

# **Instructional Design and ELearning Glossary**



By Marina Arshavskiy

[www.YourELearningWorld.com](http://www.YourELearningWorld.com)



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### About Marina Arshavskiy



Marina Arshavskiy is the owner of Your ELearning World, an eLearning company committed to helping organizations become more effective by creating groundbreaking, result-oriented learning solutions. Marina has consulted extensively with private organizations and government entities, both in the United States and abroad. Her course designs have won multiple awards and have helped take organizations to the next level. Marina has been passionately involved in instructional design and eLearning for nearly a decade, and is also the author of an extremely insightful book on the subject, "Instructional Design for ELearning: Essential guide to creating successful eLearning courses". Marina's major area of expertise is design of innovative eLearning courses that bring results and improve performance.

## Instructional Design and eLearning Glossary

**Abraham Maslow's Hierarchy of Needs** – a theory that states there are five basic human needs that must be satisfied for internal motivation to occur. These needs are physiological, safety, belongingness, self-esteem, and self-actualization.

**Accelerated Learning Rapid Instructional Design (RID)** – a model for creating courses under tight deadlines with limited budget and constantly changing content.

**ADDIE** – the classic model that most instructional designers use. ADDIE stands for Analysis, Design, Development, Implementation and Evaluation.

**Adobe ELearning Suite** – a toolbox for creating eLearning courses, which includes Adobe Captivate, Adobe Flash, Adobe Dreamweaver, Adobe Photoshop, Adobe Acrobat, Adobe Presenter, and Adobe Audition.

**Alpha testing** – the initial quality assurance test that involves usability testing to confirm the course works the way it should.

**Alternative text** – also known as Alt-text. When users mouse over a visual, alternative text pops up and provides a description of that visual.

**Andragogy** – the term coined by Malcolm Knowles. It is an adult learning theory that believes that adults learn differently from children and describes assumptions about adult learners.

**Animation** – a simulation of movement created by showing a series of visuals.

**ARCS Model** - a model of motivational design pioneered by John Keller. It is a systematic approach to designing motivational learning. It consists of the following four steps for promoting motivation in the learning process: attention, relevance, confidence, and satisfaction.

**Assessment** – the evaluation of comprehension and ability of the learner to do something as a result of a training course.

**ASSURE** – a model that assumes the course design uses different types of media. The model is used for designing eLearning courses. ASSURE stands for Analyze Learners, State Objectives, Select Media and Materials, Utilize Media and Materials, Require Learner Participation, and Evaluate and Revise.

**Asynchronous eLearning** – a self-paced learning experience that allows learners to go through courses as quickly or as slowly as they desire.

**Audience analysis** – a process of collecting information about learners' background, experiences, and motivators.

**Authoring tools** – software programs used for developing, editing, testing, and arranging eLearning courses.

**Avatars** – a graphical representation of characters.

**Behaviorism** – a learning theory based on observable and measurable changes in behavior, which assumes that learner's behavior is shaped through positive or negative reinforcement.

**Beta testing** – the second phase of the quality assurance process, also known as Pilot testing. Beta testing requires a group of users who review the eLearning course for errors and ensure the course works the way it should.

**Blended learning** – a combination of several media such as eLearning and mobile learning in one course.

**Blog** – short for web log. It is a website where an individual writes entries on a regular basis.

**Bloom's taxonomy** - was pioneered by an educational psychologist, Benjamin Bloom. In his taxonomy, Bloom identified three learning domains: cognitive, affective, and psychomotor. Instructional designers use these domains for writing measurable and observable learning objectives.

**Camtasia Studio** – a video-based screen capturing software program.

**CBT** – an acronym that stands for computer-based training. It is a form of education where learners take training courses while on the computer.

**Chunking** – refers to breaking learning content into small manageable pieces.

**Cognitive load theory** – the scientific basis for efficiency in learning developed by John Sweller. It is a set of principles proven to result in better course design. There are three types of cognitive load: intrinsic load, germane load, and extraneous load.

**Cognitivism** – a learning theory that assumes an existing knowledge structure is used to process new information and believes the information is received, stored, and retrieved.

**Complex Interactions** – Level 3 interactions that include animations, complex simulations, and scenarios.

**Constructivism** – a learning theory that focuses on how learners construct knowledge based on their prior experience. Constructivists believe in experiential, self-directed learning.

