The Quest For The Effectiveness Of Knowledge Creation

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ABSTRACT:

This paper discusses how knowledge creation in organizations can be optimized. Kolb (1985) learning styles theory is used to show that organizational knowledge is better developed when people with different learning styles interact with each others. It is argued that the misfit between Kolb (1985) learning styles would lead to better knowledge creation. The outcomes of this discussion are of high importance to knowledge based organizations as well as to groups of people who participate in dialogues and decision making.

Keywords: *Knowledge creation, Knowledge management, Learning styles, Knowledge*

Introduction

This paper discusses how knowledge creation in organizations can be optimized. Kolb learning styles theory is used to show that people with different learning styles when interacting with each other, can form more knowledge. It is argued that the misfit between Kolb learning styles would lead to better knowledge creation. We are advancing a research proposition that seems to contradict the widely accepted communication assumption which stipulates that knowledge is better created between homogenous groups of people. In this paper we combine two theories; Nonaka (1994) knowledge creation theory and Kolb (1985) learning style theory to show that heterogeneous groups of people can develop more knowledge.

Learning Styles Theories

Think about what you do when you have to learn something new. You probably approach the task in the same way each time. As the learning process repeats itself over time, you develop a habit or a set of learning patterns which become your cognitive / learning style. In a classroom for example, students learn the same learning material differently depending on their learning style.

Allport (1937) was the first to formally propose the concept of learning styles. He referred to them as; "an individual's habitual or typical way of perceiving, remembering, thinking, and problem solving". In the late 1960s to early 80s the study of learning theory mushroomed, whereby close to, "30 different theories of learning styles, and more than thirty instruments for evaluating learning styles were proposed" (Ouellete, 2000).

While there is great debate within the field over the appropriate definition of learning style, the general consensus within cognitive psychology is that, "people exhibit significant individual differences in the cognitive processing styles that they adopt in problem solving and other similar decision-making activities" (Robertson, 1985) or "the individual's consistent and characteristic predispositions of perceiving, remembering, organizing, processing, thinking and problem solving" (Ginther and Liu, 1999).

Another commonly held view among scholars in this field includes the notion that learning styles are, "distinct from intelligence, ability, and personality" (Riding and Rayner, 1999). Other important characteristics of learning styles which have also become generally accepted within the field include: "the generality/stability across tasks over time; independence of cognitive styles from measures of general ability; and the relationships between cognitive abilities and specific characteristics and abilities" (Ausburn and Ausburn, 1978).

David Kolb (1979, 1985) has written extensively on the subject and his model is frequently used. According to Tennant (1988), "Kolb's Learning Styles Inventory is one of the dominant approaches to categorizing cognitive styles". Kolb identified two separate learning activities: perception and processing and each of these learning activities can be divided into opposites.

Perception Activity

People will have a preference along the line between:

- *Concrete experience*: Looking at things as they are, without any change. Here people best perceive information using concrete experiences (like feeling, touching, seeing, and hearing)

- *Abstract conceptualization*: Looking at things as concepts and ideas. Here people best perceive information abstractly (using mental or visual conceptualization).

Processing Dimension

People will take the results of their Perception and process it in preferred ways along the line between:

- *Active experimentation*: Taking what they have concluded and trying it out to prove that it works.

- *Reflective observation*: Taking what they have concluded and watching to see if it works by thinking about it

By combining these opposite dimensions, we get Kolb (1985) four learning styles: converger, diverger, assimilator and accommodator as shown bellow in Figure 1.

