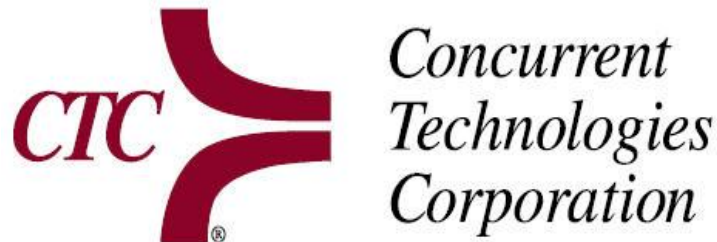


# DISTANCE LEARNING REFERENCE GUIDE VERSION 1.0

## CORRECTIONS LEARNING ENVIRONMENT (CLE) PROGRAM

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## **1.0 INTRODUCTION**

### **1.1 Purpose of This Guide**

The purpose of this Distance Learning Reference Guide is to provide an easy-to-use reference tool that covers the basic concepts of distance learning. The primary audience for this guide is Department of Corrections (DOC) Training Directors and personnel who may or may not be familiar with or experienced with distance learning in some form. This guide provides information on a variety of distance learning topics, as well as resources, links, and other learning tools to enable users to learn more or to begin guiding discussions and decisions regarding the use of distance learning in some form within their respective environments. Topics covered within this guide include:

- Defining Distance Learning
- History of Distance Learning
- Pros and Cons of Distance Learning
- Distance Learning Solutions
- Determining Preparedness for Using Distance Learning
- Instructional Design/Development Considerations for Distance Learning
- Effectiveness of Distance Learning
- Resources.

### **1.2 How to Use This Guide**

Each section within this guide lists resources used to develop the information within that section. In most cases, the resources cited are available publically via the internet. Users are encouraged to advance their knowledge of a topic area within this guide by reviewing the resources listed in full or by conducting their own research. Section 8, Distance Learning Resources, of this guide provides numerous links to organizations and other Web sites that are related to or about distance learning, distance learning glossaries, and periodicals. This section also lists some recommended distance learning-related books and provides a list of distance learning-related search terms that individuals can use to conduct their own internet research. Users are encouraged to familiarize themselves with a distance learning topic by reading the associated section within this guide and conducting further research and reading by viewing the resources provided. (Note: All links included within this guide were active at the time of initial distribution. To report a broken link, please contact National Institute of Corrections (NIC) at <http://www.nicic.org>.)

## **2.0 WHAT IS DISTANCE LEARNING**

### **2.1 Defining Distance Learning**

Education has changed dramatically over the years, and with the current technological environment as it stands, distance learning has become one of the most important means for providing learning. Often used interchangeably with distance education, distance learning

can be provided via a variety of modes. Distance learning has metamorphosed since its earliest roots to include many things, but at its essence, distance learning is a means to provide instruction at a distance, where the instructor and student are separated for a majority, if not all, of the instruction by distance, location and/or time. Distance learning also involves the use of some form of technology or educational media to bridge the gap between instructor, learner, and the content.

## **2.2 Types of Distance Learning**

Distance learning is generally provided via two means: synchronous or asynchronous. According to ASTD's *Learning Circuits* E-Learning glossary, synchronous learning is "a real-time, instructor-led online learning event in which all participants are logged on at the same time and communicate directly with each other. In this virtual classroom setting, the instructor maintains control of the class, with the ability to "call on" participants. In most platforms, students and teachers can use a [online] whiteboard to see work in progress and share knowledge. Interaction may also occur via audio- or videoconferencing, Internet telephony, or two-way live broadcasts."<sup>1</sup>

ASTD's *Learning Circuits* E-Learning glossary defines asynchronous learning as "learning in which interaction between instructors and students occurs intermittently with a time delay. Examples are self-paced courses taken via the Internet or CD-ROM, Q&A mentoring, online discussion groups, and email."<sup>2</sup>

## **2.3 Players in Distance Learning**

Distance learning is beneficial to a large number of people in many different situations and who want to better themselves by furthering their education.

Students around the world are taking advantage of distance learning in many ways. A growing number of K-12 schools as well as higher education institutions have taken advantage of the benefits that distance learning has to offer. Primary and secondary students can take advantage of distance learning by taking courses online not offered at their schools. College students might take a course offered via distance learning that allows them to access content, communicate, and share information entirely online. Additionally, distance learning offers students who may be geographically remote, non-traditional, or have a disability the same opportunities as mainstream students, regardless of the level of education.

Professionals find distance learning a convenient way to juggle work and family responsibilities. Distance learning allows these individuals to take advantage of learning at the time and location that is most convenient for them.

Distance learning also involves a number of players beyond the student. In some strategies, instructors are still heavily involved in distance learning, either as an instructor or as a subject matter expert. Instructors often find distance learning a convenient and effective way to reach a larger number of students and address multiple learning styles. Depending upon the environment, other persons involved in distance learning may include learning

management system administrators, training administrators or coordinators, and other support staff.

## 2.4 Pros and Cons of Distance Learning

As with any learning solution, there are pros and cons that students and instructors/facilitators should take into consideration. The following table describes the pros and cons of distance learning.

Pros	Cons
Reduced (or no) travel time and expenses for students and/or instructors.	Learners must be disciplined, self-motivated and to be able to work unsupervised.
Reduced (or no) time away from the job.	Technology can sometimes be unpredictable (internet down/computer issues, etc.).
The choice of place to attend learning is not restricted by location; students can take courses from institutions across the country, or can take online classes at the cybercafé, home, or work environments. Learners learn at own pace and convenience.	Lack of face-to-face interaction can cause learners to feel isolated or disconnected from the instructor/other students.
Instructors can more easily address multiple learning styles.	Learners must have appropriate technological requirements, i.e. computer, internet connection, etc.
Learners and instructors to connect with other learners from many different locations.	Learners and instructors must be somewhat technologically savvy.
Learners and instructors can take advantage of many of the latest technologies.	Marketing, design, delivery, and deployment can be costly.
Learners often find it can be less expensive (primarily in college environments, where there is no additional cost for lodging, food, etc.).	Specific technologies may be required by the offering institution, such as a learning management system, course development tools, etc.
	Learners must consider the need to prepare assignment based on time zones.

## 2.5 Resources

*The following resources were used as sources of information for this section. For additional information, please view these resources.*

<sup>1/2</sup> ASTD's *Learning Circuits* E-Learning Glossary, <<http://www.astd.org/lc/glossary.htm>> (accessed March 25, 2009)

“Distance Education at a Glance: Guide 1: Distance Education: An Overview” University of Idaho Engineering Outreach.

<<http://www.uiWeb.uidaho.edu/eo/dist1.html#effective%20distance>> (accessed March 25, 2009)

Hansen, Randall S. “Distance Learning Pros and Cons” Quintessential Careers.

<[http://www.quintcareers.com/distance\\_learning\\_pros-cons.html](http://www.quintcareers.com/distance_learning_pros-cons.html)> (accessed April 1, 2009)

“What are the positive and negative aspects of online learning?” eLearners.com.

<<http://www.elearners.com/resources/elearning-faq5.asp>> (accessed April 1, 2009)

“What is Distance Learning?” California Distance Learning Project.

<<http://www.otan.us/content/pdf/dl/WhatIsDL.pdf>> (accessed March 25, 2009)

“What is Distance Learning?” Distance Learning Net.

<<http://www.distancelearningnet.com/what-is-distance-learning/>> (accessed March 25, 2009)

“Who Benefits from Distance Learning?” Distance Learning Net.

