

Addressing the Content Gap

“Corporate e-learning initiatives are being
threatened by a pervasive gap in content.”

– Elliott Masie, the Masie Center

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Introduction

One of the largest issues facing e-learning today is the "Content Gap." Elliot Masie of the Masie Center for Learning and Technology sums the problem up best - "Corporate e-learning initiatives are being threatened by a pervasive gap in content. Large-scale LMS implementations, along with the ROI expectations that accompany them, are falling short precisely at the moment when 'off the shelf' content options are exhausted. E-learning becomes a much clearer value proposition when corporations are able to harvest their own intellectual capital and easily convert those assets to learning content."

Simply put, there are two types of e-learning content – off the shelf and custom. If your company has a Human Resources process of holding fire safety courses, for example, this content can be purchased from a company that creates, and sells off the shelf content. Off the shelf content is perfect for generic safety, environmental, and health subjects, in addition to many IT certification courses. Purchasing this content outright or using an Application Service Provider (ASP) model is very helpful, and can, without question, save time and effort. This content, for all intents and purposes, is packaged and usually non-customizable.

From a customer's perspective however, does generic content always provide the most value to a training organization? According to research firm IDC, "Although general knowledge provides a necessary baseline, proprietary knowledge provides companies with competitive advantage."

For your company's learning content to drive competitive advantage, it must be specific to your organization. Outsourcers that will develop custom content provide a useful service, and for the right price, will create and even deploy training. At some point however, almost every company will need to have learning content created in-house because the expertise and know-how exists with their employees and through their internal processes.

To most observers, the content gap refers to the lack of quality internal content that represents the intellectual assets of an organization. While that is true, the content gap is much wider than this

cursory glance would lead one to believe. Most enterprise problems can be approached and solved from a People, Processes, and Technology perspective. The content gap problem is no exception.

The questions that a company interested in improving its learning initiatives should be asking are - who is creating your content internally? Is there a standardized platform in which to store the content? What processes and procedures are in place to ensure standardization and measure quality of the content? How is the content managed? Can it be easily reused?

The intent of this white paper is to address some of these questions through real-life examples and to demonstrate that a comprehensive approach – one that focuses on the people, processes, and technology associated with the content, in addition to the content itself – is the only way to close the content gap.

"Corporate e-learning initiatives are being threatened by a pervasive gap in content."

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Technology

Like every industry, the learning market has its share of acronyms – SCORM, LMS, AICC, RLO, LCMS, etc. There are dozens of quality white papers and articles explaining what these are and why you should care about what they are. The fact is, between packaging, technology adoption curves, development capabilities, and a plethora of other reasons, it can be an exercise in futility to try to categorize any particular learning product or vendor. But, it is a safe bet to state that if you are focused on addressing your content gap you will need products and tools to create/author, manage, and deliver content, and that enable you to comply with your key standards. The section below is intended to be a quick overview of the technology for each of the categories – author, manage, and deliver – to help you to determine what is necessary for you to implement a learning platform that helps you create and maintain a competitive advantage.

Content Creation/Authoring

The first technology to examine when addressing your learning content gap is content creation and authoring. A phenomenon has occurred in the market that is creating barriers to getting projects started. That phenomenon is that vendors and then subsequently buyers, are making the content creation challenge overly complex. Solution discussions often start by talking about learning objects and then get more sophisticated. This creates the incorrect impression that you have to have a comprehensive learning object strategy and need to create all content as a learning object in order to address the content gap. This is simply not the case. The best approach to selecting content creation technology is to think of content development as a spectrum for which there are different tools for different requirements.

Most companies have proprietary processes, systems, and technology that require them to create their own learning content. Practically speaking, the skill sets of resources authoring the content are often as varied as the content itself, and the majority of proprietary content is being "authored" by tools such as Microsoft Word® and PowerPoint®. Take a look at how your subject matter experts are authoring content. Rather than impose a technology change on them, and perhaps impact productivity, consider selecting content creation technology that can readily capture or import your rich stores of content for reuse in your learning initiatives.