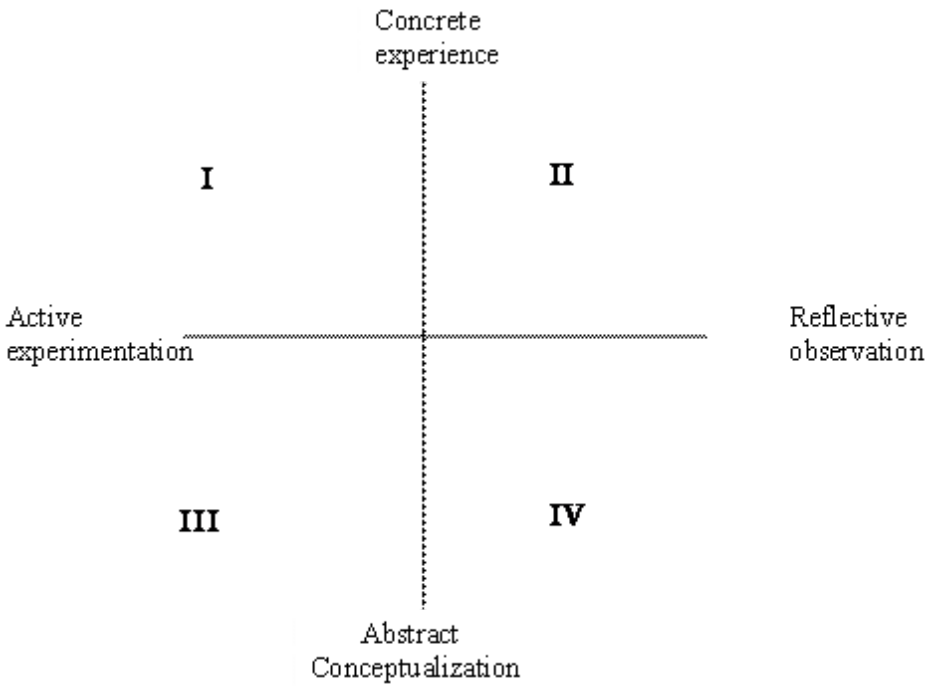

Figure 1: Kolb Learning

Type I learner: Accommodators (Concrete experiencer / Active experimenter):

You are primarily a "hands-on" learner. You like to practice what you learn. You tend to rely on intuition rather than logic. You don't like abstract concept. You enjoy applying your learning in real life situations. You prefer doing thing rather than thinking about them. You dislike routine tasks. You prefer experimentation and real life learning material rather than classic lectures.

Type II learner: Divergers (Concrete experiencer / Reflective observer):

You like to look at things from many perspectives, thus diverging from a single point of view. You like to gather information and create many possibilities of things. Feeling is a major conditional activity when you. You are a constructivist. You like the bottom up approach in which you create the top by gathering and organizing pieces from the bottom. You like to discover. You enjoy inductive logic and you are more comfortable with qualitative type of research.

Type III learner: Convergers (Abstract conceptualization/Active experimenter):

You like solving problems and finding practical solutions and uses for your learning and you prefer technical tasks. You like to think about things and then try out their ideas to see if they work in practice. You prefer working by yourself and you like to think and act independently.

Type IV Learner: Assimilators (Abstract conceptualizer/Reflective observer):

You are logical. Abstract ideas and concepts are very important to you. Practicality is less important to you than a good logical explanation. You prefer to think rather than acting. You like structured understanding. They prefer lectures. You prefer top down approach.

Knowledge Creation

Today knowledge and the capability to create and utilize knowledge are considered to be the most important sources of a firm's sustainable competitive advantage (Nonaka, 1991, 1994; Nelson, 1991; Leonard-Barton, 1992, 1995, Quinn, 1992; Drucker, 1993; Nonaka and Takeuchi, 1995; Grant, 1996). Nonaka (1994) knowledge creation theory is based on the knowledge creation process which is made of four activities: socialization, externalization, Combination and Internalization. The process starts off with the socialization activity in which people interact and share real life experiences. This interaction produces tacit knowledge that is held in human's brain. The tacit knowledge is then converted into explicit knowledge thought the externalization activity so that people can share it. External knowledge from different sources is combined to the new explicit knowledge through the combination process. Finally, the new combined knowledge in transformed into new tacit knowledge that is stored in human brain. Nonaka argues that knowledge in organizations is created through this cycle.

Dialogue is the medium by which knowledge is created. Firms differ because they strive to differ (Nonaka and Toyama, 2005) and because we humans who form the organization are different. Dialogue allows a person to express his knowledge and what the truth is from a particular context and a particular view. "Truth differs according to who we are (values) and from where we look at it (context). In organizational knowledge creation, it is such differences in human subjectivities that helps create new knowledge. The difference in subjectivities means the differences in how we view the world" (Nonaka and Toyama, 2005). People's views about the world and about the truth can be contradictory and it is the synthesis of these contradictions through dialogue that lead to knowledge creation (Nonaka and Toyama, 2002, 2003).

Research Proposition

Our goal in this paper is to combine Nonaka's knowledge creation theory which is based on the synthesis of contradictions and subjectivity on one hand and Kolb learning style theory on the other hand. We argue that the combination of the two theories may

