

UNESCO-UPR Lecture¹

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Internet Learning In the U.S.: *Where it is and where it is going*

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Introduction

The Sloan Foundation has had an interest in learning over networks since 1992. Under the able leadership of Program Director Frank Mayadas we have been deeply engaged with on line learning ever since. 1992 we named our program ALN, which stands for Asynchronous Learning Networks, we couldn't call it Internet learning at that time because at that time there was no commercial Internet.

I am glad that we have been involved in this field for so many years, because if I had to build up a picture of Internet learning now, from what is available to be read in the newspapers or news magazines, I would be thoroughly confused. I would not be able to find out what was really meant by Internet education. I would not know whether this thing, whatever it might be, actually provides real learning or not. I

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certainly would not know whether this thing, whatever it is, is significant for the present day providers of higher education; today's universities, four-year schools and community colleges. And to mention one of the topics of this meeting, I would certainly not know whether its relation to the classical modes of education is one of conflict or one of symbiosis.

In the United States the newspapers and weeklies and even the more sober publications have been full of the activities of completely new entities. We have heard a lot about the Western Governors University, or about UNEXT, or about Fathom. First we heard exclusively of the intended triumphs of these organizations, and more recently we have heard exclusively about their difficulties.

All of these assertions both positive and negative are fired off as if there was a vacuum of real knowledge about teaching and learning in this new mode. But while these assertions were being made, and well beneath the radar screens of the newspapers and newsweeklies, there has been real activity. Institutions of higher learning that have been teaching for many years and were not, like those I have just cited, invented yesterday, were teaching real people on line in significant numbers. So let me describe the state of the art today based not on newspaper type speculation but on the actual, and largely unreported, experience of real and established institutions of higher learning

Nature of the New Technology

What is it that these schools are doing? Very simply put they are continuing to provide the basic elements, that we associate with classroom teaching, and which they have been providing for a long time, but they provide them in a different way.

Those basic elements of classroom teaching are first of all the Professor; I don't think I need to explain to this group who that is. Then, secondly there is the course Material. This can be a textbook, or references; sometimes you just listen to the Professor and take notes.

A third important element is classmates. They help both in and out of class. They provide an element of shared experience, and they are people with whom both the course content and what the professor meant can be discussed between classes. They also provide important emotional support.

These schools, using ALN, provide *some form* of these elements electronically, without a campus, without a classroom, and without the necessity for either the learner or the Professor to be at some fixed place or time when a lecture is being given.

Through the Internet you can access course material, put there by the Professor. This can be a video portion of a lecture and slides stored electronically, or it can be text covering the same material. Through the Internet you can interact with the professor by electronic mail. Through the Internet you can

discuss with classmates, even though you have never seen them, the course material and things that are obscure. You can, for example, send an e-mail message to our classmates: AI=m baffled - can anyone do the problem on page 13@.

We call systems that do this ALNs, Asynchronous Learning Networks, and this is the form of new technology that I consider significant and that I am going to discuss today

Beyond the Technical: What we know today

Fortunately today we can answer questions about ALN on the basis of considerable practical experience. What is that experience?

. To date, the 90 schools of the Sloan Consortium alone have provided more than 15,000 faculty-semester of ALN teaching experience and more than 400,000 enrollments.³

We estimate that these schools are now offering 300 full degree or full certificate programs. The participants are a very wide range of institutions. They range from research universities to community colleges. For the academic year 1999-2000 the University of Illinois had 8,000 enrollments, Penn State 6,000, Stanford University 3,000, SUNY, the State University of New York 26,000, University College, the extension arm of the University of Maryland 60,000 and Northern Virginia Community College 10,000. All sorts of courses are being given ranging from Accounting to Mechanical Engineering to

³ An enrollment is one student-semester.

Computer Science, Criminal Justice, Sociology and Philosophy.

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So we can do more than speculate, there is a real experience base to work from. We can reasonably ask from this considerable experience what is it that we know today about this kind of learning?

Do Students Learn?

⁴ For more on the Sloan Consortium see www.sloan-c.org

The main thing is that we are confident that the students are not only taking courses, they are actually learning. Many comparisons of learning outcomes have been made; this is usually when the same course is taught off campus and on campus by the same professor giving the same exams. Usually the learning outcomes for the different sections are indistinguishable. The off campus and on campus groups usually score about the same. Of course they are not always the same. But enough work has been done in enough areas to see that this outcome, getting the same results on line and in the classroom, is not the exception but rather the rule to which there are exceptions. With 400,000 enrollments there are plenty of individual horror stories as well as stories of exceptionally good learning results, but the clear consensus is that with the same faculty/student ratios, which is what we have by and large in the Sloan Consortium, learning quality is about the same.⁵

The same experience shows us that the completion rate of students is also about the same, in classroom or by ALN. And that with the same faculty/student ratio, the costs of delivery are not very different from classroom teaching. I will have more to say about costs below.