<<http://www.distancelearningnet.com/who-benefits-from-distance-learning/>> (accessed March 25, 2009)

### **3.0 HISTORY OF DISTANCE LEARNING**

Distance learning is not a new concept – its origins can be traced back to the early 1800’s with correspondence courses offered in Europe as a way to reach out to a geographically dispersed, mainly agrarian population.

Correspondence (postal mail) courses became popular throughout Europe and spread to the United States throughout the 1800s and early 1900s. Early records note that in 1840, Sir Isaac Pitman offered a shorthand course by correspondence by having students copy passages of the bible and return them via the penny post for grading. In 1883 the Chautauqua Literary and Scientific Circle (now the Chautauqua Institute) was founded to provide those who could not afford the time or money to attend college the opportunity of acquiring the skills and essential knowledge of a college education. The four-year, correspondence course was one of the first attempts at distance learning and in 1883 was authorized by New York State to award degrees by correspondence. A number of correspondence courses emerged and were offered to students.

In the 1920’s, educational radio courses were implemented. In 1921, the first educational radio license was issued to Latter Day Saints’ University and by 1925 the State University of Iowa offered five radio courses for credit. Distance learning advanced with the implementation of educational television in the mid-1900s. Iowa State launched the first educational television programs in 1950 and in 1964, the Public Broadcasting Service (PBS) was created and launched, offering educational television to a large number of learners.

Distance learning in its current form began to take shape in the 1970s and 1980s with advancements in telephone communications, such as teleconferencing. The spread of

networked computers and the internet also spawned increased distance learning, as more and more people could take advantage of these technologies at any time and any place.

### 3.1 Resources

*The following resources were used as sources of information for this section. For additional information, please view these resources.*

“An Instructional Media Selection Guide for Distance Learning” United States Distance Learning Association (USDLA). <[http://www.usdla.org/USDLA\\_Ins\\_Media.pdf](http://www.usdla.org/USDLA_Ins_Media.pdf)> (accessed April 1, 2009)

Hinkle, Linda “The History of Distance Learning” University of Idaho Engineering Outreach. <<http://www.brighthub.com/education/online-learning/articles/24126.aspx>> March 3, 2009 (accessed April 1, 2009)

Jeffries, Michael “Research in Distance Education”.  
<[http://www.digitalschool.net/edu/DL\\_history\\_mJeffries.html](http://www.digitalschool.net/edu/DL_history_mJeffries.html)> (accessed April 1, 2009)

“Timeline and Evolution of Distance Learning in the U.S.” United States Distance Learning Association (USDLA). <<http://www.usdla.org/timeline/start.html>> (accessed April 1, 2009)

“What is Distance Learning?” California Distance Learning Project.  
<<http://www.otan.us/content/pdf/dl/WhatIsDL.pdf>> (accessed April 1, 2009)

### 4.0 DISTANCE LEARNING MODALITIES

Distance learning encompasses a variety of modalities to make educational information available to learners. The solutions can range from low-tech to high-tech, and are often combined to provide a solution that meets the needs of learners, instructors, and the institutions that offer it. This section will address the following distance learning modalities, including a definition, related tools, technologies and devices, and the benefits and challenges of each modality:

- Computer-Based Training and Web-Based Training
- Video/Web teleconferencing
- Mobile Learning
- Immersive Learning
- e-learning 2.0
- Blended Learning.

In addition to the above, other modalities used historically for distance learning include correspondence, television/radio, and audio/videotape. Advances in technologies and ways of designing distance learning have made these modalities, for the most part, obsolete. Correspondence has been replaced by communication tools used as part of e-learning 2.0 solutions; television and radio are not used commonly or such programs are available online; audio and video elements are most commonly delivered online or within a packaged program



and not as stand-alone products. As such, this guide does not include discussion on these modalities.

To view interesting research on distance learning and other learning modalities, download the eLearning Guild's (April 2008) [Snapshot Report on Learning Modalities](#) (available to eLearning Guild Members, Member Plus, and Premium Members).

## 4.1 Computer-Based Training and Web-Based Training

### 4.1.1 Description

Computer-based training (CBT) refers to training delivered on an individual computer to a learner and is generally delivered by CD-ROM, DVD, or from a network. Web-based training (WBT) refers to training delivered to individuals or groups and is delivered via the Web.

### 4.1.2 Technologies/Tools/Devices

For both CBT and WBT, the technologies needed include a computer, CD/DVD player, and depending on the media elements within the CBT, players or plug-ins may be required. WBT also requires internet connection. Tools also are needed for the development of CBT/WBT. Many organizations use internally-developed tools to create CBTs or WBTs, but some of the most commonly used programs for developing CBT or WBT include: Adobe® Captivate®, Toolbook®, Dreamweaver®, Flash®, or Java®.

### 4.1.3 Benefits/Challenges

Benefits	Challenges
<ul style="list-style-type: none"><li>• Anytime/anywhere access depending on how the CBT is offered, however.</li><li>• Standardized look and feel.</li><li>• Easy navigation.</li><li>• Interactive formats.</li><li>• Personalized feedback.</li><li>• Easy to deliver.</li><li>• Cost effective.</li></ul>	<ul style="list-style-type: none"><li>• CBT often becomes obsolete faster than WBT, as it is harder and may take longer to update. If offered on CD/DVD, owners of the CBT must ensure to track/manage the whereabouts of a particular CD/DVD.</li><li>• WBT challenges include the technical considerations, such as bandwidth, browser limitations, firewalls, etc.</li></ul>

### 4.1.4 Resources

*The following resources were used as sources of information for this section. For additional information, please view these resources.*

Kashyap, Ashish. "What is eLearning?"

<[http://www.puw.pl/downloads/docs/1\\_elearning/1\\_podstawy\\_elearning/a\\_kashyap\\_what\\_is\\_learning.pdf](http://www.puw.pl/downloads/docs/1_elearning/1_podstawy_elearning/a_kashyap_what_is_learning.pdf)> (accessed April 1, 2009)

"What is WBT?" Web-Based Training Information Center (WBTIC).

<[http://www.Webbasedtraining.com/primer\\_whatismwt.aspx](http://www.Webbasedtraining.com/primer_whatismwt.aspx)> (accessed April 1, 2009)

## 4.2 Mobile Learning

### 4.2.1 Description

Mobile learning involves the use and application of mobile devices (small, wireless, portable computing and communication devices) to deliver learning material and experiences. Mobile learning emerged in the late 1980s with the move from desktops to laptops, then to Palms, iPods, etc. in more recent times. Mobile learning has grown rapidly over the past decade moving from research efforts to wide-spread application in schools, industry, and the government. The use of mobile learning is growing rapidly. A large majority of people have a cell phone or other mobile device with them all day, every day. With such access to communication, the internet and other information, it is no wonder that mobile learning is growing in popularity. Brown and Metcalf (2008) define mobile learning “as all ‘knowledge in the hand.’ It includes the use of mobile/handheld devices to perform any of the following:

- Deliver education/learning
- Foster communication/collaboration
- Conduct assessments/evaluations
- Provide access to performance support/knowledge.”<sup>3</sup>

### 4.2.2 Technologies/Tools/Devices

The information in the following table was adapted from the article entitled, “Are You Ready for Mobile Learning?”(Corbeil and Corbeil, 2007)<sup>4</sup>.

