



Delivering Just-in-Time Training



Deputy Defense Secretary John Hamre has acknowledged that the Department of Defense (DoD) does not have a cutting-edge education system for acquisition officials. [1] Moreover, because software is so pervasive within the DoD systems, we need to dispel the myth that only software practitioners should attend Software Acquisition Management courses. An alternative would focus changes in system acquisition courses to include software-related topics. For acquisition certifications, anyone dealing with program management, systems engineering, or test and evaluation should be required to take courses that offer insight into the acquisition and support of software-intensive systems. Given the rate of change in practices and policy, this prompts the question of how DoD can deliver requisite, up-to-date education and training in a timely, relevant manner to our dispersed acquisition workforce.

Like other organizations that are challenged to manage rapid change, complexity and diverse, dispersed workforces, the DoD must continue to search for methods to increase efficiency and effectiveness, to do more with less. To achieve the involvement of all their people resources, many organizations are looking to virtual teams, the "learning organization," and the collaborative enterprise. Increasingly, communities of practice (human networks) are supported by electronic communication. Information technology offers power and reach, and an all-digital format offers more flexibility. Use of the Internet, by itself, has bandwidth limitations. Individualized, self-paced training tends to be media-rich. Interactive, media-rich training is best delivered via a CD-ROM, with access to enterprise networks and the Internet. Such a solution offers tremendous potential return on investment, leaving the central challenge in capturing and delivering information quickly and economically to the practitioners who require it when the material is relevant to their needs.

Just-in-Time CD-ROM-based training, with links to an intranet or the Internet, offers an efficient way to deliver education, training, or information to dispersed locations and is a key to managing rapid change in technology, business processes, policies, and strategies. The technology allows flexible, modular, and indexed presentations. Lectures and information can be constructed from many sources without undue advance preparation demands. Its modularity allows efficient search and retrieval of information. On a larger scale, this technology may be deployed on servers with master indexes and version control, allowing searches of vast bodies of information. An added value is that it facilitates a more flexible delivery to allow trainees or learners to select their own design of instruction and information retrieval that fits their learning objectives within the context of their needs and organizational environment.

Why is Just-in-Time CD-ROM-based training significant to the successful dissemination and use of any complex subject that requires periodic reference? Traditional training and information delivery methods cannot reach the vast majority of practitioners in a manner that provides the information when it is relevant to their needs.

Organizations can manage the environment necessary for interdisciplinary communities of practice to flourish and share information that is a product of that knowledge. For organizations to more successfully compete in an era of rapid change, they need to use Just-in-Time CD-ROM-based training and information delivery, with links to an intranet or the Internet. Using the leveraging capabilities of interactive multimedia, organizations can complement their own virtual knowledge management infrastructure that evolves as part of employees' routine information flow and supports interdisciplinary efforts. Just-in-Time CD-ROM-based training supports the growth of knowledge management, which lets practitioners learn what they need to know on the spot when they need it, and it supports the growth of informal learning that occurs outside of a formal context such as a classroom or a scheduled course.

This is my last publisher's note in my role as CRSIP Director, as I am retiring April 1 (see p. 6 for more on Lt. Col. Jarzombek). It has been a true learning opportunity to work with the professionals in the Software Technology Support Center, Air Force Research Laboratory, Software Engineering Institute, Software Engineering Process Groups, Office of the Secretary of Defense-sponsored teams, and the various conferences for which I have been involved. These groups have been instrumental in extending the state-of-the-practice and strengthening our software community of practice. I know that *CROSS TALK* will continue to be a vital conduit for information exchange within our software community.

Lt. Col. Joe Jarzombek, CRSIP Director

Reference

1. Hamre Warns Of Struggles Ahead In Support Systems, Security, Outsourcing. *Defense Information and Electronics Report*, May 14, 1999, p. 1.