



Department of Instructional Technology and Institute for Interactive Technologies

# Institute for Interactive Technologies



White Paper:

## **Embracing Informal Learning**

**Understanding the tools of informal learning and their impact on organizations.**



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## INTRODUCTION

In any organization, 70-90% of learning is informal [1]. Yet, the majority of the learning dollars are spent on formal courses. If organizations are going to successfully transfer knowledge to the gamer generation—gamers (those born after 1980 who grew up playing video games), they need to tap into this informal network of learning. Gamers are masters of informal learning. Monies need to move from formal training interventions to informal learning opportunities.

Learning needs to be built into the fabric of the gamer's day. It cannot be event driven—stop work, attend learning—return to work. Learning opportunities should be as ubiquitous as email, instant messaging and conducting searches on the web. Employees already build learning into their days in unstructured, informal exchanges with colleagues. They ask questions, seek answers and learn new information from manuals, web sites and books. Corporate training efforts are not competing against nothing; they are competing against technologies and paper-based resources independently referenced by employees. Because these learning events are unmonitored, it is not known if the senior employee mentoring the new account manager is providing the right information or not. He or she needs tools provided by the training department to ensure the right information is transferred.

One organization weaving formal learning opportunities into informal daily processes is Cisco systems, the company that supplies Internet devices for networking. Cisco's Internet Learning Solutions Group has created a service to provide employees with knowledge, ideas and training on a regular, informal basis. Members of the sales force are able to subscribe to a service called News Clips. The employees complete an interest profile describing what types of information are of interest to them.

After subscribing and completing the profile, the employee receives a daily email containing information relevant to his or her sales responsibilities based on their profile. Each email summarizes 6, 8, or 10 different things related to indicated areas of interest. Each item has a three sentence descriptor, plus a headline and a URL link to the entire article, white paper, or video. Cisco is using email as a training distribution mechanism. It is an integral part of their e-Learning strategy [2].

Organizations must develop processes and procedures for capturing and distributing the learning that occurs informally within their organization. Much of what will be transferred to gamers from boomers will be informal with no mechanism of checking the veracity of the information or of duplicating the captured knowledge to share with others. Creating collaborative online learning spaces for boomers and gamers to share information, the use of captured IM discussions and creating small chunks of knowledge to be quickly digested by interested gamers will all help in this process.



## Instant Messaging

Instant messaging (IM) is a powerful method fostering informal learning. Instant Messenger, for those of you who are unfamiliar with the term, is a program that allows two or more computers on a network to communicate with each other in real time. It has several advantages over email. It is real time, it allows you to see if the person is online and open to receiving messages and, it provides a quicker response than email. In fact, gamers are beginning to call email...the new snail mail [3]. In fact, a focus group of gamers defined email as “something you use to talk to ‘old people,’ institutions, or to send complex instructions to large groups [4].”

True that...75% of online teens — or about two-thirds of all teenagers — use instant messaging, compared to 42% of online adults and of the teens that use IM, 48% say they exchange IMs at least once every day [5]. They even have their own language as shown in table 6.1 [6]. The goal seems to be the shorter the better, my Gamer son asked me one day why we need the “H” in “the.”

Instant Messaging Words and English Equivalent

IM Word	English Equivalent
gr8	Great
lol	Laugh Out Loud
omg	Oh My Goodness
nvm	Nevermind
np	No Problem
ppl	People
r	Are
thnx	Thanks
ttyl	Talk to You Later
ty	Thank You
yw	Your Welcome
wat	What
w/e	Whatever (emphasis on <i>ever</i> )

One key advantage of the IM system is that it allows gamers to see who is online and accessible. Gamers can always know who is connected or present and who is not. Most gamers are comfortable with the idea of letting others know when they are online and with being constantly accessible. Boomers are not always comfortable with the idea and don't want others to know when they are online and when they are not.



In this information age, the idea of instant availability and presence is important to gamers. They often reach out to friends and colleagues outside of their organization for essential information via instant messaging. IM enables one-on-one informal learning that cuts across organizational boundaries. When you see a gamer with an instant message window open, it does not mean they are engaged in idle chit chat with a friend. Most likely they are seeking information.

IM also enables groups of gamers to exchange information. Not only can a person speak one-to-one to a colleague anywhere in the world, they can also create an ad hoc chat room where several people can get together and discuss a sales meeting, upcoming proposal or any other group project.

