How Standards & Best Practices Impact the Goals of eLearning

The overall goals for an eLearning program provide stakeholders with a vehicle to discuss and agree upon the essential nature of the instruction. These goals should:

- Identify the purpose and aims of the program or course – Goals that identify the purpose and aims should be distilled from stakeholder expectations and should clearly support and reflect the sponsoring organization’s mission and goals.

- Illustrate how the program will meet the needs of the targeted learners – Goals should detail how specific courses or content will address the stated or assumed needs of the target learners.

- Provide the scope of the content to be covered.

Lesson 2 addressed the distillation of purposes and aims from stakeholder expectations. In Lesson 3 you considered the needs of the target learners and how these needs impact eLearning programs. With respect to eLearning content, the planned scope typically results from contemplating such questions as:

1. What are the aims, goals, and objectives of the eLearning program, and how should the content support the organization’s goals and mission?
2. What do the learners know and what can they do? What do the learners need to know? What’s the gap between what they know and what they need to know that can be filled by the content of the eLearning program?
3. What agencies or individuals have something to say about what the learners should know? (Is their opinion on the matter summarized in published standards, competencies or regulations?)
4. What questions should learners be prompted to contemplate?
5. What learning activities should the learners experience?
6. What conclusions should the learners reach?
7. How might the learner apply what has been learned in their life, on the job, in the next course?

Question #2, above, refers to the gap between what is known and what should be known by the target learners. The process of identifying this gap is also referred to by terms such as needs assessment, needs analysis, and gap analysis. When identifying the current knowledge and abilities and the desired knowledge and abilities of target learners, there are three elements to consider: the learners’ knowledge, skills and attitudes. You will often see these elements abbreviated as KSA. The essential KSAs may also be identified in lists of competencies published by professional organizations (you will consider competencies in more detail in future lessons).
Identifying Standards that Impact Your eLearning Program

As noted in question #3, above, eLearning content is often influenced by standards or regulations that vary by career environment and discipline. Consider these standards early in the process so you can align your program goals with them, and with the goals of the sponsoring organization. Typically, standards for content reflect the essential or significant ideas that learners should know for a particular topic. This essential content, once identified, becomes the basis for eLearning program goals.

For example, in a K-12 career environment, the content of a K-12 eLearning course will be significantly impacted by the written content specifications for a state or district. The Standards of Learning (SOLs) for the Commonwealth of Virginia are the minimum requirements for student achievement in the state curriculum and are used to define the content for eLearning courses for the Virtual Virginia High School. (Note that each state has its own standards, for example, Texas has the Texas Essential Knowledge and Skills - TEKS, and West Virginia has the West Virginia Educational Standards Test - WESTEST.) In a K-12 environment, aligning curriculum and program goals to such standards is referred to as external alignment; whereas internal alignment is the process of making sure learner outcomes, instructional strategies and classroom assessments match and reflect the language and intent of the standards. (The process of internal alignment will be discussed more in Lesson 6.)

In a business and industry environment, external alignment is desirable to meet market demands and, in some cases, to legally stay in business. For example, industry and government regulations impacting a specific company, such as the Occupational Safety and Health Administration (OSHA) regulations, would naturally be important to consider when developing goals that define content. In addition, the sponsoring company’s quality and profit goals should be reflected in the eLearning program goals.

Of course, there are other standards besides those addressing content that impact eLearning programs. These standards relate to the eLearning industry, itself, as well as the infrastructure and support services offered to learners, and the qualifications of support staff. Many of these standards have been developed by working groups in the nonprofit organization IMS Global Learning Consortium.

Common Cartridge - IMS Global Learning Consortium has developed the Common Cartridge standard that provides state-of-the-art practice in online instruction into a succinct format for creating and sharing digital content. It includes specifications for content packaging, question and test interoperability, learning object metadata, and SCORM (see below).

