

# THE ROLE OF INFORMAL LEARNING IN TODAY'S SUCCESSFUL TRAINING DEPARTMENT

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## ABSTRACT

*The integration of work and learning is becoming the dominant means of workforce training in many organizations today. Though structured classroom learning will likely but never entirely recede, a preponderance of current research indicates that the future of most job-related learning will lie in non-traditional methods such as short e-training modules delivered directly to the desktop, podcasts, informal knowledge-sharing sessions, and even structured gaming environments. This paper will explore why such learning is becoming increasingly more critical, how a successful blend of informal and formal learning can achieve the individualized training that a majority of employees are beginning to demand, and the difficulties involved, specifically with respect to evaluation and the ways in which it can be leveraged by a training department. These types of learning can be combined with some traditional training events to create a meaningful learning path for new employees and existing ones alike, and training and development specialists will have to find ways to achieve the right blend to achieve improved workforce performance.*

## INTRODUCTION

Informal or non-traditional forms of learning are becoming the most prevalent means of development for today's knowledge worker. A survey taken by the U.S. Department of Labor in 1999, estimated that informal learning accounted for 70% of the learning occurring in the workplace (McStravick, 2006). McStravick (2006) reported that support for professional development was ranked as one of the top three issues deserving more attention from the learning industry in 2006. Various sources estimate the amount of workplace learning that takes place through informal means at anywhere between 60 and 90 percent, as opposed to formal methods, which only comprise between 10 and 40 percent. Clearly, non-traditional education in the workplace is an issue of growing importance. A question remains, then, as to why informal learning is not being leveraged with the same urgency and scope as traditional, formal classroom learning in most environments. A dichotomy exists between what is perceived as being important (formal learning with its accompanying procedures and measures) and what is actually important and used in terms of the individual worker. This paper explores why informal learning is becoming increasingly more critical and how a

successful blend between informal and formal learning can achieve the individualized training that a majority of employees are beginning to demand.

At the heart of this issue is the division between the concepts of training and learning. O'Driscoll and Briki (2004) aptly point out that while training exists largely as a maintenance tool, learning encompasses a broader spectrum by encompassing much more than the absorption of existing information; learning is also about forging new ideas and solutions. In terms of these definitions, it becomes clear that today's work environment, with its constant instability and increasingly global reach, requires more in the way of learning than training. Although training is certainly applicable to particular situations most notably for new employees or for the implementation of new processes of learning on a continual basis which is clearly the means by which employees in an ever-changing environment can best adapt and grow. Informal learning allows for faster uptake of information; it is easily accessible, immediately applicable, and typically does not require an extended absence from the workplace as formal classroom learning does. Most often, informal learning also leverages technology that is already accessible and is becoming increasingly comfortable for today's

workforce. For all of these reasons, it is no longer feasible for training departments to disregard informal learning or treat it as a secondary entity to formal training.

In order to integrate informal learning into its repertoire, a training department must understand several issues about informal learning. It should first be able to identify what informal learning is more specific, what types of informal learning are already occurring in the organization and which types of interventions the training department will focus on. The training department also has to wholly understand and be able to communicate the value of informal learning interventions for the individual workers and for the organization: that it keeps pace with today's workplace environment and meets the demands of the new workforce, that it is targeted to the individual learner, and that it can positively impact performance on a much deeper level than formal, traditional training. Finally, the training department must develop ways to measure, manage and integrate informal learning into the current climate of traditional training for a balance that maximizes benefits to the individual and the organization alike. With all of these pieces in place, the integration of informal learning interventions can create a holistically successful learning environment.

## **Informal Learning**

A simple definition of informal learning is that it encompasses things that formal classroom training does not have. Informal learning opportunities can come in the form of conferences and reading trade publications, but more typically include learning interventions that are built into the workplace. For example, communities of practice or social networks provide a forum in which information and expertise can be shared either on a limited or a continual basis. These networks can take place either face-to-face or over a distance via discussion boards, wikis, blogs, podcasts, or any number of technology-facilitated means and are representatives of collaborative learning that may include "discussions, demonstrations, reviews of work, non-structured, group problem-solving or brainstorming" (Finn, 2006b, para. 23). Some examples of non-collaborative learning efforts

include web searches, short e-learning modules delivered to the desktop, and the use of online reference materials (McStravick, 2006). Gaming is another type of non-traditional learning that can be either collaborative or individual in nature. What all of these interventions share is that they give the employee access to continual, directed learning right in the work space and usually right when they are most needed.