Informal learning occurs any time two or more people exchange ideas, test concepts or think through processes. All of that thinking and exchanging of ideas occurs via IM all the time. Corporations need to learn how to capture that knowledge and use it for future learning opportunities.

But corporations are not capturing this informal knowledge. One study revealed that while 50% of employees within corporations are using some form of IM, 76% of those corporations have not deployed a formal IM solution [7]. This means that gamers and others are downloading their own versions of IM and using them to communicate with each other totally outside of corporate guidelines, control or monitoring. While there is a huge security concern with these downloads, corporations are also losing out on a huge opportunity to capture informal learning.

One advantage of IM over a technology like the telephone is that IM conversations can be easily captured and recorded. Phone conversations can be recorded but the technology is awkward and there is no expectation of the conversation being recorded except on customer service or help desk calls and those are not typically internal conversations. They are discussions between a customer and the business.

With IM, recording the conversation requires little space, no additional equipment and the expectation of the discussion being recorded already exists. It is well known that organizations can retrieve email...even when it has been deleted. Thought processes, relevant tangents leading to insights and other subtle problem-solving elements can all be recorded and codified during the conversation itself. If handled correctly IM transcripts can be made available to be searched by others looking for similar ideas or dealing with similar issues.

In fact, one AOL blog is already tapping into IM conversations and making them permanent and available to a wider audience. The blog site called *The Cooler* has a simple statement at the top of its page. "We gather at *The Cooler* to chat up the day's top entertainment headlines and rumors, then we cut and paste our chatroom conversations straight to the blog [8]."

Imagine scientists or technicians gathering via an IM chat to discuss an issue and then posting the most important parts of the discussion on an internal company blog to share the best ideas, concepts and thoughts. What a great method for sharing knowledge and transferring ideas.



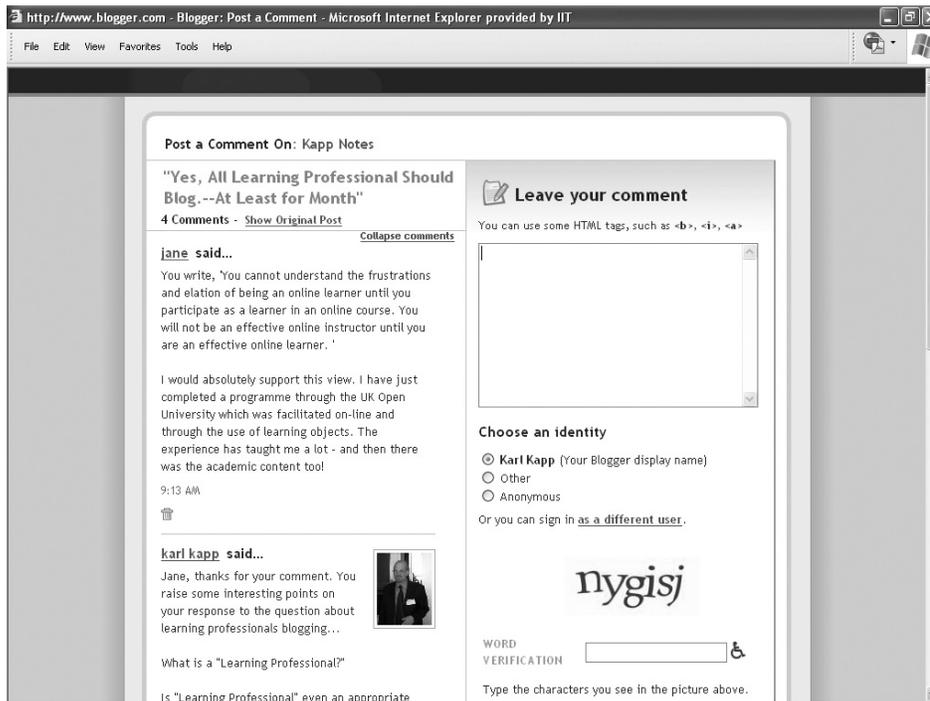
Given the gamers fondness for IM, it makes sense to get senior technicians, scientists, salespeople and others on instant messenger to facilitate the transfer of knowledge within the organization. Being connected via IM allows them to communicate with gamers real-time and on the gamers' favorite communication medium. The transition to IM can be a culture shock for many boomers. Most of who prefer to face-to-face communication while most gamers consistently choose IM over email in a wide array of contexts [9].

When an IM communication channel is established between gamers and boomers, a manager can reach out to a geographically dispersed team and have a conversation or work on a problem with ease and quickness not available with other types of communication. The use of IM can be a great way for a boomer to individually mentor a gamer on a particular topic or area of expertise.