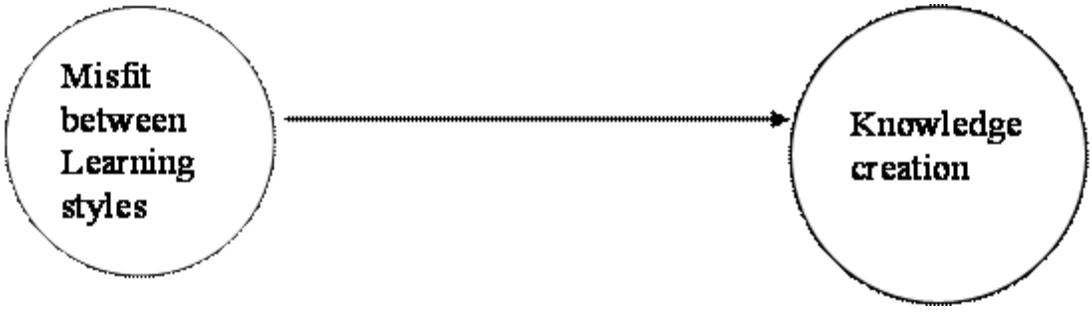

Figure 2: Framework of Research Proposition

Nonaka's theory is based on people who communicate through dialogues to create knowledge. Kolb argue that a person has a preferred learning style by which he perceives and process information and knowledge. We argue that if an individual has a preferred learning style, he or she will use the same style to provide what he has learned to others. If I am a converger in learning, I will be a converger is providing. For example, if a person prefers logic and abstract presentation of concepts and information, he or she will provide what he learned in the same abstract and logic presentation. Since knowledge is created by a synthesis of subjective views of the world and contradictions, we advance that when individuals who are involved in the dialogues have different learning styles, there would be more contradictions and different views to synthesize which would lead to more knowledge created in the process.

Implications And Conclusion

Our proposition has many important implications. First, organizations which search for knowledge need to set up teams of people who have different learning styles. Kolb learning style instrument that indicates which learning style fits an individual can help identify team members. Second, innovative organizations that seek new products and services can also base their choices of knowledge providers on learning styles. Third, it would be better to carefully choose individuals with different learning styles before they get involved in using decision systems such as group decision support systems.

We call for further research to empirically test our proposition in a verity of settings before advancing any theory.

References

Allport, G. W. (1937). *Personality: A psychological interpretation,* New York: Holt & Co.

Ausburn, L. J. and Ausburn, F. B. (1978),. Cognitive styles: Some information and implications for instructional design. *Educational Communication and Technology*, 26 (4), 337-354.

Drucker, P. (1993), *Post-Capitalist Society*,Butterworth Heinemann, London.

Ginther, D and Liu, Y. (1999), Cognitive Styles and Distance Education, *Online Journal of Distance Learning Administration*, Volume II, Number III

Grant, R.M. (1996), "Toward a knowledge-based theory of the firm", *Strategic Management Journal,* Vol 17, (Winter Special), 109–122.

Kolb, D. A., Rubin, I.M., and McIntyre, J.M. (1979), *Organizational Psychology*, A Book of Readings.

Kolb, D.A. (1985), *LSI Learning-Style Inventory*, McBer & Company, Training Resources Group, 116 Huntington Avenue, Boston, MA, 02116.

Leonard-Barton, D. (1992), "Core capabilities and core rigidities: a paradox in managing new product development", *Strategic Management Journal,* Vol, 13, No 5, pp 363–380.

Leonard-Barton, D. (1995), *Wellsprings of Knowledge*, Harvard Business School Press, Boston.

Nelson, R.R. (1991), "Why do firms differ, and how does it matter?" *StrategicManagement Journal,* Vol . 12(Winter special issue), pp 61–74.

Nonaka, I. (1991), "The Knowledge-creating Company", Harvard Business Review 96–104.

Nonaka, I. (1994), "A dynamic theory of organizational knowledge creation", *Organization Science*, Vol 5, No 1, pp 14–37.

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

Nonaka, I. and Toyama, R. (2002), "A firm as a dialectic being: toward the dynamic theory of the firm", *Industrial and Corporate Change,* Vol 11, pp 995–1109.

Nonaka, I. and Toyama, R. (2003), "The Knowledge Creating Theory Revisited: Knowledge Creation as a Synthesizing Process", *Knowledge Management Research and Practice,* V 1.

Nonaka, I and Toyama, R (2005), "The theory of the knowlwdge-creating firm: Subjectivity, objectivity and synthesis", *Industrial and Corporate Change*, Vol 14, No 3, pp 419-436.

Ouellette, R. (2000), Learning Styles in Adult Education, University of Maryland University College, <http://polaris.umuc.edu/~rouellet/learnstyle/learnstyle.htm>.

Quinn, J. (1992), *Intelligent Enterprise: A Knowledge and Service Based Paradigm for Industry*. Free Press, New York.

Riding, R. J. and Rayner, S. (1999), "The information superhighway and individualized learning", *Educational Psychology,* 15 (4), 365-378.

Robertson, I. T. (1985), "Human information-processing strategies and style", *Behavior and Information Technology*, 4 (1), 19-29.

Tennant, M. (1988), *Psychology and adult learning*. London: Routledge.

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