

What is distance education?

Distance education, which includes distance teaching and distance learning, is a means by which a student can take courses or obtain instruction without having to be in the same room as the teacher or instructor. As the name implies, teachers and learners are separated by a distance, whether this distance is one or two blocks or a thousand kilometers in length.

What are the different ways in which teaching or learning can be carried out over distances?

In the past, correspondence courses were the most common means by which students living far from college or university campuses, or other institutions, could learn. Teachers and students would correspond by sending materials to each other through the postal service. Today, though correspondence courses still exist, there are various other means by which the teacher and student may be connected: video tape, audio/video conferencing, or computer-based learning via the Internet.

Three models

It's useful to divide the delivery of distance learning into three general models: the Remote Classroom model, Guided Independent Study, and Networked Learning. Each has its advantages and disadvantages, and many factors concerning the course materials, learners, and technical practicality must be considered in choosing a model to serve your purpose. This also means that the models are not strictly separated from each other in their real-life use; indeed, a combination of two or even the three of them (if practical) tends to be the most effective use of their different strengths.

Some examples:

The Remote Classroom

- "boardroom" videoconferencing i.e., live interactive video transmitted over dedicated high-speed phone lines onto large TV screens, with groups attending from a number of sites
- audio-conferences supplemented by PowerPoint® slide presentations
- interactive television or radio (i.e., live presentations accompanied by audience phone-ins)

Guided Independent Study

- traditional "correspondence course" model of distance learning
- now supplemented or replaced by interactive formats like CD-ROMs, and contact with tutor by e-mail

Networked Learning

- people in a networked group using a shared electronic space to construct their own learning experience
- format can expand to interesting multimedia options, such as web-based video-conferencing (e.g., individuals attending a Web-streamed conference from their personal computers) teaching or learning this way?

What are some of the advantages and disadvantages to teaching or learning this way?

Some advantages:

The advantages or strengths of distance learning can be listed according to the distance learning model. However, it is important to remember that, since different technologies tend to support different kinds of learning, the main issue is to find out what kinds of learner engagement with the content will produce the desired outcomes. Essentially, the instructor must determine what it is that should be going on when people are learning the material. For example, one delivery model might be chosen if the desired outcome is to encourage learners to develop cognitive strategies that allow them to infer and test out principles or rules. Another model would be preferred if information is to be learned through a simple question and answer/right or wrong format. This may seem obvious, but it's amazing how often learning gets squeezed in to fit a chosen technology, rather than the technology being chosen to suit the desired learning experience. Here, then, are some general areas of strength of each learning model:

Remote Classroom	Guided Independent Study	Networked Learning
<p>Strengths</p> <ul style="list-style-type: none"> • a live and immediate social experience • simultaneous focus on content and process (can be difficult to balance in "real time") • audio/video equipment is easy-to-operate (good format for those without computer experience) • very familiar face-to-face discussion format 	<p>Strengths</p> <ul style="list-style-type: none"> • acquisition of predetermined knowledge or behaviourally—demonstrated skills • strong focus on content • time/place independent • promotes the development of self-directed study skills 	<p>Strengths</p> <ul style="list-style-type: none"> • group construction of on-line learning experience • strong focus on process • time/place independent, but time "sensitive" (i.e., group discussion topics usually last about a week) • currently the main learning technology trend

Some possible disadvantages:

With each distance learning model, there are also possible disadvantages to both the instructor and the student that the technology poses—in terms of how accessible it is, the level of technological skill users possess, and how engaging or interactive it may be.

Remote Classroom	Guided Independent Study	Networked Learning
<p>Weaknesses</p> <ul style="list-style-type: none"> ● requires local facilities and occasional tech support ● traditional (slow) transmission of content ● time and place dependent ● apprehension of content may be distracted by peer pressures 	<p>Weaknesses</p> <ul style="list-style-type: none"> ● possible lack of individual access to computer, software and local tech support ● higher motivation required ● social isolation may lead to higher dropout rate 	<p>Weaknesses</p> <ul style="list-style-type: none"> ● possible lack of individual access to equipment, software and tech support ● higher level of technical skills required for on-line search and navigation ● potentially-unfamiliar learning format

What's the difference between engagement and interactivity?

Interactivity happens when things act upon on another, or when they are reciprocally active, as Webster's Dictionary defines it. If a distance learning technology or medium is interactive, it means that users can continuously exchange information with one another, and/or the instructor. Engagement refers to how well the student can "stay tuned" to the information being exchanged.

While the Remote Classroom Approach offers each participant many opportunities for interaction, it requires an extremely well-facilitated group environment to draw concrete results from the process. On the other hand, Guided Independent Study can provide key learning opportunities for learners to acquire new skills on their own time and at their own speed. Networked Learning would seem to provide the best of both worlds in a shared group experience with plenty of access to content in a time and place independent format. But Networked Learning is also the most technically and socially demanding of the three formats, taking place on unfamiliar terrain for many learners. Nevertheless, these skills are becoming easier to adopt, and this model holds the most potential for providing learning opportunities, both now and in the future.