Technology	Description	Uses
iPod	Portable media player from Apple that allow users to download and play music, audio books, podcasts, photos, and video, can synchronize with Microsoft Outlook/Outlook Express, can serve as a mass-storage device.	Users can download podcasts, instructional material, video and audio files (i.e. lectures).  Users can collaborate, share/exchange information, show work, demonstrate or provide visual instructions, those with microphones can record material.
MP3 Players	Digital audio player that plays music and audio files; some can record.	Users can download audio files (i.e. lectures) and podcasts to listen to prepare for study/exams, read books, etc.
Personal Digital Assistant (PDA)	Handheld wireless computer that combines with internet access, media players, networking, calendar, and may have	Plays audio, video and Flash files, allows text documents to display and edit communication via email and instant

<b>Technology</b>	<b>Description</b>	<b>Uses</b>
	touch screen or pen/stylus input interface.	<p>messaging (IM)/text messaging, internet access, storage device.</p> <p>Supports collaborative learning, users can connect with others, share material, prepare word documents, take notes in class.</p>
eBook Readers	Devices used to download and store text material, such as e-books, newspapers, and magazines; can mark and search text.	Users can use to read books and resource material, conduct research.
SmartPhone	<p>Mobile phone with advanced technologies such as email, text messaging, internet access, file storage, camera, audio/video players; is similar to a PDA.</p> <p>Plays audio, video and Flash files</p>	<p>Allows text documents to display and edit, communication via email and IM/text messaging, internet access, storage devices.</p> <p>Support collaborative learning, users can connect with others, share material, prepare word documents.</p>
Laptop/Tablet PC/Ultra Mobile PC (UMPC)	<p>Complete PC capabilities in smaller size – the UMPC is much smaller; support audio, video, and gaming; Internet access, communication (e-mail, IM) and networking applications.</p> <p>Bluetooth, Wi-Fi, and Ethernet enabled</p> <p>Tablets offer handwriting recognition and voice to text conversion.</p>	<p>Users can download audio and video files and podcasts; create and edit course-related assignments; surf the Web; communicate via e-mails, IMs, and text-messages; and log on to the course Web site from any location; enables collaboration.</p>

### 4.2.3 Benefits/Challenges

Benefits	Challenges
<ul style="list-style-type: none"><li>• Anytime/anywhere access to content.</li><li>• Good for people who travel a lot.</li><li>• Allows for collaborative learning with others at a distance.</li><li>• Supports just-in-time content provision, review, and training.</li><li>• Supports various learning styles.</li><li>• Facilitates communication via many different means (synchronous/and asynchronous).</li></ul>	<ul style="list-style-type: none"><li>• Connectivity.</li><li>• Screen/key size may be difficult for some depending on the device.</li><li>• Can give those who are more technologically savvy an advantage over those who are not, both students and instructors/learning curve.</li><li>• Isolation/disconnection from others.</li><li>• May allow cheating to be easier.</li></ul>

### 4.2.4 Resources

*The following resources were used as sources of information for this section. For additional information, please view these resources.*

<sup>3</sup> Brown, Judy and David Metcalf, Summer 2008. “Mobile Learning Update.” Elliot Masie’s Learning Consortium Perspectives. < <http://masieWeb.com/p7/MobileLearningUpdate.pdf>> (accessed April 1, 2009)

<sup>4</sup>Corbeil, Joseph Rene and Marie Elena Valdes-Corbeil. “Are You Ready for Mobile Learning?” EDUCAUSE Quarterly, Volume 3, Number 2, 2007. <<http://www.educause.edu/EDUCAUSE+Quarterly/EDUCAUSEQuarterlyMagazineVolum/AreYouReadyforMobileLearning/157455>> (accessed April 7, 2009)

Wexler, Steve, Judy Brown, David Metcalf, David Rogers, and Ellen Wagner “Mobile Learning; What it is, why it matters, and how to incorporate it into your learning strategy” (July 17, 2008) <<http://www.elearningguild.com/research/archives/index.cfm?id=129&action=viewonly>> (accessed April 1, 2009) [available to eLearning Guild Members, Member Plus, and Premium Members]

## 4.3 Blended Learning Solutions

### 4.3.1 Description

Blended learning is defined as learning events that combine synchronous and asynchronous delivery modes; it is a blend of traditional, instructor-led/face-to-face instruction with online learning. Although such learning events generally involve seat time, it is significantly reduced from fully instructor-led events. Blended learning is widely used today as it takes advantage of many of the resources that organizations have to offer, from classroom environments to high-technology devices.

### 4.3.2 Technologies/Tools/Devices

Because blended learning involved a mix of delivery modalities, it can consist of any combination of the following:

- Instructor-led training (ILT)
- WBT
- Webinars, conference calls, Video-teleconferences, podcasts, etc.
- Job aids, performance support tools
- Collaborative tools
- On the job training/coaching.

The key is to find the appropriate blend for the learning context. It can be as simple as mixing WBT and ILT, or be as complex as offering assignments via a student’s iPod, requiring online chats and discussions, and sharing documents, among other means. Bersin and Associates (May 2003) noted that “one of the simplest approaches is to create electronic content and “surround” it with human, interactive content. This approach of “surrounding” e-learning with human enables you to create high interest, accountability, and real assessment of the results of the e-learning program.”<sup>5</sup>

Blended learning has increased significantly and is continuing to do so. Research at the University of Central Florida shows that “blended courses have the potential to increase student learning outcomes while lowering attrition rates in comparison with equivalent fully online courses. In this regard, we have found that the blended model is comparable to or in some cases better than face-to-face.”<sup>6</sup> This finding is echoed throughout most sectors offering learning.

### 4.3.3 Benefits/Challenges

Benefits	Challenges
<ul style="list-style-type: none"> <li>• Reduced seat time.</li> <li>• Increased cost savings (less travel, less time away from the job).</li> <li>• More accessibility/availability.</li> <li>• Increased student-instructor, student-student, and student-content/resources interaction via online and collaboration tools.</li> <li>• Increased throughput if there is a holdup in providing training.</li> <li>• Increased ability to address complex material and information.</li> </ul>	<ul style="list-style-type: none"> <li>• Use of technology, such as bandwidth, connectivity, hardware and software.</li> <li>• Determining the right mix of synchronous and asynchronous modalities.</li> <li>• Selecting the appropriate media.</li> </ul>

### 4.3.4 Resources

*The following resources were used as sources of information for this section. For additional information, please view these resources.*

Aycock, Alan, Carla Garnham and Robert Kaleta. "Lessons Learned from the Hybrid Course Project," Teaching with Technology Today. Vol. 8, No. 6. March 2002.  
 <<http://www.uwsa.edu/ttt/articles/garnham2.htm>> (Accessed April 7, 2009)

<sup>5</sup>Bersin & Associates May 2003. “Blended Learning: What Works?” <[www.e-learningguru.com/wpapers/blended\\_bersin.doc](http://www.e-learningguru.com/wpapers/blended_bersin.doc)> (accessed April 6, 2009)

“Blended Learning: What is Blended Learning?” Gray Harriman.com. <[http://www.grayharriman.com/blended\\_learning.htm](http://www.grayharriman.com/blended_learning.htm)> (accessed April 7, 2009).

