



School Board Work Session Distance Learning

Issue Brief

This issue brief provides background information on distance learning, including its origin and types, as well as the impact of Web 2.0 applications and the emergence of eLearning, the use of technology to deliver highly personalized teaching and learning experiences (a topic discussed by Clayton Christensen in Chapter 4 of his book *Disrupting Class*.) Much of the background information provided in this brief is taken directly from Wikipedia, an online encyclopedia where users contribute to the content. Wikipedia is an example of a Web 2.0 application. This document includes embedded links to additional content at Wikipedia that may be accessed by clicking on the underlined blue hyperlinks.

Distance Learning^[1]

Distance Learning, or distance education, is a field of education that focuses on the [pedagogy](#), technology, and instructional systems design that aim to deliver education to students who are not physically "on site". Rather than attending courses in person, teachers and students may communicate at times of their own choosing by exchanging printed or electronic media, or through technology that allows them to communicate in real time and through other online methods. Distance education courses that require a physical on-site presence for any reason, including the taking of examinations, are considered to be hybrid or blended courses of study.

According to Wikipedia, Distance education dates back to at least as early as 1728, when "an advertisement in the Boston Gazette...[named] 'Caleb Phillips, Teacher of the new method of Short Hand'" was seeking students for lessons to be sent weekly. Modern distance education has been practiced at least since Isaac Pitman taught shorthand in Great Britain via correspondence in the 1840s. The development of the postal service in the 19th century led to the growth of commercial correspondence colleges with nation-wide reach.

Charles Wedemeyer of the University of Wisconsin-Madison is considered the father of modern distance education in America. From 1964-1968 the Carnegie Foundation funded Wedemeyer's *Articulated Instructional Media Project* (AIM) which brought in a variety of communications technologies aimed at providing learning to an off-campus population.

There are many private and public, non-profit and for-profit institutions offering courses and degree programs through distance education. Levels of accreditation vary; some institutions offering distance education in the United States have received little outside oversight. Online education is rapidly increasing in the United States.

In the twentieth century, radio, television, and the Internet have all been used to further distance education. Computers and the Internet have made distance learning distribution easier and faster. Private, for-profit Phoenix University, which is primarily an online university, now has two hundred thousand students and expects to serve five hundred thousand by 2010, yet little is known about student success or lack of success in such a fast-growing institution.

In 2006 the Sloan Consortium reported that more than 96 percent of the largest colleges and universities in the United States offered online courses and that almost 3.2 million U.S. students were taking at least one online course during the fall 2005 term.

The types of available technologies used in distance education are divided into two groups: synchronous and asynchronous. Synchronous technology is a mode of online delivery where all participants are "present" at the same time. Asynchronous technology is a mode of online delivery where participants access course materials on their own schedule. Students are not required to be together at the same time.

Synchronous technologies:

- [Telephone](#)
- [Videoconferencing](#)
- [Web Conferencing](#)

Asynchronous technologies:

- [Audiocassette](#)
- [E-mail](#)
- [Message Board](#) Forums
- Print Materials
- [Voice Mail/fax](#)
- [Videocassette](#)

There are also [Learning Management Systems](#) (LMS), or Learning Management Content Systems, which can be used for both Synchronous and Asynchronous learning. (LMS is not so much a learning tool as a framework for an instructor to better administer the classroom.)

Types of distance education courses:

- Correspondence conducted through regular mail
- Internet conducted either synchronously or asynchronously
- Telecourse/Broadcast, in which content is delivered via radio or television
- CD-ROM, in which the student interacts with computer content stored on a CD-ROM
- PocketPC/Mobile Learning where the student accesses course content stored on a mobile device or through a wireless server
- Integrated distance learning, the integration of live, in-group instruction or interaction with a distance learning curriculum

Distance Education has traversed four to five 'generations' of technology in its history. These are print, audio/video broadcasting, audio/video teleconferencing, computer aided instruction, e-learning/ online-learning, computer broadcasting/webcasting etc. Yet the radio remains a very viable form, especially in the developing nations, because of its reach.

Australian children in extremely remote areas have been participating in the "School of the air" since the 1940's using 2 way radio. In India the FM Channel is very popular and is being used by universities, to broadcast educational programs of variety on areas such as teacher education, rural development, programs in agriculture for farmers, science education, creative writing, mass communication, in addition to traditional courses in liberal arts, science and business administration. The increasing popularity of mp3 players, [PDAs](#) and [Smart Phones](#) has provided an additional medium for the distribution of distance education content, and some professors now allow students to listen or even watch video of a course as a [Podcast](#). Some colleges have been working with the U.S. military to distribute entire course content on a [PDA](#) to deployed personnel.

e-Learning^[2]

The evolution of 21st century technologies is changing the face of distance learning. Electronic learning (or e-Learning or eLearning) is a type of technology supported education/learning where the medium of instruction is through computer technology, particularly involving digital technologies. E-learning has been defined as "[pedagogy](#) empowered by digital technology". In some instances, no face- to- face interaction takes place. *E-learning* is used interchangeably in a wide variety of contexts. In companies, it refers to the strategies that use the company network to deliver training courses to employees. In the United States, it is defined as a planned teaching/learning experience that uses a wide spectrum of technologies, mainly Internet or computer-based, to reach learners. Lately in most Universities, e-learning is used to define a specific mode to attend a course or programs of study where the students rarely, if ever, attend face-to-face for on-campus access to educational facilities, because they study online.