## **The Traditional Approach: No Longer Keeping Pace**

For several reasons, traditional classroom training is no longer singularly effective across the broad spectrum of needs that today's knowledge worker has. Classroom training can be applicable to the job, but it is more often than not separated from the work environment in such a way as to impede applicability. In fact, classroom training often serves as a catalyst for follow-up informal learning that is more individually targeted and integrated into the workflow. Only in incorporating informal or non-traditional learning, can a valuable learning path be achieved.

Formal training alone cannot continue to meet the demands of today's changing workforce and work culture, and although informal learning has existed since the beginning of organized human communication, the reason it is now beginning to generate interest which lies in the staggering pace of change that exists in the modern world (Good, 2006), due in part to the advancement of technology. Organizations today operate in an environment permeated by technological Darwinism. In order to survive "in this transparent and globally interconnected economy," organizations and individuals must be able to "change as fast as the economic environment within which they operate" or run the risk of retreating "to a mean of mediocrity" (O'Driscoll & Briki, 2004, para. 4). Largely because of the Internet, the way people interact and seek out information has changed: the pace is becoming continually faster and interconnectedness and immediacy are simply the way of work and life in general. The Internet has given individuals and businesses alike an inexpensive, user-friendly way to communicate and connect to each other. In order to remain competitive in today's business world,

organizations need to manipulate these communication advances and use them as a means to foster performance enhancement. This is where training interventions like online communities of practice and short, podcasted training modules can begin to play an intrinsic role. Traditional training addresses neither the rapidly changing pace nor the interconnectedness of today's businesses because it is largely inflexible and hypothetical. In order to make the training be applicable to today's business environment, it must change with it and keep its dynamic pace. Furthermore, training must provide an avenue through which individuals can effectively cope with and adapt to those ever-changing environments. According to the Defense Acquisition University (2004), "in the future, the average adult's working life may span six or seven career fields;" what these individuals will need in the way of training is a path through which they can develop the "flexibility to be able to move from one project to another or from one speciality to another" (pg. 5). Continuous and readily available learning is and will continue to be needed to support these workers.

It is becoming obvious in the business world that, as the new generation of personnel enters the workforce, they bring with them new demands and new ways of learning. Informal learning interventions more closely mirror their style of learning than do traditional classes. The next generation learns by working on assignments together, and will be comfortable with multi-tasking and learning through experiential activities, and they do not endure irrelevancy well in any area of their lives (Cross, 2006). These workers have grown up with the Internet and with instant feedback and applicability. When they need to know something, they assume they will have the tools readily at hand to fill that knowledge gap almost instantaneously. They are used to multi-tasking and being mobile, as well, and may not relate well to being tethered to the construction of a traditionally-designed class. They will find the most value in learning that can move with them and adapt to their individual needs. This group of workers will not be looking for trainers to direct learning content at them; they want "a pathway to a promotion,

not a class," so limiting "this group's learning by offering only packaged classes" is a clear mistake (Hall, 2006, para. 9). Though structured training provides an organized way to disseminate information to large groups of people at once, it typically offers little in the way of experiential, real-world activities, the very type of learning that is most valuable to next-generation learners. Traditional training is, in fact, typically removed from real world scenarios and it is taught because it might be applicable at some point as opposed to within the workspace and just when it is needed (Clarke, 2006). It is not easily updatable and not equipped to be particularly adaptable the way informal interventions can be.

### **A Question of Productivity**

Another reason that traditional training no longer effectively fulfills the needs of the modern workforce is, quite simply, because it takes workers away from their jobs and forces lapses in productivity. Learning in the traditional classroom precludes "a direct loss of productivity that may or may not be recovered later in increased output" (Adkins, 2003). When measuring the ROI of such structured learning, this loss of productivity must be factored in, oftentimes diminishing the value of the training. If travel costs are involved, ROI is reduced even further. As Fink asserts, most business leaders will say that the high cost of training correlates more directly to the loss of production that results from taking people away from their jobs rather than the direct cost of paying the trainer and providing space for the training event (2006). For most individuals especially those highly-productive individuals who fill critical positions within the organization taking this time away from the job is simply not feasible. The most difficult challenge faced by these individuals is a lack of time to incorporate anything beyond their daily required workload (Baek & Schwen, 2006). Trading valued productivity for a training intervention that is not even guaranteed to produce results, in terms of directly applicable knowledge, yields frustration on the part of both the knowledge worker and the manager.