<sup>6</sup>Dziuban, Charles D, et.al. (March 30, 2004) “Blended Learning” Educause Center for Applied Research, Volume 2004, Issue 7. <<http://net.educause.edu/ir/library/pdf/ERB0407.pdf>> (accessed April 7, 2009)

Rodgers, Eric. January 2009. “Executing Blended Learning.” Chief Learning Officer. <<http://www.clomedia.com/features/2009/January/2496/index.php>> (accessed April 7, 2009)

## 4.4 Immersive Learning

### 4.4.1 Description

According to the eLearning Guild’s Immersive Learning Simulations report (March 2008), an immersive learning simulation (ILS) is “an optimized blend of simulation, game elements, and pedagogy that leads to the student being motivated by, and immersed into, the purpose and goals of a learning interaction. Serious games use meaningful contextualization, and optimized experience, to successfully integrate the engagement of well-designed games with serious learning goals.”<sup>7</sup>

### 4.4.2 Technologies/Tools/Devices

The following table defines the different types of ILS.

Type	Description	Uses/Examples
Mini game	Short, limited scope games usually embedded within a larger scale program.	Uses are most often based on familiar game-based interactions or environments. Examples include: <ul style="list-style-type: none"> <li>• Game shows (Jeopardy)</li> <li>• Puzzles (Scrabble, crossword puzzle)</li> <li>• Memory (Concentration, matching).</li> </ul>
Simulation	A model story that emulates a situation, event, program, or phenomenon.	Uses can range from interactive tutorials of software programs to an interactive surgical procedure. Examples include: <ul style="list-style-type: none"> <li>• Microsoft Word online tutorial</li> <li>• Model of the human digestive system</li> <li>• Fighting a wartime event</li> <li>• Planning for a highway</li> </ul>

<b>Type</b>	<b>Description</b>	<b>Uses/Examples</b>
Scenario	A simulation that provides an established base and has associated goals. Scenarios can be single page, linear, branching, or rule-driven in nature.	<p>disaster.</p> <p>Uses can be very similar to simulations but are more limited in scope. Examples include:</p> <ul style="list-style-type: none"> <li>• Saving a file in Microsoft Word</li> <li>• Conducting a surgical procedure to remove a stomach ulcer</li> <li>• Attacking an enemy outpost and collecting intelligence</li> <li>• Conducting first-responder actions for a tractor-trailer accident that closes a highway.</li> </ul>

Some specific technologies that are often associated with ILS are described in the following table.

<b>Type</b>	<b>Description</b>	<b>Uses/Examples</b>
Massively Multiplayer Online Games (MMOGs)	Type of game that can support hundreds or thousands of users simultaneously; MMOGs are played via the internet and allow users to cooperate and compete on a large scale and interact. They involve a persistent world (an environment that continues 24/7). Examples of MMOGs include role-playing, first-person shooter, real-time strategy, sports, or social games. Examples include: Play Station 3, Xbox 360, Nintendo DS, and Wii.	<p>Users can create interactions, teach strategy and planning, team or role playing, or management of specific environments or situations given a set of circumstances.</p> <p>Users can have an experience that emulates battlefield situations or work environments.</p>
Distributed Virtual Environments (DVE)	Generally a 3D environment where the user is immersed in their surroundings. User characters, or avatars, see and hear surrounding elements as if the person was physically located within the DVE.	DVEs can be used to allow people to attend presentations, meetings, orientations, or attend a class, while not physically being anywhere in particular. DVEs allow users to assume an identity via their avatar and interact with others

Type	Description	Uses/Examples
		around the globe or within a limited audience environment. Users can interact with one another and their surroundings. Examples include Second Life.

#### 4.4.3 Benefits/Challenges

Benefits	Challenges
<ul style="list-style-type: none"> <li>• Offers a good means for communication among users.</li> <li>• Allows users to interact in a safe, controlled environment/situation where users can fail without serious implications.</li> <li>• Games are fun.</li> </ul>	<ul style="list-style-type: none"> <li>• Balance between free play and guided instruction can be difficult to assess or manage.</li> <li>• Simulations can be difficult and time consuming to design and develop.</li> <li>• Acceptance of using “serious games” may be difficult for many to overcome or justify.</li> <li>• May be difficult for older members of the workforce to grasp.</li> </ul>

#### 4.4.4 Resources

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<sup>7</sup>Wexler, Steve, Kevin Corti, Anne Derryberry, Clark Quinn, Angela van Barneveld, eLearning Guild “Immersive Learning Simulations.” March 2008.  
 <<http://www.elearningguild.com/research/archives/index.cfm?action=viewonly&id=128>>  
 (accessed April 28, 2009)

## 4.5 e- Learning 2.0

### 4.5.1 Description

The eLearning Guild defines e-learning 2.0 as “the idea of learning through digital connections and peer collaboration, enhanced by technologies driving Web 2.0. Users/Learners are empowered to search, create, and collaborate, in order to fulfill intrinsic needs to learn new information.”<sup>8</sup> With e-learning 2.0, learning is not dependant on structured and formal learning events; instead, it relies upon the social, informal learning that takes place at any given moment and between any number of people.

### 4.5.2 Technologies/Tools/Devices

Technology	Description	Uses
Blogs	Web pages, generally maintained by an individual that contains entries such as commentaries, descriptions of events, links, or media files, listed in reverse chronological order. Posts often allow others to comment.	Allows users to post and share information; instructors can post information and allow students to comment or share information on a particular subject.
Wikis	Web pages that people can collaboratively edit. Wikis allow people to create pages and edit others’ pages with ease.	Allows users to create a page to share information in one single location and can be used to replace e-mailing documents back and forth. Examples include Wikipedia
Social Networks	Online community where users create a profile for themselves and they connect and communicate with others, often through-mail, instant messaging or posts. Users often have similar interests or activities.	Allows users to establish relationships with others of similar interests and to communicate and share information. Examples include Facebook, MySpace, LinkedIn.
Communities of Practice	Generally refers to groups of people who communicate via the	Use to share information or assignments, ask questions, discuss topics,

Technology	Description	Uses
	internet who have a shared interest or who want to learn from each other. Generally, such communities are organized around a particular subject/area of interest and are organized or managed by an organization.	etc. by students participating in a class/curriculum.
Social Bookmarking	A means for users to save Web page bookmarks online, share them with others and see what other people are bookmarking. Users can access a single bookmarking site to access their bookmarks and from any computer, anytime, anywhere.	Allows users to access a consolidated set of bookmarks that may be organized by topic/area of interest and to share them with a number of users. Examples include Delicious, Yahoo MyWeb2.0.

The e-Learning Guild research (September 8, 2008)<sup>9</sup> shows that of study respondents using e-learning 2.0 tools:

- 57% believe that e-learning 2.0 has helped them accommodate learner needs
- 65% report increased learner access and availability
- Almost 66% have increased the speed of information dissemination.

### 4.5.3 Benefits/Challenges

Benefits	Challenges
<ul style="list-style-type: none"> <li>• Encourages collaboration and information sharing at a constant, live, speed.</li> <li>• Users of e-learning technologies can form communities based on interests, projects, assignments, locations, etc. and users can belong to more than one group.</li> <li>• Can serve as a place to prepare for or follow-up on training, either instructor-led or online, as well as share information during a learning event.</li> </ul>	<ul style="list-style-type: none"> <li>• Mainly for instructional designers determining the best ways to incorporate e-learning 2.0 technologies into the learning environment in a meaningful and effective way within on- and off-line instruction.</li> <li>• Measuring or evaluating what is garnered by learners using e-learning 2.0 technologies.</li> <li>• Such tools can be used to spread misinformation or even sensitive information outside the organization – it is important to be cognizant of the information passed and to be sure that there is an individual responsible for monitoring information.</li> </ul>

- Many organizations may see security as a large obstacle to overcome when using e-learning 2.0 technologies.

