

## ANNEX A

### GLOSSARY

#### **Commercial Off The Shelf (COTS) Games**

COTS Games are games designed primarily for “entertainment” (Civilian Use) rather than “instructional value” (Military Use).

*(The Aegis Technologies Group INC, Military Modeling and Simulation Student Guide Volume 1).*

#### **Computer Aided Instruction (CAI)**

Computer-aided instruction, also referred to as "computer-assisted instruction," involves use of computers to aid in the delivery of instruction. Computer-aided instruction exploits computer technology to provide for the storage and retrieval of information for both the instructor and student. Computer-aided instruction usually refers to the use of computers to support instructor-led classroom instruction. Using computers as a presentation media for slides, audio, or motion pictures, which support large or small group instruction, is an example of CAI.

*(TRADOC PAM 350-70-2, Multimedia Courseware Development Guide).*

#### **Computer Managed Instruction (CMI)**

The use of computers and software to manage the instructional process. Computer-managed instruction functions can include a management administration system designed to: Track student performance over time. Provide information concerning performance trends. Record individual and group performance data. Schedule students, training, resources, and provide support for other training management functions. Computer-managed instruction functions may be used with CBI, CAI, or IMI, based on need.

*(TRADOC PAM 350-70-2, Multimedia Courseware Development Guide).*

#### **Constructive (M&S)**

Models, Simulators and/or Simulations that involve real people making inputs into an M&S entity that carries out those inputs by simulated personnel operating simulated systems.

*(TRADOC REG 350-70, Systems Approach to Training Management, Processes and Products).*

#### **Electronic Guides**

A type of electronic publication that provides information, instruction, or help.

*(TRADOC PAM 350-70-2, Multimedia Courseware Development Guide ).*

### **Electronic Management Systems**

Electronic management systems are computer programs that aid in the instructional process. Programs in this category include decision support aids, and tools to support the conduct and administration of instruction.

*(TRADOC PAM 350-70-2, Multimedia Courseware Development Guide).*

### **Electronic Publications:**

A document prepared in a digital form, on a suitable medium, for electronic-window display to an end user. Two examples of electronic publications are electronic guides and Interactive Electronic Technical Manuals (IETMs).

*(TRADOC PAM 350-70-2, Multimedia Courseware Development Guide).*

### **Electronic Testing**

A general term encompassing all methods for applying computers in the assessment of human attributes, knowledge, and skills. Sophisticated forms of computer-based testing adapt the sequence, content, number, or difficulty of test items to the responses of the person being tested. As the individual is being tested, the computer presents test items in response to the individual's actions. The electronic testing method uses branching to select test items, based on the answers given while the test is being administered.

*(TRADOC PAM 350-70-2, Multimedia Courseware Development Guide).*

### **Enabling learning objective (ELO)**

A learning objective that supports the terminal learning objective. It must be learned or accomplished to learn or accomplish the terminal learning objective. It consists of an action, condition, and standard. Enabling objectives are identified when designing the lesson. A terminal learning objective does not have to have enabling objectives, but it may have more than one.

### **Electronic Performance Support System (EPSS)**

An integrated electronic environment available to, and easily accessible by, each user. Permits performance with minimal support and intervention by others. Its structure provides immediate individualized access to a full range of information, software, guidance, advice and assistance, data, images, tools, and assessment and monitoring systems. Electronic Performance Support System may also be a type of job performance aid.

*(TRADOC PAM 350-70-2, Multimedia Courseware Development Guide).*

### **Gaming**

Gaming applies the concepts of game-rules, turn taking, winning, and losing-to a learning situation. The learners "play" the game by obtaining information, making decisions, and taking actions required to accomplish the game objective. Games are on a board, but with current technology, probably played on a computer. *Note:* The learner may tend to "play" in terms of winning and losing, instead of thinking in terms of learning objectives. Gaming uses competition to motivate learner learning. The game-like structure places learners in competition with other learners, time, their own past performance, and the computer.