By contrast, "work-embedded learning provides content-in-context" by taking into account "the individual's job role and experience level" and being accessible as the

individual performs work" (Defense Acquisition University, 2004). Such learning is immediately applicable and often short, reducing the time and expense spent on formal training. In fact, many elements of traditional classroom content can be made available to individuals at their desktop or via mobile devices, reducing time away from work in addition to dollars spent on overhead costs associated with a traditional brick and mortar class. Informal learning options can also enhance individual productivity much more effectively because they catch learners when they are most receptive to information at the time, and when they have an immediate need for it (Harrison, 2006). There is no lapse in productivity as when a traditional class or workshop is attended; instead, a knowledge gap is filled when it occurs without the time lapse of waiting for a place in a structured class to be available.

### **Targeting the Individual Learner**

The effectiveness of traditional training is diminished because it does not deliver targeted training. It is difficult, if not impossible, to "pre-package know-how, expertise and skills into training classes" in such a way as to address everyone's needs because "the needs are too diverse, and the speed at which individuals learn, varies in great deal" (Good, 2006, para. 4). Classroom learning is, by nature, one-size-fits-all learning. Learners must discern how the concepts being taught bridge their knowledge gaps, if indeed they do at all. Informal learning, however, is (or has the great potential to be) more self-directed and customizable. It "approaches learning from the individual's point of view" and "creates a strong connection with the learner" (Clarke, 2006) because of the level of personalization involved. When learners are actively involved in choosing content that matches their individual needs, a higher level of buy-in is achieved and the likelihood of engagement and retention increase proportionately.

Again, for those workers who have progressed beyond basic skills in their field, traditional training offers little value because their knowledge gaps tend to be progressively more narrow and individualized. Beyond the fact that these individuals do not often have the time to devote to

formal training, they operate on a level of maturity that makes self-directed learning more consequential and applicable to their work (Mosher, 2004), giving them the specific answers they are looking for. Informal learning options are an answer to these individuals' needs because they offer "a more customizable, personal learning experience" that can "provide much greater rewards to those expert, senior knowledge workers" (Good, 2006). It makes much more sense to let workers at this level and take the lead role in developing their own learning paths, navigating toward the options that best suit their individual needs and work situations, rather than trying to force them into pre-packaged training courses with which they will likely become frustrated and disillusioned. In fact, because these "educated consumers realize [that] technology enables learning to assume that characteristic and necessary individualization" (Finn, 2006a), they are no longer content to endure whatever formal classes are offered in the hopes that they can glean fragment of some applicability from them. Just as a training program must fit into the culture and business goals of the individual organization, the methods of delivery and the options available must fit into the individual worker's productivity needs.

### **Difficulties and Possible Solutions**

The value of informal learning is beginning to become apparent to many training departments and chief learning officers. However, some glaring difficulties arise with respect to these non-traditional interventions because though informal learning is present and thriving in really every organization, the key is being able to harness this learning, manage it, and disseminate it (Wisniewski & McMahon, 2005). Training departments must find a way to nurture and foster the organized growth of informal learning without attempting to formalize it to the extent that it loses the elements. Such practice can be most valuable to the organization and the individuals in it.

### **The Issue of Measurement**

Probably the most widely discussed challenge with

respect to informal learning is the issue of measurement. Training departments are constantly called upon to deliver justification for their programs, most often in the form of ROI that shows a direct correlation between a training intervention and increased productivity. So the question becomes how to measure and numerically show the value of that estimated 60-90% of learning that goes on every day through informal means. Research into ways of measuring informal learning is definitely in the nascent stages, but there is "evidence that blogs, wikis, online forums, or knowledge sharing are effective in increasing organizational performance" (Jarcho, 2006, para. 10). Can this evidence be quantified in such a way as to satisfy those in control of the organization's training budget though? Perhaps a better question is, whether or not measuring ROI is even necessary or the best way to "quantify" informal learning. As Pangarkar and Kirkwood (2006) point out, "financial proof is not always necessary or convincing" and "financial payback alone . . . is not a convincing argument to gain management support" (para. 1-2). Attempting to calculate return on investment for any type of training is expensive and time consuming, and in the realm of informal learning, what may be most meaningful are its more intangible aspects. That is not to say that calculable measures do not exist for informal learning. These relate to the reduction in time spent attending formal training events and optimized on-the-job productivity when learning is searchable and accessible to address immediate needs. Adkins (2003) cites a study in which it was established that subject matter provided directly in the workflow could potentially save 3.3 hours of the workers per week, and that would have been spent on either a formal training event (at a point when it was offered) or on researching answers to questions that arise on a continual basis throughout the week.