#### 4.5.4 Resources

*The following resources were used as sources of information for this section. For additional information, please view these resources.*

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Downes, Steven. "E-learning 2.0." eLearn Magazine.  
<<http://www.elearnmag.org/subpage.cfm?section=articles&article=29-1>> (accessed April 8, 2009)

<sup>8/9</sup>Martin, Michelle and Sanjay Parker. "Why e-Learning 2.0?" Learning Solutions. (September 8, 2008)  
<<http://www.elearningguild.com/articles/abstracts/index.cfm?id=280&action=viewonly>> (accessed April 8, 2009)

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## 4.6 Video/Web Conferencing

### 4.6.1 Description

Video conferencing/video teleconferencing (VTC) is a means of communication between two or more locations that usually includes live video and audio. Generally, with video conferencing multiple people gather at a single location to take advantage of the video capabilities. Additionally, computers may be used/connected with the video service to display information such as presentations or whiteboards. Web conferencing is very similar but capitalizes on the capability of the internet for delivery by allowing individual users to participate at their own computer while accessing a single Web conferencing service. For audio elements, some Web conferencing services use voice over internet protocol (VOIP) capabilities, while others rely on telephone conferencing for.

### 4.6.2 Technologies/Tools/Devices

Depending upon your organization's set-up, the following tools are generally needed for video and/or Web conferencing capabilities:

- Video camera or Webcam
- Microphone and speakers
- Computer, television, Projector
- Internet connection
- Video conference system

- Telephone (analog or digital).

### 4.6.3 Benefits/Challenges

Benefits	Challenges
<ul style="list-style-type: none"> <li>• Bridges a gap between instructors and students, allowing them to interact and converse with one another in real time.</li> <li>• Depending on the program used, video and Web-conferencing also can enable desktop or application sharing, where multiple people can work on a single item at the same time.</li> <li>• In academic situations using this modality allows for organizations to conduct virtual field trips or interactions that people might not normally be able to access.</li> </ul>	<ul style="list-style-type: none"> <li>• Technological interferences, such as downed internet or telephone lines.</li> <li>• Some people may be very self-conscious of their appearance or presence on camera.</li> <li>• Eye contact across camera may be difficult between people.</li> <li>• Presenters need to be continually aware of their location with regards to the camera, if used, so that they do not walk off screen and continue presenting.</li> <li>• Presenters need to be aware of the need to include all participants, regardless of location, in discussion.</li> </ul>

### 4.6.4 Resources

*The following resources were used as sources of information for this section. For additional information, please view these resources.*

“Videoconferencing.” Wikipedia. <<http://en.wikipedia.org/wiki/Videoconferencing>> (accessed April 14, 2009)

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## 5.0 EVALUATING PREPAREDNESS FOR DISTANCE LEARNING

When determining if distance learning is right for your organization and educational effort, there are a number of questions to ask and considerations to make. The table below provides some questions considerations and responses indicating distance learning is an appropriate approach as a delivery method. The list is not comprehensive, but can be used as a starting point for consideration and further discussion regarding the suggested topic areas within an organization.

Question/Consideration	Distance learning might make sense when:
<b>Audience</b>	
How large is the audience?	The audience is large and dispersed
Are the learners ready to participate in distance learning?	Learners: <ul style="list-style-type: none"> <li>• Are comfortable using technology</li> <li>• Want to learn this way</li> <li>• Are self disciplined</li> <li>• Prefer to learn at their own pace</li> <li>• Have the necessary technology/tools available.</li> </ul>
<b>Learning Outcomes</b>	
What do I want learners to be able to do?	Learners need to gain a knowledge, skill, or ability that distance learning modalities can effectively support and enhance.
<b>Organization/Infrastructure</b>	
Is the organization ready to support distance learning?	The organization: <ul style="list-style-type: none"> <li>• Will benefit from distance learning</li> <li>• Places a high priority on learning</li> <li>• Is willing to invest in distance learning.</li> </ul>
Will distance learning support strategic initiatives of the organization as a whole?	The organization: <ul style="list-style-type: none"> <li>• Integrates learning within the organization’s plans</li> <li>• Supports learning and distance learning at a management and above level.</li> </ul>
What mechanisms needed to support distance learning?	The organization: <ul style="list-style-type: none"> <li>• Has the infrastructures ready and available, including IT staff</li> <li>• Has the instructional design, development and support staff needed</li> </ul>
Do the users have the necessary tools?	Learners have the necessary tools, technologies and support needed to effectively participant in distance learning.
What are the security regulations that might impact distance learning?	Security measures support and allow easy access to distance learning modalities; security measures such as firewalls, or

<b>Question/Consideration</b>	<b>Distance learning might make sense when:</b>
<p>Is the organization financially ready to invest in distance learning?</p>	<p>allowing certain players and plug ins do not hinder the delivery of distance learning modalities.</p> <p>The organization:</p> <ul style="list-style-type: none"> <li>• Is willing to invest in the tools, technologies or other devices needed to design, develop, deliver, and maintain distance learning</li> <li>• Is willing to invest in the time for instructors to adapt to a learning curve when developing courses for distance delivery (as needed).</li> </ul>
<b>e-Learning Solutions (programming languages, authoring tools, learning/content management systems)</b>	
<p>Is the solution easy to maintain and reuse?</p>	<p>The solution to develop and manage the learning is easily managed and content can be reused.</p>
<p>Is the solution compatible with existing systems/ applications (i.e. Human Resources Information Systems )</p>	<p>The solution is compatible with other applications/systems within the organization for managing data, such as user accounts or student information.</p>
<p>Can you chunk or organize content?</p>	<p>The program used to develop content allows chunking of content into small, manageable pieces.</p>
<p>Is the solution accessible for users of different abilities?</p>	<p>The solution is compatible with standards such as Section 508 that provide access to persons with disabilities or that it allows accommodation of different learning styles.</p>
<p>Does the organization have the staff experience needed to develop content?</p>	<p>The organization’s staff are experienced in either using programming languages or software designed for developing online training.</p>
<p>Does the organization have the software needed to develop online training?</p>	<p>The organization has or has access to the software programs or languages needed to develop online training.</p>
<p>Does the organization have a learning/content management system to deliver, track and manage courses and content?</p>	<p>The organization has a system in place (COTS or open source) that will be deliver, track and manage courses and/or content.</p>
<b>Content</b>	
<p>Is the program suited for distance learning?</p>	<p>The content can easily be transferred from existing formats to distance learning and is easily suited to a distance learning</p>

Question/Consideration	Distance learning might make sense when:
Is the content sustainable?	modality. The content will have a long-shelf life or can very easily be maintained or replaced.
<b>Instructors</b>	
Are the instructors ready/willing to participate in distance learning?	Instructors have the willingness, interest, and time to invest in distance learning solutions that involve their participation.
What do the instructors know about distance learning?	Instructors have some knowledge of distance learning modalities and/or are willing to learn.
Do the instructors know or understand how to design training for distance learners and distance learning modalities?	Instructors understand and have experience learning from a distance and have designed or have access to other experts/instructors who have designed/developed distance learning in the past.

