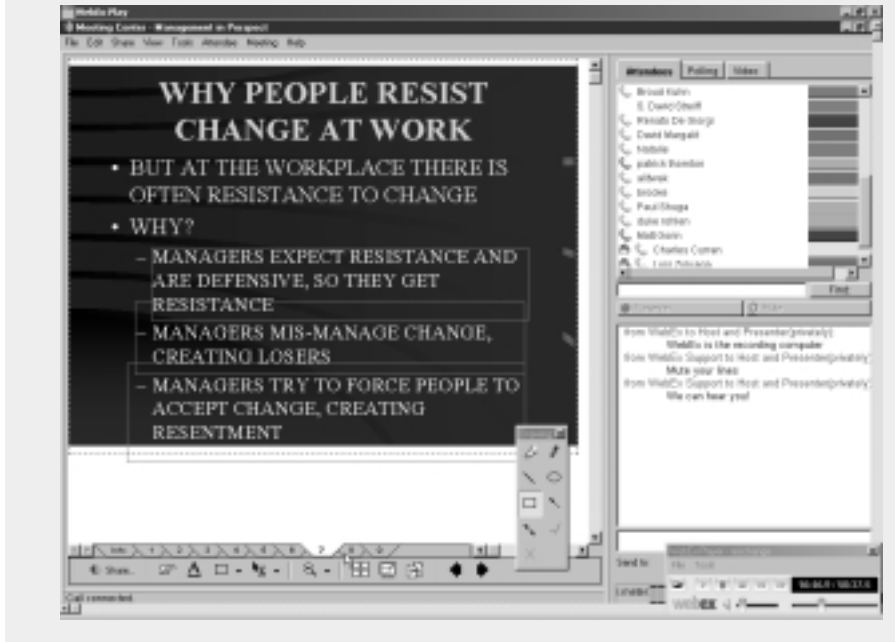
provided materials such as corporate annual reports, analysts reports, and so on). The course follows the executives' concerns and approaches over a period of three months.

Students may volunteer to investigate topics arising in the classroom and make written and verbal recommendations to executives. For example, before each visitor's return, an electronic poll with questions on relevant issues is circulated to students and the results calculated. At subsequent meetings of the class, executives respond to the students' analyses and suggestions.

Online Classes

Since scarce classroom time is best dedicated to student interaction with the executives, the instructor (Mills) introduced online learning into the course. Online classes are held outside the physical classroom, each involving 20 or fewer students from the 102 in the course. Note that at the beginning of the semester students are assigned to one of the six online meetings. With 102 students, this amounts to 17 participants per meeting. However, due to schedule conflicts, the actual amount ranges from 13 to 20 students. Since

each meeting has some available spaces, students may volunteer to participate in more than one meeting. They are accepted in the order in which they make their requests and on a space-available basis. Students from the course who are not scheduled to attend a particular online class are expected to view a full recording of the online class, available on the course Web site immediately after the online class finishes.

In the online meeting, all participants log on simultaneously and can communicate directly with one another. The instructor directs the online class through the ability to recognize individual participants who raise their electronic hands from their personal computers. Participants make comments in either written or audio form.

The format of each 50-minute meeting includes a PowerPoint presentation by the instructor, which permits questions from students as the presentation proceeds, followed by a thorough discussion addressing the topic. The scheduled presentation is available online for students to review individually prior to the online session. The sessions include topics such as

Leadership Styles, Managing in a Merger, Managing Change, Motivating People, and e-Leadership.

Because a digital record of each online class is available to all students via the Internet (see Figure 1), the instructor doesn't need to repeat each online class with different groups of students. Instead, each online class covers a different topic, and students from the course who don't participate in a particular online class can review it on the course Web site.[1] A student who has questions for an instructor about material in an online class that she or he didn't attend can contact the instructor by e-mail, make an office appointment, post a question or comment on the course platform's discussion board, or talk informally during a social encounter.

