Learning and the 2.0 Collaboration Revolution:
Would a Wiki Help Your Organization?

By Thomas Stone, Product Design Architect

Table of contents

500 Canal View Boulevard, Rochester, NY 14623, 1-800-434-3466, www.elementk.com

element k®
your learning solutions partner

Overview

CLOs and training managers have witnessed the recent popularity of Web 2.0 technologies, such as wikis, blogs, and podcasts. As organizations struggle to retain and enhance workforce knowledge and manage an increasing information flow, wikis are already playing a crucial role. However, with traditional learning paradigms still prevalent, are these new technologies appropriate for your business, and how can you best integrate them with your program? It is crucial to understand wikis in the Web 2.0 technological and cultural context, as well as current business, learning, and performance support contexts. As you'll discover, there are many important questions and options that need to be considered before an organization can realize the true potential of wiki technology.

Inevitably as individuals leave, critical—and in some cases, unique—knowledge leaves with them.

Introduction

We have witnessed explosive productivity growth in recent years. Yet, knowledge-related problems still abound.

- Many organizations are struggling to enhance the knowledge of their people and manage the information flow between them.
- Employees are acquiring new skills and information from traditional Instructor-Led Training (ILT) events, and from formal e-learning events (e.g., self-paced tutorials, virtual classes). But organizations need to pay more attention to the informal learning that goes on between such events.
- Information and knowledge is often hoarded in teams and departments.
- Inevitably as individuals leave, critical—and in some cases, unique—knowledge leaves with them.

At the same time, CLOs and training managers have observed the growth of so-called "Web 2.0" technologies—wikis, blogs, tagging, and so on—that encourage collaboration and capture collective knowledge. As these technologies have been considered in the context of learning, training, and performance support, writers and speakers have created new buzzwords, such as E-Learning 2.0, Learning 2.0, Training 2.0, or Blended Learning 2.0. Whatever the name, the basic questions still asked are:

- How can these technologies be integrated with existing, traditional learning, training, and performance support techniques?
- What roles can they play?
- What benefits will an organization gain from using them?

This whitepaper focuses on just one Web 2.0 technology, arguably the most popular and powerful: wikis. Individuals who are responsible for fostering learning and performance support within their organization need to understand what wikis are, what their relationship is with other technologies (both old and new), and what questions leaders need to ask to determine if and when a wiki is right for their organization. Only with such an understanding can they sweep aside the hype and obtain real value from wikis.

What is a Wiki?

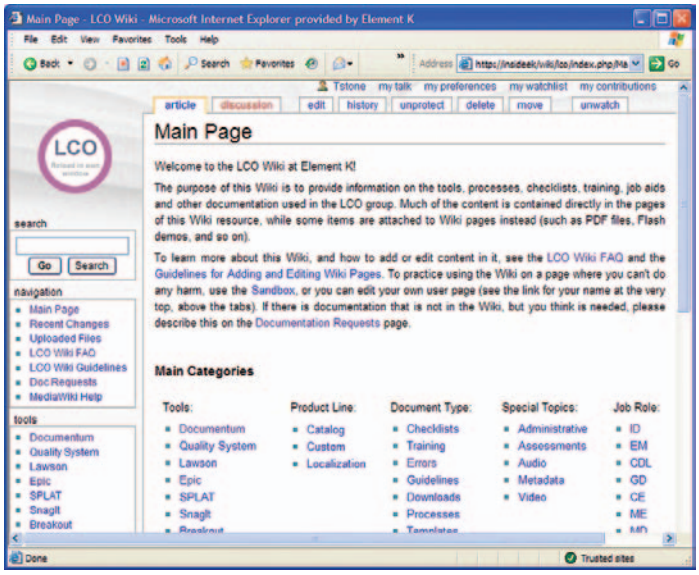
A wiki is a website where users can easily add, remove, and edit the content at the site. This content most often is in text form, but can include images and multimedia. As with any website, hyperlinks can be used within the content to link pages together. Updates to a wiki are made quickly[1] and easily, without any programming knowledge required. web forms are used to add and update content in the wiki, and in some implementations, robust toolbars make it simple even for newcomers.

