Lead Balloons, Stone Canoes, and Learning Styles in the Internet Age

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Summary
The concept of learning styles has gained considerable attention in recent years, but it has not been a generative concept in e-Learning. Most of the learning styles research has been in formal (classroom-based) education, which reinforces the idea that learning is basically an information transmission process. Other research in how people learn shows that most job-related proficiencies are learned outside the training room or seminar, and suggests that where the learning takes place and how it is used is inextricably related to how adults learn, which ultimately ought to influence instructional strategies. E-Learning and blended learning practices ignore this phenomenon, and assume that all can learn from the information-transmission model, with the only variables being preparation, IQ and motivation. The real payoff from the Internet is going to come when we use it to enlarge and sustain the learning communities which can develop in an organization or among a cohort—not from its use to extend the reach of information-transmission models.

Anyone writing today about how adults learn has to address the issue of learning styles. In spite of the fact that there is not an agreed-upon definition of learning style, nor a unified theory on which the research is based, the term has taken hold and a recent search on Google turned up more than 413,000 references. I suspect what brought the concept out of the academic journals and into popular consciousness was Howard Gardner's theory of multiple intelligences, promulgated twenty years ago.[1] If there are indeed multiple intelligences (an idea the education establishment has enthusiastically embraced), then it follows that many competencies might be approached through something other than traditional instructional models of lecture, reading, memorization, and recitation.

Curiously, the concept of learning styles has not been of much interest in corporate training; a Google search on "learning styles" AND "corporate training" turned up less than 2400 references, and many of them appeared to be descriptors for specific products; a search on "learning styles" AND "e-learning" yielded almost 11,000 references, many of them from UK sources. Senge's *Fifth Discipline Fieldbook* includes only two brief paragraphs on the term, and the ASTD's Glossary includes essentially no terms that pertain directly to learning styles.[2] Indeed, the ASTD's definition of e-Learning competencies includes several references to "understanding learning styles," but much less detailed than its enumeration of competencies in business knowledge, contracting, project management, cost analysis and ROI of distribution methods, and remote site coordination.[3] So one might reasonably infer that learning styles has not been a significant generative concept in the e-Learning industry.

The literature describing learning styles is rather confusing and contradictory and those (including the present writer) not intimately engaged in learning theory enter the territory at some peril. Nevertheless, given the general popularity of the concept, one might expect any developer, purveyor or consultant operating in the realm of e-Learning ought to have a basic grasp of the concept and how it might be pertinent to the varieties of distance learning. My purpose is to provide the barest summary here and get to the point, which is why the concept has not been a generative one for e-learning.

Definition

Let's begin with definition of the concept of a learning style. The baseline definition in the literature says it is "an individual's preferred and consistent set of behaviors or approaches to learning,"[4] a definition that is not particularly helpful unless we know what the set of behaviors or approaches entails. Some teenagers maintain they can learn quite well in front of the TV while on the phone with a classmate, a style most parents view with some skepticism. But that is probably not the sort of behavior academic researchers had in mind.

Some of the learning styles research focuses on personality variables that determine if an individual is ready for self-directed learning,[5] which ought to be, one would think, of considerable interest to the e-Learning community. Other research looks at differences in the learning styles of Western and non-Western cultures and differences between men and women.[6] One of the more commonly cited conclusions of learning styles research indicates that about 30% of [American] college students say they learned best by listening to a lecturer, another 30% say they would prefer to read and reflect on the material, and the remainder felt they learned unfamiliar topics in some other way—that listening and reading required greater effort to produce the same level of mastery compared to some other approach.[7] That finding is occasionally used to argue for the superiority of multimedia presentations to standard lectures, a dubious interpretation in my opinion.

The research also explores the relationship between achievement (largely measured by retention) and the expressed preference for the manner of presentation, which apparently is a set of variables researchers feel they can measure consistently. Based on that, both scholars and popularizers have devised their own assessment tools and ways of categorizing learning styles. One set includes the Activist, Reflector, Theorist, and Pragmatist styles. Another sorts learning styles into the Direct, Spirited, Systematic, or Considerate. Yet another theorist says there are only two styles: Global or Analytical, but 21 other elements that determine an individual's style. Little effort is made to reconcile the findings from one set of tools with those from any other. Most (perhaps all) of that research was conducted within the context of secondary and post-secondary education, which is hardly representative of where adults learn, but that cannot explain why the concept has been of apparently little interest in the corporate training world.

