"The impact of Effective Teaching Strategies on achieving Successful knowledge

Management''

A paper submitted to the First Conference Held in the Faculty of Economics and Administrative Sciences

Monday the 30th of April 2007

By

Dr. Ahmed Awad

An-Najah National University

2007

Abstract

This paper overstresses the overlapping relationship between teaching strategies and knowledge management. In an attempt to achieve this goal, the researcher tries to give a satisfactory answer for each of the following questions which all together can shape the boarder line of the overall research. These questions are arranged according to the following categorization just for the sake of facilitation and harmony:

1-What is effective teaching? What is an effective teaching strategy?

2- What is knowledge management? Can knowledge be managed?

3- What are the kinds of Knowledge management?

4-What are some of the suggested teaching principles that can affect knowledge management?

4- What is the relationship between knowledge and intelligence?

1- What is effective teaching? Effective teaching is the basis of successful learning. Effective teaching identifies and builds on prior knowledge, makes real-life connections, develops deep understanding and monitors and reflects on learning.

What is an effective teaching strategy? It is a way through which teachers can improve students' achievement across all content areas and across all grade levels.

2-What is knowledge management? Can knowledge be managed?

Knowledge management {KM} is known under rubrics such as organizational learning, organizational memory, and expertise management.

Knowledge management is often seen as a problem of capturing, organizing, and retrieving information, evoking notions of data mining, text clustering, databases, and documents. We believe that this view is too simple. Knowledge is inextricably bound up with human cognition, and the management of knowledge occurs within an intricately structured social context. We argue that it is essential for those designing knowledge management systems to consider the human and social factors at play in the production and use of knowledge. We review work—ranging from basic research to applied techniques—that emphasizes cognitive and social factors in knowledge management. We then describe two approaches to designing socially informed knowledge management systems, social computing and knowledge socialization. Becerra-Fernandez and R. Sabherwal (2004)

Knowledge management comprises a range of practices used by organisations to identify, create, represent, and distribute knowledge for reuse, awareness, and learning across the organizations. O'Dell and Grayson (1998)

Knowledge Management programs are typically tied to organisational objectives and are intended to lead to the achievement of specific outcomes, such as shared intelligence, improved performance, competitive advantage, or higher levels of innovation.

What are some of the suggested teaching principles that can affect knowledge management? As indicated by many researchers there is a close positive relationship between an effective teaching strategy and knowledge management Tiwana (2002), Suresh and Mahesh, (2006), Stankosky, (2004), Schwartz (2005), Bray (2006) and O'Sullivan (2007) among others.

1. Variety

Building a variety of assessment methods, class activities or learning tools can achieve output a more substantial and higher quality than individual output. The quality of group presentations is also often better than individual ones.

2. Giving students the voice

While most teachers have a lot of knowledge to share with their students, the researcher finds that it is often useful to step back and 'give the floor' to the students. some weightage (10% to 15% depending on the level of the course) should be

dedicated to class participation. Draw out the quiet or shy students into the discussion by posing them questions can achieve good results

3. Shorter assessment methods

short quizzes with interesting strategic situations can be 'solved' in a relatively shorter time. Immediately after a quiz is over, appropriate responses could be given and discussed.

4. Challenge the mind

cases and situations that have seemingly simple answers but actually require a more complex and in-depth explanation should be encouraged through probing beneath the surface. "Corporate Strategy".

5. Debate and discussion rather than information transmission

The way issues are framed or posed to students will determine their responses. Therefore, it is more useful to pose a question to the students (e.g. what is the impact of globalization on firms from small countries?), get their responses and then inform them of my perspective and position regarding the issues. This often sparks debate and interaction among students. Through such a teaching approach, students are more likely to imbibe the key points rather than a one-way (teacher to students) transmission of information. Callaghan (2002) and Clare and Detore (2000),

6. Discussion forums

The discussion forums can achieve a variety of purposes. Firstly, for exploring issues that are related yet somewhat distinct to the class. Secondly, such forums are a wonderful channel for the shy students to express their points of view. It is interesting that the online debates often generate more responses and counter-responses compared to the verbal discussion in class.