Based only on this simple definition, a major benefit of wikis becomes apparent: collaboration. Because any visitor to the site can add ideas or edit the content already present, users can collaborate on projects without any barriers. They can simultaneously work on a portion of the content in the wiki, with each person making modifications throughout a day, week, or month.

Another common scenario arises when a person finds the time to start a piece of critical documentation but, due to time constraints, is not able to finish it. Rather than have it linger in an incomplete state, with a wiki, other team members could pick up where the original author left off and complete the entry. In this way, wikis reduce content creation bottlenecks that traditionally slow down most large organizations, and help to make efficient use of the most valuable resource of any organization: *its people's time.*

In addition to collaboration, several other major benefits of wikis deserve mention.

- **Versioning.** Because so many people can make edits easily, versioning is even more important for wikis than in traditional CMS (Content Management System) applications. The ability to see exactly what has changed, who changed it and when, and to revert back to a previous version of a particular page, is a major feature of wikis.
- **Searchability.** While any strong CMS will have some degree of search functionality, most wiki implementations provide both page-title and full-text searching, with search results indicating the context of the search terms and automatically sorting those results by relevancy.
- **Relationship-building.** Not only is content in a wiki internally related via hyperlinks, but a wiki can also help build real-world relationships. People who might not otherwise work together within a population can do so by collaboratively creating content for the wiki.



We use several wikis internally at Element K as both performance support tools and to increase collaboration. These wikis provide rich, searchable, and evergreen knowledge bases that are widely used within the company.

- **Maintaining organizational knowledge.** Much knowledge is lost simply because it is never preserved. Hallway or water-cooler conversations are not recorded, ideas are buried in files on hard drives, and most of all, important information is lost in a deluge of email flooding an employee's inbox. Implementing a wiki will, over time, change the culture of an organization by providing everyone a quick way to collaboratively capture much of that otherwise lost information and knowledge. Given the growing concern over workforce demographics, e.g., the baby boom retirement wave and talent shortages in several key areas, capturing the knowledge of unique experts before they walk out the door will only become more vital in the next few years.

Wikis eliminate content creation bottlenecks that traditionally slow down most large organizations, and help to make efficient use of the most valuable resource of any organization: its people's time.

Wikis in the Web 2.0 Technological and Cultural Context

Wikis were first developed as far back as 1994, but did not become a worldwide phenomenon until the launch of Wikipedia in early 2001. Since that time, the open-source online encyclopedia has seen explosive growth with millions of entries written in various languages (although the English version remains by far the largest). It also spawned numerous sister-projects, and other wiki-based sites have been launched in Wikipedia's wake, each with its own purpose and target audience. The number of software platforms that can be used to create a wiki website has also increased rapidly, with a varying set of features available in each (e.g., some are database-driven while others are not, some are free and open source while others are not, and so on).[2]

The emergence of wikis, however, has not been an isolated event occurring in a technological or cultural vacuum. Wikis are one of many loosely named "Web 2.0" technologies, tools, concepts, and services that enable people in nearly all corners of the world to fully participate in the Internet. While the early days of the World Wide web centered on one-way content delivery from a relatively small number of web developers (remember the now-quaint title of "Webmaster"?), the Web 2.0 world supplements this with content creation from the masses.

Beyond the innovations that have taken place in this technological space, there has also been a significant cultural change. More and more users of the Internet now expect to be able to interact with what they are seeing, and do so in creative and meaningful ways. The Internet has always been a more interactive medium than movies, television, or print. But while using the early web was a fairly individual-focused activity, Web 2.0 provides a far more socially rich, collaborative, community-building enterprise. Whether this comes from individuals writing and commenting on each other's blogs, participating in group blogs that have multiple authors, posting and commenting on each other's video or photo content at specialized sites, or literally creating content together—the cultural expectation has clearly shifted. Today's young are maturing into tomorrow's workforce with the mindset that they can work together online to share ideas, invent products, and create content of all kinds.