Developments in internet and multimedia technologies are the basic enabler of e-learning, with content, technologies and services being identified as the three key sectors of the e-learning industry. eLearning is a catch-all term that covers a wide range of instructional material that can be delivered on a [CD-ROM](#) or [DVD](#), over a [local area network \(LAN\)](#), or on the Internet.

By 2006, nearly 3.5 million students were participating in on-line learning at institutions of higher education in the United States. Many higher education, for-profit institutions, now offer on-line classes. By contrast, only about half of private, non-profit schools offer them. The Sloan report, based on a poll of academic leaders, says that students generally appear to be at least as satisfied with their on-line classes as they are with traditional ones. Private institutions may become more involved with on-line presentations as the cost of instituting such a system decreases. Properly trained staff must also be hired to work with students on-line. These staff members need to understand the content area, and also be highly trained in the use of the computer and Internet.

As early as 1993, Graziadei, W. D. described an online computer-delivered lecture, tutorial and assessment project using electronic Mail, two VAX Notes conferences and Gopher/Lynx together with several software programs that allowed students and instructor to create a Virtual Instructional Classroom Environment in Science (VICES) in Research, Education, Service & Teaching (REST). In 1997 Graziadei, W.D., et al., published an article entitled "Building Asynchronous and Synchronous Teaching-Learning Environments: Exploring a Course/Classroom Management System Solution". They described a process at the State University of New York (SUNY) of evaluating products and developing an overall strategy for technology-based course development and management in teaching-learning. The product(s) had to be easy to use and maintain, portable, replicable, scalable, and immediately affordable, and they had to have a high probability of success with long-term cost-effectiveness. Today many technologies can be, and are, used in e-Learning, from [blogs](#) to [collaborative software](#), [ePortfolios](#), and [virtual classrooms](#). Most eLearning situations use combinations of these techniques.

Along with the terms *learning technology*, *instructional technology*, and [Educational Technology](#), the term is generally used to refer to the use of technology in learning in a much broader sense than the [computer-based training](#) or *Computer Aided Instruction* of the 1980s. It is also broader than the terms *Online Learning* or *Online Education* which generally refer to purely web-based learning. In cases where mobile technologies are used, the term [M-learning](#) has become more common. E-learning, however, also has implications beyond just the technology and refers to the actual learning that takes place using these systems.

E-learning is naturally suited to distance learning and flexible learning, but can also be used in conjunction with face-to-face teaching, in which case the term [Blended learning](#) is commonly used. E-Learning pioneer Bernard Luskin argues that the "E" must be understood to have broad meaning if e-Learning is to be effective. Luskin says that the "e" should be interpreted to mean exciting, energetic, enthusiastic, emotional, extended, excellent, and educational in addition to "electronic" that is a traditional national interpretation. This broader interpretation allows for 21st century applications and brings learning and [media psychology](#) into the equation.

In higher education especially, there is an increasing tendency to create a [Virtual Learning Environment](#) (VLE) (which is sometimes combined with a [Management Information System \(MIS\)](#) to create a [Managed Learning Environment](#)) in which all aspects of a course are handled through a consistent user interface standard throughout the institution.

[Computer-supported collaborative learning \(CSCL\)](#) is one of the most promising innovations to improve teaching and learning with the help of modern information and communication technology. Collaborative or group learning refers to instructional methods whereby students are encouraged or required to work together on learning tasks. It is widely agreed to distinguish collaborative learning from the traditional 'direct transfer' model in which the instructor is assumed to be the distributor of knowledge and skills.

[Blogs](#), [wikis](#), and [discussion boards](#) are newer forms of asynchronous communication tools. These tools allow participants to engage in the exchange of ideas or information

without the dependency of other participants involvement at the same time. Online chats or virtual classrooms provide opportunities for synchronous activities.

In many models, the writing community and the communication channels relate with the E-learning and the [M-learning](#) communities. Both the communities provide a general overview of the basic learning models and the activities required for the participants to join the learning sessions across the virtual classroom or even across standard classrooms enabled by technology. Many activities, essential for the learners in these environments, require frequent chat sessions in the form of virtual classrooms and/or blog meetings.