The kick-start is focal since a weak beginning can quickly kill a forum. Once a discussion gathers momentum.

7. Identifying Similarities and Differences

The ability to break a concept into its similar and dissimilar characteristics allows students to understand (and often solve) complex problems by analyzing them in a more simple way. Teachers can either directly present similarities and differences, accompanied by deep discussion and inquiry, or simply ask students to identify similarities and differences on their own. While teacher-directed activities focus on identifying specific items, student-directed activities encourage variation and broaden understanding, research shows. Research also notes that graphic forms are a good way to represent similarities and differences.

8. Summarizing and Note Taking

These skills promote greater comprehension by asking students to analyze a subject to expose what's essential and then put it in their own words. According to research, this

requires substituting, deleting, and keeping some things and having an awareness of the basic structure of the information presented.

Research shows that taking more notes is better than fewer notes, though verbatim note taking is ineffective because it does not allow time to process the information. Teachers should encourage and give time for review and revision of notes; notes can be the best study guides for tests.

9 Cooperative Learning

Research shows that organizing students into cooperative groups yields a positive effect on overall learning mainly in creating a succesful social situation. When applying cooperative learning strategies, keep groups small and don't overuse this strategy-be systematic and consistent in your approach. Ward (2001), Cross and Parker (2004).

10- Stories and storytelling and KM

Stories and storytelling provide another possible way to foster creativity in individuals and groups, and they also provide a valuable way of presenting and communicating knowledge. In some cases, particular stories can illustrate a specific point. One fairly common yet difficult point to make in teaching the concepts of systems thinking is the kind of mutual impact that people have on each other. For example, a marketing department may feel that the engineering department is unresponsive and takes too long to make changes. To counter this, the marketing department may develop a whole suite of requirements and ask for them earlier than is actually necessary, hoping to "speed up" development so that enough features will be provided for a timely, competitive product. Of course, such behavior makes the engineering department feel less like being responsive to marketing. Breaking out of such "vicious circles" is difficult. Direct communication can often backfire under these circumstances, because it can trigger defensiveness and defensive countermoves. An alternative suggested here is to provide a story to both groups about another situation in which the same principles apply. Snowden reports several business has helped to produce breakthroughs.

Finding appropriate stories for the situation at hand, however, is nontrivial. In our laboratory, we are developing tools to help. In one such tool, Gordon44 describes a "script-based browser" that allows a user to find stories based on the type of activity they contain. This approach has been applied to a very large story collection called the "American Heritage Project"—stories commissioned in the 1930s by the Works Progress Administration, many of which are available on line. As work progresses on the abstract planning strategy language described previously, the browser can be used to find stories about analogous activities as well. (Gill, 2001, p. 27).

In some cases there are other characteristics of a story that may be important in selection. Our laboratory has begun developing a Story Markup Language for describing the various aspects of a story. We plan to develop software for either adding meta-data to stories automatically or helping a user do it in a straightforward fashion. Such meta-data might be used to search for specific kinds of stories or could be used as the basis for visualizations of the set of stories that users can quickly scan to find likely candidates.

The Story Markup Language not only deals with the internal content of the story but also with the social context. Storytelling is fundamentally social: in everyday events, people tell stories to specific other people (who are usually physically present) in particular social contexts (at dinner, in a meeting, etc.). Social factors influence who tells what stories to whom and when. In designing effective ways to collect and provide access to stories, we think it is important to attend to some of the basic social dynamics that affect everyday storytelling, such as reasons for telling stories, the teller's knowledge of the audience, and the role the audience takes in the telling.

As one example of how the social context of storytelling can influence its teaching effectiveness, we must recall that, in a business context, the audience of a story does not simply "take in" the story. In the case of fictional stories (e.g., stories told in an entertainment context), readers and listeners will "buy" the story as long as it is internally consistent. But in the context of using stories to foster change in the real world, the audience must not only see the story as internally consistent, but also as consistent with external reality. An elaboration of such social factors in storytelling and their implications can be found in Lawrence and Thomas.

There is a broad range of thought on Knowledge Management with no unanimous definition current or likely. The approaches vary by author and school. For example, Knowledge Management may be viewed from each of the following perspectives: Frid (2004).

