Diminishing distances : intimacy and personalization in large classes

LARRY FRIEDLANDER*

DIMINISHING DISTANCES: INTIMACY AND PERSONALIZATION IN LARGE CLASSES

How can we provide personalized attention and a warm social environment to students in e-learning curses? As our technical ability to broadcast learning increases, so does the isolation and impersonality of the student's situation. I report on an experiment at Stanford involving large lecture classes which may have some bearing on this problem. In this course we tried to use a mix of web-based instruction and on site discussion to promote closer relationships between faculty and students and to increase the active participation of each student in the class as a whole. Our results provide some lessons for e-learning as a whole.

Key Words: media, strategies, Stanford Learning Lab, new curricula, educational tools

* Standford University, U.S.A., larryf@standford.edu

Diminishing distances

Proximity does not necessarily imply intimacy. I learned this lesson many years ago when I found myself sitting in a lecture hall in Harvard along with 500 other students, not 10 feet away from the professor (I was a goody-goody sit-near-the-teacher type). The professor, though near, seemed very far away as he was half hidden by the podium and seemed totally absorbed in his copious notes. Indeed he hardly ever, as I recall, deigned to lift his head to glance from them to us. Neither did the presence of so many other students alleviate my sense of separation. They were almost all strangers to me and remained so over the course of a four-month semester. The only chance students had to talk with each other was in sections when groups of twenty or thirty of us would crowd into a small classroom to listen to yet another, though more junior, instructor read from *his* notes (I say his because we had no women professors). Without knowing it, I was experiencing 'distant learning' thirty years before the term was invented.

When I was appointed as co-director of the newly formed Stanford Learning Lab, established by the university to advance innovation in teaching through the aid of new technologies, I saw my opportunity. Alongside experiments in new formats for distributed education, I decided I would contrive a way to make the large lecture class, the backbone and bane of our higher education, into something resembling an intimate conversation between teacher and student, and between student and peer. What I and my colleagues subsequently discovered, in a series of experiments covering a large number of different courses over four or five years, was that changes in the structure of large classes could translate into, or at least provide important lessons for, the structure of distributed electronic education. We also discovered how hard it is to actually change a complex and long- established element of university education such as the large lecture. This paper will give a brief account of our first experiment with a course entitled "The Word and the World," and then will suggest ways in which what we learned in the classroom could be put to use in the design of digital distant environments.

Defining the problem and setting goals

The problem of the large lecture class is simple: the student does not know the teacher, and the teacher does not know the student. Learning

depends on a dynamic and two-way exchange of information between learner and teacher. To teach effectively I must have a good sense of what the learner already knows about the subject, what skills she has, what she needs to learn, and how she learns best. Moreover, I need to be able to assess her progress and adjust my teaching methods and strategies to her ongoing development. In other words I need to diagnose her knowledge and learning skills, and monitor her progress through some kind of quick and accurate feedback. In a two-person situation I simply ask: did you understand? should I repeat? should we pause to review any background materials? are you getting bored? do you have any questions and so on. As a good and sensitive teacher, I supplement my questions with observation of her physical and emotional state, noting the liveliness or dullness of her attention, the tone in which she asks a question, and adjust my approach accordingly.

Obviously none of this happens in a large lecture class (nor for that matter in digital distant education). When I teach to masses of students, I of necessity take aim at the middle distance, pitching my discourse to a hypothetical 'average' student, one who knows approximately so much about statistics, who is good at learning through lists of facts or through graphs or through funny anecdotes, and one who has read the assignment and is prepared for the class. I can only hope, as I step down off the podium at the end of a lecture, that I was sufficiently clear to reach that student, that I covered all the relevant information, that I managed to keep the students interested in the course of a fifty-minute talk. But all of this is conjecture on my part. There is no 'average' student listening to me, only a large number of individuals all with their personal skills, idiosyncrasies, attention spans and boredom thresholds. Lacking psychic powers I have little chance of ascertaining what these specific students found easy or difficult in my complex explanation. So, no matter how perfectly I plan and deliver my lecture, I cannot be assured that I have in fact communicated well.

This hit and miss approach is sanctioned in our schools for one main reason: it is cheap and easy. For example, Stanford introduced a new required course in the Humanities six years ago. It was to be team taught by three senior professors from three different departments to ensure that important subjects would be presented from varying perspectives and that the students would be exposed to different disciplinary methodologies. The administration found the money to hire highly qualified section leaders and to ensure that students spend half the course time in small

seminars. However, they did not jettison the large lecture format for the precisely reason given above. These courses had to serve the entire incoming freshman class, from 1200 to 1500 students, and it would take an institution much richer than Stanford to provide small class learning on that scale.