*(TRADOC PAM 350-70-2, Multimedia Courseware Development Guide).*

### **Interactive Course Ware (ICW)**

Computer controlled courseware that relies on trainee input to determine the pace, sequence, and content of training delivery, using more than one type medium to convey the content of instruction. Interactive courseware can link a combination of media to include, but not limited to, programmed instruction, videotapes, slides, film, text, graphics, digital audio, animation, and up to full-motion video, to enhance the learning process.

*(TRADOC PAM 350-70-2, Multimedia Courseware Development Guide).*

### **Interactive Electronic Technical Manual (IETM)**

A technical manual delivered electronically that possesses the following characteristics: presented either on a desktop or a portable device; elements of data are so interrelated that a user's access to the information is achievable by a variety of paths; and provides the users with procedural guidance, navigational directions, and other required technical information.

*(TRADOC PAM 350-70-2, Multimedia Courseware Development Guide).*

### **Interactive Multimedia Instruction (IMI)**

A term applied to a group of predominantly interactive, electronically delivered training and training support products, to include instructional software, and software management tools used in support of instructional programs.

*(TRADOC PAM 350-70-2, Multimedia Courseware Development Guide).*

#### **IMI Level 1**

This is the lowest (baseline) level of ICW development. It is normally a knowledge, or familiarization, lesson, provided in a linear format (one idea after another). Level 1 is primarily used for introducing an idea or concept. The user has little or no control over the sequence and timed events of the lesson material. Minimal interactivity is provided by selective screen icons, and inserted into the lesson through typical input/output peripherals, and programming protocols. This may include simple developed graphics clip art, video, and audio segments (clips). Make use of typical input/output peripherals throughout the lesson.

*(TRADOC PAM 350-70-2, Multimedia Courseware Development Guide).*

#### **IMI Level 2:**

Level 2 involves the recall of more information than Level 1, and allows the student more control over the lesson's scenario, through screen icons and other peripherals, such as light pens, or touch screens. Typically, Level 2 is used for noncomplex operations and maintenance lessons. Simple emulations or simulations are presented to the user. As an example, the user is requested to rotate switches, turn dials, make adjustments, or identify and replace a faulted component as part of a procedure. This also may include simple to standard developed graphics, and/or clip art, and video and audio clips.

*(TRADOC PAM 350-70-2, Multimedia Courseware Development Guide).*

#### **IMI Level 3**

Level 3 involves the recall of more complex information (compared to Levels 1 and 2), and allows the user an increased level of control over the lesson scenario, through peripherals such as light pen, touch screen, track ball, or mouse. Video, graphics, or a combination of both, is presented, simulating the operation of a system, subsystem, or equipment to the user. The lesson scenario training material typically is complex, and involves more frequent use of peripherals, to affect a

transfer of learning. Operation and maintenance procedures are normally practiced with Level 3 scenarios, requiring students to alternate between multiple screens to keep pace with the lesson material. Multiple software branches (two to three levels), and rapid response are provided to support remediation. Emulations and simulations are an integral part of this presentation, and may also include complex developed graphics, and/or clip art, and video and audio clips. (TRADOC PAM 350-70-2, *Multimedia Courseware Development Guide*).

#### **IMI Level 4**

This ICW level involves more in-depth recall of a larger amount of information (compared to lower levels), and allows the user an increased level of control over the lesson. Every possible subtask is analyzed and presented with full, on-screen interaction, similar to the approach used in aircraft Simulator technology. The lesson material is extremely complex, and involves more frequent use of peripherals, to affect the transfer of learning. This level normally supports certification, recertification, or qualification requirements. Complicated operation and maintenance procedures are normally practiced with Level 4, and involve all of the elements of Levels 1, 2, and 3, plus a high degree of interactivity, extensive branching (four or more levels), and levels of sophistication-short of artificial intelligence. (TRADOC PAM 350-70-2, *Multimedia Courseware Development Guide*).

#### **Installer**

A utility program used to ease the installation of another larger program or application. The installer commonly asks the user to enter desired configuration options for the main program or hardware, and sets up various initialization files accordingly, as well as copying the main program to a hard disc.

#### **Job Aid (Electronic)**

A checklist, procedural guide, decision table, worksheet, algorithm, or other aid delivered via electronic means that job incumbents use to aid in task performance. (TRADOC PAM 350-70-2, *Multimedia Courseware Development Guide*).