## Blog

In contrast to the one-on-one or a small group discussions possible through IM, a web log or blog as it is commonly known, can broadcast boomer knowledge across an entire organization or across the world. In a blog, the author enters his or her thoughts onto a web page and the postings are displayed in reverse chronological order on a web site available to anyone who has access.

According to Technorati, a web site that tracks blog information, "there are about 75,000 new blogs a day. Bloggers — people who write weblogs — update their weblogs regularly; there are about 1.2 million posts daily, or about 50,000 blog updates an hour [10]."



Example of a blog found at <http://karlkapp.blogspot.com>. Please visit and comment.



Readers of a blog have a chance to post comments and thoughts but cannot change the original author's contribution. Blogs have become well known as online personnel diaries available for the entire world to view. These personnel thoughts and comments have gotten bloggers in trouble and, in some cases, even fired. In 2002, Heather Armstrong lost her job because of negative comments she made about her employer and co-workers on her blog [www.dooce.com](http://www.dooce.com). Since that time, the term "dooce" has become synonymous with "the act of getting fired because of one's blog or web site [11]."

A Delta Airline employee calling herself "Queen of the Sky" was dooiced because her "Diary of a Flight Attendant" blog contained information and photographs Delta felt were "inappropriate [12]." Other companies that have dooiced employees or contractors include Microsoft, Google and the online social networking site, Friendster [13].

These incidents and the idea that blogs are simply a tool of political pundits and brooding-lonely teenagers have given blogs a somewhat negative connotation in the mass media and within a few corporations. However, blogs can be used for good.

Blogs are a bottom-up approach to communication and knowledge management. They can be mined for information and provide a spam-free way of gaining information [14]. A boomer can write his or her thoughts in a blog concerning a particular issue and then anyone within the organization can assess the information, ask questions, make comments or contact that person directly for more information. A blog allows others to "see" what is inside a person's head. This can be a great tool for transferring knowledge. The value of blogs is accelerating their adoption in many companies and organizations. Dr. Pepper/7 UP, Verizon, IBM, General Motors, and Hartford Financial Services Group all have internal blogs [15].

Blogs are an effective tool for an expert to contribute his or her knowledge to the organization. A boomer expert can input his or her knowledge and gamers can access that knowledge and make comments or seek additional information. Internal corporate blogs provide a place that gamers can visit to find out key information.

At some DaimlerChrysler plants, managers use blogs to discuss problems, share information and keep a record of solutions. At the Dutch technology company, Macaw, up to 90 percent of its employees blog to share knowledge about technical issues and resolutions [16].

At IBM blogs are used to discuss software development projects and business strategies. A blogs' inherently open, anarchic nature may be a bit unsettling for some boomers, but it is their simplicity and informality that given them appeal and wide spread use. The idea of simplicity and informality is what appeals to many gamers. They will often turn to internal blogs before looking for more "formal" channels of information.



Blogs can be used to track the progress of a project, gather and post information about competitors and to share ideas among geographically dispersed individuals. Internal blogs provide a written, time-stamped version of research and development programs. Organizations can track the growth and development of ideas in a single location. It is great for recording the development of a patent or the history and progress of research projects.

## Wiki

In contrast to the single contributions of a blog, collective knowledge can be gathered and distributed via a wiki. If a blog is a monologue, then the wiki is a discussion. In their quest to quickly exchange information, gamers have embraced the technology of wikis.

A wiki allows the reader of a web site to instantly edit and add content directly on the site. No need to create code in HTML or to use any type of external editor. The process is fast.

The word, *wiki* is a Hawaiian term meaning quick, fast or to hasten [17]. The term WikiWikiWeb, shortened to wiki, was coined by American programmer Ward Cunningham in 1995 as an alliterative/rhyming substitute for the word “quick [18].” Cunningham came up with the name after being directed to the “Wiki Wiki” line of buses at the Honolulu International Airport. He learned that wiki meant quick and that doubling a word in the Hawaiian language added emphasis. Cunningham felt that since his new technology allowed the quick exchange of information, it should be given a name that reflected that sense of quickness. [19].

Wikis work well for the collaborative sharing of knowledge between boomers and gamers because wikis allow for easy updating of content. No need for technical know-how, a person just needs the ability to operate a basic word processor.