Although increased productivity and reduced time away from work are certainly a part of the benefit of informal learning interventions, "new measures of learning" are conceivably even more meaningful here: "changed behavior, the reach of an individual's social network, the ability to tap into here-and-now learning opportunities,

and the intellectual capital of the organization" (Digenti, 2000, para. 14). The issue of measurement actually goes back to the difference between training and learning. Training is something that is directing participants for consumption whereas learning takes on a more global significance within the organization because it happens on a continual basis and is not a static, isolated opportunity. Metrics in the new social climate must be "expanded to include [measurements like] 'learner engagement' levels" and should reflect "how learners contribute their learning to the organization and socialize their learning throughout the ecosystem" (Meister, 2006). The focus should not be on consumption levels but on the transfer of knowledge throughout the organization.

### The Issue of Management

If new ways to measure and define effectiveness can be determined for informal learning events, the next question becomes how to promote and manage such types of learning. It seems at first somewhat counter intuitive to think that training departments would be able to capture something that is, by its very nature, amorphous, but a recent survey of *Chief Learning Officer Magazine's* Business Intelligence Board revealed that fewer than 15 percent of respondents viewed informal learning as a concept that was inherently unmanageable by training departments (McStravick, 2006). The three most evident ways of managing informal learning are to develop an organizational culture in which it is valued and recognized, organize it in such a way that makes it most accessible to the largest population possible, and develop ways of mapping a learning path for individuals in order to ensure that everyone is getting the most out of the opportunities that are available.

In order to provide a nurturing organizational culture in which informal learning can grow and is used to the best benefit of all, it is first critical for training departments to take a lead role in seeing that, throughout the organization, "learning is viewed as an ongoing process and employees take responsibility for their own learning and development" (Medved, 2003, para. 2). Since most advanced level workers and the next generation of workers entering the workforce are already, for the most

part, highly self-motivated, the second part of that equation is likely the least arduous. The key is in fostering an environment that values continuous learning on every level. Management must take an active role in the learning process and be continuously made aware of the benefits that are gained from continuous learning events so that buy-in is achieved at all levels. Another way to facilitate a positive culture for informal learning is by providing resources for events like brown bag sharing sessions. These types of events are informal but do require planning, space, and sometimes money to purchase supplies (Cofer, 2000). By providing the means for these types of events to take place, the organization can show its support.

The organization must also find a way toward managing the information that is used to organize it. A learning management system can be a very valuable tool in this regard. It provides impetus for cataloging and organizing learning parameters. The training department can organize and searchable database of learning resources (available materials, courses, and short learning modules) and make it easy to find that exist throughout the organization. Creating a database to go to for information they most need is an important element of such a system. If the system is so complex that it is difficult to use, it is needed to conduct a search or add information in the appropriate place, the workflow is interrupted just as it is with formal training, individuals are much less likely to use the system, and its value is greatly diminished, if not erased. Some elements of such a searchable knowledge base could be a listing of willing and qualified potential subject matter expert mentors, recorded interviews with subject matter experts, Skype sharing sessions, and podcasted "water cooler conversations" (Harrison, 2006). By chronicling such informal events and making them easily available to a wide audience, the training department is further providing structure. All of these efforts give informal learning a framework in which to operate without formalizing them to the point that their

unique utility and immediacy is drained.

Finally, if employees are given the opportunity to help create and participate in some sort of learning path that reflects and seeks to cultivate their knowledge base, their participation in informal learning increases in outward and acknowledged value. If "managers put [informal] events on individual development plans," it becomes easier to "help manage, track, motivate and encourage them to participate in those kinds of activities for knowledge sharing" (Whitney, 2005, para. 8). For organizations that take advantage of them, the development plan is often a key piece in determining an individual's path to promotion and including informal events on this plan ensures that their role is given prominence and weight. The use of personal development plans emphasizes and encourages a workplace learning, emphasizing "natural learning" (Whitney, 2005, para. 7). In this way, the organization is moving toward the goal of creating a learning environment within the organization. The inclusion of informal learning within a structured plan gives a structure to the individual's commitment to personal growth and clearly delineates how less formal events relate to organizational goals.

