

GLOSSARY of e_Learning Terms

apprenticeship models

This learning model begins with deliberate instruction by someone who acts as a model or highly-knowledgeable coach; it then proceeds to shape cognitive or physical behaviors in participants by increasing the complexity of the tasks; participants increasingly take responsibility for their own learning. Two essentials: (1) selecting appropriate real-world tasks and situations, and (2) continuous feedback by the coach-model . (see also *cognitive apprenticeship*)

asynchronous learning

Communications among students and instructors which may be originated at any time and/or at irregular intervals. E-mail and bulletin boards have been the most common means, but streaming video presentations are increasingly popular. Chat is synchronous, e-mail is asynchronous.

behavioral models

Behaviorism is one of the best-known and most generative constructs in modern learning theory. Its proponents argue that learning is manifested by a change in behavior which is determined by elements in the environment, the most important of which is reinforcement. Reinforcement is any means of increasing the likelihood that the behavior will be repeated. Watson, Tolman, Hull and Skinner are names associated with this model. Several important educational practices can be traced to the model, including the systematic design of instruction, behavioral objectives, programmed instruction, computer-based training, and competency-based education.

blended learning

Erroneously described as a learning model or even an instructional strategy, the term instead signifies that there is more than one location for the instruction, which is usually a combination of live classroom and web-based instruction. The benefits include the cost savings of web-based presentations and the personal contact with instructors and peers in the classroom.

blogs

A web log (*blog*) is a web application containing brief, chronologically arranged items of information, opinion or musings. A blog can take the form of a diary, journal, a what's new page, or links to other web sites, and may constitute one of the biggest time-wasters since Solitaire. Some blogs aggregate news from other sites, mixed with commentary and opinion, but many take the form of an online journal, often with photos, poems, and links. Some blogs have been instrumental in building and maintaining communities of practice, which alone justifies serious attention. (see, for example, [autounfocus](#)) (see also *wiki*)

brain-based learning

Excited by recent research in neurobiology, there is much speculation that a new model of learning will emerge that is based on linkages to specific sections and operations of the brain. In the opinion of one of the leading experts, however, "we do not know enough about brain development and neural function to link that understanding directly, in any meaningful, defensible way to instruction and educational practice." [J. T. Bruer, 1997]

chat (see *instant messaging*)

cognitive apprenticeship

This model assumes the more-or-less continuous presence of an expert who works alongside trainees and/or sets up situations that will cause trainees to begin to work on problems even before fully understanding them. A key aspect of an apprenticeship approach involves breaking the problem into parts so trainees are challenged to master as much of a task as they are prepared to handle. In addition, instructors are encouraged to provide trainees with varying kinds of practice situations before moving on to more challenging tasks, allowing an understanding that surpasses the use of formulas. The tasks and problems are chosen to illustrate the power of certain techniques or methods, to give trainees practice in applying these methods in diverse settings, and to increase the complexity of tasks slowly, so that component skills and models can be integrated. Drawing trainees into a culture of expert practice in cognitive domains involves the expectation that they will eventually come to "think like experts."

cognitive models

Perception, insight and meaning are central to cognitive theories of learning, whose proponents argue that, in contrast to behaviorist models, learning cannot be understood simply by reference to external events and behaviors. Bruner is the name most closely associated with cognitive models, but Gestalt theorists including Köhler and Lewin made significant contributions. Bruner says there are three almost simultaneous processes: acquisition of new information, manipulation of the new information to make it fit new tasks, and evaluation to see if the manipulation is adequate to the task. Because these are internal mental processes which cannot be observed directly, the cognitive models stand in sharp contrast to behavioral models.

collaboration technologies

These software applications include eRooms, Groove, and a myriad of other online services beginning with something as simple as a Yahoo group. They provide a webspace that offers a number of features for communicating and sharing files, calendars, and databases. Most wired seminars utilize webspaces that are run on some collaboration software or service. See also *workspace*.

community of practice

A group of people socially (*i.e.*, informally) organized and bound together by a shared expertise or ways of doing things, or by interest in a joint enterprise. Some practices are tied to specific organizations (like the claims processors in the insurance firm described in Wenger's book, *Communities of Practice*, or the employment law specialists in a multi-state law firm) or by, for example, a passion for making fine black-and-white photographic prints on an inkjet printer. One distinguishing characteristic of a community of practice is the amount of communication and collaboration that occurs, much of which may be social or ancillary to the focus of the practice, but results in stronger bonding and a sense of community. Learning communities – a cohort of students working through a curriculum together (as in a nursing program) – usually create strong bonding and shared expertise, which often results in much higher completion/graduation rates than the average of all students in that institution.

