Demystifying e-learning standards

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Keywords

Learning, Internet, Standards

Abstract

Recently, a great buzz has been surrounding e-learning standards. But what are these e-learning "standards", and what do they mean to the people designing and implementing e-learning initiatives? Today, it may translate into confusion and a daunting level of research and mental investment. But, in the future, this work should give e-learning the flexibility taken for granted in other applications. Standards often feel remote and abstract, yet they have impact on people's lives every day. Content prepared for one system cannot be transferred easily, if at all, to another. If a company licenses a third-party library, they find that the content not only is married to a specific delivery system but is also dependent upon a specific interface requiring its own log-on and system for transcripts. It is no wonder that e-learning activities remain more fragmented and less convenient than they should. Examines the issues around e-learning standards and how a long-term strategy can benefit your organization.

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Industrial and Commercial Training
Volume 34 · Number 2 · 2002 · pp. 62–65
 · ISSN 0019-7858
DOI 10.1108/00197850210417546

Introduction

Recently, a great buzz has been surrounding e-learning standards. But what are these e-learning "standards", and what do they mean to the people designing and implementing e-learning initiatives? Today, it may translate into confusion and a daunting level of research and mental investment. But, in the future, this work should give e-learning the flexibility we take for granted in other applications.

Standards often feel remote and abstract, yet they have impact on our lives every day. Imagine that your car could only use the specific gasoline provided by the manufacturer, as in Ford or Chevy, and required purchase directly from the dealership. Can you imagine a more foolish and inconvenient circumstance?

However, we freely accept this situation in our e-learning solutions. Content prepared for one system cannot be transferred easily, if at all, to another. If a company licenses a third-party library, they find that the content not only is married to a specific delivery system but is also dependent upon a specific interface requiring its own log-on and system for transcripts. It is no wonder that e-learning activities remain more fragmented and less convenient than they should.

E-learning standards are the vehicle that will bring flexibility to content and infrastructure solutions. They open the door for more sensible and coherent ways to package learning content and resources for both students and developers alike.

Standards vs specifications

Strictly speaking, there are no e-learning standards. Instead, there are a series of groups developing specifications. A specifications group is an organization with common interests and purposes, which works to develop protocols – agreements – that the community can support.

In e-learning, the instructional management system (IMS) metadata committee is such a specification group. This group has been clarifying issues such as: How should e-learning content be tagged? What fields should be required? and How can this information be communicated?

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Once the specifications group compiles its work, it submits the proposed protocols to an official sanctioning body for standardization. This is similar to the process of developing a law, and then passing it. Once the bulk of the work takes place in a committee, a formal legislative body must make it official.

In case this seems like a messy and inefficient process, remember that the key to a specification is adoption. If no one buys into your specification, it has failed. Therefore, a specifications group should be viewed as an intelligent input system as well as a consensus-building vehicle. This stage of specification development vs. standardization defines where the process of e-learning standards resides today.

Standards have many flavors

Standards, once created, have subtle points of distinction, including whether they are *de facto* vs formal standards, the application level where they operate, and their sections and subsections.

A first distinction lies in *de facto*, as opposed to formal, standards. *De facto* means that the specifications have been adopted widely, even before they are officially standardized. For example, the Aviation Industry Computer-Based Training Committee (AICC) developed a system whereby a learning management system (LMS) could launch a course, and receive tracking and scoring information for CBT courseware. For years, it was the best and only approach that we had, and today acts as a *de facto* standard for these functions.

XML – a *de facto* technology standard – is gaining wide adoption in Web-based applications as a means to allow platforms to share information with one another. According to Gartner Group e-learning analyst Clark Aldrich, "It will be the single most relevant standard in e-learning, and it's the best way I know to maintain the value of an enterprise's learning content over time."

Yet XML, while important, acts at a lower technical level, forming only the foundation for inter-application communications. It is similar to a language, but having a common language does not mean that we will have a common vocabulary. You and I may meet and agree that we will speak English but, if you are an electrical engineer and I am a cardiologist, we will not have a meaningful level of communication.

Therefore, XML relates to e-learning specifications the way that languages relate to vocabularies. XML ensures that communications *can* happen, but does not ensure that communications *will* happen.

The terms and phrases different industries use and the way that different industries look to organize their content vary widely. Unless common categories and terms are adopted, it will be difficult to aggregate content from different sources.

Elise Olding, vice president of the Hurwitz Group's knowledge, e-learning and collaboration practice, recently stated: "The Dewey decimal system has worked well, but e-learning content is like going to the library and finding all the books on the floor. Standard taxonomies will need to be industry-specific and flexible enough to allow for frequent updates and new concepts. This will pave the way to integrate not only learning content but content from other sources."

A common way to identify, express and communicate the same values is the goal of many of the e-learning specifications efforts.