**Content Management System (CMS)** – often the main function of a Learning Management System, which acts more like a database.

**Corrective feedback** – information provided to learners regarding their performance to help them progress toward their goal.

**Data collection methods** – methods used to gather information for different types of analysis. Some examples of data-collection methods include surveys, interviews, and focus groups.

**David Kolb** – an American educational theorist who developed the learning style inventory.

**Delivery methods** – a method of transferring a lesson to learners. Some of the delivery methods include CD-ROM, ILT, CBT, and WBT.

**Design Document** - documents the entire design process for a specific project. It provides all the necessary information about the course to instructional designers, graphic artists, multimedia

specialists, programmers, project managers, and all other team members and stakeholders.

**Desktop authoring tools** – authoring tools installed on the desktop. Some of the most popular ones are Articulate Storyline, Captivate, and Lectora.

**Diagnostic assessments** – pre-tests used to determine learners' initial knowledge of the material prior to the training course.

**Donald Kirkpatrick** – a father of evaluation, who created the four levels of evaluation: reaction, learning, behavior, and results.

**Dr. Sivasailam "Thiagi" Thiagarajan** – internationally recognized expert in learning games for personal and company development.

**EBook reader** – a device used to read digital e-books.

**eLearning** – a form of learning conducted via Internet, intranet, network, or CD-ROM. eLearning gives people an opportunity to learn just about anything at any time and place.

**Electronic Performance Support System (EPSS)** – any computer software program within a larger application that guides people through completing a task. It is an electronic job aid.

**Enabling Objectives** – objectives that support the terminal objectives. They define the skills, knowledge, or attitudes learners must obtain to successfully complete terminal objectives. Enabling objectives are more specific than terminal ones.

**Evaluation** – a process that ensures that training meets the standards and expectations. Evaluation helps instructional designers identify strengths and weaknesses of the course, and confirms that all course objectives have been met and the business goal has been achieved.

**Extrinsic feedback** – a direct type of feedback that comments on the learner's performance in a straightforward way.

**Extrinsic motivation** – refers to performing activities with a goal to get something at the end such as monetary rewards, certificates, or good grades.

**Face-to-face training** – a method of delivering training in the classroom setting with live instructor.

**Five Why technique** – a way to gather information about performance gap and root causes. The essence of this technique is to repeatedly ask the Why questions until arriving at the root cause of the problem.

**Flash player** – a plug-in software that adds functionality to the web browser.

**Formative evaluation** – a process that occurs in all phases of the course design, and ensures that training stays on track while it is being developed.

**Forum** – an online message board where ideas on a particular topic can be shared.

**Gagné's Nine Events** – a nine-step process known as the events of instruction. These nine-steps are:

- Gain attention
- Inform learners of objectives
- Stimulate recall of prior learning
- Present the content
- Provide guidance
- Elicit performance
- Provide feedback
- Assess performance
- Enhance retention and learning transfer

**Gantt chart** – a horizontal bar chart that enables project managers to organize the events identified during the planning phase.

**Generational learning styles** – learning preferences based on generation. The four generational learning styles are traditionalists, baby boomers, generations X, and Y or millennials.



**George Miller's magical number "seven, plus or minus two"** – a rule that states that short-term memory is only able to hold about seven bits of information.

**HTML** – a Hypertext Markup Language used for creating websites.

**ILT** – an acronym for Instructor Led Training. It is a traditional learning experience conducted in a classroom setting and facilitated by a live instructor.

**Implementation** – delivery of a course.

**Instructional Systems Design** – also known as ISD. It is a systematic approach to creating effective training courses.

**Interactivity** – an exercise or activity that allows the learner to become more involved with the content by discovering information and checking knowledge through assessments, simulations, and games, as opposed to simply reading text on the screen.

**Interface** – refers to the "look and feel" of the course.

**Intrinsic feedback** - an indirect type of feedback. This type of feedback immediately lets learners know they made a mistake, and allows them to make adjustments based on that feedback.

**Intrinsic motivation** – refers to internal drives and desires such as gaining new knowledge and skills.

**IPECC** – the most commonly used model in project management. It is used for all types of projects, not just for eLearning projects. IPECC model stands for Initiating, Planning, Executing, Controlling, and Closing.

**Jack Phillips** – pioneered the fifth level of evaluation known as Return-of-Investment or ROI, which compares the monetary program benefits with the program costs.

