CHAPTER 9

Evaluation
Issues

Evaluation in e-learning should focus on people, process and products of e-learning. Evaluation issues of e-learning should consider how e-learning and blended learning materials are planned, designed, developed, delivered and maintained; how well courses are taught and supported; how well program and institutional level services are provided; how e-learning programs are viewed by stakeholders and how well learners learned the materials. To explore theses issues both formative and summative evaluation strategies can be used:

- Evaluation of E-Learning Content Development Process
- Evaluation of E-Learning Environment
- Evaluation of E-Leaning at The Program and Institutional Levels
- Assessment of Learners

Evaluation of E-Learning Content Development Process

As discussed in chapter 3 the e-learning content development process includes the planning, design, production and evaluation of e-learning contents (see Figure 9.1). People, process and products involved in e-learning content process should be thoroughly evaluated (see Figure 9.2).

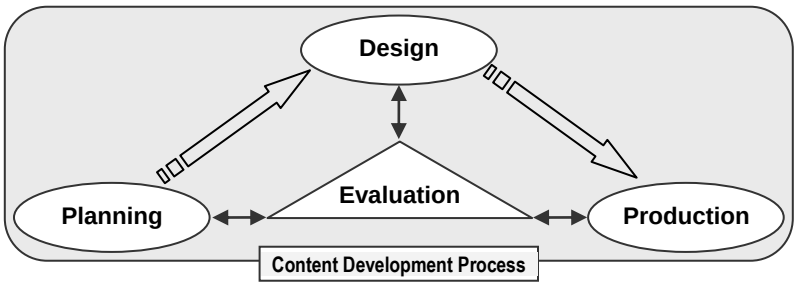

Figure 9.1. Content Development Process

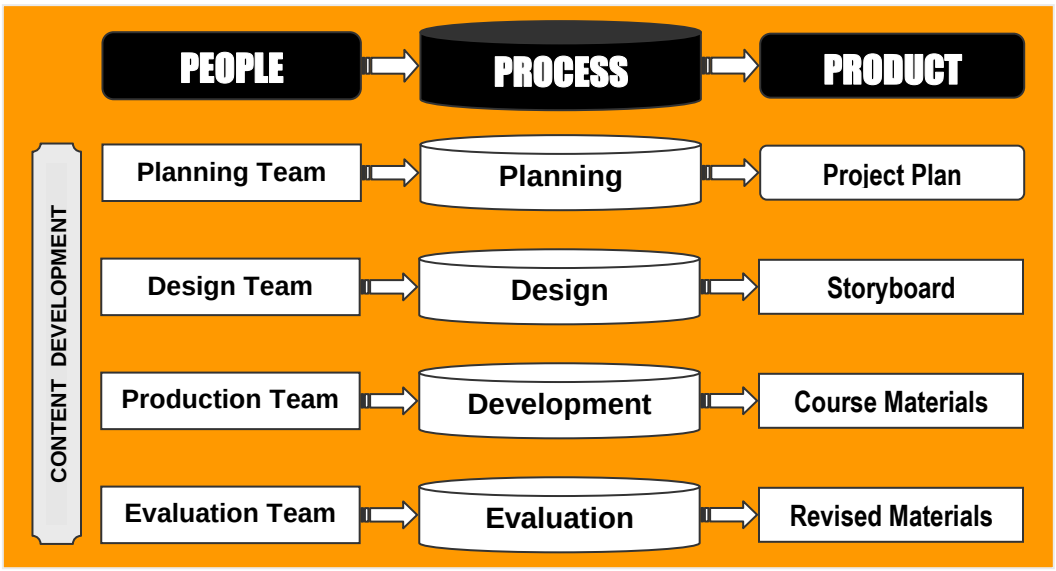

Figure 9.2. People-Process-Product Continuum for Content Development Process

People

Evaluation of individuals involved in the planning, design, production and evaluation stages of the content development process should be conducted. These Individuals may include (but not limited to): program director, project manager, business developer, consultant / advisor, research and design coordinator, content or subject matter expert, instructional designer, interface designer, copyright coordinator, evaluation specialist, production coordinator, course integrator, programmer, editor, graphic artist, multimedia developer, photographer / videographer (cameraman), learning objects specialist, quality assurance, pilot subjects, etc.

Process

Evaluation of planning, design, production and evaluation stages of the content development process is critical. Performance level of the various types of the evaluation process, including; content review, rapid prototype, alpha class
and beta class should be reviewed. Performance level of the various tools and services used during the content development process should also be reviewed. These tools and services may include; content development /authoring tool, learning management system, screen reader software, accessibility evaluation tool, network server, hardware vendor services and software vendor services

Product

In this section, evaluation of products of planning, design, production and evaluation stages of the content development process is conducted. For example, *project plan, storyboard, course materials* and *revised course materials* are products of planning, design, production and evaluation stages of the content development process respectively.

