Just-in-Time Training

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INTRODUCTION

Did you ever read an article on some current issues in some distant part of the world and wish you had paid closer attention in your high school history class? Did you ever purchase a sophisticated computer system and six months later find yourself in need of one of those more illusive features and wish you had taken the free training class the salesman offered? When was the last time you waited "on hold for the next available operator" to get some technical assistance for new hardware or software only to lose the connection after waiting 45 minutes? Have you ever had a graduate tell you that while on the job they wish they had kept the handout from your 422 class?

You have finally decided to "take the leap" and offer a course online. The problem is that workshop you took two semesters ago is a distant memory. You are not even sure you can find the training material and your notes. The other problem is that the next offering for the training workshop is not until well after the semester begins.

"Just-in-Time" Training and Learning has the potential to address all of the above issues, as well as the larger issues for corporate training and re-training, pre-service and in-service professional development in educational organizations, and learning implications in all organizations. The technological advances have made it possible to match knowledge and skills with the worker or learner, literally when and where he or she needs it. An example from industry is the worker whose line shuts down because of a mechanical problem. Within minutes she is talking with someone halfway around the world who already has all the technical data about the system breakdown on his computer. A few seconds later, through live, interactive video, he demonstrates to the worker how to fix the problem and get the line up and running again.

Industry no longer expects public education to teach technical skills. The speed of technological advances would make it impossible and financially unwieldy to stay current with equipment and training. Industry also does not wish to invest a lot of money in pre-training its workers. Pre-training does not guarantee that the worker will have or be able to access the knowledge and skills when confronted nine months later with an on-the-job, problem-solving event.

The best of training or learning comes "just in time."

BACKGROUND

The expression "just-in-time" (JIT) was used initially in industry related to the application of production-inventory and customer response. The technology and software available improved the ordering process. Using the "just-in-time" application significantly reduced inventory costs for the company, while improving response time for customers.

The concept of "just-in-time" was then applied to training in industry and referred to as "Just-in-Time" Training or JITT. The expanding training needs of the workplace have made JITT or "Just-in-Time" Learning a major responsibility of the human resource departments of companies.

JIT Training or Learning was not invented by "workplace educators and performance specialists within the human resource development field, but rather it is conceptualized as an evolutionary response to the demands of a knowledge-driven and speed-oriented marketplace" (Bradenburg & Ellinger, 2003, p. 311).

Horton (2000) provides guidance in designing Web-based training. The author refers to the exploding demand for training in technical knowledge needed

for trained technology workers and how Web-based training is suited to meet this need.

"Just-in-Time" learning systems deliver training to workers when and where they need it. Rather than sitting through hours of traditional classroom training, users can tap into Web-based tutorials, interactive CD-ROMs, and other tools to zero in on just the information they need to solve problems, perform specific tasks, or quickly update their skills. (Sambataro, 2000, p. 50)

The "just-in-time" concept has recently been expanded to a more general application in the human resources departments of corporations. JITT and the expanded use of technology resources has provided a framework for more effective and efficient training and staff development of workers, as well as classroom, face-to-face alternatives for coursework in higher education.

While having roots in industry, "Just-in-Time" Training and Learning evolved from many factors. Bradenburg and Ellinger (2003) identify other subtrends that contributed to the expansion of the JIT Training and Learning concept. He noted that the move toward "the virtual workplace, the growth of knowledge capital, and the increasing rate of change all became factors in the JITT movement" (p. 304).

The expansion of JITT and Learning did not stop at the worker/learner level, but was also applied to customer-based initiatives as well. Sambataro (2000) provides the example of Schwab & Company applying the "just-in-time" concept for free investment education for prospective and existing customers in order to address concerns and fears over investment issues quickly and effectively.

JIT TRAINING AND LEARNING COMPARED TO FORMAL LEARNING

The traditional methodology used for training or learning, regardless of context, involved the teacher/instructor dispensing information and knowledge to the student or worker. The quality of instruction would vary. One instructor lectures, while another uses more effective techniques like cooperative groups, small-group discussions, role playing, or application activities for participants to analyze, synthesize, and apply new knowledge to new situations. The conceptual framework for JIT Training and Learning demands a paradigm shift, which moves the control from the instructor to the learner while taking time and place and making them irrelevant to the learning event. Instructor-led, face-to-face training, even with the best teaching/learning strategies, can be too fast or too slow, depending on the learner. JIT Training and Learning provides flexibility that allows the self-directed learner to move at his or her own speed, providing opportunities to repeat lessons as needed in an asynchronous style.

Bradenburg and Ellinger (2003, p. 310) provides the following chart, comparing the attributes of the learning environments of traditional education contrasted with that of a "Just-in-Time" Learning environment.

It is easy to see why a worker/learner would prefer the "Just-in-Time" Learning environment and why the relevance of the learning is more likely to become an integral part of the learner's knowledge base instead of an add-on that is quickly forgotten from lack of use or relevance.

Qalagan (1990) points out some of the contradictions implicit in the formal education process:

- Formal education is seen as events; learning is a process.
- Formal education, while competency-based, usually just transfers information.
- Training groups are homogeneous; groups are becoming more heterogeneous.
- Experts structure education for the learner; the learner/worker controls learning.
- Workers/learners must "know" before they can "do"; workers/learners assess their capability throughout the learning process.
- Post-training support is in place; post-training, if it exists, is usually inadequate.
- People are trained to do static jobs; most jobs are changing at an ever-increasing rate. (p. 40)

The workplace can take on significant changes when industry training takes on the JIT Training and Learning challenge.

...Adults' workplace experiences, trawled through reflective practices and structured in programs like mentoring, are epistemologically a long way from