conferencing

Any text, audio, video or combination of communications system (usually telephone or an Internet-based) that allows multiple people (end points) to talk and hear (audio conference) or see each other (videoconferencing). An audio or video conference is by definition live, synchronous and two way, in that all participants can both send and receive audio or video.

constructivist learning

Adherents of this model say that people construct their own understanding and knowledge of the world through experiencing things and reflecting on those experiences. When we encounter something new, we have to reconcile it with our previous ideas and experience, maybe changing what we believe, or maybe discarding the new information as irrelevant. In any case, we are active creators of our own knowledge. To do this, we must ask questions, explore, and assess what we know. In the classroom, the constructivist view of learning can point towards a number of different teaching practices. In the most general sense, it usually means encouraging students to use active techniques (experiments, real-world problem solving) to create more knowledge and then to reflect on and talk about what they are doing and how their understanding is changing. Jerome Bruner is the name most commonly associated with this learning model.

content management system

Abbreviated as CMS. A software application that centralizes the process of designing, testing, approving, and posting documents, usually to a virtual workspace.

contingency branching

One of the primary means of individualizing a computer-based tutorial is by contingency branching, in which the path a learner takes through the program is determined by responses made to questions embedded in the tutorial. The branching may be made on the basis of right or wrong answers to a question, an option selected by the learner, or based on the learner's experience, job category, level, or any other category the instructional designer chooses to query. A tutorial with no contingency branching is simply an electronic page-turner.

e-Learning

Internet or networked-based learning practices. (also *eLearning* and *E-learning*) The term does not imply any particular learning model, but rather an *anywhere/anytime* delivery system, which might be a CBT tutorial, webcast, or videoconference, for example. The attraction, in addition to the anywhere/anytime availability, is that e-Learning seems to offer lower cost and wider distribution, which is true, but the trade-off is, too often, little or no learning or enhanced competencies. But the promise of a widely available interactive environment, one that can assist people in visualizing difficult-to-understand concepts and provide access to a vast array of information is an attractive one, and we believe e-Learning will continue to expand its market share of corporate and higher education.

electronic page-turners

A derisive term for poorly-conceived computer-based "tutorials." They usually lack any contingency branching or interactivity, and consist entirely (or largely) of pages of text (including, perhaps, illustrations, animations or video elements) which trainees go through serially by clicking on a button.

EPSS (electronic performance support systems)

Training, coaching, mentoring, as well as documentation, cheat sheets, and checklists offer ways of improving job performance; another way is through embedded performance support systems, which increasingly are computer-based and referred to as EPSS. An EPSS is a computer system that provides integrated, on-demand access to information, advice, learning experiences, and tools to enable a higher level of job performance with a minimum of support from other people. Context-sensitive online help, an infobase which might

include case histories on work assignments, narrative descriptions of how other users have approached and solved similar problems, or a template embedded in a word processing program which contains key questions to ask during an interview with the client, are examples of EPSS. The concept and the standards for a good EPSS system were originally outlined by Gloria Gery, who brought the approach beyond the simple job aid.

experiential learning

Not all experiences lead to learning; some, in fact, mis-educate in that they distort growth, narrow the field of further experiences and land people in a groove or rut. Nevertheless, experiences which are the cause for reflection and analysis, or which elicit attempts to connect them with previous experiences, or stimulate one to see future implications may result in experiential learning. John Dewey is the leading name associated with this learning model, which has generated several productive concepts, including reflective practice and cognitive apprenticeships.

FAQ

Short for *frequently asked questions*. A list in question and answer format of common inquiries about a topic or application. Generally regarded as a quicker means of figuring out something than consulting a program's documentation or calling technical support.

far transfer tasks (see *near transfer tasks*)

forum

A discussion board where people can post messages for others to read.

hypertext

A document that contains active links to other documents on the Web. The standard way of indicating a link is to highlight the word or phrase in blue and underline it. Clicking on that link will take the user directly to the other document or site.