Perhaps one of the most dramatic examples of a wiki in action is the web site, Wikipedia ([www.wikipedia.org](http://www.wikipedia.org).) Wikipedia “is an encyclopedia written collaboratively by many of its readers. Lots of people are constantly improving Wikipedia, making thousands of changes an hour, all of which are recorded on article histories and recent changes. Inappropriate changes are usually removed quickly [20]” by one of the thousands of daily visitors to the site.

The process works as follow; someone will notice an inaccuracy in an entry and then make the change immediately. No need to notify an editor, wait for verification or even check sources. Because entries are tracked and changes recorded, people tend to make accurate changes and corrections. Even if an entry is not correct, because of the volume of visitors and ease in changing the information, inaccuracies are quickly addresses and remedied. Wikipedia is basically a collective encyclopedia written by volunteers with over 3.5 million articles in 200 languages. Anyone who visits the site can become an author or an editor—changing or adding entries.



Boomers and others have called into question veracity of data contained in Wikipedia since anyone with access to the World Wide Web can add, edit, delete or change information within the online encyclopedia. Can a collective effort of creating knowledge be trusted to be correct? The answer appears to be yes. Or, more precisely, as accurate as a printed encyclopedia.

The British journal *Nature*—a reputable scientific journal first published in 1869—published a peer-reviewed article examining a range of scientific entries in both the Encyclopedia Britannica and Wikipedia through a rigorous peer review process and found few differences in accuracy. “The average science entry in Wikipedia contained around four inaccuracies; Britannica, about three [21].” The researchers found eight serious errors such as misinterpretations of important concepts in 42 reviews, there were four such errors found in each encyclopedia. Additionally, the reviewers found factual errors, omissions or misleading statements in both. Wikipedia had 162 of these types of errors. The Encyclopedia Britannica had 123.

Essentially, the accuracy of the paper-based encyclopedia created by paid editors and researchers was about the same as the collective encyclopedia created by visitors to the Wikipedia site—volunteer writers and editors [22] The implication? Collective knowledge is as accurate, reliable and helpful as edited and carefully reviewed knowledge. The openness of Wikipedia and wikis in general helps to ensure accuracy. When a person browsing the site sees something they believe is wrong, they update it. The openness of the information ensures its accuracy. The concept of freedom of the press taken to the nth degree and it works.

Not only is Wikipedia as accurate (or inaccurate) as its land based competitor, its primary advantage over print media is it's quick, quick. If your content has the need, the need for speed. The wiki is the answer. A wiki is instant. It can be updated without production or printing delays. If an expert within a company or a scientist working in a lab discovers something interesting, he or she can share it immediately. No delay. Instant information. More importantly he or she can receive feedback and comments just as quickly.

It reminds one of the old saying “if I have a penny and you have a penny and we exchange pennies, we each have a penny. But if I have an idea and you have an idea and we exchange ideas, now we each have two ideas.” Maybe even a third or fourth if the ideas spawn other thoughts and ideas.

The speed and ease of updating wikis has accelerated their adoption within several organizations. They are now commonly being used as a mechanism for transferring knowledge from the boomer generation of scientists, researchers and other to the incoming gamer generation.



## Really Simple Syndication (RSS)

While gamers like to search and find information on their own, one problem they encounter is that they do not always know what to search for. It is the classic case of “you don’t know what you don’t know.” Boomers who have been working within an organization for a while have knowledge of the context of the industry. They know what types of information are of value and what is not. New employees or individuals not familiar with the industry have no idea what is worth searching and what is not. A common complaint among new employees is they are overwhelmed with the amount of information confronting them on the first few days of work.

An answer to this problem is the use of one or more RSS feeds. RSS represents the term *Really Simple Syndication*. This web technology allows a person to subscribe to a feed from a web site and receive new information or content only when the original information is updated through a portal called an RSS aggregator. An RSS aggregator provides a consolidated view of the content in a single browser display or desktop application. One such example is [www.myyahoo.com](http://www.myyahoo.com) where you can establish your own page complete with links to any RSS feed you desire. The information comes to you instead of you searching for the information.



**Example of a RSS aggregator. The aggregator allow you to view feeds from many web sites.**



This is a “pull” technology rather than a “push” technology. The information is pulled to the your desktop or customized web page when updates occur based your specific request. With push technology, information is delivered without your expressed consent. A good example of a push technology is spam email. You don’t request spam, it is pushed to your email in box.

RSS feeds can be effective for consulting firms, professors attempting to stay up-to-date, law firms and government agencies like the Food and Drug Administration. Any organization or individual that deals with large amounts of constantly updated information could benefit from an RSS feed.