As you continue along the content creation technology spectrum, you will evaluate products that enabling authoring of very specific kinds of content – such as Flash or simulations. These can be a tremendous way to help close your content gap. There are also tools that enable simple and rapid development of e-learning courses. And finally, there are solutions that make possible the creation of learning objects in a collaborative, distributed development environment.

Ideally, you will use a mix of whatever products make the most sense for your content and authoring needs. Remember to consider how you want to acquire them - either as part of a product

family from a single vendor or separately (making sure that they comply with standards which make them interoperable).

To help you determine what development tools you need, decide which of the following are important to you and make them part of your selection criteria.

Robust Support for Content Created with Other Tools

If you have content today and plan on having content in the future that has been developed with products other than your learning content creation applications, then you must be sure that your learning content creation application can import and manage that "external" content. By ensuring this, you broaden the audience that can be authoring content (because they can use their tools of choice) while also making that content a reusable asset for your total learning strategy.

Multiple Development Models

Go back to some of the questions raised earlier. Who authors content? Are they local or in a variety of locations around the country or even the world? Are they always connected to the network? Are you connected to the same network? How many people are involved in creating a course at the same time? The answers to these questions will help you determine what kind of development options you need. Do you need simple, stand-alone authoring, team-based collaborative development, or both? Make sure that your technology choice gives you the development flexibility you need to be successful.

Reusable Content

Reusable Content in the industry refers to the ability to reuse content that is developed and stored in an object model for different courses or audiences. The ability to reuse these objects is very much based on how well the objects are designed with regards to being stand alone content as well as how well the objects and components are tagged against metadata in order to search for the objects. An object in this case might be an entire course, a block of text, a multiple-choice question, or a .jpg image. Any of these objects are stored in a relational, searchable database, and can be reused.

This is ideal for deploying the same course in many languages, for example, or for creating course updates as products and processes change within an organization.

A Central Learning Repository

Today information is likely to be in silos – manuals in Microsoft Word® documents, presentations in PowerPoint® files, or worse – in hard copy filed away somewhere. A central repository is fundamentally like any other database – it's only as valuable as the content it contains. A well-designed learning repository can both store new content and manage legacy content. A central repository also helps protect against the potentially devastating loss of "thought capital" that comes with heavy employee turnover, promotions, etc. Once a learning object is created, it should be "inherited" and owned by the individuals in the organization that own a particular process or subject area.

Content Management

Simple and effective content management is vital to your learning initiatives. The extent of the management capabilities you need will be driven by the scope of your learning strategy. An enterprise learning strategy requires more sophisticated content management than a workgroup learning strategy. Ideally, you select technologies that enable you to have the proper amount of content management capabilities needed for the type and amount of content you are creating with the product.

Content management capabilities to maximize reuse and tracking are:

- Configurable metadata management to allow for the creation of a metadata tagging schema that supports any combination of industry standards and corporate standards
- Granular objects of any type and level can be linked and reused
- Visual object reuse reporting and navigation
- Complete object history and versioning with the ability to restore
- Object check-in and check-out with locking and synchronization

Content Delivery

Your learners – be they employees, partners, or customers, want to receive personalized learning content in the format most convenient for their work environment and learning style. By meeting their needs you maximize their learning thus increasing the effectiveness of your learning initiatives. Some areas to consider when deliberating your content delivery needs are:

Flexible Content Deployment

Does content need to be delivered through a wide variety of media to accommodate a blended learning strategy? What formats are needed? Do the technologies you are evaluating require any additional development work so content can be delivered in the following formats:

- Online courses via the Internet or Intranet
- Microsoft Word® and other print documents, formatted with table of contents, chapter breaks, and appendices
- Microsoft PowerPoint® slides
- CD-ROMs
- Downloadable bundles for offline viewing
- PDA device
- SCORM - content can be packaged in accordance with SCORM standards for easy transferability

