

E-learning, Online Learning, Web-based Learning, or Distance Learning: Unveiling the Ambiguity in Current Terminology

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E-learning, web-based learning, online learning, and distance learning are widely used as interchangeable terms. However, these terms represent concepts with subtle, yet consequential differences. In this article, we reveal the differences, review the meanings of these terms, and suggest definitions.

A clear understanding of these concepts and their fundamental differences is important for both the educational and training communities. Applying each of these terms adequately is key to assuring reliable communication between clients and vendors, members of technical teams, and the research community. A thorough familiarity with each concept and its distinctive characteristics is a critical factor in establishing adequate specifications, evaluating alternative options, selecting best solutions, and enabling and promoting effective learning practices.

Methodology

Meanings of technical terms can be determined in many ways. Terms for new concepts are often derived intuitively from related concepts. E-learning and Web-based learning are examples of recent concepts that acquire their meanings from the related concepts of e-mail, Web, and learning. Other times, concepts are derived by shading their meanings with aggregated adjectives. Online learning and distance learning obtain their meanings this way, as does Web-based learning.

More established concepts are defined in the technical literature with precise and widely accepted meanings. Definitions for distance learning and distance education have been proposed by Keegan (1986) and Garrison & Shale (1987). Khan (2001) and Hall (1997) associate Web-based learning with Web browser technology, often delivered via the Internet or intranets. Much literature associates e-learning with Web-based learning over the Internet (e.g. Rosenberg, 2000; Driscoll, 2002; Horton, 2000). Schank (2001) refers to learning activities involving computer networks as e-learning, and stresses that e-learning is not merely distance learning. The concept of online learning predates the appearance of the Web, but most recent publications about online learning refer to materials delivered over the Internet or intranets (e.g. Malopinsky, Kirkley, Stein, & Duffy, 2000; Schank, 2001; PBS, 2001).

Occasionally, technical literature diverges from the common usage of these terms, either over-generalizing or restricting their meaning. For instance, one publication uses e-learning as a catch-all term for any form of electronically delivered learning, including computer-based learning as

well as video. And a few authors restrict Web-based learning to learning materials on the Internet, excluding the same Web-based materials delivered on CD-ROM.

Our approach to defining these terms involves two complementary methods. The terminology is analyzed based on the individual meaning of the constituting terms, and the meaning of related concepts. For online learning, for instance, we examine the meanings of "online," "learning," and the meanings of related but better established concepts such as "online documentation," "online service," and "online help." In addition, we review expert literature for actual uses of the terminology and proposed definitions. These two sources are then combined to reveal key differences and overlaps among the concepts.

Definitions

E-learning is mostly associated with activities involving computers and interactive networks simultaneously. The computer does not need to be the central element of the activity or provide learning content. However, the computer and the network must hold a significant involvement in the learning activity.

Web-based learning is associated with learning materials delivered in a Web browser, including when the materials are packaged on CD-ROM or other media.

Online learning is associated with content readily accessible on a computer. The content may be on the Web or the Internet, or simply installed on a CD-ROM or the computer hard disk.

Distance learning involves interaction at a distance between instructor and learners, and enables timely instructor reaction to learners. Simply posting or broadcasting learning materials to learners is not distance learning. Instructors must be involved in receiving feedback from learners.

For each of these concepts, the discriminating feature must be the primary characteristic of the learning activity. Intensive use of the feature is required, since incidental or occasional use of a characteristic feature is not sufficient to qualify for a certain type of learning. For instance, running a CBT application from a file-server does not qualify as e-learning; and e-mailing a teacher after taking a class on a campus is not sufficient to qualify as distance learning.

Reasoning and Discussion

A definition for e-learning emerges from the parallel concept of e-mail. E-mail is typically described as the activity of transmitting "mail" with computers and networks. In the same way, e-learning refers to learning activities that involve computers and networks. (The internet and intranets are considered networks.) E-learning does not require learning materials to be delivered by computer, but computer and networks must be involved in this type of learning.

Web-based learning entails content in a Web browser (not just activities), and actual learning materials delivered in Web format. In this, Web-based learning is analogous to textbooks, where the content determines whether a book is a novel, a report, or a textbook. Simply offering computer-based training (CBT) for download from a Web site is not Web-based learning since

there is no learning content in Web format). Web browsing the learning content (even linearly) is the key feature of Web-based learning. Web-based learning content is typically retrieved from a Web site, but alternative solutions are acceptable (a hypertext Web does not require Internet or networks). For instance, some Web-based learning offerings operate from CD-ROM, and many are offered on dual format: Web site and CD-ROM. The CD-ROM solution is typically associated with situations where network access may not be available or practical, like in schools lacking Internet access or in the midst of a military conflict.

Online learning is related to the more common concepts of online help, online documentation, and online services. It is associated with readily available learning materials in a computer environment. Often, online learning refers to learning materials directly accessible from within a core application (like in online help); however, learning materials available online on a network also qualify when readily accessible. Network use is not necessarily required, and in fact the concept of online learning surfaced before the development of the Web and before learning materials were delivered over the Internet or networks.