The last point to remember is that specifications almost always act as an umbrella, covering in specific terms a number of related tasks and functions. For example, the term "AICC Compliance" may be one of the most abused phrases in e-learning. Here is the gory detail:

The AICC specifications cover nine major areas, including CMI Systems (aka LMSs), Assignable Units (aka learning objects), and CBT Courses (aka learning tracks or program).

The term "AICC Compliant" means that a training product complies with one or more of the nine AICC Guidelines and Recommendations (AGRs). Since there are nine different AGRs, the broad claim of AICC compliance needs further clarification.

Aren't you glad you asked? Other specifications are structured in the same way, so it is important to be precise (or to request clarification) about exactly what a compliance claim actually means.

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The players

The cast of characters includes:

- *AICC*. Aviation Industry CBT Committee was originally designed to standardize instructional material for aircraft manufacturers and buyers, and even pre-dates computer-based training itself. AICC covers how content units (learning objects) communicate with learning content management and LMSs.
- *IMS*. The Instructional Management System has been working as a group for three years. The most mature section covers metadata tagging – how the content is tagged and identified. Other specifications include enterprise, content packaging, user profiles, and question and test. The IMS metadata specification may soon have the distinction of being the first official e-learning standard, as it has been brought into the IEEE and ISO standardization process by Wayne Hodgins of Autodesk.
- *SCORM*. Shareable Courseware Object Reference Model is an effort that has grown out of the US Department of Defense. SCORM describes the ways content units relate to one another, allows for extreme degrees of granularity, is extensible, and has included the AICC and IMS specifications as part of its overall structure. It was developed to solve the government's problem regarding the lack of interoperability with training materials, but the group wisely sought feedback and guidance from e-learning industry participants.
- *LRN 2.0*. Learning Resource iNterchange 2.0 is a Microsoft initiative launched recently. Similar in many ways to SCORM, LRN 2.0 has adopted the IMS content packaging format, and prescribes a format for navigation bars and tables of contents. This can be useful where a company wants to present a consistent look when using content from multiple vendors, but currently requires Microsoft Internet Explorer 5.01 or higher.

There is some overlap between the efforts of these different groups. However, in June 2001, leaders from all of these groups met and agreed to begin to reconcile their differences and areas of conflict.

What does it mean?

As the specification and adoption process continues, designers and implementations of e-learning programs can expect a number of specific and significant capabilities:

- *Content portability*. When content has been separated from a proprietary delivery system, the organization can consolidate, organize and track their e-learning initiatives in the LMS of their choice. Because this is true for both third-party custom content, corporations will have greater flexibility and lower switching costs.
- *Granularity*. The new specifications support the learning object methodology, allowing for smaller and more timely units of information. Learning objects adds "just enough" to "just-in-time" learning.
- *Interoperability*. Application interoperability starts where different e-learning applications can share content and tracking data. But, even more exciting, these specifications open up the possibility for different types of applications to swap and access content. A CRM application, for example, should be able to access learning objects from an e-learning application, supporting the users more seamlessly.
- *E-learning and knowledge management*. The first and most obvious use of interoperability would be e-learning and knowledge management applications. On the one hand, an instructor should be able to access an item stored in a knowledge management system, and include it in a learning track. On the other hand, what is content – especially custom content – but knowledge that has been captured and structured for transfer to others? However, without a common foundation, like XML, and a common framework, such as IMS metatags, the effort of mapping data through XML interpreters will prove to be daunting. Fortunately, all of the benefits of the specifications efforts – portability, granularity and interoperability – should form the basis for this convergence.

Your role

As a member of the e-learning community, the question you need to face is: What should

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I do about all of this? First, standards adoption has been identified with the growth of industry options. Second, standards adoption may be the best way to protect your investment and avoid supplier risk.

Recently Ginger Spickler, an equity analyst researching the e-learning industry for Morgan, Keegan & Co., stated: "We believe that the widespread adoption of a set of learning standards will be a critical turning-point for e-learning and will mark the inflection point of dramatic growth for the industry. Companies that are not on board with the standards issue early in the process will, we believe, be at a significant competitive disadvantage."

You have completed the first challenge: Investing time and energy, so you can understand e-learning standards and judge their applicability to your situation. If you judge them to be useful, support them. When designing and implementing your e-learning program, build from the ground up with LRN- or SCORM-based content. Tools are now available that automatically prepare content in LRN and SCORM format and provide the ability to tag content that is IMS-compatible.

Ask your suppliers where they stand on specifications. Do they support them politically? Do they participate in the specifications group? Have they baked this support into their own products, or is it really just lip-service? Nothing will encourage the suppliers to adopt standards faster than customer demand.

Finally, you may want to participate in this initiative. All of the specifications groups are eager for corporate feedback and participation.

The potential pay-off is huge: If what can happen does happen, e-learning as we know it will be transformed. The specifications as they exist today allow e-learning to be woven seamlessly into the texture of daily work. No longer will learning be a discrete event. Instead, learning will support not only everything our learners do in their environment but also at the time and place of their choice. Only specifications will allow us all to achieve the vision of "just-in-time, just enough" learning.