But as universities are under great internal and external pressure to provide better learning, they are scrambling to improve if not reinvent the lecture course. So the Learning Lab decided to see if we could work within the restraints of the lecture format and still significantly transform the pedagogy. In conversation with professors we accepted the following goals:

• Provide students with personalized attention and remediation on demand
• Provide faculty with quick feedback on students' performance
• Integrate student research and independent work with formal instruction
• Create a community in which students and faculty felt they were all participating partners

Devising solutions

Parsing the problem, we decided to focus on four areas of innovation:
1) Devise a curriculum that would replace the broadcasting of information with an emphasis on discussion and analysis.
2) Involve the students in all phases of course, in teaching peers, moderating discussions, creating materials, and synthesizing and evaluating the intellectual experience.
3) Create quick feedback loops that would allow faculty to understand where the students were at any point, and finally.
4) Collect and retain the class experience for re-use in subsequent years and by other teachers and students.

Curriculum and course organization

The goal of the course was to acquaint students with the methods and traditions of the Humanities. To that end, we chose to center the class on five major texts from different periods: Hebrew Bible; *Shang shu (The Book of Documents);* Shakespeare, *Hamlet;* Descartes, *Meditations; Blade*

Runner. In other words, a religious set of documents, a work of history, a philosophical tract, a play and a film.

We deliberately chose dense and controversial texts that would promote dialogue, debate, and reflection. Let me quote from the course hand-out:

> "The texts we will read in this course are foundational: they produce relationships—between selves and others, parents and children, women and men, subjects and objects, rulers and ruled, slaves and masters. These texts are two-faced. They are concerned with both power's legitimation and its usurpation. These texts generate authority structures and authority figures, yet their own authority has regularly been called into question. And they entangle us in their power: they force us to ask questions about who we are, what we know, what we do. Thus these texts produce words as well as worlds. Historically, they have been read and re-read. In this course we will read and re-read them, both on their own terms, and in juxtaposition with each other and with other materials chosen to reorient our inquiries. Our goal will be to help our students develop a rich sense of the texts themselves, as well as the critical and interpretive approaches they will learn to apply to them."

And we created a novel course organization, one that would force everyone to look at the texts more than once, and in different contexts. To do so, we divided the course into two halves, each of which dealt with the five texts, but with different emphases. The first 5-week 'pass' through the material focused on close readings of texts with enough historical and contextual background to initiate work on the text. In this first 'pass' we isolated recurring themes of identity, the subject, family, nature, and culture. In the second 5 weeks we introduced new critical methodologies and we emphasized the importance of creating *engaged readers who feel a stake in the way a text is understood.* Accordingly both faculty and students were invited to give presentations on controversial issues that emerged from our earlier discussions. (The student lectures turned out to be high points of the term.)

Community building

This was a web-based course with rich on-line resources featuring structured instruction and community forums.

Students worked within a Personalized Learning Space that they created and managed. We provided them with information in all kinds of media, including indexed introductory video lectures and tutorials, on-line discussion groups, and more. This web environment supported student-initiated projects and activities, flexible discussion tools, and diagnostic exercises that provided feedback to both students and faculty on the learning taking place. Students were required to share their reactions to the readings and lectures on a systematic basis, and to respond to other students' input. For example, students were asked to browse the extensive materials on a certain text, choose a paragraph or image that aroused their passions, and to present those materials to others for comment and explication.

Diagnostics and feedback

We decided that it was essential, given the large range of materials and the diverse student body, to provide faculty with some sense of students' familiarity with the material and methodologies before the lecture. So we created preliminary exercises due before the class lecture that tested students' knowledge while introducing them to basic strategies and skills. The professor could scan the responses and adjust the tone and level of her lecture accordingly; and, as was often the case, build the lecture around the comments supplied by the students. (It was extraordinary to see how excited the students were when the lecture began with their own comments displayed on the big screen.) After the lecture students were asked to submit on the web their understanding of the basic points made in the lecture and they were given the opportunity to ask questions and to complain. The lectures themselves were available on-line after the lecture and could be used for review or as a jumping off place in discussion groups.