How do I choose the right technology for distance learning?

There are three basic elements that form a rule of thumb in assessing distance learning technology: Good, Quick, and Cheap. The rule is that you only get two at any given time. If the technology you choose is good and quick, it isn't going to be cheap (e.g., video-conferencing). If it's good and cheap, it isn't going to be fast (e.g., developing fully-interactive CD-ROMs). One can only speculate on the implications of quick and cheap!

Needs and Capacities:

More specifically, there are five factors that influence the selection of learning technologies: Learners, Content, Delivery Formats, Resources, and Costs. These five factors can be loosely grouped under two types of assessment: Needs and Capacities.

Under Needs the key factors are:

1. **Learners**
2. **Content**
Their order may be reversed, but these two must come first in considering your technology options. For example, if you were looking at ways to orient Quebec farmers to the new mandatory provincial environmental regulations, you might start by considering what has to be learned, and how regulatory information of this type is most effectively communicated. Or you might look at the learners (in this example, farmers) and determine who they are and what challenges they face in learning the content: constraints of time and place, language barriers, difficulties in motivating people to accept new ways of doing things on the farm, and so on. [Click here to read more about Needs.](#)

Under Capacities the key factors are:

3. **Delivery formats** – (already discussed in the Current Models of Distance Delivery) an additional rule of thumb is to go with the most leading edge of technology, but to present it in the most highly-accessible format—not always an easy task!
4. **Resources** – human, financial, and technical allocation
5. **Costs** – start with the assumption that with a well-researched plan, it will be easier to acquire funding or institutional/organizational support for your project.

More about capacities...

Needs: Learners

What do they really have access to? Although in an ideal world all options are available, and technology choices are made purely on the basis of appropriateness, access to different learning technologies remains the key determiner for many rural areas.

Do the learners prefer synchronous or asynchronous delivery? Asynchronous, or "delayed" interaction, may produce more carefully constructed comments and questions. Both asynchronous and synchronous delivery modes usually refer to time and place flexibility, not true "independence". For instance, a website discussion board topic will only stay "fresh" a week or so, and if you try to join in on the topic much after that you may find the participation dwindling.

The requirements of interaction between learner and instructor (or learners with other learners) is usually the significant differentiator in technology choices. A homogenous knowledge-level of a group of learners will naturally allow for group instruction. A disparate, multi-level group of learners will require not only more individualized instruction, but greater simplicity of operational design. Finally, learners with lower motivation need a greater amount of instructor contact and more real time interaction for attention, guidance, and the support of a peer group of other learners.

Content

There are two type basic types of content: Hard and Soft. Hard content could be loosely described as factual information, formally acquired (for example, memorizing grammar for a French language exam). It may include less-ambiguous material which is suited to the applications of tasks or concepts of behavioural learning, and objective methods of measuring right or wrong. It may thus require more focus on the demonstration of appropriate learning outcomes, but less actual instructor-learner interaction.

Soft content appears where the desired learning outcomes begin to exceed a measurable acquisition of skills or knowledge (for example, French language fluency). The greater the "experiential" requirements of the learning task the more need for collaborative social environments for individuals to work together to construct knowledge. Both hard and soft content can be presented in the initial stages equally well, but the tasks required in the learner's practice and the instructor's feedback stages will sharpen the distinction of technology choices.

Appropriate representation of content

One must also consider the symbol systems that accompany learning. These are determined by the degree to which the learning content requires a visual or graphic-based component for effective presentation and practice. To continue with our French language example, grammar learning may be stimulated by a computer game that challenges the learner to complete a certain number of sentences with the correctly-conjugated verbs within a certain length of time. Vocabulary learning may be stimulated by the viewing of a short video clip or listening to an audio file and discussing the topic with another learner.

Capacities:

Delivery formats

The choice of delivery format for any given learning experience is usually based on the type of *interaction* that is most desirable, necessary, or convenient. The quality of these interactions is often determined by the directness and *frequency* of opportunity for communication and response between participants. For example, because videoconferencing is live, visual, and two-way, it offers the most immediate personal interaction. However, computer conferencing on the Web offers, through the moderate time delay in communication, the provision of opportunities to reflect on the subject and draw in new sources of information, such as document attachments and links to other Web sites. Similarly, new multimedia programs and computer-based training packages offer different kinds of interaction between the learner and the material being learned, often requiring little or no contact with an instructor. These, however, require more motivation on the part of the individual learner to use.