Learning Tools Operability - Standards that enable a variety of learning tools to work together in a single system.
SCORM - SCORM is an acronym for Shareable Content Object Reference Model and refers to a set of technical standards for creating eLearning content that can be shared across systems and between software products. Sponsored by the US Department of Defense, the SCORM standard defines how programmers should write code so that content “objects” can be sequenced and learner interactions recorded via learning management systems (LMS). As of 2009, the fourth edition of SCORM 2004 was the working standard.

Learning Information Services - Learning Information Services provides a standards-based approach to integrating learning management systems, student information systems, and other IT infrastructure to easily share grades, enrollment, user, course and group information between systems using web services.

School Interoperability Framework (SIF) - This standard in K-12 schools enables interoperability between back office administrative systems and eLearning systems.

There are also several standards that address how instruction can satisfy the requirements of Section 508 of the Americans with Disabilities Act (see http://www.access-board.gov/508.htm). Such standards make reference to the concept of universal access to digital resources, and many have been developed under the direction of the World Wide Web Consortium’s (W3C) Web Accessibility Initiative group (WAI). The WAI has developed several sets of Web Content Accessibility Guidelines (WCAG) that address such things as Web content accessibility (like HTML pages), and the accessibility of user agents and authoring tools.

The WAI model of universal accessibility is based on the accessibility of three elements: content, authoring tools and browsers. However, there are many aspects of these elements over which the eLearning provider often has no control (e.g., browsers), and therefore, universal accessibility is very difficult to achieve. Decisions on which standards to follow are often based on the specific career environment of the target learners. For example, courses developed for government clients are expected to be fully compliant with Section 508, SCORM, and AICC (Aviation Industry Computer-Based Training Committee standards, which have broad acceptance and relevance to non-aviation and aviation users, alike).

The eLearning leader must also consider the importance of usability, which is closely related to accessibility. What if your audience does not have the technical infrastructure to view your content? Are you assuming that your audience will have access to resources that they might not be able to afford? What if the needs of different users are in conflict? How do you prioritize who you will reach and how you will reach them? While these issues make universal accessibility a formidable challenge, if you know something about the guidelines and consider which you can reasonably expect to follow, you will be more likely to reach a wider and more diverse audience with your eLearning materials.
According to Brian Kelly (see his article on the UK Web Focus blog at [http://ukwebfocus.workpress.com/2009/03/02/rethinking-web-accessibility-for-e-learning/](http://ukwebfocus.workpress.com/2009/03/02/rethinking-web-accessibility-for-e-learning/)), a holistic approach to quality in eLearning involves considering several factors that are related to the broad range of learner needs, including accessibility, usability, learning outcomes, local contextual factors, and infrastructure. He proposes the use of a Web Adaptability Framework that factors in the interests of a variety of stakeholders and focuses on the accessibility of learning outcomes rather than eLearning resources (see illustration that follows).

What other standards do you know of, or can you find through a web search, which address the essential nature of eLearning design, development and delivery? Assignment 4.2 will prompt you to investigate some of these standards.
Identifying Best Practices for Your eLearning Program

Program goals should also identify the type of best practices in teaching and learning, administration and management, and support that are most likely to improve the learning outcomes of your target learners. There are many lists of best practices, some of which are based in research, and some that are recommended by designers with lots of practical experience (but who lack hard research evidence to back up their claims).

For example, in the career environment of higher education, Arthur Chickering and Zelda Gamson (1986) summarized decades of educational research findings into seven principles of good practice in undergraduate education. Good practice in undergraduate education...

1. Encourages contact between students and faculty,
2. Develops reciprocity and cooperation among students,
3. Encourages active learning,
4. Gives prompt feedback,
5. Emphasizes time on task,
6. Communicates high expectations, and
7. Respects diverse talents and ways of learning.