## A Blended Approach

This discussion of a balanced approach raises another issue with respect to informal learning. Although it can be a powerful tool in the goal of furthering knowledge for both the individual worker and the organization as a whole, it cannot stand alone. Research "has found that reliance on informal learning alone has some drawbacks, including difficulty in accrediting or using it for formal qualifications" (Cofer, 2000, para. 3). In addition, if not properly managed, informal learning can run the risk of being used as a "quick fix" that may or may not permanently bridge a knowledge gap; or, in the case of mentoring relationships, incorrect or incomplete information may be passed on. For these reasons alone, it is likely more useful for organizations to think of informal

learning in terms of being a “valuable complement” to formal training programs (Tate & Klein-Collins, 2004). It can further be argued that not all informal learning that takes place within the organization should be managed and captured. It is most helpful to focus on those aspects of informal learning that can benefit workers across the organization in a way that reflects the business goals and positively impacts performance.

### Conclusion

Clearly, informal learning can no longer be relegated to second-class status behind formal, traditional training. The demands of today's workplace environment and the people who must function within it dictate that informal learning events be given prominence. This type of learning is not only able to keep pace with ever-changing knowledge gaps more readily than traditional classroom training, but it is also better able to deliver the targeted and individualized information that today's knowledge worker needs the most. Though, sometimes a considerable effort must be made to embrace non-traditional learning initiatives, successful training departments can and will need to find ways to manage and leverage them, quantify their value to upper-level management in new ways that transcend ROI, and blend them with traditional training to create learning paths that are meaningful and practical for the employees they support.

### References

- [1]. Adkins, S. (2003, October). ROI from workflow-based e-learning. *Learning Circuits*, Retrieved May 27, 2007, from <http://www.learningcircuits.org/2003/oct2003/adkins.htm>
- [2]. Baek, E., & Schwen, T.M. (2006). How to build a better online community. *Performance Improvement Quarterly*, 19, #2, 51-68.
- [3]. Clarke, D. (2006). The nexus of learning: the intersection of formal and informal education. *Chief Learning Officer Magazine*, February 2006, Retrieved May 27, 2007 from [http://www.clomedia.com/content/templates/clo\\_article.asp?articleid=1257&zoneid=63](http://www.clomedia.com/content/templates/clo_article.asp?articleid=1257&zoneid=63)
- [4]. Cofer, D.A. (2000). Informal workplace learning. Retrieved May 27, 2007 from <http://www.calpro-online.org/ERIC/docgen.asp?tbl=pab&ID=100>
- [5]. Cross, J. (2006, August). Courses are dead. *Chief Learning Officer Magazine*. Retrieved May 27, 2007 from [http://www.clomedia.com/content/templates/clo\\_article.asp?articleid=1464&zoneid=107](http://www.clomedia.com/content/templates/clo_article.asp?articleid=1464&zoneid=107)
- [6]. Defense Acquisition University (2004). Performance learning roadmap: A network-centric approach for engaged learners. Retrieved May 27, 2007 from [http://www.dau.mil/pubs/pdf/DAU\\_Performance\\_Learning\\_Roadmap.pdf](http://www.dau.mil/pubs/pdf/DAU_Performance_Learning_Roadmap.pdf)
- [7]. Digenti, D. (2000, August). Make space for informal learning. *Learning Circuits*. Retrieved May 27, 2007 from <http://www.learningcircuits.org/2000/aug2000/digenti.html>
- [8]. Fink, C.B. (2006, October). Get rapid results with training plan. *Training Magazine*. Retrieved October 12, 2006, from [http://www.trainingmag.com/msg/content\\_display/publications/e3iQAg%2FoQ3k4zso9267pDu+ZA%3D%3D](http://www.trainingmag.com/msg/content_display/publications/e3iQAg%2FoQ3k4zso9267pDu+ZA%3D%3D)
- [9]. Finn, A. (2006a, September). Understanding the workforce: designing targeted training, Part 1. *Chief Learning Officer Magazine*. Retrieved May 27, 2007 from [http://www.clomedia.com/content/templates/clo\\_article.asp?articleid=1522&zoneid=182](http://www.clomedia.com/content/templates/clo_article.asp?articleid=1522&zoneid=182)
- [10]. Finn, A. (2006b, October). Understanding the workforce: designing targeted training, Part 2. *Chief Learning Officer Magazine*, Retrieved May 27, 2007 from [http://www.clomedia.com/content/templates/clo\\_article.asp?articleid=1550&zoneid=182](http://www.clomedia.com/content/templates/clo_article.asp?articleid=1550&zoneid=182)
- [11]. Good, R. (2006, June 15). Informal learning: The untapped resource of enterprise training departments. Retrieved May 27, 2007 from [http://www.masternewmedia.org/news/2006/06/15/informal\\_learning\\_the\\_untapped\\_resource.htm](http://www.masternewmedia.org/news/2006/06/15/informal_learning_the_untapped_resource.htm)
- [12]. Hall, B. (2006, September). Five reasons why training and HR must work more closely together. *Chief Learning Officer Magazine*. Retrieved May 27, 2007 from [http://www.clomedia.com/content/templates/clo\\_article.asp?articleid=1517&zoneid=190](http://www.clomedia.com/content/templates/clo_article.asp?articleid=1517&zoneid=190)