Wikis are one of many so-called "Web 2.0" technologies, as they provide a platform for user-generated content and collaboration.

Given the growing concern over workforce demographics, e.g., the baby boom retirement wave and talent shortages in several key areas, capturing the knowledge of unique experts before they walk out the door will only become more vital in the next few years.

Wikis in a Business Context

While Wikipedia is an open, public information source, wikis are also often used in the corporate world, as well as the government and academic sectors.[3] The underlying wiki technology is so simple and so flexible it can be used in a wide range of contexts and for varying purposes.

In business, a wiki can be used at the team, department, division, or organization level. Such wikis can exist behind the company firewall, typically as part of the company's Intranet infrastructure, or can be provided as a secure SaaS (Software as a Service) application over the Internet, and thereby gain all of the benefits that model provides. Content in wikis can be long-lasting and focused around a particular theme or set of job roles, or it can be information that all employees need. Alternately, wiki content can be focused on a particular project, perhaps one with a definite end-date, at which time the wiki could be archived or even deleted altogether.

The underlying wiki technology is so simple and so flexible it can be used in a wide range of contexts and for varying purposes.

Perhaps most common in a business, a wiki can be used to augment, or more often, replace the existing internal documentation system for a team, department, division, or entire organization. Information such as best practices, checklists, guidelines, processes— the kind of information that people need to do their day-to-day tasks—can be stored in a wiki, and dynamically updated over time by the relevant user community. Such content might have previously been stored in databases, network shares, or dedicated (and often expensive) CMS systems. Such important information has often also been stored in "Web 1.0" portals on company intranets, controlled by a select few gatekeepers who either created the intranet site or were responsible for managing it. Unfortunately, in many organizations, a combination of all of these approaches has been used, leading to confusion and chaos when employees need just-in-time information for a critical task. By combining content in a single wiki knowledge base, not only can the information be searched and updated by the user community itself in a far more timely fashion, but information management can also be simplified as legacy systems are retired.

Consider this scenario: an engineer in the field or the manager of a hotel franchise comes up with a new approach to tackling a common problem. Rather than keeping that information to herself, she could post it to a section of a wiki setup for new ideas, thereby allowing her colleagues to consider it, improve upon it, or reject it as appropriate. Without a flexible, open wiki solution for this kind of documentation, the idea might not be shared with others in the organization at all, or perhaps only after it was documented, run through a committee, and eventually released in an updated form months later. Even if the information is visible immediately but has an "unapproved" status until approved by an authority, others could still benefit from it either directly or as input for further ideas.

Wikis in the Context of Learning and Performance Support

As mentioned in the introduction, various e-learning providers and evangelists have followed the Web 2.0 trend and coined terms such as E-Learning 2.0, Learning 2.0, Training 2.0, and Blended Learning 2.0. This is an understandable progression, as wikis and other Web 2.0 technologies augment traditional learning, training, and performance support mechanisms.

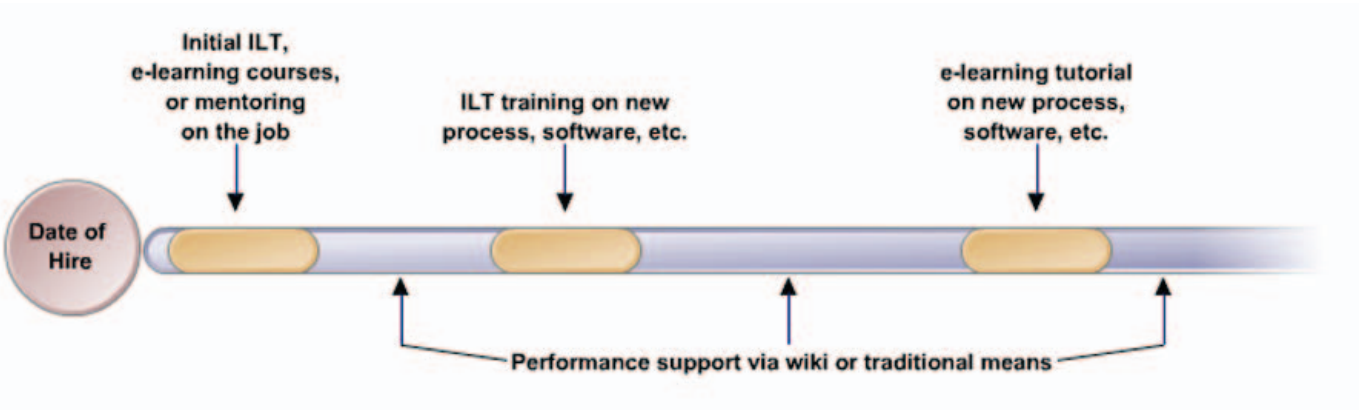
Consider the need for learning and performance support over time. When new people join an organization, smart managers will provide training to give them the information and skills needed to do the job. This includes knowledge in all major content types—facts, concepts, principles, processes, and procedures.[4] It can be delivered by many means, including traditional ILT classes, various e-learning approaches, and even mentored learning where the new employee shadows a veteran in that role.