**Job aid** – a tool that allows individuals to access the information required to complete a task quickly and efficiently.

**Kolb's learning cycle** – composed of four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation. Kolb developed learning styles based on his

four-stage learning cycle. These styles are convergers, divergers, assimilators, and accommodators.

**Learning** – a process of gaining knowledge and skills.

**Learning game** – an activity inserted into any learning module with the goal to improve the learning process and motivate the learner to complete the course.

**Learning goals** – goals that provide information about the purpose of the course.

**Learning Management System (LMS)** – a software application used to plan, implement, and assess learning process. LMS allows instructors and administrators to create and deliver content to the maximum number of people, monitor participation, and assess performance.

**Learning objectives** – measurable and observable statements that define the scope of the course and help learners focus on specific outcomes. Learning objectives describe the knowledge, skills, or attitudes that learners should demonstrate after completing the course. Objectives should be written using the A-B-C-D format. The A-B-C-D format stands for Audience, Behavior, Condition, and Degree.

**Limited interactions** – Level 2 interactions that give learners more control over the sequence of a course.

Linear navigation – set up in a way where learners must go through the entire section until they can move to the next one. Linear navigation requires learners to complete the entire training.

**Long-term memory** – a location in the brain where the information is stored permanently.

**Malcolm Knowles** – a theorist of adult education who pioneered the concept of Andragogy and identified six principles of adult learning.

**Media** – refers to audio, video, animations, and graphics in an eLearning course.

**Mobile learning** – also known as mLearning is a subset of eLearning that focuses on learning with mobile devices such as smartphones, tablets, and eBook readers.

**Multiple Intelligences theory** – a theory pioneered by the psychologist, Howard Gardner. According to his theory, people are born with certain aptitudes used to learn new information and solve problems. Gardner's Nine Intelligences are:

- Linguistic Intelligence
- Logical/Mathematical Intelligence
- Musical Rhythmic Intelligence
- Bodily/Kinesthetic Intelligence
- Spatial/Visual Intelligence
- Naturalistic Intelligence
- Intrapersonal Intelligence
- Interpersonal Intelligence
- Existential Intelligence

**Needs analysis** – a process of collecting information to determine the needs that must be addressed in a training course.

**Non-linear navigation** – also known as branched navigation, allows learners to jump from one section to the next in any desired order.

**Passive interactions** – Level 1 interactions that involve very limited interactivity such as assessment at the end of the lesson or module.

**Performance Analysis** – a process of collecting information to identify and close the gap between the current and the desired performance.

**PERT chart** – a project management tool used to schedule, organize and coordinate tasks within the project.

**Podcast** – an audio recording of a training program.

**PowerPoint plugin authoring tools** – tools that use PowerPoint as the authoring environment such as Articulate Studio

**Presentation methods** – techniques used to present learning material such as video, audio, scenarios, and games.

**Prototype** – an interactive model of an eLearning course that contains the overall course layout including graphics and structural elements.

**Quality assurance** – refers to ensuring the quality of an eLearning course.

**Raptivity** – a rapid interactivity building tool.

**Real-Time interactions** – Level 4 interactions that involve all the elements of Levels 1, 2, and 3 plus very complex content, serious games and 3D simulations.

**Reliability** – refers to the ability of the same measurement to produce consistent results over a period of time.

**Remediation** – refers to providing specific performance feedback whenever necessary.

**Repurposing** – refers to restructure of the already existing content into a different format to accommodate a different delivery method.

**Reusable Learning Objects (RLOs)** – course pieces that can be reused in a different context such as another course.

**Robert Gagné** – an American educational psychologist best known for his conditions of learning for training applications. He developed a theory that states there are five major levels of learning including verbal information, intellectual skills, cognitive strategies, motor skills and attitudes.

**Robert Mayer** – one of the key contributors to the field of instructional design, who developed behavior learning objectives.

**ROI model** – Jack Phillips added a fifth step to the already existing four levels of evaluation. His fifth level is known as Return-of-Investment or ROI. It compares the monetary program benefits with the program costs and should be measured about three to twelve months after the training.

**Root cause analysis** – a process of collecting data used to address the real problem behind the performance gap.

**Ruth Clark** – an instructional design and workforce learning specialist who developed the six principles of effective eLearning courses and, together with Chopeta Lyons', created a Visual Design model.