## 5.1 Resources

*The following resources were used as sources of information for this section. For additional information, please view these resources.*

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Weippl, Edgar R. "Security in E-Learning." eLearn Magazine.  
<<http://www.elearnmag.org/subpage.cfm?section=tutorials&article=19-1>> (accessed April 15, 2009)

## **6.0 DESIGN, DEVELOPMENT, AND DEPLOYMENT CONSIDERATIONS FOR DISTANCE LEARNING**

### **6.1 Instructional Design for Distance Learning**

Instructional design for the classroom and instructional design for distance learning are just that – instructional design – the practice of creating instructional tools and content to facilitate learning. For the most part, designing instruction for distance learning does follow the traditional instructional design model, ADDIE – Analyze, Design, Develop, Implement, and Evaluate. The overall principles and techniques used to design and develop classroom instruction can easily be applied to designing distance learning. As such, this paper will not go into depth about instructional design or application of the ADDIE model. The remainder of this section will present some design and development tips for any instructional designer or course developer to consider when creating a distance learning event.

The University of Maryland University College (UMUC), in conjunction with Verizon, developed the Virtual Resource Site for Teaching with Technology Web site for use by faculty wanting to use Web-based technologies to accomplish learning strategies. On the Web site, UMUC provides a seven step systems approach to designing online learning activities (refer to the Web site for additional details):

- Specifying the course learning goals
- Relating lesson learning performance objectives to the course learning goals
- Designing valid assessment procedures
- Providing feedback for those who need to know
- Selecting appropriate teaching strategies
- Constructing and/or selecting student involvement activities
- Selecting the appropriate media for the learning activity

McGreal, in his article titled, Development Principles for Online Courses: A Baker's Dozen, provides the following tips for consideration when developing online courses (refer to the Web site for additional details):

- Beg, borrow (or steal) courseware or learning objects.
- Take what exists and build around it.
- Avoid the "not invented here" syndrome.
- Know the content-garbage in, garbage out.
- Establish realistic deadlines.
- Estimate your costs and double them, then double them again.
- Be realistic about scheduling and scoping.
- Be prepared for major shifts—a course development project plan must be flexible.



- Build for reuse and repurposing, thereby reducing costs.
- Build to standards.
- Make sure courses involve the completion of meaningful tasks.
- Provide different routes to learning.
- Diagrams and charts included in lessons should clarify the text.

For distance learning events where students and instructors interact via some modality, the University of Idaho Engineering Outreach Web site, [Distance Education at a Glance](#), provides a number of valuable strategies to consider. The strategies they suggest encourage instructors/course owners to:

- Conduct detailed planning and organization of not only content, but also of the overall course structure and distance learning solution
- Ensure that student needs are met so that they are able to function effectively and are comfortable with distance learning and their role in the learning event
- Use effective teaching skills, in particular, being realistic about the amount of content to be delivered, being aware of different learning styles, focusing on students to increase the humanity of the course, being clear and concise, among others.
- Improve interaction and feedback to allow the instructor to identify and meet student needs, while at the same time provide an environment where students are comfortable providing suggestions for improvements to the course.

## 6.2 Selecting Media

Selecting an appropriate media for distance learning can be a daunting task and not a part of the design process that should be taken lightly. The success or failure of a distance learning program depends greatly on the media selected. Distance learning can be offered via a single or multiple modalities; however, that modality must be appropriate for the content and desired learning outcomes. The February 2006 USDLA report “An Instructional Media Selection Guide for Distance Learning” notes that “certain synchronous instructional technologies...are best suited for instructional strategies that require a live and dialectic learning environment. And conversely, there are asynchronous instructional technologies that are best integrated with strategies that require asynchronous learning environment.”<sup>10</sup> In the same USDLA report, the authors state that:

“The level of cognitive objectives is a critical variable to consider when selecting the most appropriate media, whereas:

- Asynchronous media may be more appropriate for the lower cognitive levels where knowledge and comprehension and repetition/drill & practice are the primary focus, and
- Synchronous media may be more appropriate for the higher cognitive levels (synthesis/analysis/evaluation) where a synchronous learning environment is required to support a high level of interaction (dialog).

In conclusion, it is important to remember that instructional media are basically distribution systems, and the most critical consideration in selecting a medium is the preservation of instructional effectiveness.”<sup>11</sup>

In general, the process for selecting media for distance learning is similar to the process followed for traditional instruction. For the most part, no one media is better than another, but when selecting a distance learning media a good approach is to:

- Consider the audience
- Consider the objectives and desired outcomes
- Determine if the content can be addressed appropriately via asynchronous or synchronous means
- Consider alternatives for any delivery methods that could be just as effective (i.e., providing print material instead of conducting an online session)
- Consider the nature of the media.

### 6.3 Standards

Standards for online learning have been in existence for a number of years, although adoption has been slow. The current e-learning standards promote interoperability, reusability, durability, and accessibility. It is important for online and distance learning course designers and developers to have some understanding of the standards that impact e-learning development, as these standards are important to some of the delivery mechanisms used, such as learning management systems.

- **Advanced Distributed Learning (ADL):** The ADL initiative is a strategy to facilitate instructional content development and delivery using current and emerging technologies. Specifically, the ADL’s Sharable Content Object Reference Model (SCORM<sup>®</sup>) prescribes an open architecture for online learning that includes standards for run-time communication, course structure, and content metadata.
- **Aviation Industry CBT Committee (AICC):** The AICC is a leader in e-learning standards and provided the groundwork for most other standards in use. The AICC guidelines focus on the development, delivery, and evaluation of computer-based and Web-based training.
- **IEEE Learning Technology Standards Committee (IEEE LTSC):** The IEEE develops technical standards, practices, and guidelines for the implementation of training components and systems, including software, tools, technologies, and design methods.
- **IMS Global Learning Consortium (IMS):** The IMS is a nonprofit corporation that focuses on higher education, schools and universities..

Another standard that many online courses and sites uphold are those required as part of Section 508 of the Rehabilitation Act of 1973. Section 508 requires Federal agencies to make their electronic and information technology accessible to people with disabilities. The law also applies to these agencies when they develop, procure, maintain, or use electronic and

information technology. Section 508 was enacted to eliminate barriers in technology and to make such technologies and the associated information available to people with disabilities.

## **6.4 Evaluating Distance Learning**

Evaluating distance learning is an important part to ensure the success of any program. There are any number of techniques that may be employed to evaluate learning, and evaluating distance learning is no different. As with any training effort, organizations should seek to perform both formative and summative evaluation.

Formative evaluation is done during the implementation of a product to determine the goals of the program are being achieved, to determine the effectiveness of the program activities, and to identify areas for improvement. Formative evaluation is generally conducted via design reviews, expert reviews, individual reviews, trial runs and ongoing reviews of the product while it is being developed. Which formative tool to use is dependant entirely upon the organization and the program being developed.

Summative evaluation provides information about the products efficacy – did the learners learn what they were supposed to learn. This differs from a learner assessment in that the learner assessment assesses an individual student’s learning. Summative evaluation looks at how well all the learners did and can collect a variety of program data, such as performance outcomes, attitudes, implementation concerns, or organizational impacts.

## **6.5 Creating Online Courses for Distance Learning**

When developing distance learning, primarily content that will be delivered online, there are a number of programs and tools that organizations may take advantage of. Some common programs used to create online courses for distance learning include products from Adobe® (Captivate®, Dreamweaver®, Flash®, Presenter®) and Articulate® (Studio®, Presenter®, Quizmaker®). Many other organizations, such as SumTotal®, Blackboard® or SkillSoft®, offer their own course development/authoring tools as well. Additionally, programming languages such as HTML and Java also can be used to develop online content.