ILT

Instructor-led training, usually a seminar or workshop.

information transmission

A "sage-on-the-stage" is the pejorative term for what has become the dominant instructional practice in higher education and much of formal corporate training. It is more politely referred to as the information transmission or the presentational model, although it is not based on any learning theory. In fact, there is excellent evidence that information transmission is a consistent failure as a learning model, as measured by retention or long-term changes in understanding and behavior. Among the popular (with instructors) information transmission methods are PowerPoint slide shows and the talking heads disseminated by video cassette, streaming audio, video and other forms of webcasting and videoconferencing. The reasons for its popularity are: (1) instructors don't know any better, as that's the way they were trained; (2) it is inexpensive; (3) it is scalable.

instant messaging

Often referred to as chat, IM is a real-time text-based means of communicating with others who are online. Thus it is a synchronous messaging system, in contrast to a threaded discussion or bulletin board application. The two most popular IM applications are AOL's Instant Messenger and Microsoft's MSN Messenger.

instructional design

A systems approach to designing a learning experience. It considers the desired outcomes, environment, audience, corporate culture, technology, instructional strategies, and measurement. Most e-Learning offers scant evidence of any instructional design.

instructional objectives

These are the measurable outcomes, observable and quantifiable, that learners are supposed to exhibit following their training. In the development process, after specifying the audience and the constraints under which trainees will undertake the learning activities, the next step is to write the instructional objectives. The key word in the instructional objective is the verb (*define, recall, explain, calculate, construct, etc.*). Some people think *understand* and *know* are acceptable verbs; they are not, because neither is observable. In the affective (as opposed to the cognitive) domain, we will accept a few verbs that are measurable but not directly observable (*appreciate, value, accept*). Without a rigorous statement of instructional objectives that map directly to work-related competencies, there is zero probability that the training will be successful.

interactive

One of the most misused term in the e-Learning lexicon (along with *individualized*). Some purveyors of training courses label their programs "interactive" because the trainee has to click on a button to see the next screen. There can be several levels of interactivity, the highest being where the content the learner sees is contingent on previous responses or other trainee input. A truly interactive program is continuously requesting a variety of learner responses and input, which are used to adapt subsequent content for that learner. A sophisticated simulation is interactive; a repeat-after-me computer-based tutorial is not. Online courses with little interactivity are unlikely to result in much learning.

learning models

active learning

authentic learning

apprenticeship (see *apprenticeship models* and *cognitive apprenticeship*)

cognitive (see *cognitive models*)

collaborative learning

constructivist (see *constructivist learning*)

drill-and-practice

experiential (see *experiential learning*)

situated (see *situated learning*)

learning styles

An individual's preferred and consistent set of behaviors or approaches to learning, such as a preference for reading and reflection over listening to a lecture. Gardner argues that learning styles may be mapped to different kinds of intelligences, but most of the research in the field looks at how well students recall information presented in a variety of ways. There are a number of assessment tools available that may help a student determine his/her preferred learning style, but the research appears to have had little impact on instructional design in higher education or corporate training.

multimedia

Any combination of text, sound, graphics, animation, or video. A PowerPoint show is the simplest example of a multimedia presentation.

multipoint

Multiple users or endpoints for a conference. Many videoconferencing technologies have a limited number of endpoints that may be connected to a bridge.

near transfer tasks

When the transition from the classroom activity to the job is accomplished easily, that is referred to as a *near transfer task*. Coding a medical claim, preparing a premium quotation for disability income insurance, programming a digital key telephone system are examples of near transfer tasks. When the transfer is more difficult, usually involving some tacit knowledge that only experience and participation in the work can provide, it is called a far transfer task. Learning a far transfer task generally requires both additional practice and practice on a variety of comparable but different situations and problems.

pdf

A file or file format developed by Adobe to enable users of any hardware or software platform to view documents exactly as they were created--with fonts, images, links, and layouts as they were originally designed.

performance support (see *EPSS*)**presentation model** (see *information transmission*)**reflective practice**

Learner's experience is a major part of most adult learning theories, and reflective practice—judgments based on experience and prior knowledge—is an important component. That prior experience includes *tacit* knowledge, which instructional designers/courseware developers do not usually become aware of in their needs analysis; one consequence is that trainees often conclude the instruction isn't "real" because it doesn't reflect the subtleties they know exist on the job.

reinforcement

Anything that causes the learner's behavior to be repeated is regarded as reinforcement. Knowledge of results is usually the most powerful form of reinforcement, provided it follows very closely in time to the behavior. Praise and other forms of feedback are also generally effective, but they, too, ought to follow the behavior closely, and they must be contingent on some measure of successful performance or they are discounted by the learner.