Learning styles focus on individual differences

I suspect that the major reason for its neglect is that the focus of learning styles is on individual differences, and the e-Learning industry, like the e-Learning technologies themselves, are clearly

focused, for all the rhetoric to the contrary, on highly-scalable means of delivery, rarely adapted—or adaptable—to individual styles of learning. Even the current emphasis on learning objects and standards reinforces the perception that knowledge is somehow disembodied from individuals. Etienne Wenger explains:

> If we believe, for instance, that knowledge consists of pieces of information explicitly stored in the brain, then it makes sense to package this information in well-designed units, to assemble prospective recipients of this information in a classroom where they are perfectly still and isolated from any distraction, and to deliver this information to them as succinctly and articulately as possible. . . . But if we believe that information stored in explicit ways is only a small part of knowing, and that knowing involves primarily active participation in social communities, then the traditional format does not look so productive. [8]

From that perspective, a learning object that is well articulated and packaged should be deliverable to anyone, anywhere, and the only variables affecting learning outcomes are the pre-existing knowledge, IQ and motivation of the trainees.[9] Stated that baldly, I doubt many e-Learning developers would assent. The point is that much of e-Learning is not individualized instruction—it is webcasting and electronic page-turners, without even a nod at contingency branching based on the trainee's experience.[10]

A reconsideration of learning styles

It is clear, I hope, that my intention is not to make an argument for more attention to learning styles. Frankly, my own view of learning styles is that although much of this research and theorizing is fascinating, it is essentially a red herring, because so much of how people learn is (1) a function of where they are learning, and (2) dependent upon what competency they are trying to learn. Robert Gagne sketched out the latter concept (the field-dependence of learning models) in his book Conditions of Learning,[11] forty years ago, maintaining that different skills or competencies required different internal and external conditions.

Instead of expending additional effort examining how people learn in formal instruction, we ought to pay more attention to where they learn and the concept of communities of practice. Indeed, considerable attention is being paid—but not by the e-Leaning industry or, it seems, by Chief Learning Officers. The emphasis on classroom learning styles may have led us to expect that many forms of knowledge and competencies can only be acquired by formal instruction; the underlying premise of most corporate training, like most of higher education, is that learning is the result of teaching. Gardner takes a contrary position.

> Outside of school settings, children acquire skills through observation and participation in the contexts in which these skills are customarily invoked. In contrast, in the standard classroom, teachers talk, often presenting material in abstract symbolic form and relying on books and diagrams in order to convey information."[12]

Let us consider some of the ways competencies in the corporate world are acquired. A generation ago I was responsible for a department that trained several hundred typewriter and copier servicemen (they were all males in those years) annually. Even a cursory look at what they needed to be able to do and what formal classroom training could teach led to a radical change in training philosophy and methods. We accepted the fact that the best we could do was to prepare service reps to learn from their experiences in the field. In retrospect, that seems to have been a wise decision. Wenger describes how learning occurred in a claims

processing unit of a large insurance firm. There was classroom instruction, of course, but that was barely more than a prerequisite for introduction into the community of claims processors within the company. Competency was acquired not through the curriculum, but through "modified forms of participation that are structured to open the practice [of claims processing] to non-members [of the community]."[13] Participation included not just processing claims, but overhearing discussions of a particular claim, asking for help with a medical term or database field, when to follow the rules and when to ignore the rules. In the complex world of claims processing, "knowing is not just a matter of information."[14]

> Claims processors and managers rarely talk about the job as learning. They talk about change, about new ideas, about performance, about the old days. The concept of learning is not absent from the claims processing office, but it is used mainly for trainees. And yet, when I posed the question directly to them, claims processors all agreed that they were learning continuously.[15]

If one had confronted those claims processors after a few months on the job and asked what their preferred learning style was, I suspect one would have drawn a blank stare. They knew their formal training was inadequate to prepare them for their work, but might not have been able to articulate how they learned, except by processing claims—or perhaps even what they knew. Much of their understanding was tacit—they didn't know what they knew until they were called upon to use it. John Seely Brown and Paul Duguid call attention to another example of this kind of tacit learning in their book, *The Social Life of Information*; there they relate some fascinating research about Xerox's technical (copier) service reps.

> What looked quite clear and simple from above (i.e., to management) was much more opaque and confusing on the ground. Tasks were no longer so straightforward, and machines, despite their elegant circuit diagrams and diagnostic procedures, exhibited quite incoherent behaviors. Consequently, the information and training provided to the reps was inadequate for all but the most routine of the tasks they faced.[16]

But the reps get together daily for breakfast, coffee, lunch or at the end of the day, (an activity the corporation would have said did not add value).

> This sociability wasn't simply a retreat from the loneliness of an isolating job. At these meetings, while eating, playing cribbage, and engaging in what might seem like idle gossip, the reps talked work, and talked it continuously. They posed questions, raised problems, offered solutions, constructed answers, and discussed changes in their work, the machines, or customer relations. In this way, both directly and indirectly, they kept one another up to date with what they knew, what they learned, and what they did.[17]

By participating in this community of practice, service reps picked up the kind of knowledge they needed to perform their job. "They were critical resources for each other. The informal and extracurricular group helped each member to reach beyond the limits of an individual's knowledge and of the process documentation."[18] The essence of this concept of learning was stated fifty years ago: "much of human behavior takes place in a meaningful environment and is acquired through social interactions with other people."[19] The learning model is commonly called "situated learning," which posits that there is no firm separation between what is learned and how it is learned and used.[20]