Evaluation of E-Learning Environment

As discussed in chapter 3, e-learning environment includes e-learning delivery and maintenance process (see Figure 9.3). People, process and products involved in delivering, maintaining, teaching and supporting e-learning courses should be thoroughly evaluated (see Figure 9.4).

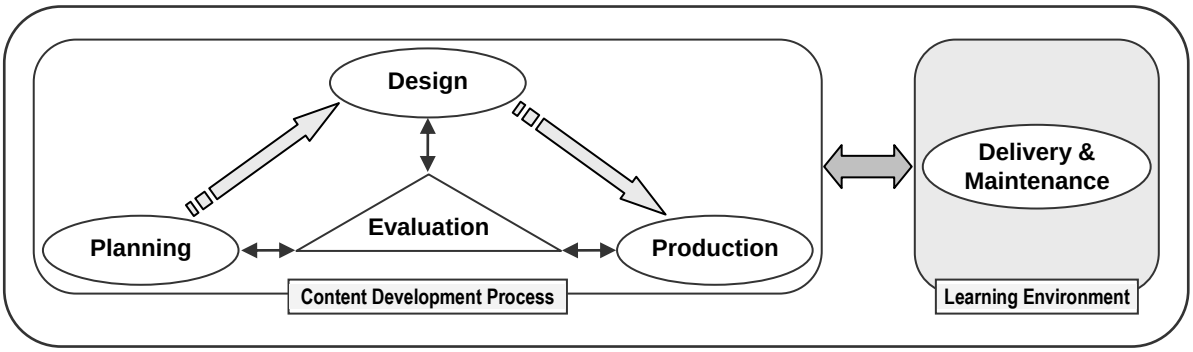

Figure 9.3. Delivery and Maintenance of E-Learning Environment (highlighted)

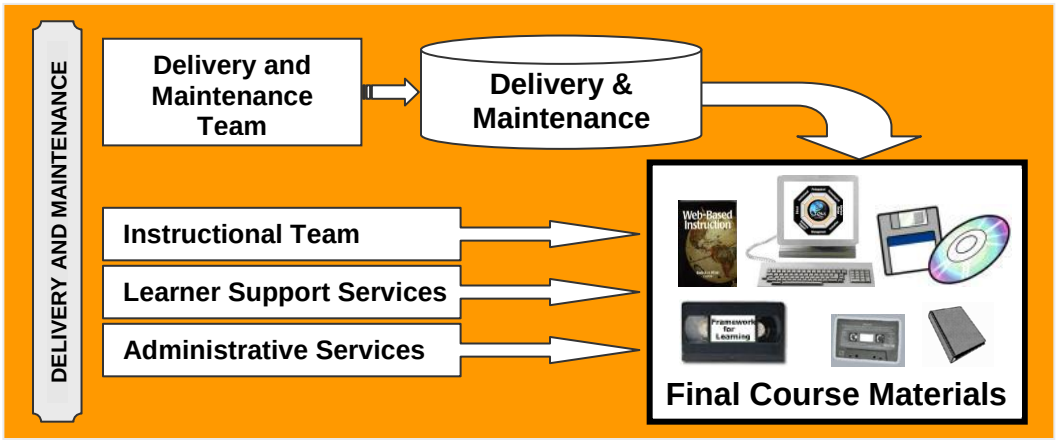

Figure 9.4. People-Process-Product Continuum for Delivery and Maintenance Process

Evaluation of an e-learning environment is different than the evaluation of a traditional face-to-face classroom-based environment. In traditional face-to-face classes, learners usually evaluate their instructors—which makes sense since instructors are the ones who taught these courses with their own lecture materials. However, e-learning at an open, flexible and distributed e-learning environment is a different paradigm. E-learning courses are usually designed, developed, delivered and supported by various individuals and support units within an institution. Instructors are just one part of e-learning environment.

Therefore, *just evaluating the instructor will not provide the total picture of the e-learning environment* as the instructor's performance is systemically dependent on the quality of course design, support services and efficiency of technology infrastructure. Like the proverb "it takes a whole village to raise child," the learning at a distance is

fostered by the instructor and other support staff including, tutor, technical support person, librarian, counselor and registration staff.