“Traditional” technologies such as audio and video tapes offer ease of use and control of the learning pace and repetition through re-winding. They can be very effective when there is a body of material that needs to be reviewed more than once. Newer “presentation” technologies such as live web broadcasting (most often, streaming video over the Internet) offer no interaction unless questions or comments can be e-mailed to the presenter(s), either at the time of the “webcast” or fairly soon afterwards. Often a webcast will be followed by an electronic forum taking place on an e-mail discussion board.

Resources

While in community development there quite naturally tends to be a fixation on money (or lack of it), it's the human resources—the people—who are the key. This of course includes yourself: are you willing to put time into learning the most effective use of the technology you've chosen? Who will maintain or upgrade your web site or computer terminals? Are you and your colleagues willing to put in the amount of hours over a short period of time that it takes for marshaling local resources around a reasonably quick project implementation? Will you need development or start-up funding? These are all factors which can affect your technology choices.

Costing

There are two types of costing to consider in choosing a learning technology for delivery: Fixed and Variable.

Fixed costs affect everything that's required to develop and deliver the learning experience to even just one person. They are associated with:

- **design** – what will it cost to design materials that can help produce the desired learning outcome?
- **development** of the material into a workable format – how will the presentation needs affect the cost?
- **delivery** – what will it cost to deliver it to the learner or client?
- **infrastructure** – what do all the equipment, connections, and telecommunications services associated with delivering the learning experience cost?

Variable costs change according to the number of learning sites or participants in the experience or event. Variable costs will also change according to regional or community needs, the type of content delivered, and of course the funding available for your project's learning activities.

Where can I learn more about distance education?

Sites and Resources for Distance Education

Learning More About Distance Education

[Education with New Technologies: Networked Learning Community](#)

An on-line community for learning more about using technology for learning.

[About.com](#)

Use the site index to find "education". It includes most aspects of education, both via classroom and new media, and from an American perspective. The number of resources can be overwhelming.

[The Ottawa Distance Learning Group](#)

ODLG is a local group of professionals who meet five times a year to share information and best practices in distance learning.

[The Node](#)

An Ontario-based resource for teaching with technology. The database provides links to articles about the use of new learning technologies.

[Office of Learning Technologies](#)

Important Canadian source for information and funding related to the use of learning technologies.

[Ontario Ministry of Education, Distance Education Links](#)

[Distance Education Clearinghouse](#)

Basic resource for finding out about distance education. Academic focus.

[Masie Center](#)

Resources and information on technology and learning. Teacher training resources:

- on-line courses for teachers
- distance education course development material
- distance education course management material
- tutorials and guides for teachers

[University of Athabasca](#) describes a Masters of Distance Education degree, completely on-line.

[Distance Education at a Glance](#)

This series of 14 guides provides a good introduction to distance education.

The University of Maryland, University College's (UMUC) Virtual [Resource Site for Teaching with Technology](#)

[Distance Education Course Design](#)

The purpose of this formative evaluation tool is to assist novice distance educators in the design and development of their distance education courses. A great starting point developed by Sherri Braxton.

[TéléEducation New Brunswick](#)

An outstanding resource. The Distance Education Resources Database provides links to resources for distance education trends, instructional design, and development tools.

[David Wooley's site](#)

Conferencing Software for the Web. Some products available free.

[Tucows](#)

Software for Web applications.

[Dave Central](#)

Software Applications

[The Moderators' Home Page](#)

Resources for Moderators and Facilitators of On-line Discussion.

[Quicktime tutorials](#)

Introduction to Quicktime.

[PageTutor](#)

Learn to make Web pages.

[E-MATH: A Guide to E-mail Based Volunteer Programs Designed to Help Students Master Challenging Mathematics, Science and Technology](#)

Includes a list of telementoring programs.

Where to Find On-line Courses

[A Review of Secondary Netcourses and Virtual Schools](#)

[Telecampus: Database of On-line Courses](#)

[Canada's Campus Connection](#)

On-line credit courses from Canadian colleges and universities.

[LGuide](#)

Provides course reviews.

Publications on Distance Education

[OLDaily](#)

To find out more about how and why the Internet is being used as a learning tool, check out Stephen's Web OLDaily, a new and very informative daily e-newsletter about happenings in the on-line learning world.

[LT Highlights](#)

Office of Learning Technologies bimonthly electronic current awareness service about technology-assisted learning.

[Online-Ed](#) is a very international, free, monthly newsletter to which over 40 countries subscribe. Topical articles by invited authors are always relevant and worthwhile. Includes a list of "What's On" around the world in distance learning. Click on "register" to sign up.

[TechLearn Trends](#) is an on-line newsletter full of leading edge issues related to e-learning. Although very American, its focus is applicable to all.

[Asynchronous Learning Networks Magazine](#)

A Vanderbilt University publication related to on-line learning.

[Electronic School](#)

Focuses on instructional technology for K-12 teachers and administrators.

[The Technology Source](#)

Thoughtful articles on technology tools and teaching.

[Learning Circuits](#)

From The American Society for Training and Development.