#### **Live (M&S):**

A representation of military operations using live forces and instrumented weapon systems interacting on training, test, and exercise ranges which simulate experiences during actual operational conditions. (TRADOC REG 350-70, *Systems Approach to Training Management, Processes and Products*).

#### **Learning Content Management System (LCMS)**

A learning content management system is a solution for the creation, management and transfer of learning content. Although LCMS and LMS have some overlapping technologies, the products are very different. A LCMS includes the ability to create new learning content, build templates, import documents easily (such as Microsoft Word and Microsoft PowerPoint documents), and allows developers to easily import legacy content (an organization's existing training material created in other systems). The LCMS provides the tools necessary for an effective content management strategy including strong metadata and taxonomy schema, version control, the ability to check content in and out and the ability to archive content. The LCMS includes workflow management capabilities so that multiple subject matter experts (SMEs) and instructional designers can access content and manage the approval process. The LCMS can track participants,

support prescriptive learning and can create advanced assessments without the need for additional tools. The LCMS allows for the quick and easy retrieval of content for reuse purposes with the use on strong metadata and taxonomy schemas. The LCMS is able to support an organization's formal learning initiatives – this includes having a learner portal to deliver courses, supporting blended learning initiatives with multiple delivery modes (output to PDAs and other handheld devices, PDF, PowerPoint, Flash etc...). LCMSs have built in performance support tools such as peer-to-peer knowledge sharing and simulation tools. Peer-to-peer knowledge sharing is an important part of the informal learning process. LCMSs include tools to export or publish courses and content to most E-learning industry standards (SCORM, AICC, AICC PENS, QTI, IMS etc...). ([http://en.wikipedia.org/wiki/Learning\\_content\\_management\\_system](http://en.wikipedia.org/wiki/Learning_content_management_system))

### **Model**

A physical, mathematical, or otherwise logical representation of a system, entity, phenomenon, or process.

*(TRADOC REG 350-70, Systems Approach to Training Management, Processes and Products, 09 MAR 99).*

### **Purpose Built Games**

Purposes built games usually come from an identified training need or gap.

*(The Aegis Technologies Group INC, Military Modeling and Simulation Student Guide Volume 1).*

### **Shareable Content Object Reference Model (SCORM)**

SCORM is an XML-based framework used to define and access information about learning objects so they can be easily shared among different learning management systems (LMSs). SCORM was developed in response to a United States Department of Defense (DoD) initiative to promote standardization in e-learning.

### **Simulator**

- a. A device, computer program, or system that performs simulation.
- b. For training, a device that duplicates the essential features of a task situation and provides for direct practice.
- c. A physical model or simulation of a weapons system, set of weapons systems, or piece of equipment which endeavors to replicate some major aspect of the equipment's operation.

*(TRADOC REG 350-70, Systems Approach to Training Management, Processes and Products).*

### **Simulation**

A method for implementing a model (s) over time. Any representation or imitation of reality, to include environment, facilities, equipment, mechanical and maneuver operations, motion, role playing, leadership, etc. It is the representation of salient features, operation, or environment of a system, subsystem, or scenario.

*(TRADOC REG 350-70, Systems Approach to Training Management, Processes and Products).*

### **Terminal learning objective (TLO)**

The main objective of a lesson. It is the performance required of the student to demonstrate competency in the material being taught. A TLO describes exactly what the student must be capable of performing under the stated conditions to the prescribed standard on lesson completion.

There is only one TLO per lesson regardless of presentation method or media and it has only one verb. The terminal learning objective may cover one critical task, part of a critical task (i.e., a skill or knowledge), or more than one critical task. The terminal learning objective may be identical to the critical task being taught, or there may be a disparity between them. Where there is a disparity, it is the terminal learning objective standard that the student must achieve to demonstrate competency for course completion. See "Learning objective (LO)" and "Enabling learning objective (ELO)."

**Virtual (M&S):**

replication of actual warfighting equipment and munitions with the capability to execute collective training and rehearsal on a specific terrain data base. Links to Live and Constructive M&S through analog and/or digital links.

*(TRADOC REG 350-70, Systems Approach to Training Management, Processes and Products, 09 MAR 99).*