- [13]. Harrison, M. (2006, January). 13 ways of managing informal learning. Retrieved May 27, 2007 from [http://www.kineo.co.uk/shop/reports/kineo\\_informal\\_learning.pdf](http://www.kineo.co.uk/shop/reports/kineo_informal_learning.pdf)
- [14]. Jarcho, H. (2006, July 18). Informal learning and performance technology. Retrieved May 27, 2007 from <http://www.jarcho.com/?p=826>
- [15]. Medved, M.B. (2003, December). Creating an environment for ongoing learning. *Learning Circuits*. Retrieved October 24, 2006 from <http://www.learningcircuits.org/2003/dec2003/elearn.htm>
- [16]. Meister, J. (2006, September). Social learning arrives: is your organization ready? *Chief Learning Officer Magazine*, Retrieved May 27, 2007 from [http://www.clomedia.com/content/templates/clo\\_article.asp?articleid=1507&zoneid=53](http://www.clomedia.com/content/templates/clo_article.asp?articleid=1507&zoneid=53)
- [17]. McStravick, P. (2006, May). Informally speaking: Is there support for informal learning? *Chief Learning Officer Magazine*, Retrieved May 27, 2007 from [http://www.clomedia.com/content/templates/clo\\_article.asp?articleid=1352&zoneid=13](http://www.clomedia.com/content/templates/clo_article.asp?articleid=1352&zoneid=13)
- [18]. Mosher, B. (2004, July). The power of informal learning. *Chief Learning Officer Magazine*. Retrieved May 27, 2007 from [http://www.clomedia.com/content/templates/clo\\_article.asp?articleid=557&zoneid=51](http://www.clomedia.com/content/templates/clo_article.asp?articleid=557&zoneid=51)
- [19]. O'Driscoll, T., & Briki, P. (2004, May). Adapt or die: The strategic role of learning in the on-demand enterprise. *Learning Circuits*. Retrieved May 27, 2007 from <http://www.learningcircuits.org/2004/may2004/odriscollbriki.htm>
- [20]. Pangarkar, A., & Kirkwood, T. (2006, November). Beyond ROI: alternate measures of success. *Chief Learning Officer Magazine*. Retrieved May 27, 2007 from [http://www.clomedia.com/content/templates/clo\\_article.asp?articleid=1576&zoneid=67](http://www.clomedia.com/content/templates/clo_article.asp?articleid=1576&zoneid=67)
- [21]. Tate, P., & Klein-Collins, B. (2004, April). Collaborating with universities to create a continuous learning culture. *Chief Learning Officer Magazine*, Retrieved May 27, 2007 from [http://www.clomedia.com/content/templates/clo\\_article.asp?articleid=446&zoneid=31](http://www.clomedia.com/content/templates/clo_article.asp?articleid=446&zoneid=31)
- [22]. Whitney, K. (2005, October 26). Creating an environment that facilitates informal learning. *Chief Learning Officer Magazine*. Retrieved May 27, 2007 from [http://www.clomedia.com/content/templates/clo\\_article.asp?articleid=1132&zoneid=101](http://www.clomedia.com/content/templates/clo_article.asp?articleid=1132&zoneid=101)
- [23]. Wisniewski, B., & McMahon, K. (2005, April). Formalizing informal learning. *Chief Learning Officer Magazine*. Retrieved May 27, 2007 from [http://www.clomedia.com/content/templates/clo\\_article.asp?articleid=901&zoneid=59](http://www.clomedia.com/content/templates/clo_article.asp?articleid=901&zoneid=59)

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