Similar, discrete learning moments occur whenever something new and significant is introduced into the environment. This could be a new process, a new software application, or a new set of expectations. Employees attend a class, take an e-learning tutorial, or otherwise use a formal learning event to gain new knowledge.

In the context of formal learning, content that is largely text-based can be created in a wiki and given structure just like ILT course content or the hierarchy of an e-learning tutorial. People can use the content in a structured way during the crucial learning moment, e.g., the on-boarding of a new employee or the introduction of a new process or software application. Because the content is highly searchable and will be available in that same format after the learning moment is concluded, this has the advantage of allowing users to refer back to that content later.

It is generally understood that knowledge gained from formal learning events diminishes rapidly.[5] In most cases, referring back to formal learning content such as ILT textbooks or e-learning modules is not convenient. If the content were instead provided in a structured wiki format, it could easily be accessed later, and further, modified as best practices emerge or other improvements are developed. However, structured learning content often needs to be more robust than what can be easily provided in a wiki. The best e-learning content provides rich, multimedia content, including demos, interactive simulations, and even game-based or otherwise branching scenarios. While wikis can support more than text, they are best used in text-intensive subject areas.

While formal learning has an important role, the majority of learning does not come from highly structured events.[6] *Most learning is informal, and occurs on a daily basis.* People learn from each other through interactions in meetings, email, instant messaging, hallway conversations, and through sharing documents, online content, and other resources. This is where the need for performance support is vital, to give focused attention to this wide-ranging, constant learning that occurs chronologically between the formal learning moments. Tools that can increase informal learning are those focused on *enabling* learning, as opposed to *delivering* learning.



Consider an employee's learning timeline that begins at their date of hire. Periodically there will be formal learning events, but between those events the employee continues to learn the skills they need to perform their job. This learning is often referred to as "informal learning", and it can be acquired through performance support mechanisms such as wikis or other means. Not drawn to scale, this timeline is all the more important when you realize that the time spent in formal learning events is actually quite limited. The majority of learning takes place outside of those events.

Fortunately, wikis are such great enablers that they are a natural fit in the realm of informal learning and performance support. Reference content that might have previously been provided in physical cards, FAQ web pages, or document collections on a network share, can instead be provided in a wiki. This allows all of the benefits of wikis including high searchability and collaboration to update or create new content. In contrast to traditional eReference libraries, consider a wiki as an organic repository of information, one that grows as people use it. Such a wiki provides performance support that fills the gap between the learning moments provided by ILT classes or traditional e-learning mechanisms.

Formal and informal learning should not be considered in isolation. Although bringing focus to performance support in an organization is important, organizations can do so in a way that relates it to their formal learning events. For example, after a three-day training class on new software, an organization can post reference materials from the training content, add a tips and tricks section about the software (and allow users to add more as they discover best practices), and post links to online resources for more information about the topic, all in a wiki. The same can be done for formal e-learning events. Further, an organization need not restrict itself to using just wikis in this performance support role. It can also use traditional mechanisms such as distributing reference cards, or use other Web 2.0 technologies such as posting training follow-ups to the organization's blog, or creating a discussion forum where those who attended the formal event can discuss what they learned or ask peer-to-peer questions.