Several e-learning evaluation instruments encompassing the various dimensions of e-learning environment are in the process of being developed. Information about these instruments is available at: http://BooksToRead.com/elearning/evaluation

Arizona State University Online (ASUonline) put together a sample online course evaluation form. Areas covered in the evaluation form include, institutional support, course development, teaching and learning, course structure, student support, value, flexibility and convenience (http://asuonline.asu.edu/courseevaluation/sample.cfm).

Evaluation of instruction and learning environment for e-learning should focus on how its customers (i.e. learners) and the community it serves (i.e. market) feel about the overall performance of its e-learning offerings. Students' feedback provides an accurate portrayal of an e-learning environment. Since learners are only knowledgeable about the delivery stage of the course and not familiar with the course design process. Therefore, institutions should develop appropriate evaluation methods to get learners' feedback on instructional and support services and delivery of e-learning. Whenever appropriate, institution should also get learners' feedback on the design of the e-learning environment.

The following is an outline of this section:

1. Evaluation of e-learning delivery and maintenance
2. Evaluation of course offerings

Evaluation of E-Learning Delivery and Maintenance

The design of the course greatly influences the roles technical and support services play in e-learning environments. This section covers the evaluation of how well e-learning environments are delivered and maintained.

Course Offerings

As discussed in chapter 3 that the course offerings include all e-learning and blended learning materials available to learners. In this section, evaluation of how course materials are provided, taught and supported is discussed.
Figure 9.5 graphically represents blended e-learning environment at the McWeadon Education (http://mcweadon.com).

Figure 9.5. Blended E-Learning Environment

Evaluation of e-learning environment includes (1) performances of *instructional team* (e.g., instructor (or trainer), instructor assistant, tutor, discussion facilitator/moderator, learning objects specialist, copyright coordinator, guest speaker (or outside expert), (2) *learner support services* staff including systems administrator, server/database programmer, customer service, technical support specialist, library services, counseling

services, etc. and (3) *administrative services* including admissions, registration, payment, bookstore, financial aid, etc.

Evaluation of Instructional Team
Evaluation of instructor and other members of the instructional team (if any) can be done by asking learners to complete an instructor evaluation form consisting of both open-ended and multiple choice items. In addition to learners feedback, an instructor's performance can also be evaluated by his/her participation in both asynchronous (e.g., discussion forums postings) and synchronous (e.g., chat room transcripts) activities. The URLs of instructor evaluation for online courses is listed below:

Institution Name	URL
Ohio University Online Course Evaluation	http://www.ohiou.edu/ouonline/evaluation.html
Montana State University-Billing Online	http://www.msubillings.edu/support101/eCollege/courseevaluation.htm

Evaluation of Learner Support Services
Evaluation of learner support including technical support specialist, library services, counseling services and customer service can be accomplished by asking learners to complete evaluation form consisting of both open-ended and multiple choice items. Arizona State University Online (ASUonline) provides a sample online course evaluation form which has items on student support (http://asuonline.asu.edu/courseevaluation/sample.cfm).

Evaluation of Administrative Support
Evaluation of administrative support (e.g., admission, registration, payment, bookstore, financial aid, etc.) can be accomplished by asking learners to complete evaluation form consisting of both open-ended and multiple choice items.

Evaluation of E-Learning at the Program and Institutional Levels
In an institution, all professional development, certificate and degree programs enjoy some types of centralized services. For example, students can register via institution's registrar office. Depending on institutions, some services may be offered at the institution or at the program level. Advising and orientation can be provided by individual programs. Some services (e.g., marketing) can either be provided by individual programs or by the institution. To students, *it does not matter who is providing these services*. What matters to them is *how well they are provided*. There is tremendous need for a comprehensive evaluation of e-learning which should include the performance of each individual and support unit involved in providing various e-learning services.

Institutions should develop evaluation criteria on all aspects of e-learning including; course development and delivery, learning environment and support services. For example, institutions can develop evaluation forms by following accreditation standards

programs set by regional and international accrediting agencies. Western Cooperative for Educational Telecommunications (WCET) developed "Best Practices for Electronically Offered Degree and Certificate Programs" which might be of interest to institutions offering e-learning. URL: http://www.ncahigherlearningcommission.org/resources/electronic_degrees/Best_Pract_DEd.pdf

Based on the analysis of learners' feedback, an institution has a better understanding about the status of its e-learning offerings. Montana State University at Billings uses a Student Support Services survey to receive students' feedback on the overall program including; program information services**,** program administration services**,** program orientation services**,** program participation services and program evaluation services. (http://www.msubillings.edu/support101/eCollege/supportsurvey.htm).