Pedagogic Objectives

Experience with this course indicates that using an online meeting system increases learning by supplementing the classroom experience. Although the classroom discussions are interactive, the smaller, more intimate online meetings foster a greater sense of participation. The course lets students gain first-hand experience with business issues and assists them in developing their critical-thinking, task-analysis, problem-solving, and decision-making strategies and techniques. Students can also make recommendations to the executives, follow the development of an issue over time, and view the results of their recommendations. Through the use of reading material, classroom discussions, and online meetings, students take part in a multifaceted, intensive learning experience.

In addition to learning the analytical and sophisticated issues that business leaders face, students gain greater perspective into their own experience and the experiences of their classmates. With a mix of executive visits and online meetings, students become highly engaged in the issues and examine the innermost, detailed dilemmas and obstacles of the firms. The multidimensional learning environment

fosters a sense of interaction and connection.

Two widely recognized problems of large class sizes are (1) that each student has a limited time for interaction with the instructor, and (2) that some students find it very difficult to speak out in a large class and therefore participate in class discussions little or not at all. The online classes offer a partial solution to both problems.

Because the online classes are limited to less than 20 student participants, each student has time to participate. Our experience indicates that anywhere from 60 percent to all of the students in an online class speak at least once, and many speak several times.

In addition, the online classes offer a much less threatening environment to many students. Thus, most students who won't speak in class do so readily from the apparent security of their own homes during the online classes.

Technology

The online meetings incorporate Web-based meeting technology and telephone-conferencing capability. At some point in the not-too-distant future, sound over computers will achieve sufficient quality to permit dispensing with a telephone-conferencing system. For now, however, voice-via-computer technology is not of sufficient quality for use in our online classroom.

To participate in one of our online classes, a student needs both an Internet connection and a phone line. Each week students receive appropriate instructions for joining an online class. The process is quite simple: students enter the URL or Web address for the class, then follow specific instructions to log on. The service then calls the student and connects the person via the Internet and the telephone to the online class.

Our course uses a service from WebEx Corporation, which provides real-time, interactive, multimedia communication services for Web sites. The services are delivered over the Internet, using servers running a communications platform and a global

network of leased communication lines. The WebEx Meeting Center integrates audio, data, and video to provide an online class or meeting room that simulates the spontaneity of face-to-face meetings. Participants can attend the meetings from any computer or telephone.

The features used by the course include application sharing, polling, live chat, and record and playback. Application sharing allows the instructor to share presentations or other documents with all attendees from the instructor's own computer without uploading a file to a server. The instructor can use the toolbar to annotate and highlight different aspects of the shared presentation. The instructor can also shift control of the meeting to another attendee. For example, the instructor can permit a student, visitor, or expert to share documents or make comments on the original presentation. This enables interaction not only between the instructor and the students, but also between the visitor or expert and the students. Polling allows the instructor to receive instant feedback in the form of instant tabulations of responses from the students on questions relating to class topics. The chat function gives students the ability to ask questions either of the entire group or privately of the instructor.

A "raise hand" feature signals the professor that a student has a question or wishes to make a comment. The stu-

dent clicks on an icon on his or her computer, the instructor sees an icon of a raised hand on his computer, and the instructor recognizes the student by clicking on the raised hand and demuting the student's microphone so that the entire class can hear the student's comments. Using this feature, the instructor can facilitate a discussion among the students. The instructor may, of course, enter the discussion at any point to correct, clarify, or change the subject.

Another important feature of the WebEx software permits the entire session, both the computer screen and the voice discussion, to be recorded as a digital file for access immediately after the online class. This digital record lets all students in the course review each online class in its entirety.

