CHAPTER 20
DISTANCE LEARNING AND INSTRUCTIONAL DESIGN IN INTERNATIONAL SETTINGS

David Hawridge
The Open University of the United Kingdom

Editors’ Introduction
In recent years, distance learning and instructional design and technology (IDT) have become increasingly important in education and training in many countries. In this chapter, David Hawridge begins with a description of the three factors that, on an international basis, have led government agencies, educational institutions, and commercial companies to focus their attention on distance learning and IDT. The shortage of courses and programs designed to train professionals in these areas is also discussed.

Distance learning is often seen as a means of helping to solve education and training problems in the international arena. Examples of how the Open University of the United Kingdom has effectively used distance learning are described in the second half of the chapter. Efforts to design on-line courses in other parts of the world are also discussed. The chapter concludes with a discussion of the skills new professionals in the field will need, particularly if they will be involved in the design of distance learning programs.

Application Questions

1. How would you introduce faculty to new methods and approaches to instruction? How would you determine whether these new methods were being implemented?

2. The section on faculty change states that “faculty members might need to switch their focus from writing and using textbooks to developing and using technology.” What would be the implications if this change in work emphasis were to take place? Explain the positives and the negatives. Do you think this type of change should occur? Why or why not?

3. To facilitate innovation in teaching at a given university, what would need to be changed within the system? How would you go about implementing this change so that it is systematic and systematic throughout the university?
result of technological advances, particularly with regard to the Internet and telecommunications, costs of distance learning have gone down and accessibility has increased. However, issues of quality still remain. In particular, turning to distance learning programs will solve no problems at all unless the programs are properly designed. For example, the WorldSpace Corporation recently announced that its three geostationary satellites would beam digital radio and multimedia broadcasts to Africa, the Middle East, Asia, Latin America, and the Caribbean Airstar, the first satellite, is already functioning. WorldSpace has a 10% share in the company that makes wind-up radio sets, which may be developed to accept digital transmissions (Samara, 1999). This is a case in which huge instructional design problems must be overcome if the broadcasts are to match education and training needs on the ground.

The Supply of Instructional Designers and Technologists

Where are the instructional designers and technologists who can work in the new global electronic environment? They are in short supply. In fact, quite a few posts in this field get filled by people who have no experience of solving instructional design problems. In big national programs, you can see computer scientists, mathematicians, electronic engineers, television producers, salespeople, managers, publishers, and all sorts of other professionals. Faced with instructional design problems, many are totally at sea. They reinvent the wheel, again and again, as they wrestle with identifying audiences, defining curricula, setting objectives, choosing media, and testing performance.

The fact is that courses in instructional design and technology are rare outside the United States and not exactly ubiquitous within it. Courses about the hardware and software are common enough, both campus-based and on-line: Have a look at ZD University (www.zdu.com/) or the Microsoft web site (www.microsoft.com/train_net/) However, courses focusing on instructional design are less common. In the United States, there are approximately 200 graduate programs in instructional design and technology (Johnson, 1995), with a few programs being offered at a distance (for example, look at the program offered at Nova Southeastern University (www.tide.nova.edu/)). However, a closer look at the curriculum of many of these programs reveals that media production is emphasized, while instructional design is given scant attention.

Courses about distance learning are also valuable as training for work in the global electronic environment. The Open University of the United Kingdom offers, at a distance, an on-line master’s degree in open and distance education. In 2000, about 120 students, drawn from many countries, were taking courses in this program. Each course requires about 600 hours of study and lasts a year. To obtain the degree, you must pass three courses in theoretical foundations, practical applications, and implementation (http://open.ac.uk). Florida State University offers, on campus and at a distance, a master’s degree with a major in open and distance learning (http://fsu.edu/odl). In 1999–2000, about twenty-five students were enrolled in this new program.

Distance Learning at the Open University

The Open University (OU) is a prime user of distance learning with over 200,000 students enrolled worldwide (have a look at www.open.ac.uk). The OU stands tenth in the nation for the overall quality of its teaching, not far behind Oxford and Cambridge. It contains valuable case studies of well-designed courses across a wide range of disciplines. Its Institute of Educational Technology, founded when the OU started thirty years ago, is the largest group of instructional designers and technologists in Europe. It is worth mentioning just two recent examples of their work.