Personalized Delivery

Personalized delivery automatically tailors learning content for different audiences. Content can be adapted to suit a specific learner's profile, role, or other stated preference. This personalized experience incorporates both the content itself as well as the navigation paradigm. For instance, a core set of content may be developed with various audiences in mind. While subsets of the content may be appropriate for everyone in the organization, others may be suited only to certain departments, such as sales or professional services. Similarly, there may be subsets of content that are suited for an employee while others are more appropriate to a customer.

Flexible Learning Paths

Research has proven that how we as individuals learn is widely varied. Advanced content delivery technology will have enough flexibility to "serve"

the correct content based on courses completed, or questions answered correctly or incorrectly. The result is the ability to fill knowledge “gaps” for employees, indirect sales channels, and even customers.

Standards

SCORM, or the Sharable Content Object Reference Model, is rapidly becoming the de facto standard architecture for learning systems. The SCORM standard effectively guarantees interoperability between disparate learning systems, increasing the reusability and therefore shelf life of learning content. Any product that is SCORM (Sharable Content Object Reference Model) compliant will have the ability to tag individual components as a reusable learning object. An object in this case might be an entire course, a block of text, a multiple-choice question, or a .jpg image. Any of these objects are stored in a relational, searchable database, and can be reused. This is ideal for deploying the same course in many languages, for example, or for creating course updates as products and processes change within an organization. Companies conducting a package selection exercise should require that their system of choice be SCORM 1.2 compliant.

Another common standard is AICC (Aviation Industry CBT Committee). While originally developed to create standards for computer-based training for the aviation industry, their approach to standards appeal to multiple industries because it provides a solid basis for interoperability.

“...corporate customers...need a way to efficiently turn their proprietary knowledge into content...”

IDC White Paper: The Learning Content Management System

System Integration and Implementation

Your learning content technologies can be implemented stand-alone, but the true effectiveness and value of learning can only be realized when the content development, management, and delivery are integrated. It is best when the integration is part of the vendor offering, such as an integrated product family, though you can endeavor to undertake integration yourself.

Some other integration needs to evaluate are whether or not you have an LMS (learning management system) that you wish to integrate with your learning content technologies. What kind of integration is needed and do the vendors have any experience with each other? Is there a need to integrate with the company’s Human Resources Management System (HRMS) to maintain the integrity of central HR information? In addition – many companies, especially those with an indirect sales channel – are finding that integration with their Customer Relationship Management (CRM) database is critical.

Platform and Deployment

Deploying proprietary learning should, at a minimum, be performed over the web. A browser is the ideal client for e-learning applications – the client is thin and ubiquitous.

Further, companies that develop a great deal of proprietary content should look hard at implementing behind their firewall for security reasons. But, remember to consider the location and what kind of network access your learners have. You may have to have a CD-ROM solution available as well for learners that are remote or that have slow to no network access.

People and Processes

A learning content solution is an enterprise solution. Just as a company's ERP and CRM implementation triggers a reexamination of processes, roles, and responsibilities – addressing the content gap – should not be taken lightly. In short, in order to reach full return on investment, it is essential that an enterprise's learning implementation be treated as a total solution. While discussions of technology can generally stand on their own merits, people and processes are inevitably intertwined. A thorough people and process assessment will help to answer questions such as:

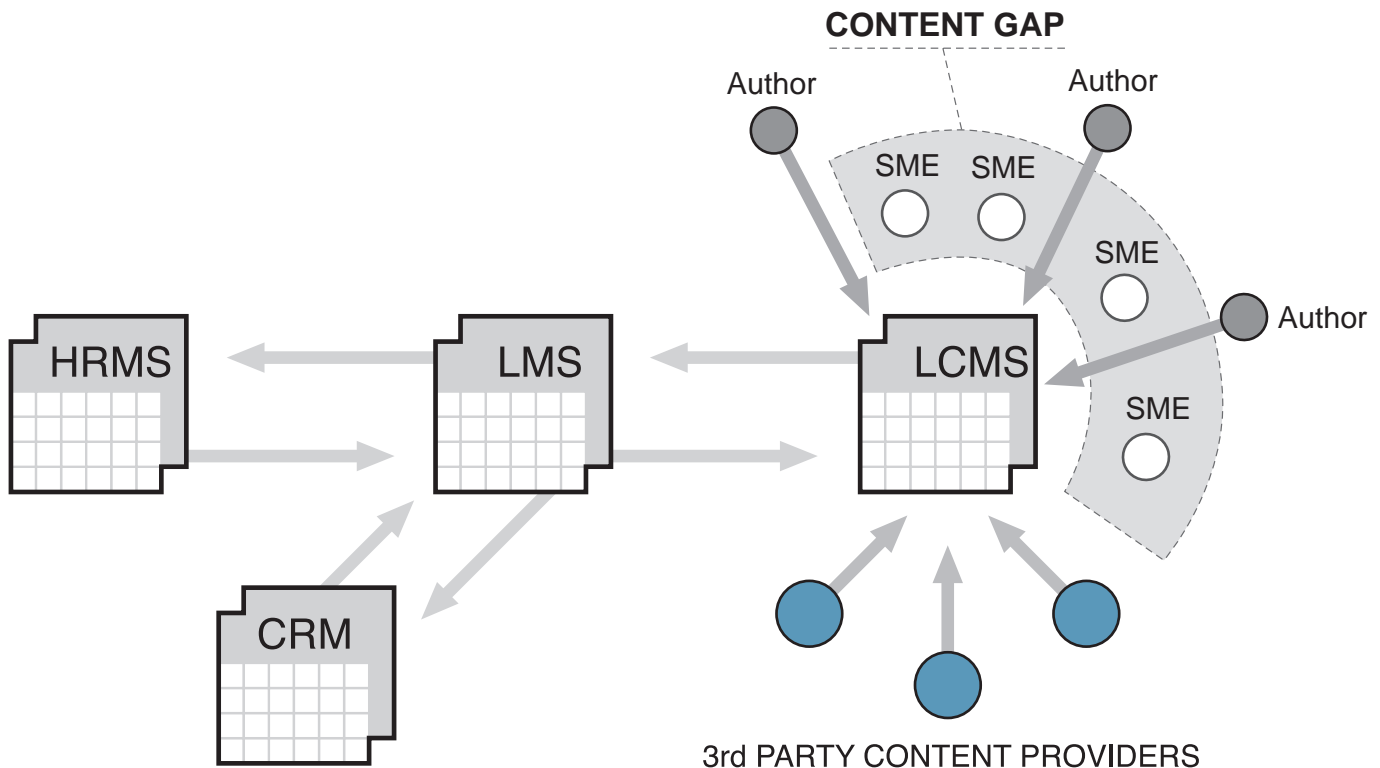
- Who are the content authors?
- What content will need to be converted/imported to the new system?
- What external systems will need to be integrated with the new content applications?

- Who owns and maintains the new system?
- What policies should be enforced to maintain a high quality of content?

Some companies enforce a tight policy around authorship; others offer incentives to all of their employees to create and submit content. Once a company can successfully answer who their designated authors are, and what standards and policies they have to adhere to, they have come a long way in addressing the content gap.

People and Processes: Case Studies

The following real-life models are intended to illustrate two concepts: first – the differences with which companies approach training and training content, and second – that each company highlighted here would benefit immediately from updating their learning tools and processes.