The program an organization uses to develop content is primarily dependent upon the skills of the staff developing the content. At the most basic levels, many organizations develop content using programs such as Microsoft® PowerPoint® and prepare these presentations for delivery via the Web by simply posting the PowerPoint file to a Web site. Such programs, although maybe not as interactive or “flashy,” are still effective in delivering online content. In most cases, however, the more interaction that an organization desires, the higher the level of understanding is needed of the aforementioned programs or languages. Programs such as Adobe Captivate or Articulate Presenter, however, can be easily learned and used to create interactive learning events with little to no programming experience.

## **6.6 Deploying Online Courses for Distance Learning**

In many organizations, deployment of distance learning involves the use of a learning management system (LMS) or learning content management system (LCMS); both systems

are similar, and features will vary among vendors. To clarify, an LMS is a platform that allows organizations to deliver, track, and manage training. Basic features of an LMS include the ability to:

- Manage learners and learner data
- Manage courses and curricula
- Manage assessments and testing
- Track learner needs and preferences
- Track course completion and scores
- Manage course enrollment, scheduling, and associated approvals
- Deliver already prepared online courses.

Though very similar, an LCMS includes the same features of an LMS, but also will serve as a central repository for content where organizations can author, organize, assemble, and publish courses/training.

There are a number of commercial off-the-shelf (COTS) LMS/LCMSs available for purchase, including:

- [Sum Total Systems](#)
- [Saba](#)
- [Blackboard](#)
- [Oracle](#) (Oracle Learning Management)
- [Learn.com](#)
- [SkillSoft](#) (SkillPort)

To view interesting research on LMSs, download the eLearning Guild's (May 2008) Learning Management Systems, 360° Report (available to eLearning Guild Members, Member Plus, and Premium Members).

Additionally, there exist a number of open-source LMSs that are available to organizations (open source software generally refers to any software product that has the source code accessible for anyone and in general is freely able to be modified.) The Corrections Learning Environment (CLE) program compiled a comprehensive report entitled, Open Source Learning Management System (LMS) Investigation, which is available upon request from the National Institute of Corrections.

## 6.7 Resources

*The following resources were used as sources of information for this section. For additional information, please view these resources.*

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<[http://www.usdla.org/html/resources/2. USDLA\\_Instructional\\_Media\\_Selection\\_Guide.pdf](http://www.usdla.org/html/resources/2.USDLA_Instructional_Media_Selection_Guide.pdf)  
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"Selecting Media for Distance Education", ERIC Digest, ED480236 2003-05-00  
<[http://www.eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?\\_nfpb=true&\\_ERICExtSearch\\_SearchValue\\_0=ED480236&ERICExtSearch\\_SearchType\\_0=no&accno=ED480236](http://www.eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=ED480236&ERICExtSearch_SearchType_0=no&accno=ED480236)> (accessed April 21, 2009)

Sener, John. "Effectively Evaluating Online Learning Programs."  
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Wisher, Robert, and Christina Curnow. “Techniques for Evaluating Distance Learning Events.” <[http://www.eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?\\_nfpb=true&\\_ERICExtSearch\\_SearchValue\\_0=ED422887&ERICExtSearch\\_SearchType\\_0=no&accno=ED422887](http://www.eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=ED422887&ERICExtSearch_SearchType_0=no&accno=ED422887)> (accessed April 22, 2009)

## 7.0 EFFECTIVENESS OF DISTANCE LEARNING

Distance learning can be a very effective way to teach/train students, and it can be equally, if not more, effective than traditional, instructor-led training. The effectiveness, however, of distance learning depends significantly on the distance learning modality (technology) used and its appropriateness to the subject matter/content and desired outcomes/objectives. Simply putting information online or pushing it out to students via a randomly selected distance learning modality does not mean that the distance learning is effective or valuable to the student. It is crucial to ensure that the selected modality is appropriate and effective for the content and the student.

Much of the research into the effectiveness of distance learning has been conducted within the higher education realm. In many instances, the research results are brought about as there is an availability of student data and easy access to historical data for comparison. Regardless, much research at the higher-education levels report that distance learning is an effective way for students to learn. For example, a researcher at the University of Houston Department of Health and Human Performance found that “students in a “hybrid class” that incorporated instructional technology with in-class lecture scored a letter-grade higher on average than their counterparts who took the same class in a more traditional format.”<sup>12</sup> Most research about distance learning in higher education focuses on student outcomes (grades, scores) and student satisfaction with the distance learning event.

In the workplace, it is interesting to note that most research relates the effectiveness of distance learning to the amount of time reduced away from the job and the financial impact of such reductions to the organization. Most research does not show the results of the effectiveness of student performance from the learning event back on the job or even at the conclusion of training, between traditional and distance learning in the workplace. The paper “Is Digital Learning Effective in the Workplace?” cites the following recommendations for organizations to consider to ensure the effectiveness of distance learning:

- Determine the outcome and design accordingly
- Make it a requirement

- Encourage, if not demand interaction
- Provide opportunities for practice
- Make the content relevant and timely.<sup>13</sup>

When building distance learning, it is most likely that organizations will make use of multiple tools for the design, development and delivery of the content. As such, the considerations regarding an organization's preparedness for offering distance learning as discussed in Section 5, Evaluating Preparedness for Distance Learning, of this guide, must first be addressed. Subsequently, the considerations discussed in Section 6, Instructional Design/Development Considerations for Distance Learning, of this guide regarding instructional design for distance learning also must be investigated.

## 7.1 Resources

*The following resources were used as sources of information for this section. For additional information, please view these resources.*

Allen, I. Elaine and Jeff Seaman, The Sloan Consortium. "Online Nation: Five Years of Growth in Online Learning." October 2007. <[http://www.sloan-c.org/publications/survey/pdf/online\\_nation.pdf](http://www.sloan-c.org/publications/survey/pdf/online_nation.pdf)> (accessed April 21, 2009)

<sup>12</sup>"College Students Score Higher In Classes That Incorporate Instructional Technology Than In Traditional Classes." University of Houston. *ScienceDaily* 25 March 2008. <<http://www.sciencedaily.com/releases/2008/03/080324125154.htm>> (accessed April 21, 2009)

<sup>13</sup>Moyer, Larry G. "Is Digital Learning Effective in the Workplace?" *eLearn Magazine*. <<http://www.elearnmag.org/subpage.cfm?section=research&article=2-1>> (accessed April 21, 2009)

Paulsen, Morten Flate. "Successful E-learning in Small and Medium Sized Enterprises." *European Journal of Open, Distance and E-Learning*. <[http://www.eurodl.org/materials/contrib/2009/Morten\\_Paulsen.htm](http://www.eurodl.org/materials/contrib/2009/Morten_Paulsen.htm)> (accessed April 21, 2009)

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"E-learning Can Have Positive Effect On Classroom Learning, Scholar Says." University of Illinois at Urbana-Champaign. *ScienceDaily* 9 December 2008. <<http://www.sciencedaily.com/releases/2008/12/081209221713.htm>> (accessed April 21, 2009)

Yang, Yi and Linda Cornelious. "Preparing Instructors for Quality Online Instruction" *Online Journal of Distance Learning Administration, Volume VIII, Number I, Spring 2005*,

State University of West Georgia, Distance Education Center  
 <<http://www.westga.edu/~distance/ojdla/spring81/yang81.htm>> (accessed April 21, 2009)