Over time, the Lab saw the need for software that would focus even more precisely on the problem of feedback, so we developed software that provided a way to assign students multiple-choice questions that could be graded by the program. The innovation was that, in addition to choosing an answer, students were required to explain the reasons (their intellectual rationale) for their choice of a certain answer. The professor could examine these rationales and quickly determine not only what the students knew or did not know, but why they understood or why they made an error. Surveying the answers the professor might notice that the students

were having trouble with a basic concept and then she could adjust her teaching to cover that problem. The software also allows faculty to review all the responses of a particular student or section group, and provides them with easy ways to send the student precise remedial feedback immediately. Finding patterns of mistaken rationale allows for precise feed-forward to refine instructional activity. And equally important, students who received an individual response from a faculty member felt a sense of connection and involvement that no doubt helped their performance as well as their morale.

Student involvement

As will now be obvious, students were involved in the course both as learners and as teachers and tutors. If a student had problem with an assignment she was urged to ask help from others on-line before she approached a faculty member. Not only were students good at explaining difficult information to each other, the exchange also led to spirited discussions and to a spirit of friendship and collaboration. This was important when in the second half of the term students worked in groups on lectures and also on individually conceived projects. These could be in any media—web, video, text, art—- and on any topic that flowed from the class discussions. Students presented their work at a day-long 'fair' at the end of the term, a joyous and impressive demonstration of their intellectual and creative abilities.

Re-using materials

As all materials, lectures, and discussions were collected in the web environment, faculty were able to mine and reuse the collective experience in the next iteration of the course. Moreover, this course led to the creation of a multimedia data base on these and other texts that was made available not only to teachers of Word and World, but also to other faculty in the Humanities who might be teaching the same texts in other classes. Unfortunately we could not allow new students access to earlier students' work and comments because it violated laws of privacy. I hope we can find a way around this, as it is very instructive for students to see how others have handled problems they are facing.

Managing logistics and workload

Obviously such a communication-rich environment presents logistical problems, the most important of which is the burden on faculty's time. How can busy professors spend even more time reading students' submissions to the forum or scanning students' rationales. One solution was to get the students to share in the work. When students created materials or participated in discussions on the web, they were asked to moderate and synthesize the materials for others. We provided software that let students argue a point and then vote on the different positions their group had assumed. So feedback of this kind did not come to the faculty until it had already been distilled and vetted by the students themselves. Moreover we found that professors could get a very good sense of the class' knowledge and performance through a small selective scanning of responses.

But truthfully, these innovations do take more time and add to the cost of teaching. The results have to be significant enough to convince the administration that the extra expense is justified by the increase in learning and student satisfaction. Our evaluations showed indeed that the level of students of achievement was significantly higher than in similar courses.

Implications for distant learning

If students in a large lecture class *feel* invisible, those in a distributed education course *truly* are. The digital environment erases individuality, wiping out those markers-sex, gender, class, ethnicity, life history-that make us different and interesting. How do we reinsert intimacy into this learning situation?

First, we must step back and think through the situation in an integrated fashion. If we rush in and give all students a jazzy discussion space without planning how we are going to read all those comments we are asking for trouble. If we require students to work together in small group projects without figuring out how to make them feel comfortable and trusting with digital strangers, the groups will just not jell. And so on.

So, building on the experience described above with Word and World, here is a list of elements to consider.

1) Create a web space that is more like a community meeting hall than a conventional classroom or library. This may mean developing games and exercises to help people meet and mix with each other.

2) Organize the content so that there is time for reflection as well as absorption, time for questions and exploration as well as time for digesting information.

3) Vary activities and ensure that students get a chance to express what they are learning in several different modalities, writing, talking, making, finding etc.

4) Design assignments so they have diagnostic value. Find out what students know and what they can do before they launch into the content. Provide some form of remediation, either on an individual or group basis. This means planning for time for the faculty to fine-tune or reshape a presentation.

5) Have on-going evaluation, even if it is minimal, so students do not feel totally lost.

6) Exploit student differences when possible. When teaching a course on business practices, for example, ask students to share local business practices. Put that information into a common database for use by all.

7) Let students share in organizing and synthesizing information. Use discussion groups to collect and group student work and comment, and create an information flow that is relatively non-hierarchical. Everything that happens in the class need not come to the attention of the teacher.

8) Maximize what can be done by the software, but recognize that some human intervention will be necessary if high quality learning is to take place.