Model One: Sophisticated, Top-Down Training Organization

Stratified and formal training organizations are becoming more common as leading practices in learning evolve. In one such company, a multi-national energy corporation, the training department is top-down, and authorship is strictly controlled. In this model, the CKO (Chief Knowledge Officer) or CLO (Chief Learning Officer) has several direct reports, each of which presides over training for a certain product/service offering for the company. Reporting indirectly to the process owners are the SMEs (Subject Matter Experts) that actually own and author the content. The SMEs collect, collaborate, and revise the training content, then deploy it to small groups to test effectiveness. Most of these company's SMEs are non-technical individuals. However, they are familiar with most basic Windows programs – so they require tools that are easy-to-use, but still flexible enough to have control over content layout and look-and-feel. These SMEs have other full-time responsibilities and career paths, and therefore are often unavailable to revise and edit their original material.

Pros

This corporation is ahead of most from a technology standpoint. They have implemented and utilize a SCORM-compliant LMS. They have addressed the question of who controls course authoring and have a definite path for quality assurance and accountability to ensure consistent quality.

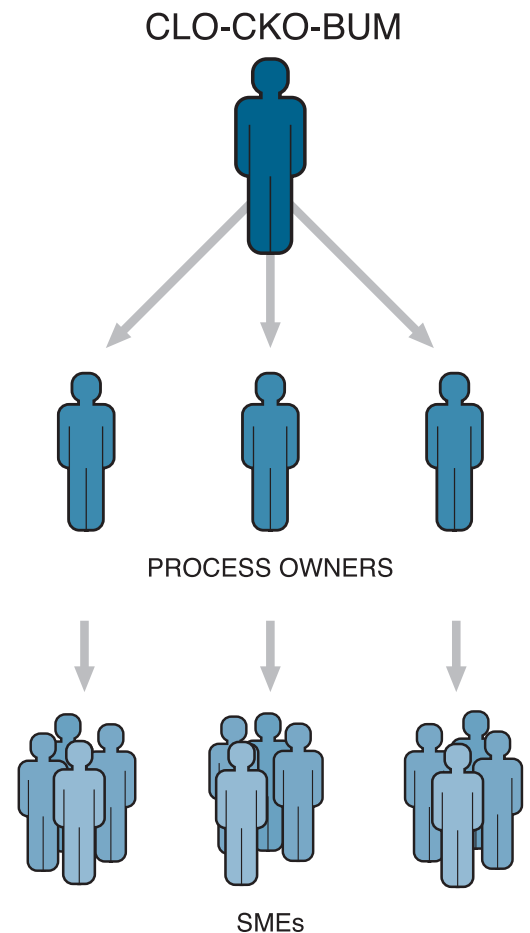
Cons

Courses are in many folders across the network and are only organized by pointers to the files that are maintained through the LMS. The training department has a clear and present demand for proprietary content – yet they use numerous tools to create the content. The varied authoring tools and the lack of a central repository have caused rapid content entropy in the organization – where the authors have no standards to follow, and hours of authoring work is lost or never reused.

Value Proposition

Implementing an integrated learning content application with a standard authoring tool would provide a great deal of value to an organization that is poised to become a world-class learning organization.

“Stratified and formal training organizations are becoming more common as leading practices in learning evolve.”



Model Two: Disparate Training Processes, Uncontrolled Authorship

This organization, a leading entertainment company has not invested in an enterprise learning platform. Up to now, most of the content created over the past several years has been IT systems training content started from scratch, or was content delivered by a consulting firm that has since completed its engagement and left the company. However, implementing an e-learning platform is becoming more important to the organization, as its largest customers are demanding more product information before its release. Sales are becoming more competitive and end-users are hungrier for more information – building an e-learning infrastructure can give this company a competitive advantage. Most of the content that they will need to deliver must be custom.

Pros

Despite the lack of a cohesive policy around training and learning, this company recognizes the immediate value that a comprehensive platform will bring. They only allow certain select individuals the rights to author content – an impressive internal multimedia shop that can produce high-end graphics, but that are otherwise non-technical.