Techno-centric: Focus on technologies, ideally those that enhance knowledge sharing/growth, frequently any technology that does fancy stuff with information.

Organizational: How does the organization need to be designed to facilitate knowledge processes? Which organizations work best with what processes?

Ecological: Seeing the interaction of people, identity, knowledge and environmental factors as a complex adaptive system.

Can knowledge be managed? The words management and knowledge at first sight appear uneasy bedfellows. Knowledge is largely cognitive and highly personal, while management involves organizational processes. Many knowledge workers However, knowledge is increasingly recognized as a crucial organizational resource, that gives market leverage. Its management is therefore too important to be left to chance. This briefing paper outlines what steps senior managers should take to leverage the knowledge in their organization. Anderson, B. (2001).

The dominant conception of knowledge management—particularly that which has spread beyond the circle of researchers and practitioners into the marketplace—is overly tidy. Knowledge management is seen primarily as a problem of capturing, organizing, and retrieving information, evoking notions of databases, documents, query languages, and data mining. Knowledge is seen as passive, analytic, and atomistic: it is composed of facts that can be stored, retrieved, and disseminated, with little concern for the context in which the facts were originally embedded, and little concern for the new and often quite different contexts in which they will be used. In this view, as one widespread advertisement recently claimed, knowledge management is nothing more than getting the right information to the right people at the right time.

Tacit versus explicit knowledge

A key distinction made by the majority of knowledge management practitioners is Nonaka's reformulation of Polanyi's distinction between tacit and explicit knowledge. The former is often subconscious, internalized, and the individual may or may not be aware of what he or she knows and how he or she accomplishes particular results. At the opposite end of the spectrum is conscious or explicit knowledge - knowledge that the individual holds explicitly and consciously in mental focus, and may communicate to others. In the popular form of the distinction tacit knowledge is what is in our heads, and explicit knowledge is what we have codified.

Nonaka and Takeuchi (1995) argued that a successful KM program needs to, on the one hand, convert internalized tacit knowledge into explicit codified knowledge in order to share it, but also on the other hand for individuals and groups to internalize and make personally meaningful codified knowledge once it is retrieved from the KM system. See the figure



Knowledge and intelligence

A common metaphor for knowledge, still quite common in Western society, is that it consists of separate little "beads" or factoids, and that these knowledge "atoms" can be collected, stored, and passed along. Views like this are what underlie the notion that an important part of knowledge management is getting access to the "right knowledge." Although, obviously, it is important to find knowledge that is relevant to whatever problem is at hand, there is quite a lot of research that paints a considerably more complex picture of knowledge. Allee, V.(1997 and 2003)

To begin with, let us take a look at some findings from research in the area of human intelligence. Outgrowths from the endeavor to test "intelligence" over the last century have led to an understanding that there are different types of intelligence that work primarily on different forms of knowledge. Although there are variants on this theme, the most popular recent work, as well as one having a sound empirical base, is probably that of Sternberg. Perhaps the most ambitious and elegant theoretical framework was developed by Guilford, who built a three-dimensional model of mental processes. In this work, there were differently sized Products of mental operations: Units, Classes, Relations, Systems, Transformations, and Implications. There were different Operations (processes) that could be performed: Cognition, Memory, Divergent Thinking, Convergent Thinking, and Evaluation. Finally, there were different types of Content: Figural, Symbolic, Semantic, and Behavioral. While this system has largely fallen out of favor as a basis for testing intelligence, it is an interesting framework for KM developers to consider. All too often knowledge management systems are designed implicit, unquestioned, and unacknowledged limitation on the varieties of knowledge that are supported.

If even factual knowledge is not quite as objective as we might expect, it is not surprising to find that other forms of knowledge are even more subjective. For example, one important early debate in psychology centered on introspectionism versus empiricism. This debate arose in part due to inconsistencies in subjects' selfreports of experiences of perception and consciousness. At the time, the scientific community reacted by declaring that only objectively observable phenomena should be used in building a reliable understanding of mental processes; today, in the wake of the failure of the behaviorist project, there is greater openness toward subjective forms of knowledge. Although it is clear that some kind of "self-knowledge" is essential for people to behave intelligently (e.g., without knowledge of the limits and capacities of our bodies we might continually be running into things), individuals differ on how such knowledge is best viewed.

