
OPEN DISTANCE LEARNING MODEL AT PETRU MAIOR UNIVERSITY IN ROMANIA

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Abstract

The Romanian Ministry of Education and the World Bank are financing a program for distance learning development at Petru Maior University of Targu-Mures in Romania. The curricula of the program is focused on master studies in Quality Management, with two years duration of studies.

We developed a distance learning model that combines both asynchronous and synchronous events roughly in an 80%/20% distribution, following a model developed in USA at Rensselaer Polytechnic Institute [2]. For the asynchronous portion, we augmented IBM Lotus Learning Space with a technique that humanizes learning through video and audio streaming snippets.

Introduction

Most of us think of a web-based course as one that focuses on asynchronous activities for learning and communication. Students typically work individually and make extensive use of email and bulletin boards to communicate with the instructor and each other. This approach point out three shortcomings: course completion rates are very poor, many learning modules lack structure of any sort, and most courses are cold and uninviting.

We set out to try to resolve these problems by looking at many web-based courses, revisiting instructional design principals, and applying human-computer interaction techniques to the problem.

Asynchronous 80 / Synchronous 20 Model

In designing a traditional course, we accept the schedules and constraint given to us by the administration. Someone, somewhere, decided that instructors and students should meet a set number of times per week for a set number of minutes and for a set number of weeks. Of course, there are other casual meetings, such as office hours, but these are rarely specified or recognized. Likewise, students are told to "go study" or "do problems 1 through 5" without much structure or guidance.

Web-based courses have the potential for introducing a totally different paradigm. Classrooms are not needed, hence no need to dictate meeting times. All work is done asynchronously. There are accreditation requirements, but we seem to be comfortable with the rule that if we cover the same amount of material as a traditional course, those requirements are being met. This is totally opposite from the largely synchronous traditional model. For some students it works. However, we have experienced completion rates of less than 50% for some courses, due to learning style, lack of organization, etc.

In the distance learning our investigation states that some time should be allocated to asynchronous activities and some time to synchronous activities. In other words, a learning experience needs to have some mix of asynchronous and synchronous events. The proportions will depend on the material being covered, the learner's maturity, and the instructor's experience. In some cases, this may lead to 0/100 distribution, in others a 90/10, or something in between. The important point is that the proportion must be determined explicitly by the factors mentioned, not implicitly by happenstance.

Our model states that learning is a combination of information and interaction. Information can be presented in a variety of ways, including mini-lecture and individual study. Interaction comes in three variations: learner-instructor, learner-learner, and learner-content [3]. To better design the activities explicitly, we use the following allocation table.

Table. Function Allocation Matrix

	Asynchronous Activities	Synchronous Activities
Information		
Learner-Instructor Interaction		
Learner-Learner Interaction		
Learner-Content Interaction		

This table helps us to think about the various aspects of the course and forces us to explicitly assign activities to each of the cells. You might ask, "How can I get synchronous interaction with students when this is a web-based course?" Chat sessions and conference calls are well suited to this task. Likewise, Internet audio holds great promise for accomplishing many of the synchronous activities. In addition, information can be delivered synchronously without lecturing, as mentioned before.

Asynchronous Structure

A second shortcoming in web-based courses is the lack structure. More often than not, a web-based course consisted of Power-Point slides converted to html. Another extreme is page after page of detailed text. This is particularly troublesome since the usability community has shown repeatedly that people do not read long paragraphs on the web [4]. Skimming seems to be the mode of processing. How then, can we better organize the content we place on the web?

We revisited some important concepts of learning, and adopted an Interactive Distributed Learning (IDL) Cycle used at Rensselaer Polytechnic Institute based on the works [5, 6, 7]. This effort is intended as a reminder to faculty and is applicable to any type of course, asynchronous or otherwise. Figure 1 shows the cyclic nature of the design, indicating that all elements should be considered for each and every learning experience, regardless of length.

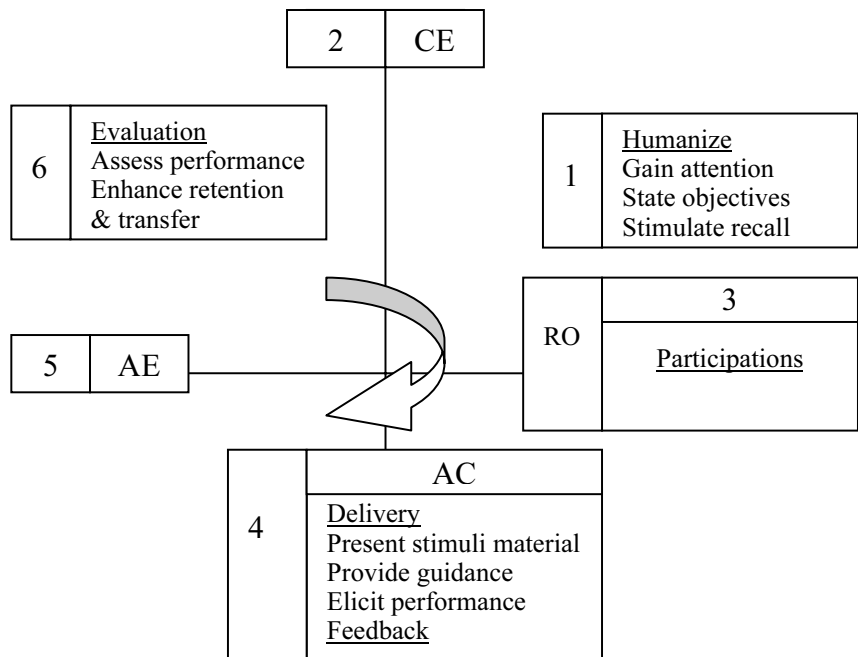


Fig.1. Distributed Learning Cycle

It states that people learn in different ways and the different styles should be accommodated in any learning experience. The vertical and horizontal axes represent the 4 dimensions of the learning style:

- (CE) Concrete Experience provides the learner with either a physical or emotional experience.
- (RO) Reflective Observation causes the learner to reflect on that experience and share their observations with others.
- (AC) Abstract Conceptualization is information from authoritative sources, conveying theory or principles.
- (AE) Active Experimentation provides an opportunity for learners to try out those principles in real problems.

The underlined texts in Figure 1 are design components of the distance learning [6]. With the web, the dividing line between "distance" and "distributed" is disappearing. Many good teaching techniques have been developed for distance learning and are very appropriate for distributed learning.

Humanizing sets a climate that makes learners feel a part of community. Participation emphasizes active learning. Message Delivery transmits information to the learner, whereas Feedback tests the correctness of the understanding of the message. Finally, Evaluation checks to see if the teaching techniques are working.

The last elements of the Cycle are taken from the field of Instructional Design meaning in fact "designing instruction" [7]. Specific events must occur in a learning experience and these events are arranged sequentially. Not all instructors are aware of these concepts, so these are incorporated in the cycle as a reminder.

The Cycle starts with a humanizing event, along with gaining learners attention, stating objectives for this module, and stimulating recall of relevant information presented previously. A concrete experience gives the learner a feel for what principles are to follow, although they may not yet understand it. Reflective observation affords the opportunity to share that experience with others through learner-learner interaction. Principles are then delivered with feedback to the learners on their correctness. Active experimentation then allows the learners to apply those principles to a new problem. Finally, the teaching techniques are evaluated, learner performance assessed, and the stage is set for the next learning module.

Adding Humanization

A third observation of web-based courses relates to their cold and impersonal nature, their lack of empathy. The social relationship with the computer mostly goes overlooked. The challenge is to add the affective dimension without adversely impacting the cognitive dimension.

This raises a fundamental question as to what a "real" instructor does. Obviously, there may be some presentation of content, the function emphasized by the administration (contact hours) and often by students. However, functions that are more important include humanizing, clarifying difficult concepts, presenting personal anecdotes and examples, commenting on points of disagreement, raising questions for students to think about, and motivating students to learn. How do we incorporate these functions into an asynchronous course?

It should not be surprising that these issues have already been addressed, but in a different medium. Correspondence courses may be the original form of asynchronous learning and there the textbook, or source of information, is always accompanied by a study guide. The study guide provides orientation, task direction, learner assistance and self-assessment. In other words, it functions as a surrogate instructor or the "Guide on the Side". So, the electronic version of this concept, includes both a Work Window and a Guide Window. The Work Window has frames for html course notes and supporting Lotus Learning Space functions.

The purpose of the Guide Window is orientation, task direction, learning assistance and self-assessment. The Work Window may be likened to the textbook and/or laboratory and the Guide Window likened to the instructor. Currently the Guide deals with orientation and task direction.

The Guide is dismissible, persistent, synchronized, object-oriented, and extensible. The learner is totally in control, choosing to use the Guide or not at any time in the learning process. The learner may dismiss the Guide at any time, and hence cease its functioning immediately, or reinstate use of the Guide when desired. Only the first three specifications will be described here.

Dismiss ability is afforded through an icon on the Course Notes HTML (Work Window) that controls the state of the Guide. Using the icon, the user toggles between the enabled and disabled state using a caricature of the instructor. If no Guide is available for a particular Course Notes HTML page, a unique representation is used to indicate that fact. Dismissing the Guide removes the Guide Window from the screen for the duration of the learning module, unless explicitly reinstated by the learner.

A synchronized Guide Window means that there is a Guide appropriate for each Course Notes HTML page, although "No Guide" is an acceptable option. The Guide must be used for an explicit purpose, not just for cosmetics. We found that various forms of the Guide are necessary. The page in the Work Window determines and displays the appropriate Guide Window. Although the Guide Window has a consistent look and feel, the contents change depending on the instructional task being performed and the actions occurring in the Work Window. Currently we have identified three flavours.

The streaming video flavour is used for orientation when little content is presented in the Work Window. Here the focus is on the Guide Window. An appropriate digitized video stream of the instructor is presented.

The streaming audio flavour is used for task direction and learning assistance when the Work Window contains material of major importance.

The text flavour is used for either learning assistance or self-assessment when focus is to be concentrated on the Work Window. Simple instructions, comments or reminders are placed here for access at the learner's discretion.

Conclusions

Although we cannot draw any major conclusions from just one course, we are encouraged by the results. Students were very positive toward the course. At the same time, frustration arose from the vagaries of the Internet and the lack of consistent standards and bandwidth. The Guide added humanness but suffered from the Internet shortcomings.

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