Jelfs and Whitecock (1999) investigated the notion of presence in two desktop virtual environments developed for teaching aspects of ecology and oceanography in a 600-hour science course at the OU. Their findings stress the importance of audio and visual feedback, ease of navigation, and level of interactivity—all aspects of instructional design.

Taylor and Tosunoglu (1999) evaluated the first presentation in 1998 of a 640-hour award-winning OU course on object-oriented computing. The course is designed to use a rich mix of new and old media that complement each other: Print, television (videorecorded off-air at night), CD-ROM, computing software, the web, on-line tutorials, and computer conferencing. All have their place: E-mail is used between students and between students and their tutors. The course emphasizes learning by doing: Their findings led to clarification of objectives, better media integration, reductions in the students’ workload, and improved computer conferencing support for the 1999 presentation. Further details of the Institute’s teaching and research activities, as well as its courses, are available on its web site (http://open.ac.uk/) and in the International Centre for Distance Learning, a documentation centre and database in the Institute (http://open.ac.uk).

You have perhaps noticed that the OU has not adopted a “traditional” model of instructional design, such as that presented by Gagne, Briggs, and Wager (1992) or Dick and Carey (1996). Instead, broadly constructivist models have been used at the OU for over twenty-five years. That is to say, students are expected to construct meanings (build up their understanding) with the help of course materials and through discussions with fellow students and their tutors. As described in publications such as Bednar, Cunningham, Duffy, and Perry (1991), constructivism is not so much a set of design procedures as it is a way of looking at education and learning. Few writers attempt to offer general design advice, but Van den (1998, pp. 48–49, as cited by Lazon 1999) suggests five guiding principles. He says that course designers should:

- expect little or no prespecification of knowledge by subject matter specialists,
- situate learning experiences in real-world contexts;
- develop learning environments that respect multiple perspectives on reality;
- recognize the importance of collaboration, dialogue, and debate in knowledge construction; and
- expect learners to demonstrate their ability to work with the content and defend their judgments.
At the OU, instructional designers need a grasp of traditional practice as well as the newer constructivist approaches to the design of instruction. Not surprisingly, objectives appear frequently in the printed materials, there is much discussion of how best to use the various media, and testing of student performance is well developed.

### Underdesigned On-line Courses Elsewhere

Many of the 17,000-plus on-line courses shown in North American databases (see www.gacadeum.org) are underdesigned and underresearched, with resulting problems, according to one important evaluation report (Institute for Higher Education Policy, 1999). Instructional designers and technologists have had little or no chance to make inputs in the rush to get most of these courses to market on the Internet. Putting lecture notes into HTML for the web simply isn’t good enough; printed text remains a cheaper, more usable, and more flexible study medium than text on screen. If you expect students to print out reams of pages from the web, you deprive them of study time, and it costs them more. Studying text on screen for long periods is tiring and probably unhealthy. Many claims that have been made for the sheer cost-effectiveness of on-line courses cannot be sustained (Hawkridge, 1999a).

Design of web sites for teaching and learning calls for an understanding of (1) the students for whom the site is intended; (2) the structure of knowledge in that field; (3) the objectives students should be able to reach; (4) the capabilities of the software, including streaming audio and video; (5) graphic design; (6) means of making the site interactive; and (7) evaluation criteria. The knowledge web (Eisenstadt & Vincent, 1998) cannot come into being without strong design inputs, many of them from instructional designers and technologists.

Cultural aspects of design are important too. Collis (1999b) provides ten practical guidelines for instructional designers who are developing culturally sensitive web-based learning, arguing that if we want our pages to be acceptable, used, and useful, we must take culture into account. She evaluates a Dutch example here, briefly, of three of her guidelines:

1. Plan for flexibility and adaptation when the WWW-based course support system is defined.
2. Design for a variety of roles for both instructors and students; allow roles to be interchangeable or modifiable.
3. Books and print materials are better for primary study in terms of portability, ease of use, and cultural fit than are computer materials (Collis, 1999b, p. 208).