In addition, research has shown that there are a number of important cases in which a person's self-knowledge is inaccurate. In the "fundamental attribution fallacy" literature, studies show that the behavior of an individual is highly influenced by context, and yet people give explanations for their behavior based on their own internal values. For example, bystander studies consistently show that people are much more likely to help a person in distress if they are alone rather than if they are with a large group, and yet, when asked whether they would respond differently depending on how many others are present, people claim that it would make no difference.8 This has important implications for modern knowledge management practices. Not only are people very much influenced by the social context, they may believe that they are not so influenced, when they in fact are. Although some have pointed out that the productivity of both teams9 and large organizations10,11 is pervasively influenced by social context, we believe the impact is often underestimated, not only by subjects in social psychology experiments but also in everyday business decisions about knowledge management.

If knowledge is not so simple as our ways of talking about it assume, neither is the process of communicating it to others. As Brown and Duguid note:

The idea of a document as a carrier is an example of what Michael Reddy calls a "conduit" metaphor. People regularly describe most communication technologies in conduit terms, talking of information as "in" books, files, or databases as if it could just as easily be "out" of them. We ask or are asked to put ideas "down on paper," to "send them along," and so forth.

However, there is quite a lot of research that suggests that it is not just a matter of getting the right knowledge to people—people need to engage with it and learn it. One of us has argued that a more realistic and useful model of communication is a "design-interpretation. this model, the speaker uses knowledge about the context and

the listener to design a communication that, when presented to and interpreted by the listener, will have some desired effect. In the "design-interpretation" model, a knowledge worker would be viewed in an active, constructionist role, consistent with a wide variety of empirical results.

There is quite a lot of research that is relevant to this view. Theorists as disparate as Dewey, Vygotsky, and Piaget and Inhelder have consistently shown that the mere presentation of information does not necessarily result in learning. People have to become actively involved for behavior to change, for insight to occur, for problems to be solved. Vygotsky stressed that this learning and insight had a significant social component, even if the resulting knowledge was of a type we might classify as mathematical or scientific. Yet, all too often, large organizations come to believe that simply making more information available more widely will "solve" knowledge management problems. By way of contrast, within IBM much of the management training is done via scenario-based training. In this technique, the individual is asked to make choices in realistically portrayed situations such as ones that managers face. These scenarios are based on an analysis of real situations, and assume that when the individual makes a "mistake" in the simulator or is "surprised" by a result, it motivates the person to read and understand the rationale. In the use of such simulators, even if the individual learner is sitting alone in front of a computer console, learning is very much influenced by social context. It is the social context of the scenario that provides much of the motivation and interest as well as guidance on what constitutes a "right answer."

In addition to arranging interactions so that people actively engage with knowledge, there are other considerations from earlier work that are applicable to knowledge management systems. We know, for example, that people are better able to both distinguish and remember knowledge that is encoded on multiple dimensions.¹⁹ However, in contrast to the variety of sensory cues that naturally occur in real-world "paper" systems, many current generation systems provide little in the way of differentiating cues. Given the processing power and memory of today's computers, it would be quite feasible instead to provide sensory "signatures" that are unique to various items. "Folders," for instance, could easily be portrayed not only in different colors, but also by different sizes and textures. Indeed, small musical animations could even hint at the structure or content of a folder or its date of last access. Of course, a challenge in convincing organizations to adopt sensory-rich approaches to laying out a knowledge space is that performance improvements may only be observable after extended usage.

A large number of indicators point toward the reality of an information-processing world moving toward greater fidelity and multimodality. Over the last four decades, user interfaces have evolved from lights and toggle switches to keyboards, mice, icons, and speech I/O. In the entertainment industry, we now see computer-generated full-length movies. Video games strive toward greater responsiveness, more modes of experience, and more detailed images. Research laboratories continue to push the boundaries of multimodal I/O, including virtual reality and augmented reality. Yet, in a business context, knowledge management writings and practice often seem to focus on the content of systems while ignoring the method of presentation. Beyond considerations of cost, there sometimes seems to be almost a puritanical business-culture ethic toward avoiding presentations that stimulate the senses and utilize the complete human brain.