## 8.0 DISTANCE LEARNING RESOURCES

### 8.1 Organizations and Other Web sites of Interest

Organization/Site	URL
Advanced Distributed Learning	<a href="http://www.adlnet.org/">http://www.adlnet.org/</a>
AICC	<a href="http://www.aicc.org">www.aicc.org</a>
American Distance Education Consortium (ADEC)	<a href="http://www.adec.edu/">http://www.adec.edu/</a>
American Society for Training and Development	<a href="http://www.astd.org/">http://www.astd.org/</a>
Association for The Advancement of Computing in Education	<a href="http://www.aace.org/">http://www.aace.org/</a>
Distance Education and Training Council (DETC)	<a href="http://www.detc.org/">http://www.detc.org/</a>
Distance Education Clearinghouse	<a href="http://www.uwex.edu/disted/index.cfm">http://www.uwex.edu/disted/index.cfm</a>
Education Resources Information Center (ERIC)	<a href="http://www.eric.ed.gov/">http://www.eric.ed.gov/</a>
Educause Learning Initiative	<a href="http://www.educause.edu/eli">http://www.educause.edu/eli</a>
Edutopia	<a href="http://www.edutopia.org/">http://www.edutopia.org/</a>
eLearners.com	<a href="http://www.elearners.com/">http://www.elearners.com/</a>
eLearning Guild	<a href="http://www.elearningguild.com/">http://www.elearningguild.com/</a>
IEEE	<a href="http://ieeeltsc.wordpress.com/">http://ieeeltsc.wordpress.com/</a>
IMS	<a href="http://www.imsproject.org/">http://www.imsproject.org/</a>
International Council for Open and Distance Education	<a href="http://www.icde.org/">http://www.icde.org/</a>
Section 508	<a href="http://www.section508.gov/index.cfm">http://www.section508.gov/index.cfm</a>
Sloan Consortium (Sloan-C)	<a href="http://www.aln.org/">http://www.aln.org/</a>
The Open University	<a href="http://www.open.ac.uk/">http://www.open.ac.uk/</a>
United States Distance Learning Association (USDLA)	<a href="http://www.usdla.org">www.usdla.org</a>
USDLA Distance Learning Today	<a href="http://www.dltoday.net/viewart.php?pk=44">http://www.dltoday.net/viewart.php?pk=44</a>

### 8.2 Glossaries

Glossary	URL
eLearners Distance Learning Glossary	<a href="http://www.elearners.com/resources/glossary.asp">http://www.elearners.com/resources/glossary.asp</a>
CDC Glossary of Selected Distance Learning Terms and Phrases	<a href="http://www2.cdc.gov/phtn/lingo.asp">http://www2.cdc.gov/phtn/lingo.asp</a>
USDLA Dictionary	<a href="http://www.usdla.org/html/resources/dictio">http://www.usdla.org/html/resources/dictio</a>



Glossary	URL
Penn State World Campus Glossary of Distance Education Terms	<a href="https://courses.worldcampus.psu.edu/public/faculty/DEGlossary.shtml">nary.htm https://courses.worldcampus.psu.edu/public/faculty/DEGlossary.shtml</a>

### 8.3 Periodicals

Periodical	URL
American Journal of Distance Education	<a href="http://www.ajde.com/">http://www.ajde.com/</a>
Distance Education Report	<a href="http://www.magnapubs.com/distanceeducation/">http://www.magnapubs.com/distanceeducation/</a>
eLearn Magazine	<a href="http://www.elearnmag.org/">http://www.elearnmag.org/</a>
Electronic Journal of e-Learning	<a href="http://www.ejel.org/">http://www.ejel.org/</a>
International Journal on E-learning	<a href="https://www.aace.org/pubs/ijel/">https://www.aace.org/pubs/ijel/</a>
Journal of Computer Assisted Learning	<a href="http://www.wiley.com/bw/journal.asp?ref=0266-4909&amp;site=1">http://www.wiley.com/bw/journal.asp?ref=0266-4909&amp;site=1</a>
Journal of Interactive Learning Research	<a href="http://www.aace.org/pubs/jilr/">http://www.aace.org/pubs/jilr/</a>
Journal of Interactive Online Learning	<a href="http://www.ncolr.org/jiol/">http://www.ncolr.org/jiol/</a>
Learning Circuits	<a href="http://www.astd.org/lc">http://www.astd.org/lc</a>
Online Journal of Distance Learning Administration	<a href="http://www.westga.edu/~distance/ojdl/">http://www.westga.edu/~distance/ojdl/</a>
Training Magazine	<a href="http://www.trainingmag.com/msg/publications/training.jsp">http://www.trainingmag.com/msg/publications/training.jsp</a>

For additional journals and magazines, visit: <http://www.wisc.edu/depd/html/mags3.htm>

### 8.4 Recommended Books

Biech (ed), Elaine. *ASTD Handbook for Workplace Learning Professionals*. ASTD. © 2008.

Conrad, Kerri, and TrainingLinks. *Instructional Design for Web-based Training*. HRD Press. © 2000.

Discenza, Richard, Caroline Howard, and Karen Schenk. *The Design & Management of Effective Distance Learning Programs*. IGI Publishing. © 2002.

Driscoll, Margaret. *Web-Based Training: Creating e-Learning Experiences, Second Edition*. Pfeiffer. © 2002.

Gronstedt, Anders. *Training in Virtual Worlds: Training Technology & E-Learning, Vol. 25*. ASTD. © 2008.

Huggett, Cindy, and Wendy Gates Corbett. *Simple, Effective Online Training: Training Technology & E-Learning, Vol. 25*. ASTD. © 2008.

Mantyla, Karen. *Blending E-Learning: The Power is in the Mix*. ASTD. © 2001. Books24x7.

Piskurich (ed), George M.. *The AMA Handbook of E-Learning: Effective Design, Implementation, and Technology Solutions*. AMACOM. © 2003. Books24x7.

Reisman (ed), Sorel. *Electronic Learning Communities: Current Issues and Best Practices*. Information Age Publishing. © 2003.

Shank, Patti, and Amy Sitze. *Making Sense of Online Learning: A Guide for Beginners and the Truly Skeptical*. Jossey-Bass. © 2004.

Sloman, Martyn. *The E-Learning Revolution: From Propositions To Reality*. CIPD Enterprises. © 2001.

## 8.5 Internet Search Terms

The following list provides some distance learning-related search terms and phrases that can be used to conduct your own research via the internet.

- Asynchronous
- Blended learning
- Collaboration
- Communities of practice
- Computer-based training, CBT
- Distance education
- Distance learning
- elearning
- elearning 2.0, e-learning 2.0
- Evaluating distance learning
- Immersive learning
- Measuring distance learning
- Mobile learning
- Online learning
- Serious games
- Simulation
- Synchronous
- Video conferencing
- Web 2.0
- Web conferencing
- Web-based training, WBT

## APPENDIX A: ACRONYMS

ADDIE	Analyze, Design, Develop, Implement, and Evaluate
ADL	Advanced Distributed Learning
AICC	Aviation Industry Computer-Based Training Committee
CBT	Computer-based training
<i>CTC</i>	Concurrent Technologies Corporation
DOC	Department of Corrections
DVE	Distributed Visual Environments
ILS	Immersive Learning Simulation
ILT	Instructor-led training
MMOGs	Massively Multiplayer Online Games
NIC	National Institute of Corrections
Q&A	Question and Answer
SCORM	Sharable Content Object Reference Model
UMUC	University of Maryland University College
USDLA	United States Distance Learning Association
VOIP	Voice Over Internet Protocol
VTC	Video Teleconference
WBT	Web-based training