

e-Learning Best Practices

By David Boggs, CEO

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Background:

SyberWorks, Inc. (www.syberworks.com) is a leader in the custom e-Learning Solutions and Learning Management System industry for Fortune 1000 corporations, higher education, and other industries. Located in Arlington, Massachusetts, the company serves the expanding 11 Billion dollar e-Learning segment (1).

Since 1995, SyberWorks has developed and delivered unique and economical solutions to create, manage, measure, and improve e-Learning programs at companies and organizations in the United States, Canada, Europe, and the world.

Author's Biography:

Dave Boggs is the founder and CEO of SyberWorks. He has been involved with computer-based and web-based training for over twelve years. He is responsible for directing the company's overall business strategy and overseeing its financial growth and prosperity. Dave has positioned the company to provide customizable solutions to its customers. These solutions often meld performance support, job aids, reference information, and other tools with e-Learning in one integrated site to increase the productivity of key target audiences such as sales, distribution, and field service.

Before founding SyberWorks, Dave was the VP of Sales and Business Development for Relational Courseware. Dave holds a Bachelor of Science degree in Physics from Union College in Schenectady, NY and an MBA from the Kellogg School of Management at Northwestern University in Evanston, IL.

White Paper Focus:

The e-Learning industry has grown tremendously since the early days of computers and the Internet. Today there are lots of products and services out in the market place from which to choose. This white paper will provide some basic information to help you as you begin your research into e-Learning and learning management systems.

The document is not meant to be the complete source of information on e-Learning nor will these guidelines be suitable for every single situation. This white paper has been created as a learning aid help you get started.

These findings represent the research, experience, and techniques gleaned from working in e-Learning since its infancy in the late 80's to today. At the end of the paper, Bob Goldschneider, Director of Business Development at SyberWorks, Inc., will provide a summary and closing remarks.

Scoping out Your Organization's E-Learning Needs

The first step is to get a clear understanding of your company's e-Learning needs. Below are some guidelines to consider:

Identify e-Learning needs in the broadest possible sense, including tracking, analytics, collaboration, and other important organizational constructs.

Define what AICC or SCORM compliance means for your company so you know what types of functionality are vital for the success of your e-Learning implementation.

Institute a formal process for collecting and documenting needs that require a director level signature.

Select the programs and initiatives that are appropriate for delivery by e-Learning.

Align e-Learning initiatives with current business issues.

Use business metrics to help evaluate and validate e-Learning priorities based on company needs.

Involve the many stakeholders and internal constituencies to achieve buy-in.

Identify e-Learning needs:

Take some time to map out what you think you would need your learning management system to accomplish and whom the system will serve. Think about the potential users and categorize them into groups. How would the e-Learning management system (LMS) meet each of the different user group's needs? Take an initial pass at thinking about the functionality required, but at this point, don't get too enamored by one feature that you think you must absolutely have because the parameters of the project have yet to be set. Try to imagine what other groups in your organization might benefit from using the LMS once it has been thoroughly integrated.

Define what AICC or SCORM compliance means for your company:

AICC standards apply to the development, delivery, and evaluation of training courses that are delivered via technology. AICC stands for the Aviation Industry CBT [Computer-Based Training] Committee (AICC), which is an international association of technology-based training professionals that develops training guidelines for the aviation industry. SCORM stands for Sharable Courseware Object Reference Model (SCORM) is a set of specifications that, when applied to course content, produces small, reusable e-Learning objects. A result of the Department of Defense's Advanced Distributed Learning (ADL) initiative, SCORM-compliant courseware elements can be easily merged with other compliant elements to produce a highly modular repository of training materials.

Determine whether interoperability is important to your company and your e-Learning initiative. Do you have libraries of content you wish to combine that were developed on another system?

Institute a formal process for collecting and documenting needs:

Set up a way to take surveys or gather feedback on your online training initiative from other departments or internal entities that the LMS would touch. It's a good idea to have the recognition and approval of the various directors in the departments that would be stakeholders in your online training initiative to gather this information. Obtaining director level signatures along the way while gathering data for various capabilities that may be requested is a good way to communicate the importance and priority of your online e-Learning initiative. It also helps to set the stage, shape expectations, and creates pre-implementation documentation that could help you justify your costs internally to your CFO or Controller who may not be accustomed to seeing a line in your budget for online training.

Select the programs and initiatives that are appropriate for delivery by e-Learning:

Like the Internet, traditional media, or any other mechanism for communicating and conveying information, certain types of media are NOT appropriate for conveying certain types of information. This construct also applies to e-Learning. Once you have identified the programs you would like to target with your e-Learning initiative, it's helpful to set up a test plan that compares users learning the material in traditional settings or mechanisms vs. online so you can accurately assess the effectiveness of delivering a course or certain types of training online.

The information from the tests will also help you improve your traditional and online e-Learning initiatives. As you and your staff grow in its knowledge and experience in applying e-Learning to your programs, you may be able to come up with ways to apply e-Learning to materials that you originally designated as not appropriate for e-Learning or create highly effective training that incorporates both traditional and online e-Learning techniques.