References

Allee, V.(1997) The Knowledge Evolution: Expanding Organizational Intelligence, Elsevier, ISBN 0-7506-9842-X.

Allee, V (2003) The Future of Knowledge: Increasing Prosperity through Value Networks, Elsevier ISBN 0-7506-7591-8.

Anderson, B. (2001). "Opening Corporate Silos." *Knowledge Management*, (4):6. p.64 June, 2001. Available on line at : http://www.destinationcrm.com/km/dcrm_km_article.asp?id=863

Becerra-Fernandez, I. and R. Sabherwal (2004), Knowledge Management: Challengers, Solutions and Technologies, ISBN 0-13-101606-7.

Bray, D. (2006). Exploration, Exploitation, and Knowledge Management Strategies in Multi-Tier Hierarchical Organizations Experiencing Environmental Turbulence, North American Assoc. for Computational Social and Organizational Science (NAACSOS) Conference, June 2006. Article available on SSRN

Callaghan, J. (2002), Inside Intranets & Extranets: Knowledge Management and the Struggle for Power, Palgrave Macmillan, ISBN 0-333-98743-8.

Clare, M. and Detore A. (2000), Knowledge Assets Professional's Guide to Valuation and Financial Management, Apsen Publishers, ISBN 0-15-607000-6.

Cross, R. and Parker, A. (2004), The Hidden Power Of Social Networks, Harvard Business School Press, Boston, Mass, ISBN 1-59139-270-5.

Frid, R. (2004), Frid Framework for Enterprise Knowledge Management: A Common KM Framework for the Government of Canada, IUniverse Publishing, ISBN 0-595-30699-3

Garvin, D. A. (2000), Learning in Action: A Guide to Putting the Learning Organization to Work, Harvard Business School Press, Boston, MA, ISBN 1-57851-251-4.

Gill, Philip J. (2001). "Once Upon An Enterprise: The ancient art of storytelling emerges as a tool for knowledge management." *Knowledge Management*, (4):5. pp. 24-28. Available online at: http://www.destinationcrm.com/km/dcrm_km_article.asp?id=823

Marzano, D. and Pollock, (2001) <u>Classroom Instruction That Works</u> by. Marzano, D. and Pollock, 2001, Alexandria, VA: ASCD.

Nonaka, I. and Takeushi, H. (1995), The Knowledge-Creating Company, New York: Oxford University Press.

O'Dell, C. and C. J. Grayson Jr. (1998), If Only We Knew What We Know: The Transfer of Internal Knowledge and Best Practice, Free Press, New York, ISBN 0-684-84474-5.

O'Sullivan, K. J. (2007), "Strategic Knowledge Management in Multinational Organizations" Idea Group Publishing, Hershey PA. ISBN 1-59904-633-4

Schwartz, D, editor (2005), Encyclopedia of Knowledge Management, Idea Group Reference, ISBN 1-59140-574-2.

Stankosky, M., editor (2004), Creating the Discipline of Knowledge Management: The Latest in University Research, Butterworth-Heinemann, ISBN 0-7506-7878-X

Suresh, J. K. and Mahesh, K. (2006), Ten Steps to Maturity in Knowledge Management: Lessons in Economy, Chandos, Oxford, UK, ISBN 1-84334-130-1.

Tiwana, A. (2002), The Knowledge Management Toolkit: Orchestrating IT, Strategy, and Knowledge Platforms (2nd Edition), Upper Saddle River, NJ: Prentice Hall, 2002, ISBN 0-13-009224-X.

Thorn, Christopher . (2001). "Knowledge Management for Educational Information Systems" What Is the State of the Field?" *Educational Policy Analysis Archives* (9):47. November 19, 2001. Available online at: http://epaa.asu.edu/epaa/v9n47/

Ward, Lewis. (2001). "Collaborative KM Tools: Putting Customer Care Online." *Knowledge Management* (4):4. pp. CS1-CS6. Special Advertising Section.