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Saving Content, Saving Time: Streamlining Training With Content Reuse

By Meryl Natchez

Technology is rapidly eliminating the barriers to content reuse. An organizational culture shift toward accepting this new paradigm is the final piece of the puzzle.

Software tools have made it possible to build entire documents with reusable chunks of information. This means that writers can develop, edit, and refine a product overview, and then insert this consistent overview into all relevant documents about that product.

Perhaps even more remarkable, documents can be structured so that updates to a single section are propagated to all documents in which that section appears. Although these tools and techniques are available for training materials, the industry has lagged in implementing them.

Throughout the last 20 years, training delivery has enjoyed enormous advances. Beginning with HyperCard for the Macintosh in 1987 and ToolBook for the PC in 1990, instructional designers have seen a wide array of applications for developing and delivering engaging online courses. Today, the options are overwhelming. Learning professionals can create virtual reality simulations, mobile learning applications, Web 2.0 environments, avatars, and Web 3.0 intelligent objects with context-sensitive instructions. But after all this time, there has been relatively little change in the most frustrating and time-consuming aspect of instructional design—gathering and maintaining accurate content.

Instructional designers still rely heavily on subject matter experts and create content largely in isolation from developers and technical writers. This is true for companies that maintain full training departments as well as those that outsource training. As a necessary (and costly) evil, training remains a stepchild, as opposed to an honored member, of the corporate family.

Because of this tenuous relationship in the corporate structure, the technological innovations in content development have largely bypassed the training world. While skilled technical writers have been honing their skills in structured FrameMaker and Darwin Information Typing Architecture (DITA), instructional designers still tend to rely on a basic suite that may include Word, PowerPoint, and proprietary authoring tools. Generally, instructional designers need to develop training content from scratch, as opposed to capturing it from a library of approved content shared between developers, marketing staff, technical writers, and training professionals.

Starting at the source

Still, without learning complex tools or new technologies, some simple process changes can begin to transform the corporate knowledge base from disconnected islands to a united community. Let's start with the basic concepts of single sourcing and content reuse.

Single sourcing is the practice of using one document in many media. For example, if you make a document available and searchable online and also allow users to print the identical content as a PDF, you have created a single-source document. It is one set of text available in multiple formats, and the only change is the output.

Content reuse is the act of taking a portion of content and reusing it in multiple documents. The content may be slightly customized based on its use, but it comes from one central source. For example, a glossary entry that defines a term might be used in multiple documents, or a product overview developed by marketing might appear both at the beginning of a user manual and in a training session. The same content can be reformatted as needed, and one could even modify the content to fit the new use, without changing the source.

Intelligent content reuse has the potential to improve the development of instructional design in the same way that online tools have streamlined content delivery. The term "single sourcing" usually encompasses the combined system of structured content reuse and multiple outputs.

This concept sounds simple and logical, and documentation teams at many companies are already structuring their information according to this model. Technical writers analyze content, standardize rules for how to name and codify chunks of information, and work with development teams so that product and marketing documents are interwoven with product development. However, the instructional designers rarely take part in this process. Sometimes, the tools themselves form a natural barrier. Instructional designers may have learning management systems to store course content. Writers may have XML-based tools or content management systems to store documentation. But these tools are simply organizing methodologies. They should not interfere with content reuse.

Getting on the same page

The first step to intelligent content reuse calls for defining common content. Is your organization already developing content that instructional designers could use in training materials? Such content might include any or all of the following:

- corporate overviews
- mission statements or other guiding principles of the organization
- product overviews
- specific procedures
- manuals (user, administrator, installation, or developer)
- glossaries.

If your training materials could benefit from incorporating any existing content, then building collaborative processes is essential to streamlining development. Instead of recreating content, the training team can lead an initiative to define common content and create a shared library of approved content. To some extent, as long as content exists in electronic format, the specific development tool is irrelevant. Tools exist to convert content from most formats to most other formats. The most important factor is defining approved content chunks. The practice of defining the content and how it fits together is often called “taxonomy.”

If the documentation team at your organization is using single-sourcing tools, they have completed the groundwork for developing and structuring approved chunks of information, which may involve brand and legal resources as well. Once you have approved information, you can start the reuse process.

Ideally, you can identify a toolset for your organization that can prepare the approved content chunks for the appropriate documents. The initial objective is to identify the reusable edited and approved content, tag it, and use tools to transfer it to the appropriate place in your training materials. FrameMaker can output to any markup format, including PDF, and the basic DITA toolset can output to multiple formats, including

- PDF
- XHTML
- Microsoft Compressed HTML Help
- Eclipse Help
- Java Help
- Oracle Help
- rich text format (RTF).

Any other formats are programmable. Conditional text allows for modification based on your specific criteria. Developers at your organization can help identify the tools to automate output. The end result is content for training development that is derived largely from materials that already exist. Even more important, content is linked to output. That is, if the underlying content changes, the content is automatically flagged for update in all output formats. This eliminates the need to search files and make changes to them for a new product release or a new procedure.

Leading the charge

In this way, an organization can develop a content repository that contains the core corporate, product, and procedural information to support its operation. The process begins with corporate processes and product development and spreads to every use of this information. Training development and delivery becomes just one part of a coordinated information design and delivery process that applies to all corporate output—from the website and annual report, to user and developer manuals, to training and support materials. This is a new way of thinking about content, but it makes sense to anyone who has followed the trends in object-oriented programming and content reuse for documentation.

This process is already in place in many documentation groups. Because technical communicators are often isolated from instructional designers, there has been little attention given to how to expand the concept of single sourcing to include training materials. Technology is quickly eliminating the technical barriers; the next task is to shift corporate culture to this new paradigm. This involves not only development and review cycles, but changing the development focus from individual deliverables to content libraries. This ensures that the best possible content appears in all corporate documents—online or on paper.

Single-source development is an initiative that the training department should lead. Typically, instructors are good communicators, and the key to this restructuring effort lies in the ability to shift the way organizations think about their information. We are all knowledge workers, and we have access to the tools that allow us to streamline how we organize and use that information. All it takes is thinking not about how to deliver content tomorrow, but how to structure content so that it's there for the organization as a whole, tomorrow and in the years ahead.