Chen, Mashadi, Ang, and Harkrider (1999) go further in looking at technology-enhanced learning systems in Singapore and suggest that learning depends on culturally mediated social interaction and a shared vision, as well as the technology. McLaughlin (1999) examines cultural issues in designing on-line teaching of indigenous (aboriginal) Australian learners: cultural identity, language, social, political, and economic issues. Creating and sustaining on-line tutorials is another area in which design inputs are es-

### CHAPTER TWENTY Distance Learning and Instructional Design in International Settings

Sensational. Computer conferencing has been around for more than a decade, yet surprisingly little is known about how to create and sustain on-line tutorials. (But see Salmon [2000] for an excellent analysis of training e-modulators based on experience in the Open University’s very large business school.) Mason (1999) summarizes a few lessons for instructional designers that were gleaned from the OU’s master’s in Open and Distance Education applications course:

- Collaborative activities should be designed in advance as authentic tasks that are relevant to students’ interests.
- An integrated system of web resources is often needed.
- Structure conferences in which students comment on each others’ work can reduce the load on tutors.
- Occasional real-time events (simultaneous, not asynchronous) are motivating but need to be based on group tasks.

In developing countries, instructional design for on-campus and distance learning is desperately needed if scarce resources are not to be wasted. In Africa, the problems are almost overwhelming, with 140 million illiterate adults, mostly women. Distance education to raise the professional and academic levels of teachers seems to be a priority (Chung, 1999). There are a few success stories. In 1976, the Cultural Revolution ended in China after a disastrous decade. It left the country’s campuses in ruins. The government set up televisions universities to teach hundreds of thousands at very short notice and extremely low cost. Students studied at their workplace, because television sets in homes were rare. Cheap print was the second main medium in a remarkably successful and cost-effective system (see Hawkridge & Chen, 1991). These are not the technologies that come to mind today, but they served their purpose and still do (Latchem, Abdullah, & Xinqui, 1999).

A pool of knowledge is slowly growing internationally as instructional designers and technologists share experience. For this knowledge to be useful, it must relate to the new environment for teaching and learning, in which electronic resources play a very large part. Technologically, these resources are rapidly converging: Computers, television sets, videocorders, CD players, games stations, mobile telephones, fax machines, photocopiers, scanners, radios, and other electronic devices are acquiring more and more common elements, all of them potentially useful in education and training (Hawkridge, 1999c). Europeans use the term telematics for this combination of computer and telecommunication technologies. Collis (1999a) reviews telematics-supported undergraduate education in European campus universities. Useful, she states what she sees as the key principles:

- Learning arises from active engagement of each learner.
- This engagement involves cognitively active roles for both instructors and learners.
- Assessment of competence depends on learning, observing, and responding to learners reflecting on the product of their learning.
- Good models of learning are process-based and learner-oriented rather than knowledge- and instructor-based.
- Good design enables students to learn and instructors to teach efficiently, using less time and money.
CHAPTER TWENTY  Distance Learning and Instructional Design in International Settings

Could you do that job? Could you win that job? Could you do similar jobs in other countries, including your own? When you have obtained your degree, you should be able to, don’t you think? Good luck!

References


SECTION FIVE

NEW DIRECTIONS IN INSTRUCTIONAL DESIGN AND TECHNOLOGY

Overview

Like many fields, the field of instructional design and technology is hugely affected by the enormous changes that have been brought about largely through the pervasiveness of networked computers. Most of the chapters in this section consider the effect of these phenomena on our present and future learning systems.

The first two chapters of this section both look at on-line learning but do so in different ways. Chapter 21 considers what effective on-line learning is and how that causes radical changes to our more traditional views of instructional design. The authors of this chapter contend that designers should be more aware than ever of the interactivity, interactions, and learning communities as well as other factors. In addition, they contend that the emergence on on-line learning has created great opportunity while increasing expectations, including more clearly establishing our identity as a field to non-practitioners.

The authors of Chapter 22 view on-line learning from a more systemic perspective. Rather than considering the impact of the delivery and reception of instruction, they look at methods of considering the impact of on-line learning on an entire educational system. In addition, they propose a framework for implementing on-line learning environments.

Application Questions

1. The author describes a wide range of media that have been used for distance learning in international settings. These media include print, television, the web, and telematics (a combination of computer and telecommunication technologies). Briefly describe what you see as the advantages and disadvantages of each of these media as vehicles for presenting distance learning in the international arena.

2. Interview someone who has recently been involved in planning a distance learning course. Ask the individual the following questions:

a. What factors led to the decision to offer the course at a distance?

b. What were some of the unique problems involved in planning such a course, as opposed to planning a course intended to be presented in the classroom?

c. What were some of the features that were built into the course that were intended to assist students in the learning process?

3. Prepare a brief report summarizing your findings from the interview.