Assessment of Learners

Assessment pertains to authenticity, reliability, formats (e.g., multiple choice, essays, case studies, electronic portfolios, etc.) and test characteristics (e.g., adaptive and randomized). A variety of evaluation and assessment tools can be incorporated into an e-learning course. Individual testing, participation in group discussions, questions and portfolio development can all be used to evaluate students' progress. Assessment in e-learning should be congruent with the pedagogical approach of the course.

Considering the open and flexible nature of e-learning environment, assessment of learners at a distance can be a challenge. Issues of cheating are a major concern (Wheeler, 1999). "Are students actually doing the work?" (Hudspeth, 1997) and "How do we know we are assessing fairly and accurately?" (Wheeler, 1999)--such questions will always be of concern for online learning environments. Assessing learners' from their participation in online discussion can be very difficult especially when some students "lurk." Romiszowski and Chang (2001) notes that a lurker may be benefiting just as much as the silent students in class who learn from the comments and questions of other students.

It is important to clearly indicate assignment due dates for learners from geographically diverse time-zones. The following observation by a distance education faculty member is very interesting when it comes to due dates:

> My experience has been that students are more successful if they are given due dates for assignments. The course can remain self-paced to a certain extent in that students are certainly welcome to do assignments earlier than the due date.
>
> We found that when students were not given interim due dates that the majority of them procrastinated. When faced with the decision of completing an assignment for another class that had a due date or completing an assignment for the class without a due date until the end of the course, the students chose the former to spend their time. Consequently, about three weeks before the end of the term,

students belatedly realized they could not possibly complete all the assignments and would drop the class.

Unfortunately, I did not do a formal study of this phenomena so I am only reporting my observations over a two year period. I can say that when the professors went from no due dates to interim due dates they all reported experiencing the same thing. When there were no due dates, I observed that class attrition accelerated in the last third of the term. Once interim due dates were in place, attrition occurred in the first half of the term as in all other classes. Needless to say, all of those professors now have due dates throughout their online classes.
(Maggie McVay Lynch <mcvaylynch@HOME.COM>, DEOS-L - The Distance Education Online Symposium, January 25, 2001)

QUESTION TO CONSIDER
Can you think of any e-learning related evaluation issues not covered in this chapter?

ACTIVITY
1. Using Internet search engines, locate an article that covers any of the following evaluation issues for online courses; and analyze the article from the perspectives of its usefulness in e-learning:
   - Assessment of Learners
   - Evaluation of Instructional Team
   - Evaluation of Administrative Support
   - Evaluation of Learner Support Staff
   - Evaluation of Delivery and Maintenance Team
   - Evaluation of Management Team
   - Evaluation of Planning Team
   - Evaluation of Design Team
   - Evaluation of Production Team
   - Evaluation of Evaluation Team
2. Locate an online program and review its evaluation aspects using the relevant *evaluation checklist items* in Appendix H.

FINAL PROJECT

Suppose you are working for an institution that is planning for an e-learning initiative. You have been asked by your institution to develop a position paper with an overview of the comprehensive e-learning process. This paper should help your institution to see the e-learning process from a birds-eye view and provide the realities of e-learning environments. Let's call the position paper as *e-learning plan*. In developing the e-learning plan, you should consider including as many critical issues as possible encompassing the eight dimensions of the E-Learning Framework discussed in Chapter 1-9. In this chapter, issues within each dimension of the E-Learning Framework are presented as *questions* that course designers can ask themselves when planning, designing, developing, implementing and evaluating e-learning and blended-learning materials.

Project 1: Based on your understanding e-learning process and items included in this chapter, develop an **e-learning plan** for your institution. The following is a sample outline for an e-learning plan:

Sample Outline for E-learning Plan

I. E-learning Environment

In this section, you will rationalize that e-learning is a viable method of providing education and training to learners dispersed all over the world. Therefore, for your target audience, you should:

- describe e-learning in your own words
- identify similarities and differences between e-learning and traditional classroom, and
- list advantages of e-learning over traditional classroom instruction.

II. Institutional Issues

In this section, you begin with rationalize the need for e-learning initiative at your institution and its potential benefits. Then, discuss the following institutional issues whenever applicable (e.g., if your design plan is for an corporate setting, then "financial aid" may not be an issue, whereas for an academic setting it is an important support service issue).