Web-based learning and learning courseware accessible from within a core application can also often qualify as online learning. However, having to search for or open a separate application to access materials does not qualify as online learning since the materials are not readily accessible.

Distance learning is a concept older than most of those discussed here. It does not require the use of computers or networks. It involves interaction between class members primarily at a distance, and enables the instructor to interact with learners. Distance learning is typically associated with televised broadcasts and correspondence courses, but it also applies to certain e-learning applications. On the Internet, educational interaction primarily at a distance is required between instructor and students, or between students. Typical distance learning in this context includes Internet-based live instructor broadcasts, video-conferencing, chat and scheduled online conference discussions, and even e-mail courses or discussions.

However, Web-based courses do not often qualify as distance learning even though the author/instructor produced the materials at a distance from the students (for the same reason that simply shipping a textbook or CBT to a student does not qualify as distance learning). Web-based courses are akin to video broadcasts of educational materials. Many broadcasted educational materials are not distance learning since the "distant" instructor only produces the materials, and is not further involved in the education of the students. These only become part of a distance learning activity if the instructor (or instructing institution) obtains educational responses from the students and reacts to them with adequate educational responses.

Illustrative Case Scenarios

Examining a variety of sample cases helps clarify and reinforce the points made above.

Research on the Web. Research on the Web for a classroom topic is e-learning, since the principal learning activity is Internet-based. The research per se is not Web-based learning, since the research is an activity that does not involve learning content. The research may, however, involve reviewing Web-based learning materials. Researching materials on the Web for a school

paper at home, in a library, or an Internet-café is still e-learning. The location does not matter. It does not matter whether the materials being researched are for a classroom project or for self-directed learning.

Educational Games. Educational games may be networked, allowing player interaction. Playing a networked educational game is e-learning, because of the use of networks. Playing a Web-based educational game on the Internet is three things: e-learning, Web-based learning, and online learning, since it is Web-delivered and is available online.

Online Learning. Accessing the Microsoft Office help tutorial while learning Office is online learning, for the same reason that accessing the standard help feature would be online help. It is not Web-based or e-learning since the Web or networks are not involved; it is also not distance learning.

On-demand, just-in-time training for an accounting application directly accessible on the Web is online learning, e-learning, and Web-based learning. Job aids on the Web for the accounting application are not e-learning or Web-based learning per se, since job aids are not learning materials. However, if the job aids are used for performance-based learning, then using the job aids becomes e-learning, Web-based learning, and online learning.

Advanced Distributed Learning (ADL). ADL encompasses a variety of learning applications, including e-learning, Web-based learning, distance learning, and conventional learning solutions.

Conclusion

Though e-learning, Web-based learning, and distance learning are all related to each other, they have significant differences. Failing to recognize the fine differences between these concepts limits the pace of development of expertise, precludes precise communication with team members and stakeholders, and often reflects a poor understanding of available alternative solutions.

Adequate use of the terminology offers indisputable advantages. Referring to each concept appropriately not only conveys precise and accurate messages, but also entails correct actions and provides clear view of challenges, potentials, and trade-offs. In the end, recognizing subtle differences in language enables faster individual development, more accurate and discerning research, improved communication, and ultimately better products.

References

1. Driscoll, M. (2002). *Web-Based Training: Designing E-Learning Experiences*. Jossey-Bass.
2. Garrison, D.R., & Shale, D. (1987). Mapping the boundaries of distance education: Problems in defining the field. *The American Journal of Distance Education*, 1(1), 7-13.

3. Jonassen, D., Davidson, M., Collins, M., Campbell, J. and Haag, B. B. (1995). Constructivism and computer-mediated communication in distance education. *The American Journal of Distance Education*, 9 (2), 17-25.
4. Keegan, D. (1986). *The Foundations of Distance Education*. Routledge Kegan & Paul.
5. Khan, B. H. (2001). *Web-based Training*. Educational Technology Publications.
6. Hall, B. (1997). *Web-Based Training Cookbook*. John Wiley & Sons.
7. Horton, W.K. (2000). *Designing Web-Based Training: How to Teach Anyone Anything Anywhere Anytime*. John Wiley & Sons.
8. Malopinsky, L., Kirkley, J., Stein, R., & Duffy, T. (2000). An instructional design model for online problem based learning (PBL) environments: The Learning to Teach with Technology Studio. Paper presented at the Association for Educational Communications and Technology Conference (AECT), October 26, Denver, Colorado.
9. PBS (2001). *PBS Distance Learning Week*, April 15-21. PBS.
10. Rosenberg, M.J. (2000). *E-Learning: Strategies for Delivering Knowledge in the Digital Age*. McGraw-Hill.
11. Schank, R.C. (2001). *Designing World-Class E-Learning*. McGraw-Hill Professional Publishing.