Government organizations are a prime example of continually changing rules and regulations—every time a law or policy is changed or re-interpreted, rules change. Government workers are constantly receiving emails about updated, changed or clarified policies. RSS feeds can be established so changes, deletions or additions to polices can be provide directly to subscribers who need the updated information and not to everyone on the email list.

For new employees, an organization could establish a web page with various RSS feeds from the departments relevant to that employee’s role within the organization. If the new employee worked in the inventory department of a manufacturing firm, she could receive feeds from the shipping, inventory control and human resource departments.

RSS can be used throughout the organization to transfer knowledge from one group of employees to another. Since just about any Universal Resource Locator (URL) or web address can have its own RSS feed, the internal home page within an organization could consist of a number of RSS feeds to which employees subscribe. RSS has an advantage over email distributions because it does not have any spam, can be organized by topic and is easy to search.

It is even possible to create query based searches on certain key information and receive the RSS feed only when it meets pre-specified criteria. Example queries could include:

- Provide me with any feed from the Learning and Development department that contains the words “Lean” or “Quality” or “Six Sigma.”
- I am not interested in everything that my instructional designers record about their projects, I only want to see any log entries containing the words “late,” “deadline,” “behind” or “delay.”
- Send me the feed from the research and development department when the words “patent,” “trademark” or “copyright” are included.
- Only send me the information from the Environmental Health and Safety Department when the terms “violation,” “problem,” “unmet certification requirements” appear.



This “searchability” can be critical when working in an organization producing a great deal of information. The proper use of an RSS feed can allow a person to glean just the information they need and not be bothered with the hundreds of thousand of other pieces of information created within the organization on a daily basis. RSS feeds can be linked to blogs, pulling only the information indicated by the employee. If the employee would like, he or she could always go to the internal blog and retrieve additional information.

### **Informal Doesn’t Mean Unstructured**

One note of caution about all this informal learning, it still requires instructional designers to put instructional design parameters and guidelines in place. For example, Blogs are a wonderful way to convey the “stream of conscious” thoughts of an expert in an informal format but are horrible from a learner perspective. They typically have no organization, no navigation tools and no instructions for our informal learners. We just assume that they will “get it.”

Applying the instructional design principles of organization, information chunking and association with similar concepts would make many of our blogs, wikis and other informal learning tools easier to read and more efficient for our learners. These elements don’t have to take a lot of time, establishing templates, creating a few properly placed links and thinking about the overall organization of our blogs, wikis and IM message would solve the problem at the beginning.

Instructional designers need to apply our instructional strategy and ADDIE models to the informal learning that is starting to take hold in organizations. We need to help our clients . How do an audience analysis of their readers of their blogs, we need to make sure blogs and wikis in our organization have a goal or objective that is clearly stated for the visitor to read, we need to design interfaces that are easy to navigate, we need to build in instructional strategies such as analogies, mnemonics, examples and non-examples.

### **Summary**

The informal learning tools are growing exponentially every day and our traditional learning technologies are not as effective as they once were. We need to take our known instructional design techniques and adapt them to these informal learning tools that are invading the workplace and which are becoming the new tools of learning.



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### **Additional Information**

This whitepaper is based on an upcoming book titled *Games, Gadgets and Gizmos for Learning: Tools for Transferring Knowledge from the Boomers to the Gamers* which is being published by Pfeiffer in April 2007. In the meantime, visit Karl's blog at <http://karlkapp.blogspot.com> for more thoughts on this and other related topics.

For step-by-step directions on how to subscribe to a blog with an RSS feed, go to <http://karlkapp.blogspot.com/2006/11/subscribe-to-this-blog.html>.

### **About the Author**

**Karl M. Kapp, Ed.D., CFPIM, CIRM**, is a consultant, scholar, and expert on the convergence of learning, technology and business operations. He speaks at many corporations on the topic of Gadgets, Games and Gizmos for learning. His background teaching e-learning classes, knowledge of adult learning theory, and experience training CEOs and front line staff provides him with a unique perspective on organizational learning. His experience with technology companies and high-tech initiatives provides him with insights into the future of technology. He shares those insights and perspectives through writing, teaching at Bloomsburg University, consulting and coaching clients and students.

He believes that the effective convergence of learning and technology are the keys to transferring knowledge from the exiting boomers to the incoming gamers. For further information, visit his web-site at [www.karlkapp.com](http://www.karlkapp.com).