Since then, these practices have gained acceptance and use in a variety of career environments, and many research studies have confirmed their effectiveness when applied to the design of instruction. Valid research is difficult to refute when included in a proposal to justify an eLearning venture. However, it is often difficult to find such research. While best practices are frequently published and applied, their use and effectiveness is much less frequently tested and documented. Documentation does exist for many key principles, though, and the authority it adds to an eLearning proposal is well worth the time required to locate it. For example, for years educators have emphasized the motivational aspects of giving learners control of their learning activities, and the importance of prompting learners to reflect on their learning. A recent meta-analysis of online learning carried out by the US Department of Education (USDOE, 2009), found that:

“Online learning can be enhanced by giving learners control of their interactions with media and prompting learner reflection. Studies indicate that manipulations that trigger learner activity or learner reflection and self-monitoring of understanding are effective when students pursue online learning as individuals.” (USDOE, 2009, executive summary)

Your readings for this lesson and future lessons will highlight some of the pertinent research studies and the evolution of best practices for eLearning efforts. You should regularly search for such studies or set up an online alert (such as a Google alert) to help you keep informed on the latest recommended best practices in the field.
Best practices in eLearning have been developed for a wide range of topics, including those related to:

- Instructional design
- Content development
- Strategies for asynchronous learning environments
- Strategies for synchronous learning environments
- Strategies for collaboration
- Methods for blended environments
- Quality assurance
- Assessment
- Change management
- Learner support, and
- Integration of new technologies

As noted, information on the applicable standards, best practices and content should be included as part of a strategic plan, vision, or design document for an eLearning program or course.

**Developing an eLearning Plan or Proposal**

A strategic plan, vision, or design document serves as a “blueprint” for the eLearning program or course, communicating the infrastructure and approach that will be taken in developing and implementing the instruction. This blueprint should communicate the stakeholders’ expectations for how the eLearning will look and how customers, employees, partners, and suppliers will use it. It also lists the goals for the eLearning instruction. Such a plan can be developed for use as a formal proposal for funding purposes, or as a focus document that is used internally to unite the thinking and effort of key individuals and groups involved in developing an eLearning program.

There are many ways to structure and communicate an eLearning plan. McGraw (2001, Building Blocks section) describes one method for defining a strategic plan, which involves a four-tiered approach:

- 1st Tier - A description of the eLearning vision describes how the eLearning instruction aligns with and supports the organization’s goals and stakeholder expectations. The vision also defines the outcomes that the organization wants to accomplish through the eLearning. For example, the organization may wish to reduce the costs of training and professional development, maintain and/or develop the core competencies of its workforce, improve performance and quality, or build the ability to react quickly to market needs and pressures to maintain a competitive edge.
• 2\textsuperscript{nd} Tier - The plan should also address the \textit{technical support needs and plans} for the eLearning program. This would include a description of the technical requirements, technical architecture, and issues such as security and accessibility.

• 3\textsuperscript{rd} Tier - The plan also defines the \textit{learning strategy} that will be followed for the program, including the best practices that will be followed and the presentation and distribution methods that will be used. This section of the plan should describe why the methods selected are the most appropriate for meeting the needs of the target audience. This section also communicates whether the desired content is already available or must be developed.

• 4\textsuperscript{th} Tier - The plan would also provide a complete description of the \textit{target learner identities and needs}, as well as the elements that dictate those needs, such as standards, certification requirements, and/or performance goals related to job competencies. This section of the plan would include an analysis of learner characteristics, and it would address motivational elements of the program that are determined by the learning styles and preferences of the target learners.

The format or structure of an eLearning plan may also be dictated by the sponsoring or funding organization. Regardless, it should include the elements mentioned above including how the eLearning venture aligns with and supports the mission of the sponsoring organization, the specific goals for the eLearning project, a description of the target learner(s) and the needs to be met through the eLearning project, the standards and best practices to be followed, and learning strategy and methods to be used. Lesson 5 covers how to identify the technology required to develop and deliver the eLearning instruction.