The Internet's neglected promise

The ascendant practice today is an e-Learning model built around a traditional classroom

presentation—one that seems to equate information transfer with knowledge assimilation—highly scalable, but not individualized. On the other hand, there is a good reason to believe that many competencies in the workplace—not just in lower level work, but in the rarefied advanced physics and medical labs—are gained through participation in communities of practice. Is much of adult learning, therefore, simply, as Robert Frost put it, "hanging around until you've caught on?" Not quite. Observation (lurking, in online parlance) is not enough—there has to be what Lave and Wenger call "legitimate peripheral participation" in the work of the community for learning to happen.[21]

If you will grant that premise, then the promise of Internet technologies lies in the ability to build and sustain communities, for in the interaction among members and the reciprocity of participation, will emerge the tacit learning that is the basis of most competencies. The promise of the Internet lies less in the reach it affords—the scalability of our webcasts and textbooks saved as html—but in the possibilities of multipoint communications which may help to build communities of practice and other cohorts of learners. And what then is the salience of what is known about how people learn from formal instruction? Likely to remain of marginal significance compared to the importance of an understanding of what can be done to nurture the development of learning communities.

An understanding of where and how learning occurs ought to lead to a revision of our e-Learning models. It is not that "hanging around" is better than e-Learning, or that a blended solution combines the best of live seminars and e-Learning—blended learning is not an instructional strategy or a learning model—it simply describes the location for the formal (still largely presentational modes of) training. The revision of that e-Learning model probably has to begin by acknowledging that information transmission is not the same thing as knowledge assimilation—a stream of information pumped through the Internet is more likely to result in a puddle of incomprehension than any real competency. We will have to acknowledge that a significant percent, perhaps even most learning, is going to develop within a community of practice. The real payoff from the Internet is going to come when we use it to enlarge and sustain those communities—not from extending the reach of information-transmission models.

The competencies required of the instructional designer and e-Learning developer will have much less to do with articulating and packaging information, and much more with ways of encouraging participation and building online communities of learners. Those communities will have in common the nature of their work—as coaches, fundraisers, programmers, etc.—rather than their location or their employer. And the matter of their learning styles will be largely irrelevant because such communities, by their nature, encompass a variety of styles.

This is part one of a two-part article on learning models and Internet technologies. The article has been adapted from Greenagel and Lagay's forthcoming book, *Wired Seminars*. See also their websites, www.guidedlearning.com and www.wiredseminars.com.

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Author's note: I come to this article from 15 years years as CEO of three multimillion dollar divisions of very large, public corporations (Litton Industries, VNU nv), a college professor (University of Minnesota, University of Colorado), an industrial psychologist, textbook & reference publisher (VanNostrand, Aretê) and, for the last 18 years, a courseware developer/consultant. I was the driving force behind the development of the first online encyclopedia (*Academic American Encyclopedia*, later called Groliers) in 1980, and have created a variety of technology-based learning programs for clients such as the American Red Cross, Foxwoods Casino, Northwestern Mutual Life, Toshiba and UPS. For almost 20 years, I have been a Trustee of a large community college (Raritan Valley) in New Jersey, one repeatedly recognized by Yahoo as a "most wired" college. Since 1983 I have been Managing Director of Guided Learning Strategies, a learning development consultancy. If there is a bias here, it reflects that of a teacher wholly committed to offering the best possible technology-based learning experience for students.

[1]Howard Gardner. *Frames of Mind: The Theory of Multiple Intelligences*. New York: Basic Books, 1983

[2]ASTD Glossary of e-Learning Terms, www.Learning Circuits.com

[3]Ethan Sanders, "E-Learning Competencies," www.Learning Circuits.com, March 2001, adapted from Mr Sanders' *ASTD Models for Learning Technologies.*

[4]Sharan Merriam and Rosemary Caffarella. *Learning in Adulthood; A Comprehensive Guide*. Second Edition. San Francisco: Jossey-Bass, 1999. p. 209

[5]Ibid. p. 306

[6]Ibid. p. 210

[7][source for the 30% listening, etc data]

[8]Etienne Wenger, *Communities of Preactice: Learning, Meaning and Identity.* New York: Cambridge, 1998, p. 9-10

[9]A column in the May 2003 issue of Chief Learning Officer bewails the apathy that learners exhibit towards the, for example, 2,000 licensed e-learning courses paid for by a corporation that rest unused, noting that while "most senior executives now "get" e-learning, . . . individual learners don't." Kevin Kruse, p. 21

[10]Of less importance, but perhaps significant, is that the learning styles inventories are mainly useful in helping individuals assess their own learning strengths and weaknesses and not particularly valuable as an aid in developing instructional strategies.

[11]Robert Gagne. *The Conditions of Learning and Instruction.* Fourth Edition. Thompson, 1985

[12]Gardner, *Frames of Mind*. p. 357

[13]Wenger, *Communities of Practice*, p. 100

[14]Ibid. p. 41

[15]Ibid. p. 94

[16]John Seely Brown and Paul Duguid. *The Social Life of Information*. Boston: Harvard Business School Press, 2000. p. 100

[17]Ibid. p. 102

[18]Ibid. p. 103

[19]J. B. Rotter, citied in Merriam, p. 260

[20]Jean Lave is the person most closely associated with this concept. See Lave and Wenger, *Situated Learning: Legitimate Peripheral Participation*. New York:Cambridge, 2001

[21]Ibid.