Differences

We also know there are both advantages and pitfalls to this new approach that are not mere redoes of the older world.

⁵ Recent papers by Sloan Consortium members on learning effectiveness are available in the book "Online Education, Learning Effectiveness and Faculty Satisfaction" John Bourne, Ed. which is available from Amazon.com.

An ALN lacks, for example, the instantaneous interaction with the professor that a good classroom has, a classroom where a question can be asked and answered in real time. But it also means that people who are shy about asking questions in class can not be crowded out by those who are much more vocal. They can send their questions, more freely and more thought out, through the calmer medium of electronic mail.

We have also learned that inadequate training on the fundamentals of the underlying software can lead to the disappearance of a large portion of a class, before learning about the course material itself has even begun. We have learned, as one might expect, that lab courses are a problem, but one that usually can be dealt with by various expedients. And we have learned that institutions of higher learning can adapt to these new students, can register them at a distance, and deliver support as well as instruction.

We have learned that ALN courses can be given to students having the usual qualifications by the regular faculty, as they are at University of Illinois and Penn State and SUNY, the State University of New York, or through the traditional extension arm, as they are at the University of Maryland. And the results in both cases are overall the same as they were with classroom teaching.

We have learned that ALN can be done in a wide variety of styles, text based, video based and everything in between and

that all these styles can work (or not work). It is still pedagogy that counts.

We do know enough today to say that a new technology has arrived on the higher education scene and that it works. Let us therefore consider some of its effects.

Ongoing Costs

One of the effects of any new technology is its effect on costs. For institutions ALN in its simplest form has some inherent elements of economy since ALN reduces the need for buildings and related support. On the other hand there are costs of course conversion and the costs of computer and other support at the institution level. The bookkeeping of institutions of higher learning is so arcane that trying to compare these different kinds of costs ends up being strongly detail dependant and not particularly illuminating.

However, if we compare courses *with the same faculty/student ratio*, which means comparing courses with comparable quality, my best judgement today is that to a reasonable approximation the annual cost (excluding buildings etc) is the same.

Our experience is with ALN, an online approach that emphasizes reproducing the three elements of the classroom. The costs of translating an existing course to this format are low, 5,000 to 10,000 dollars for the first time a course is taught.

There are other online approaches that have emphasized

the material that is found on line, making it more stand alone, and emphasizing the on line material rather than the role of the professor and of classmates. This approach has a high cost of entry since they 500K-1M per course and then require large classes to make that up, the cost of the course conversion. This is the approach favored by the new entities, and while it allows them to exploit their ready access to capital, there is little real experience in teaching with it today. The high capital cost and low use of Professors make it far less appropriate for existing institutions.

Effects of ALN on Higher Education as a Whole

If the new technology is pursued in the ALN style, reproducing the elements of the classroom, maintaining the student/teacher ratio of the traditional classroom, its effects on traditional institutions that take teaching seriously are almost wholly benign.

We find that on large campuses some students take on line courses that they need because of scheduling difficulties or convenience. Or they attend part time one-way and part time another. Since ALN opens up a wider market, if the usual faculty/student ration is maintained, the larger market means more faculties.

New Possibilities – Enrichment

It also becomes possible to reach outside the classroom to teach a wide range of things that were never taught there in the first place. There is the possibility of bringing as lecturers or visiting lecturers people from the world outside of academia who have something worth knowing but who cannot be expected to leave their work to teach it.

There is of course always the possibility of having CEO/s talk to business majors. But why stop there. Why not have some input from the participants in important events or new developments in almost any field whether that is science, engineering, or politics?

New Possibilities – Diversity of Age and Experience

Diversity at universities has meant different things at different times. It has meant diversity of geographic origin, of socio-economic background, or diversity of race. But we take for granted in universities a remarkable homogeneity of age and experience, or lack of experience. This too can change. If ALN students are being educated along with traditional ones it becomes possible to have a diversity of ages and experience represented in a single class. Our limited experience with this indicates that students find this very enriching.

New Possibilities - Lifelong Learning

For the first time lifelong learning, so often talked about, so little realized, can be more than just a phrase, IT can become a real

possibility for large numbers of people who want to learn but can not leave their jobs to do so.

We are At the Beginning

We have seen enough of this new technology to know that it works and that it is already helping people. But we also know that we are only at the beginning. Better methods of teaching and learning will emerge as people explore these news possibilities. New uses and advantages will emerge as people find new ways to make use of this new capability. We are today only at the beginning.

The ability to learn specialized skills at any time in one's life will certainly increase and strengthen productivity around the world. But most of all, from the individual's point of view, the use of these new methods will enable individuals to reach out to learning at any point in their lives, not just during the traditional student years. In this new world, for any one who wants to learn, it will never be too late to learn.

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