Align e-Learning initiatives with current business issues:

Today's business environment is very competitive. The growth and influx of technology in every area of business has increased overall productivity and results. Budgets and cash flows are scrutinized with the latest applications and analysis techniques. There may not be any extra dollars available for programs that do not contribute to the bottom line.

Your organization's current business issues are in some way connected to your company's financial existence. Your boss, the CEO or the CFO may be more inclined to be supportive of your e-Learning initiative if it will help them cut costs or help to achieve the sales growth required to reach the company's goals.

Use business metrics to help evaluate and validate learning priorities:

Use numbers and statistics that make sense to most managers when building a case for your e-Learning initiative and learning priorities. For example, your department analysis tells you that you currently have a 35% failure rate for every new sales person that starts at your company. You know that it costs you approximately \$15,000 (probably even more when you figure in hidden labor costs, opportunity costs, etc) to bring a qualified sales person on board. If you start an average of 2 sales people a month, your company has lost \$126,000 over the year. If in the first year you reduce the failure rate just 5% you have saved your company \$18,000 or 15% and even more if you start looking at other metrics that are impacted by your LMS initiative like lost production time, etc. If you reduce the failure rate to 20%, you have saved your company \$54,000.

Involve the many stakeholders and internal constituencies to achieve buy-in:

After you have solicited feedback from various departments on their e-Learning needs, it's a really good idea to go back and share your findings with them, how you arrived at setting your e-Learning priorities and how their feedback was constructive to the process. The IT department must be included in your process at every juncture, especially in the evaluation phase of the project.

Evaluating E-Learning Platforms

View platform decisions as long-term investments understanding the TOC (total cost of ownership).

Emphasize the value-add elements of the platform to drive acceptance.

Start with the minimum standard appropriate for the situation and work upwards based on requirements.

Practice a bandwidth stingy; no plug-in approach unless the parameters of the initiative call for otherwise.

In line with a no-plug-in philosophy, consider easier-to-use authoring tools that do not require a lot of programming knowledge and support rapid content development.

View platform decisions as long-term investments understanding the TOC (total cost of ownership):

When assessing various systems, try to understand the total cost ownership associated with each of the platforms you review. Generally, cost-of-ownership factors vary according to technology and environment. The costs are categorized as direct and indirect. They are incurred throughout the life cycle of an asset, including acquisition, deployment, operation, support, and retirement. TOC is an excellent way to establish a baseline for your LMS initiative.

Emphasize the value-add elements of the platform to drive acceptance:

Spend time stressing the benefits that will be gained by the various groups in your organization in relationship to specific aspects of the technology as it relates to job performance. For example, highlight the blended learning functionality with your organization's trainers who run traditional training programs so they can begin to visualize how they would incorporate the LMS into their brick and mortar training events.

Start with the minimum standard appropriate for the situation and work upwards:

Begin with a baseline of requirements and add features as required. Extra functionality is terrific if it fits with your LMS initiative's specifications. Adding unnecessary complexity to your system as you are working to get your online training initiative off the ground could sabotage your efforts. Generally, the adage 'walk first before you run' is a good rule of thumb when applied to LMS initiatives.

Practice a bandwidth stingy; no plug-in approach:

This type of approach will help to insure that your online training program can be easily accessed online and used by the largest possible audience. But, if your LMS requirements call for specific functionality that requires more bandwidth or a unique application, then follow your project specification.

Along with a no-plug-in philosophy, consider easier-to-use authoring tools:

Even with the popularity and predominance of the Internet, not everyone knows or has the time to learn HTML or Dreamweaver. Course authoring tools that are easy to use remove any real or imagined barriers that trainers, instructors, or any other stakeholders may have using your LMS technology and supporting your online training initiative.

During your LMS Implementation

Actively lead and manage the process.

Practice strong process management techniques and document along the way.

Partner with internal and external vendors.

Develop a suitable skills base for e-Learning.

Actively lead and manage the process:

Like any other project management implementation, your LMS initiative needs to be lead and managed. It is helpful to have and cultivate internal champions that will support your e-Learning initiative along the way. They can be a great source of guidance and strength as you work to implement your online training program.

Practice strong process management techniques and document along the way:

Standard, proven process management techniques are equally effectively in LMS implementations. Documenting the various stages of your LMS implementation will provide you with the information needed to leverage the various aspects of your online training program with various stakeholders as it is being developed.

Partner with internal and external vendors:

Partnering with internal and external vendors will work to insure that your deliverables are met on time and in line with your mutual goals and objectives. Partnering with your vendors can help you to save time and money. It also helps to maintain standards across the entire enterprise.

Develop a suitable skills base for e-Learning:

Even though your organization has preliminarily identified the training programs designated for your e-Learning pilot initiative, begin to identify and collect appropriate content pertaining to various skills that have been identified as critical to success for your organization and its activities. Gathering a working library of skills content that is already being used in different programs and activities across your organization will help you to save time, standardize your message, and consistently deliver key areas of knowledge.

Building and Programming e-Learning Content

Define a set of company standards regarding the look and feel of screen displays.

Use a disciplined planning approach to design that includes paper prototyping, outlines and storyboards.

Consequential interactions should happen within the “5 minute 3 screen” rule.