**Schema** – also known as schemata, is a term used in cognitive psychology, which describes structures that organize knowledge about something for interpreting and processing of information.

**SCORM** – an acronym that stands for Shareable Content Object Reference Model. SCORM is a set of technical standards that ensure the course works well with other eLearning software.

**Screen reader** – software that reads the text on the computer screen.

**Screencasts** – the recording of a computer screen and converting this recording into a movie.

**Script** – a written text for audio narration.

**Section 508** – part of the Rehabilitation Act of 1973, and amended in 1998, which mandates that all electronic and information technology must be accessible by people with disabilities.

**Self-paced learning** – refers to asynchronous learning environment and provides learners with complete control over the flow of the training course.

**Server-based tools** – tools that are hosted on the server and can be accessed through Internet. CourseBuilder is an example of a server-based authoring tool.

**Short-term memory** – refers to the temporary storage for manipulation and processing of information.

**Simulations** – scenarios that allow learners to go through real-life situations.

**SMART objectives** – focus on the result rather than activities and allow learners to measure their own success. SMART stands for Specific, Measurable, Attainable, Relevant, and Timely.

**SnagIt** – a screen-capturing tool that creates highly engaging images, presentation videos, tutorials, and training documents.

**Social learning** – a subset of eLearning, which refers to learning from and with other people using social media tools such as Facebook, Twitter, YouTube, LinkedIn, Blogs, and Wikis.

**SOLO taxonomy** – stands for the Structure of Observed Learning Outcomes. It is a hierarchical taxonomy developed by John Biggs and Kevin Collis that can help instructional designers and educators create objectives and evaluate learning outcomes.

**Storyboards** – visual organizers that instructional design and eLearning professionals use to illustrate ideas and communicate these ideas to other team members.

**Storytelling** – a learning tool that teaches, motivates, and entertains learners by telling a story.

**Style guide** – a standardized guide for writing eLearning documents or designing learning experiences.

**Subject Matter Experts (SMEs)** – individuals that have knowledge about a specific area or topic.

**Successive Approximation Model (SAM)** – an agile instructional design model created by Michael Allen, a recognized pioneer and leader in the design of interactive multimedia learning tools and applications. The model emphasizes collaboration, efficiency, and repetition. SAM assumes that mistakes will be made throughout the process and focuses on iterative design with frequent early evaluation.

**Summative evaluation** – a process of reviewing a course after implementation. Summative evaluation measures training outcomes in terms of learners' opinion about the course, assessments results, job performance, and return of investment (ROI) to the organization.

**Synchronous eLearning** – a type of eLearning that is done in real-time with a live instructor.

**Task analysis** - a process of collecting information to identify knowledge and skills needed to accomplish instructional goals.

**Teaching** – a process of transferring knowledge and skills to learners.

**Template** – a form that provides the structure of the document and used to populate information in appropriate fields.

**Terminal objectives** – describe what the learners are expected to be able to do by the end of the course. Terminal objectives focus on the results not processes.

**The Dick and Carey Systems approach** – a model based on theoretical principles of learning and Robert Gagné's conditions of learning and focus on selecting and organizing appropriate content for each module.

**The Four-Door (4D) ELearning model** – a simple model developed by Dr. Sivasailam "Thiagi" Thiagarajan that allows eLearning professionals to develop eLearning courses cheaply and rapidly while addressing different types of learners.

**Usability** – refers to the ease of use of a learning course.

**VAK Model** – a model that describes the three learning preferences and how people learn. Some people learn best from lecture (audio), others learn best from visuals (visual), yet others prefer hands-on activities (kinesthetic).

**Validity** – refers to measuring what the assessment instruments intended to measure.

**Virtual Worlds** – immersive 3D online environments in which users can interact with any other users and characters.

**Vodcast** – a video-based podcast.

**WBT** – an acronym that stands for web-based training. WBT courses run off the Internet and are intended for synchronous and asynchronous delivery.

**Web 2.0** – a term used to describe a second generation of the World Wide Web focused on collaboration and information sharing. Web 2.0 technologies are comprised of wikis, blogs, social networking tools, content hosting services, and podcasting.

**WIIFM** – an acronym that stands for “What’s in it for me?” It is a technique used to design motivational courses that learners can relate to.

**Wikis** – collaboration websites to which anyone within the community of users can contribute to.

**Working memory** – location in the brain where information is temporarily stored and manipulated.



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