scalable

A computer application or component to be scalable is to be capable of handling significantly larger volume of throughput, processing, connections, or students. Webcasting is scalable, a Socratic dialog is not.

simulation

Any activity, often a computer application, that allows a learner to manipulate or model his/her behavior. A graphical representation of a control panel, a network diagram, even a spreadsheet that is created to enable a learner to see "what if" is a simulation. Simulations enable a learner to practice skills or behaviors in a lost cost (firing a round from a simulated Abrams M1-A1 tank), risk-free (investing heavily in derivatives in an investment game) environment .

situated learning

Most learning occurs outside the classroom as a function of the activity, context and culture in which it occurs (is situated). A child's acquisition of a spoken language is the oft-cited example. Situated learning is usually unintentional rather than deliberate, and includes a great deal of tacit knowledge. Lave, Wenger, Brown and Vygotsky are names often associated with the concept of situated learning. (see also *apprenticeship learning*)

streaming audio and video

Audio or video files played as they are being downloaded over the Internet instead of users having to wait for the entire file to download first. (see also *webcasting*)

synchronous learning (see *asynchronous learning*)**tacit knowledge**

Know-how, or an aspect of knowledge that we cannot easily articulate, often because we don't know we know it until called upon to use it. The opposite of explicit knowledge; the difference between being able to *tell* and able to *do* is usually ascribed to tacit knowledge. Knowledge Management efforts are often an attempt to ferret out the tacit knowledge that lies within employees and make it retrievable in some sort of database; most attempts we've heard about have not been notably successful.

tacit learning

The understanding one may gain in the act of doing or participating. Implicit conventions, rules of thumb, underlying (but unstated) assumptions, and a shared world view are examples of tacit learning acquired by participation in a community.

taxonomy of educational objectives

One of the more enduring models of educational objectives was outlined by Benjamin Bloom in the 1950s. He described it as a hierarchy of the levels of thinking or cognitive activity. Bloom discerned six roughly discrete levels of thinking and arranged them from the least complex, KNOWLEDGE, through COMPREHENSION, APPLICATION, ANALYSIS, SYNTHESIS, to the most complex, EVALUATION. Bloom describes the kinds of learning activities appropriate to attain competency at any level—a useful beginning for instructional design.

technologies (used for e-Learning)

(see *collaboration technologies, webcasting, videoconferencing*)

threaded discussion

An asynchronous discussion of a specific topic (the thread) in a forum. Messages (postings) appear in reverse chronological order, with the most recent at the top, for the convenience of participants who may have read previous posts.

videoconferencing

Videoconferencing technologies offer live, multipoint interactive audio and video using the public Internet or via Virtual Private Networks. Near-broadcast quality full motion video, voice and data-collaboration is common, although the cost is still relatively high and the technology is based on a fast processor, high bandwidth and good quality of service in the telecommunications links. Conferences and training are the major applications, and leading vendors include Polycom and Tandberg.

virtual workspace (see *workspace*)

weblogs (see *blogs*)

webcasting

This technology takes a live video stream and uses high speed processing power to compress and push the video and audio through a media server, which in turn enables an unlimited number of viewers to see and hear the session. Webcasting is a non-interactive technology because of the inherent latency of compressing, transporting and then decompressing the video stream. The popularity of web casting lies in the potentially huge number of concurrent conference viewers, such as a shareholder's meeting or sales presentation. Even with relatively low bandwidth, the web can be used to "stream" live or recorded audio and video presentations, but quality is usually the trade-off unless the client has high bandwidth and a fast processor. Leading vendors and services include Centra, HorizonLive, and Webex.

whiteboard

An electronic version of a blackboard that enables learners at a personal computer or virtual classroom to view what an instructor or other participant writes or draws.

wiki

A wiki is a tool for collaborative development of documents and web pages, using basic formatting and linking conventions. A wiki page can be edited within a browser simply by clicking on the "edit this page" button at the bottom of each page. We think wikis have exceptional potential as a learning application tool.

workspace

The software/web application where the main activities of the wired seminar are carried out. It is often referred to as a virtual workspace or collaboration software. Popular examples include Lotus Notes/Domiono, Groove, eRoom, as well as low-end applications like Yahoo Groups. On the academic side, Blackboard, WebCT, Interact contain many or all of the necessary features for a rich wired seminar experience.

The glossary was prepared by Frank L. Greenagel, Managing Director of Guided Learning Systems. flg@guidedlearning.com