Program developers should work in teams, never alone.

Perform extensive user testing.

Define a set of company standards regarding the look and feel of screen displays:

Establish the visual characteristics that are important to your LMS implementation. Identify the color scheme for your online courses. Clearly categorize all functional and graphical metaphors used throughout the development of the course. Establishing the look and feel of the display screens in advance will help you to keep your course development team focused throughout the development of your online content.

Use a disciplined planning approach to design that includes paper prototyping, outlines, and storyboarding:

The course content must be organized so that it can effectively map into the learner's mind. Paper prototyping, outlines, and storyboards are great tools to use when putting together an online course. When you use paper prototyping, outlines, or storyboarding, it puts the information into different mediums and gives you another way to assemble the order of the data. These techniques help drive course designers and developers to think through the execution of the course.

Significant interactions should happen within the “5 minute 3 screen” guideline:

As Jacob Nielsen, the world's most renowned expert on usability states, “People rarely read Web pages word by word; instead, they scan the page, picking out individual words and sentences.” (2) Users are easily distracted and can lose focus. The “5 minute 3 screen” guideline sets a reasonable pace for the learner to move through the material. (3) The “5 minute 3 screen” guideline is that within 5 minutes timeframe; an online learner should be go through 3 screens of content.

Program developers should work in teams; never alone:

Several advantages exist when working in development teams. Working in teams provides a safety net, because it's easy to miss things when working alone. Development teams are in a stronger position to come up with a variety of solutions to work through problems and challenges. The actual course development execution can be spread amongst a group of people. This helps your course developers from becoming overwhelmed. In addition, one or a few of the team members can pick up the slack should one of the other team members not be able to complete their deadlines.

Perform extensive user testing:

User testing is essential to any type of online development, especially in an e-Learning context. It's important to develop a usability-testing regimen that evaluates the usability of your online content and system from the perspectives of the different types of LMS users. Your LMS systems administrator would have different needs and concerns than one of your online learners or an instructor. Usability testing criteria must be established for each of the various groups so you can get an accurate assessment of your LMS implementation and make any necessary modifications before you roll out your program.

LMS Selection Criteria

Below is a general list of features and functionalities required in varying degrees for most organizations:

- Infrastructure Features (How it will work with your internal IT framework).
- Collaboration Features of the Software (Enabling learners and instructors to work together virtually in real time).
- Curriculum and Certification Management (Tracking certification, and customized curriculum delivery based on job information).
- Database Information (Open standards and non-proprietary database).
- Customization (Has your company's look and feel).
- Distribution and Deployment (Allows the storage of educational assets, storage and printing of Word and PDF documents, tracks different types of learning events).
- Financial (Tracking of per student costs, tracking back to cost centers, shows class fee structures, and tracks course development costs).
- Information Management (Track attendance at outside seminars, stores training history, manages class rosters, and web-enabled management.)
- Interface (Windows Explore type interface).
- Integration (Can share information with other company wide ERP systems).
- Learner Functions (Book marking, students can print schedules, and accomplishments to date).
- Notification (Managers and students receive email triggers concerning upcoming classes).
- Registration (Wait lists, minimum and maximum enrollment lists, cutoffs for registration).
- Reporting Capabilities (Robust reporting, customized reports, user can access some reports, and managers can create their own reports).
- Resources (Glossary of terms, frequently asked questions, job aids, and online help).
- Schedule and Manage Resources (Manage resources in a physical library, instructors can be assigned to classroom, and "To Do" lists can be created for a course.)

LMS Selection Criteria, Continued

Standards (System adheres to industry standards in terms of interoperability).

Support (Support line, implementation support, and consulting services).

Testing (Contains testing system, random questions, different question types, and actions are initiated based on test results). (4)

Closing Remarks

By Bob Goldschneider
Director of Business Development
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More and more companies today are turning to e-Learning solutions to meet their training and knowledge management challenges. Online training yields large dividends that result in reduced employee turnover, decreased new employee ramp-up time, productivity, actual cost savings, return on investment (ROI), and more.

The previous pages are a basic primer developed to give you an overview of the process of preparing, selecting, managing, and supporting your e-Learning initiative. It is our hope that the material provided has given you a jumpstart to planning your online training program. If you have any questions or comments, please feel free to email me at bob_goldschneider@syberworks.com or call me at 781-646-7496.

Bob Goldschneider's Biography:

Bob Goldschneider has over 25 years experience in corporate training and educational services. He has served as Director of Educational Services and Director of North American Sales and Service for the Open Software Foundation. He built their Educational Services division from the ground up into a multi-million dollar business. He also served as Director of Educational Services at Apollo Computer and Training Development Manager for Wang Laboratories where he managed a staff of over 50 instructors, course developers, video producers, and graphic designers.

(1) "2003 e-Learning Survey", Taylor Nelson Sofres plc, London, United Kingdom, 2003.

(2) Jakob Nielsen's Alertbox for October 1, 1997. <http://www.useit.com/alertbox/9710a.html>

(3) "The e-Learning Developers Journal", March 2003, page 3.

(4) *New England Learning Association (NELA)* Newton Marriot, February 19, 2004