

# Computer Augmented Learning: The Basis of Sustained Knowledge Management

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## Abstract

The term "learning organization" (Senge 1990) has come into wide use. Watkin (1996) reported that 300 organizations professed to be learning organizations, although many were not. Now the Knowledge Management movement has superseded the learning organization fad. In abandoning the learning organization, the fundamental importance of learning may also have been given short shrift. The purpose of this paper is to reinforce learning's preeminent role in the building and sustaining of the knowledge management philosophy. The emphasis should be on the process that enhances knowledge: the capacity for effective action. New computer augmented learning applications can enhance the individual's knowledge that leads to effective task performance. The technology embodied in user interfaces, computer memory, and data bases (or knowledge bases) has evolved so that it is now capable of doing what Doug Englebart

(1963) envisioned with his term "intellectual augmentation."

New learning applications have been developed that have a critical and basic role in the achievement of knowledge management. Several examples of applications in widespread use are provided as evidence of the maturity of computer augmented learning systems. Many leading firms are employing systems that are aimed at capture of critical knowledge, placing it in knowledge bases, and facilitating access for those in the organization who need to learn from that knowledge. A review of some of these knowledge management developments underway and in research underscores the importance of this foundational approach.

Keywords: Computer augmented learning, knowledge management, intellectual capital management, knowledge acquisition, knowledge base

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Savage (1996) states that the accelerating pace of change signals the shift from the Industrial Era to the Knowledge Era where the primary source of wealth creation is human imagination. Regardless of the source, the idea has taken hold and there are increasing conferences, workshops,

dialogs, etc. to promote knowledge management. The requirement goes far beyond building a knowledgebase with some means of access (See Vogel, 1996). To sustain the knowledge management efforts, the systems implemented need to support not only just-in-time learning, but long-term

learning that continuously builds individual competency. To achieve computer augmented intellect, the applications must be firmly grounded in learning theory, individualized, and provide supplemental memory. Leading organizations are now

We have evidence that learning support systems are the basis for individual performance. This leads to collective performance by teams, and ultimately to organizational performance. Some of these systems have been deployed and are in daily use in over 4,000 organizations worldwide. We cite case examples and outline the most important systems development events that make learning resources basic to knowledge management efforts. Our current research is aimed at perfecting and testing the computer aided software development environment that will enable the knowledge engineer to elicit and formalize an expert's tacit knowledge and generate the learning applications.

The new learning tools provide the mechanism for building truly sustainable knowledge management systems by increasing the learning rate and decreasing the knowledge decay and loss to the firm. Computer augmented intellect systems can provide the basis for long-term organizational effectiveness of firms that wish to institutionalize knowledge management.

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building new data bases to hold this supplemental memory. The access to relevant knowledge will soon present significant challenges as the databases are growing exponentially

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