- ❑ Administrative Affairs
  - Budgeting and return on investment
  - Information Technology Services
  - Instructional Development and Media Services
  - Marketing, Admissions, Graduation, Certification & Alumni Affairs
  - Organization and Change (Diffusion, Adoption and Implementation of Innovation)
- ❑ Academic Affairs
  - Faculty and Staff Support
  - Instructional Affairs
  - Workload, Compensation & Intellectual Property Rights
- ❑ Student Services
  - ❑ Pre-enrollment Services
  - ❑ Course and Program information
  - ❑ Orientation
  - ❑ Advising
  - ❑ Counseling
  - ❑ Financial Aid
  - ❑ Registration and Payment
  - ❑ Bookstore

- ❑ Library Support
- ❑ Social Support Network
- ❑ Tutorial Services
- ❑ Internship and Employment Services

III. Technological Issues

Technology issues should include:

- Infrastructure planning
- Assessment of institution's existing technologies and technology plan
- Standards, policies, and guidelines related to hardware, software and other relevant technologies required for e-learning

- Software Requirements

The tables below are provided to help you in completing your E-learning Plan. You may want to use these tables, or altered versions of them, as you work on your project and even as part of your final report.

Software Requirement for Student, Instructor , Technical Support and Institution								
	Software Name	Required (Req) Or Recommended (Rec)?					*(List specific tasks performed by software)*	*Cost*
		Learner	Instructor	Tech Support	Institution	Other		
Word Processor								
Email Package								
Presentation Program								
Spreadsheets								
Database								
Authoring Tools or LMS*								
Discussion Software								
Operating System								
Plug-ins								
Browsers								
ASP								
AV Streaming								
Other								
Comments								

* Learning Management System. Indicate whether LMS is SCORM or IEEE compliance.

- Hardware Requirements

The tables below are provided to help you in completing your E-learning Plan. You may want to use these tables, or altered versions of them, as you work on your project and even as part of your final report.

Hardware Requirement for Student, Instructor , Technical Support and Institution									
CPU									
RAM									
ROM									
Hard disk			gigabyte						
Disk drive									
CD-ROM				24x, 32x					
SDRAM		32/64/128 /256MB							
Sound Card									
Speaker									
Microphone									
Video Card									
DVD									
Ethernet									
Dial-in modem				28.8, 33.6. 56 Kbps					
DSL									
Cable modem									
Wireless Internet connection									
Monitor						12" 14" 16" Other	640X480 800X600 1024X768256, thousands, millions		
Ink-jet									
Laser									
Digital camera									
Video camera									
Other									
Comments									

* Type L=Learner, I=Instructor, T=Tutor, S=Technical Support wherever applies and IN=Institution.

IV. Pedagogical and Evaluation Issues

- Discuss instructional approach (unstructured vs. structured learning activities) for designing course content. Here, you can describe how overall design of learning activities for various parts of the course content can be developed: highly structured, mostly structured, loosely structured or unstructured.
- Provide brief description of at least five of the following instructional methods emphasizing how successfully they are used in courses (provide course URLs).
    - *Presentation*
    - *Demonstration*
    - *Drill and Practice*
    - *Tutorials*
    - *Games*

Story Telling
Simulations
Role-playing
Discussion
Interaction
Modeling
Facilitation
Collaboration
Debate
Field Trips
Apprenticeship
Case Studies
Generative Development
Motivation

- Discuss how learner assessment will be designed?
- Discuss how instructor evaluation will be conducted?
- Discuss how design of learning environment assessed?

V. Interface Design and Ethical Issues
- Discuss interface design issues including site design, navigation and usability testing for e-learning.
- Discuss ethical considerations that should be taken into account in designing e-learning; including, social and cultural diversity, bias, geographical diversity, learner diversity, information accessibility, etiquette and legal issues (e.g., policy and guidelines, privacy, plagiarism and copyright).

VI. Resource Support and Management issues
- Discuss online support services including instructional, counseling and career guidance.
- Discuss both online and offline resources available for e-learning.
- Discuss maintenance of e-learning sites and distribution of information.

VII. E-Learning Case Studies
- Using Internet's search engines, identify and write about two or three existing e-learning programs that encompasses many of the issues covered in the above outlines.

Project 2: Many organizations including corporations, government agencies, nonprofits, and educational institutions are currently using e-learning and blended-learning materials for their various educational and training programs. Using the checklist items in this chapter, conduct a **program evaluation** of an online program.

REFERENCES

Hudspeth, D. (1997). Testing learner outcomes in Web-based instruction. In B. H. Khan (Ed.), *Web-based instruction*. (pp. 353-356). Englewood Cliffs, NJ: Educational Technology Publications.

Romiszowski, A. J., & Chang, E. (2001). A practical model for conversational Web-based training: A response from the past to the needs of the future. In B. H. Khan (Ed.), *Web-based training*. (pp. 107-128). Englewood Cliffs, NJ: Educational Technology Publications.

Wheeler, S. (1999). Convergent technologies in distance learning delivery. *TechTrends, 43*(5). 19-22.