In doing this, an organization uses a form of the spiral principle of learning by reinforcing the information given during the formal learning event. As only a fraction of the information presented in such events is retained long-term, "spiraling back" to that content in the format of a wiki or other organic, ongoing tool increases the total knowledge gained over time by each participant.

Tools that can increase informal learning are those focused on enabling learning, as opposed to delivering learning. Fortunately, wikis are such great enablers that they are a natural fit in the realm of informal learning and performance support.

The use of wikis for performance support provides value in part because of another principle, one best summed up by the catch phrases "the wisdom of crowds,"[7] "crowdsourcing," or "collective intelligence." These phrases are interesting in part because they can be contrasted with similar phrases that have negative connotations, such as "mob mentality." But their meanings in this context are that by enabling a community of practice to collaborate and share ideas, over time the best ideas will (in general) rise to the top. People can correct content errors relatively quickly, and certainly more efficiently than in traditional, hierarchical systems that often suffered from management or committee bottlenecks. Of course, this assumes that a sufficient number of members of the "crowd" (the users of the wiki) are intelligent, informed individuals, who choose to add or update content when appropriate to do so. But this is something that the leaders of the wiki initiative in the organization can control to a large extent, by clearly articulating the guidelines for use. Having wiki "champions" lead in this way can be the key factor in creating a successful wiki.

By combining content in a single wiki knowledge base, not only can the information be searched and updated by the user community itself in a far more timely fashion, but information management can also be simplified as legacy systems are retired.

Questions to Ask When Considering a Wiki Solution

When deploying a wiki in an organization, like any other significant initiative, the production of real value is far more likely if you start by clearly identifying your goals and objectives.

- Who is the target audience?
- What are the problems that will be addressed or resolved by implementing this?
- How will we judge success?

In addition to these standard questions, there are also many that are specific to wiki deployments.

- Who will be the champions for the wiki in the organization?
- How much time can they dedicate to monitoring the wiki and guiding its growth?
- What other roles will be needed?
- What level of engagement from users is expected?

Other important questions center around the content goals of the wiki.

- What kinds of content are considered "in-scope" for the wiki, and what content would be best kept elsewhere (communicated by email, retained in traditional CMS systems, etc.)?
- Will it be seeded with existing content or will it initially be largely empty?
- What is the plan for deleting any transferred content from legacy repositories?
- Will some of the content need to be locked so that only some people can edit it?
- Will any of the content need to be shared with people who don't have direct access?

Additional questions revolve around the potential role for the wiki in learning and performance support.

- Will the wiki be tied to formal ILT or online learning, and if so, in what ways? The transition for the user between formal and informal learning should be intuitive and natural.
- Will the wiki be just one part of a broader informal learning and performance support initiative, and if so, what are the other pieces of that solution?
- How integrated does the wiki need to be with your LMS/LCMS? Are there other existing systems that it also needs to be linked with?

Finally, there are important architectural questions to consider as well.

- Does your IT department impose technology requirements, such as preferred databases, platforms, or programming languages? This might limit the number of existing wiki platforms you have to choose from.
- Does your organization need to host and manage the wiki, or can it outsource the security and hardware headaches and obtain all the benefits that an SaaS/ASP model can provide?

This is just a small sample of the questions that need to be answered when deploying a wiki. Because of the nature of a wiki as an open, flexible platform, users (and the content they create) can go in many directions. This can be a good thing, as it can spur innovation and discussion that would not otherwise have taken place. But it can also lead to productivity loss if it grows out of control. Again, the metaphor of the wiki as an "organic" mechanism is apt here: as a living thing, it requires certain elements to grow in a healthy, productive way. And worst of all, a wiki that is simply deployed with little thought is likely to atrophy and die, as most users will not know what is or is not allowed, or even why the platform was rolled out.