The term e-Learning 2.0 is used to refer to new ways of thinking about e-learning inspired by the emergence of [Web 2.0](#). From an e-Learning 2.0 perspective, conventional e-learning systems were based on instructional packets that were delivered to students using Internet technologies. The role of the student consisted in learning from the readings and preparing assignments. Assignments were evaluated by the teacher. In contrast, the new e-learning places increased emphasis on [social learning](#) and use of [social software](#) such as blogs, wikis, podcasts and virtual worlds such as [Second Life](#).

The first 10 years of e-learning (e-learning 1.0) was focused on using the internet to replicate the instructor-led experience. Content was designed to lead a learner through the content, providing a wide and ever-increasing set of interactions, experiences, assessments, and simulations. E-learning 2.0, by contrast (patterned after Web 2.0) is built around collaboration. E-learning 2.0 assumes that knowledge (as meaning and understanding) is [socially constructed](#). Learning takes place through conversations about content and grounded interaction about problems and actions. Advocates of social learning claim that one of the best ways to learn something is to teach it to others. As another example, [Second Life](#) has recently become one of the virtual classroom environments used in colleges and universities, including University of Edinburgh (UK) Princeton University (USA), Rice University (USA), and Vassar College (USA).

References

1. Distance education. (2009, March 5). In *Wikipedia, The Free Encyclopedia*. Retrieved March 20, 2009, from http://en.wikipedia.org/w/index.php?title=Distance_education&oldid=275094308
2. Electronic learning. (2009, March 19). In *Wikipedia, The Free Encyclopedia*. Retrieved March 20, 2009, from http://en.wikipedia.org/w/index.php?title=Electronic_learning&oldid=278397457

Breakout Sessions

Students, teachers and staff will address a number of misconceptions during the three breakout sessions. According to the North American Council for Online Learning (NACOL), common *misconceptions* regarding online, or eLearning, include:

- Online learning is just a high-tech version of the old correspondence course.
- Students spend all of their time in front of a computer.
- Online learning is essentially “teacher-less.”
- Courses are easy to pass.
- Online learning is only appropriate for high school students.
- Online learning is only good for highly motivated, highly able students.
- Students are isolated from their peers and short-changed on important socialization skills.

There will be three breakout sessions as follows:

Breakout Session 1 – Rigor: Digital Curriculum for Differentiated Instruction

Session 1 will focus on the Division’s deployment of Apex Learning at the Division’s high schools and a pilot of Rosetta Stone at Walton Middle School. Apex Learning is an online learning solution for credit recovery, remediation, distance learning, and exam preparation. Rosetta Stone is a second language acquisition solution that uses an immersion strategy to surround students with real-life images and voices of native speakers of the target language – without the need for translation or memorization.

Guiding Questions

- How do students interact with these examples of digital curriculum?
- What do students find engaging, challenging, and/or disappointing about these applications?
- How do these applications compare to more traditional methods of teaching and learning?
- What do teachers find engaging, challenging, and/or disappointing about these applications?
- What is the role of the classroom teacher in supporting teaching and learning in these examples?
- What evidence is there that student achievement is improving?

Breakout Session 2 – Relevance: Personally Relevant Electronic Paths to Excellence

Session 2 will focus on a variety of additional eLearning opportunities, including Virtual Virginia, BlackBoard, Interactive Video, and Outreach. Virtual Virginia offers online AP and world language courses to students across the commonwealth and nation. BlackBoard is a courseware application used by colleges across the county, and many of our teachers, to extend access to classroom resources beyond the school and school day. Outreach is a web-based communication and collaboration tool that is included in SchoolNet.

Guiding Questions

- In what ways do distance learning opportunities support our life-long learner standards?
- How do distance learning opportunities support collaboration and teamwork?
- How might open source applications (e.g., Moodle and ANGEL Learning) be used to enhance teaching and learning experiences?
- Are partnerships currently underway for a Virtual High School/Community College program?
- How can we evaluate the effectiveness of distance learning programs?
- What types of courses lend themselves to being taught online?
- What does an online course look like?
- How do students interact with the teacher in an online course?
- What qualifications and training are required of teachers of online courses?

Breakout Session 3 – Relationships: Pedagogy Empowered by Digital Technologies

Session 3 will explore how new technologies—hardware and software applications, including netbooks, iPods, social networking, flexbooks, open source curriculum, and online collaboration—are changing how teachers and students work and interact in classrooms.

Guiding Questions

- What other tools/resources should be considered (e.g., iTunes University, etc.)
- How can we ensure ubiquitous access to digital curriculum?
- How would use of other elements of Cloud Computing (e.g., Google Apps, Live@edu, Facebook, and the use of RSS feeds) change our teaching and learning model?
- How would the use of electronic text appliances (e.g., Kindle) change student access to text?
- How can we integrate the tools that students already use (e.g., iPods, Nintendo DS, Playstation PSP, and cell phones) into teaching and learning?
- How can we leverage use of technology students bring to school every day in their backpacks (e.g., cell phones, iPods, etc.), as well as ensure equity in access to such technologies?
- What challenges do we face in making these types of shifts?