Each student attending an online class sits at his or her computer with a telephone in hand and participates visually on the computer and audially via the telephone. The audio conference is integrated with the computer conference via a multipoint audio-conferencing bridge with the WebEx client software. WebEx provides the bridge and the audio conference as well as the computer conference. The integration of the audio and computer conferences provides complete control of the audio conference directly from the instructor's computer. The instructor can remove students from the online conference, mute or allow any comments the

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student might make, and allow the individual student to talk to the entire group directly. Thus a fully interactive class between students and instructor and among students is fully attained.

Finally, the WebEx service involves no downloading of software to a student's computer. The entire service remains on the Internet. This yields a considerable savings in time and, more importantly, in the risk of technical complications in setting up the online classroom experience.

Student Reactions

Students seem generally positive about the online classroom experience (see the sidebar "Poll Results"). It's interesting that although the average age of the students is 27, and all have had at least two years of working experience (mainly in investment banks and consulting companies) prior to coming to the school, a poll taken in the class this spring indicated that only five percent had ever participated in an online business conference. Thus the vast majority of students had no

previous experience by which to judge the online class and no previous preparation for an assembly of this nature. Almost every student was new, therefore, both to the pedagogy and to the technology.

Student reactions as shared with the instructor include the comments in the sidebar "Student Reactions." We received no significantly negative student reactions.

A faculty-level observer said, "I was impressed with the amount of discussion you generated, and it was great to see your use of on-the-fly, real-time polls."

Adding the online classes to the course significantly improved students' grasp of the course's subject matter as compared to the previous year, in which online classes were not held. This occurred for two reasons:

1. The addition of the online classes permitted the instructor to cover key topics much more completely than possible in the classroom given the structure of the course and its emphasis on visitors in the classroom.

2. Since student participation was more complete in the online courses, the instructor could better gauge their understanding at each moment during the course and adjust the teaching plan to focus on areas of lesser student comprehension.

Harvard Business School grades on a modified forced curve basis, so student grades weren't affected by the new course. Student evaluations of the course improved between the two years (that is, the online classes helped improve student evaluations of the course as a whole).

Extensions

Using synchronous learning as a supplement to classroom experience is only one use for this technology. Used on its own, synchronous learning can create a learning environment. Alternatively, it could be combined with either traditional or asynchronous learning. Universities can incorporate these methods in the learning environment to varying degrees, with each element bringing different advantages to a course and its students.

The educator's role is to implement an appropriate mix of the methods to create the ultimate interactive-learning environment. From our experience we conclude that using synchronous learning as a supplement to the traditional classroom experience in a simple, direct manner provides an effective tool for intensifying the quality of the learning experience. Better yet, it provides greater interaction between students and professors. *e*

Endnote

1. Full digital playbacks of three online class sessions are available on the Web at http://www.people.hbs.edu/dmills/mip.html.

Daniel Quinn Mills (dmills@hbs.edu) is a professor of business administration at Harvard Business School in Cambridge, Massachusetts. Matthew Salloway (msalloway@hbs.edu) is a research associate at Harvard Business School.

Student Reactions

"I found the session very helpful and did not feel as if we lost much by having it outside the classroom setting. Your ability to highlight key points on the slides in real time was something I was quite surprised about and found very helpful. Also, participating was very easy, in the sense that all we had to do was click a button. Overall, I was very impressed by the session and would welcome any future opportunities to participate in them."

"The online meeting was great. I like the flow and interactivity of it. Class discussions (in the large physical classroom) are unpredictable, lots of hands, and there are no guarantees of getting in. On top of that, I feel more comfortable making contributions in the smaller, interactive setting of the Web chat."

"I thought it was an interesting discussion. The range of viewpoints was much broader than I had expected... It was the first online meeting that I've attended. I thought the format was rather user friendly."

"I thought the online class went extremely well. The use of the slides and poll were helpful in developing the discussion. Keeping the group size small also adds greater depth and intimacy to the discussion. I think it's a great way to supplement the class with academic framework and theory, but certainly not a replacement for the class experience with the managers (this allowing for maximum interface time)."

"The online meeting worked very well today.... 50 minutes seemed a little short...."