Conclusion

Rapid change in technology is providing a wide range of tools that enhance both formal learning and informal learning. Blended learning that combines ILT and e-learning modalities can now be augmented with robust, ongoing performance support mechanisms such as wikis and other Web 2.0 technologies. Some find it helpful to call this "Training 2.0" or "Learning 2.0," but going beyond the name given to it, we have seen the significant value that can be gained by organizations that take these developments seriously. Could the proper use of wikis in your organization bring similar results?

Blended learning that combines ILT and e-learning modalities can now be augmented with robust, ongoing performance support mechanisms such as wikis and other Web 2.0 technologies.

Additional Reading

"The World According to Wiki," by Michael Laff. *T+D,* May 2007, pg. 28-31.

"Why Wiki? ," by Jay Cross. *Chief Learning Officer,* Dec. 2006, pg. 17.

"Informal Learning: The Other 80%," by Jay Cross, *Internet Time Group.* http://internettime.com/Learning/The%20Other%2080%25.html

"Wikis Evolve as Collaboration Tools," by Mike Heck, *InfoWorld,* January 5, 2007, http://www.infoworld.com/article/07/01/05/02TCwiki_1.html

"Blogs & Wikis: Technologies for Enterprise Applications? " The Gilbane Report: Volume 12, Number 10, March 2005.

"Corporate Wiki Users: Results of a Survey," http://www.wikisym.org/ws2006/proceedings/p99.pdf

"Wikis in Enterprise," the results of an international online survey. http://wikipedistik.de/survey/results.html

"Wiki or Won't He? A Tale of Public Sector Wikis," by Marieke Guy, *Ariadne,* Issue 49, October 2006 http://www.ariadne.ac.uk/issue49/guy/

"Blended Learning: Reinforcing Results" by Jeff Snipes, *Chief Learning Officer,* September 2005. http://www.clomedia.com/content/templates/clo_article.asp?articleid=1070&zoneid=25

"How Enterprises are Using Web 2.0: A McKinsey Global Survey", March 2007. http://www.mckinseyquarterly.com/article_page.aspx?L2=16&L3=16&ar=1913&gp=0&pagenum=1

[1] In fact, the very name "wiki" is derived from "wiki wiki," the Hawaiian term for "fast."

[2] The most exhaustive source for information on wiki platforms is undoubtedly WikiMatrix, located at http://www.wikimatrix.org/. This site provides a wizard that asks users several questions, and then returns a list of wiki engines that match their needs. You can also browse the database of engines and find a great deal of other useful information at this resource. Naturally, Wikipedia also provides a comparison chart for the most common wiki engines: http://en.wikipedia.org/wiki/Comparison_of_wiki_software

[3] McKinsey conducted a survey conducted in January 2007, and received responses from 2,847 executives worldwide, 44 percent of whom hold C-level positions. 33% indicated they were "using or planning to use" wiki technology. See http://www.mckinseyquarterly.com/article_page.aspx?L2=16&L3=16&ar=1913&gp=0&pagenum=1 for additional results. You can also find numerous case studies of the use of wikis in organizations at the websites for the primary enterprise wiki software vendors.

[4] These are the five standard content types from M. David Merrill's classic "Component Display Theory."

[5] While few would dispute this, some research has been done. As reported in the September 2005 issue of *Chief Learning Officer* , "The Research Institute of America has found that 33 minutes after completion of a course, students retain only 58 percent of the material covered in the class. By the second day, 33 percent is retained, and three weeks after the course, only 15 percent of the knowledge delivered is retained. Separate studies conducted by Neil Rackam further support these findings, in which he has reported that 87 percent of the learning from any given classroom workshop is lost within 30 days if not followed by a coaching intervention with the participants' manager."

[6] There are many sources that indicate 70-80% or more of job-related learning is informal. The now defunct Institute for Research on Learning (Menlo Park) did oft-cited work in this area. See also "Informal Learning: The Other 80%," by Jay Cross, Internet Time Group.

[7] *The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, Societies and Nations,* first published in 2004, is a book written by James Surowiecki.

element k®
your learning solutions partner