Cons

Most of their existing content is not reusable at present. An effective content development, management, and delivery implementation for this organization would need to include a mass conversion of legacy training content. The number of actual LMS seats would be relatively small, but there could also be time and expense associated with integrating the CRM database with the learning platform.

Value Proposition

The company is in a position to recognize the value of a learning content application implementation almost immediately. The company stands to recoup the investment quickly, as the template-driven nature of the learning will allow the content to be reused for other courses, and their customers will be immediately empowered to sell new products.

Model Three: Universal Authoring Rights

Some companies, like this consulting firm, create incentives for their employees to add learning content to their “knowledge base,” an integrated product family for learning content. Any consultant, after an engagement, is encouraged to add to the knowledge base by submitting sales presentations, system designs, and other engagement related documents. Often, these submissions are ranked for quality, then added to the company learning repository as required learning for consultants in a certain service line. The company’s LMS has an authoring tool, but it is considered to be useless. Almost without exception, these documents are created using Microsoft Office tools. The business intent is to reuse and leverage this valuable industry knowledge by making it searchable and available to the entire firm over the shared network. In this model, every employee qualifies as an author.

Pros

The advantages to the system are the cultural emphasis surrounding knowledge retention, the ease of submitting a valuable object of knowledge to a central repository, and the links to more quality content served over the LMS.

Cons

The disadvantages are clear – a complete lack of standardization, the maintenance overhead associated with the vast number of submissions, and the questionable quality and “fit” of a submission intended for reuse that must ultimately be recreated.

The results of these disadvantages are that, like a knowledge black hole, the knowledge goes pouring in – but very rarely comes backs out. In short, the would-be benefits of the learning culture that this company is attempting to institute are not being realized almost entirely due to the lack of solidly defined roles, responsibilities, and processes.

Value Proposition

For those submissions that are to be learning oriented – tighter process controls and authorship would increase the quality and reusability of the content. A standardized and easy-to-use authoring environment in conjunction with fewer designated authors would vastly improve the value of this company’s learning assets.

Case Study Summary

Each of these three models has one thing in common – custom content must be created. The ideal candidate(s) to bear this responsibility are of course, individuals in a corporate training environment with excellent Windows-based skills. Realistically speaking, many of the people creating the custom content will be non-technical. It therefore follows that, under pressure to deliver content, these individuals would require a robust, easy-to-use authoring environment that can produce quality content, suitable and available for a broad audience, in the least amount of time. Similarly, the product family they choose must also provide an easy way to convert and import legacy content, or content that was created outside of the system. Regardless which of the above models most closely represent your enterprise: corporate learning will be the most effective when:

- A cohesive learning organization is in place with identified roles and responsibilities
- Processes and policies for creating, posting, and accessing content are defined and documented
- Easy-to-use, standardized, and collaborative authoring environments are available for the individuals who have been designated as authors.

Conclusion

There is an over-used axiom in the e-learning industry – “Content is King.” To call the content itself “king” would be analogous to calling widgets sitting idle in a warehouse the most important corporate assets – in one sense this is true but it is a vast oversimplification of learning. To realize the ROI that learning vendors and evangelists predict – interested parties must be committed to taking an enterprise view of their learning organization. Assessing the technology available to create, store, and serve content is obviously a start. A more accurate – and ultimately successful vision – would decipher and predict where and by whom the content will be produced. Further, for internally produced content, the stakeholders must map out and enforce the processes, roles, and responsibilities that will ultimately dictate the quality of the content and the overall success of the enterprise’s learning strategy. Once this is done, the corporation will have conquered the content gap and created a standardized and scalable e-learning platform that can provide the right content to the right audience at the right time.

Endnotes

- i “The Learning Content Management System: A New eLearning Market Segment Emerges,” An IDC White Paper. Michael Brennan, Susan Funke, Cushing Anderson, Analysts.
- ii Ibid

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