Learning Objects Wiki Tools as a Simulation of Knowledge Building in a Digital World

Mary T. Rogers, Ph.D.

Framingham State University, Framingham, Massachusetts, USA, mrogers@framingham.edu

Abstract

This paper covers the use of the digital learning tool, Wiki, in an MBA Organization Behavior course to model Knowledge Transfer and Creation. The premise for using the Wiki as a simulation for Knowledge Building is covered as well as setting up the assignment including potential exercises used to increase the effectiveness of the activity are covered in the paper.

This paper covers the use of Wikis in a hybrid course as both a learning tool for engaging students in their own learning as well as a way to learn the process of knowledge formation in a digital global environment. The hybrid course was an Organization Behavior and Theory course for a newly formed part-time MBA program. Using a hybrid for this course allowed the students to make efficient use of their time on campus by reducing the hours in a live classroom and allowing the course students to engage each other using their understanding from their own working situations as well as their theoretical understanding from their individual research. However, use of the Wiki as a simulation of Knowledge Building could be transferred to an online environment due to the reliance on digital communication throughout the process.

A Wiki assignment was constructed to tie theoretical understanding of Organizational Behavior concepts to the students' own experiential understanding of the concepts. Students had to enhance notes and understandings created by two other classes within a Wiki format and challenge their current classmates with the development of a challenge question. This simulated the development of Knowledge Building. The challenge question was designed to engage their peers in reviewing and considering all the material in that topic area Wiki. This served as an assessment tool to judge the depth of knowledge building by both the group building the particular wiki and the individuals answering the wiki builder group's questions. To complete this task, the students worked on teams in an asynchronous mode using the collaborative tools available to them within Blackboard environment, the college's course management platform available to all faculty, staff and students.

Theoretical Underpinnings

In devising assignments for MBA students the author takes the approach of blending theoretical concepts that have potential for practical business applications in the future. The students of this MBA program are a mix of upper level executives, middle management aspiring to be executives and lower management aspiring for promotion to higher levels of management throughout their career. Therefore, designing assignments geared to the practical future serves this population well.

As the economy attempts to move from the information age and the business models generated by the capturing of vast arrays of databases, the next frontier for new business models appears to be Knowledge Creation and Knowledge Management. Business entities have made attempts to harness these two concepts into activity within the organization to bring new products and/or value added to a product. The process has just the beginnings of research and outcomes and is not clearly defined but in a speeded up business cycle the concepts are used before the research outcomes are in, leaving the researcher and the management educator to try to catch up to practice. While catching up to practice, the researcher and the management educator work towards the goal of discovering and improving the outcomes of these processes that have already been put in place. This makes using course assignments an important tool for both training for the future as well as exploring and improving techniques for improving the outcomes.

Some elements of research provide initial direction for creation of experience relevant to these practices. Many proposals in the early stages of Knowledge Management popularity were based on ever increasing amounts of technology with little regard for quality or process. Key elements in the knowledge management process were pointed out to be imbedded in the Organizational Culture: cooperative involvement, trust and incentives. Trust and collaboration by individuals have been shown to be the significant predictors of Knowledge Sharing, the first step in Knowledge Creation. By making the assignment a team based and graded assignment, the instructor created an appropriate team based incentive. Individual grading would place more emphasis on individual input and would not leave enough room for synergistic qualities in the outcomes to arise. That left the other two critical cultural factors to duplicate in the assignment structure. Cooperative involvement was generated by a Paper Hat Creation for a Team Member experiential exercise. The more difficult factor of trust was created by having team members explore their own core values for key team value areas, share these values with the team and then brainstorm ways to use these values for reinforcing wanted values of each member of the team.

Smedlund has highlighted an interesting conceptual breakdown of the Knowledge Creation process and its place in the product cycle. In the invention stage of the product cycle, Smedlund conjectures that potential knowledge networks will dominate, with tacit knowledge networks becoming more dominant in the development phase and finally explicit knowledge being dominant in the commercialization phase. Yet all three coexist in all phases of the product cycle. With most work in the early stages of knowledge transfer and development being focused on explicit knowledge it is not surprising that few of the system setups lead to truly breakthrough innovation. Therefore, to further expand on the value of the wiki experience, the instructor created guidelines that encouraged the bringing together of personal experiences along with research findings as well as intriguing media elements. In particular one element that was critical to Potential Knowledge generation was question formation. LaDuke has posed the statement that, “While questions form at the hint of emerging knowledge structure, questions exist only because a person or an organization has a sufficient knowledge context to realize there is something not known.” As a culmination to the wiki development by the team on their assigned topic, the team must create a comprehensive question evolving from the material they have worked on within the wiki that the rest of the class must respond to. Therefore, in the wiki assignment teams move from explicit knowledge verification (verifying previous postings from other semesters) to tacit knowledge (adding their own and others experiences with the concepts) and finally, bridging the gap to the potential knowledge in building a comprehensive question for the class to comment on within the wiki.

The author would suggest that the Knowledge Creation is far more organic and actually requires complex decision making by the group to arrive at a decision on how to bridge the gap between tacit knowledge and potential knowledge through the creation of the "challenge question". In using the organic analogy as a stepping off point for the model, one can see in Figure 2 the elements required for this process and the concept that these elements work with each other in an organic way each element having their own identity as well as their own role to play but those roles and identity have myriad possibilities as to the shape and role they will take as the process unfolds.

Assignment:

More specifically, students in an Organization Behavior and Theory class gain real-world experience in organization learning process and knowledge creation through the use of Learning Objects' Wiki tool that is integrated into Blackboard. Each student team was assigned a set of topics to review and expand within a previously created wiki. See appendix 1 for the list of topics covered by the various wikis. In addition they needed to create a "Challenge Question" to be posed to the rest of the class based on the materials found within their wiki.

Simulation to actualization of knowledge building:

In using the Wiki, the instructor was able to achieve several learning objectives for the course. The Wiki assignment not only engaged the students in the content for the course and in their own learning but the Wiki allowed them to "think about the learning process for an organization and what that looks like today." The students could also engage in the process of knowledge creation and management since each wiki was an iteration from built by previous individuals cycling through the Organization Behavior Course. Students worked in teams to build on the Wiki in the Blackboard course site. In the previous initial course assignment each team received a different set of classic readings that went beyond the basic content for the course. In the Wiki, each team had to summarize the readings and then engage the other students with the readings by posing challenge questions. The postings, though, had to be more than just a summary of the reading. In the fall semester offering of the course, the project was cumulative and students had to read what other students had posted on the readings from the fall 2007 and the fall 2008 course. Then each group had to interpret the postings, integrate what they had read and enhance the previous postings. Finally, they too had to create another "Challenge Question" for the rest of their class to respond to that was based on all the cumulative material found in their wiki. In this way, the teams moved from explicit knowledge to tacit knowledge and finally, attempted to bridge the gap between tacit knowledge and potential knowledge.

Simulation Outcomes:

The Wiki allowed students to express themselves creatively both verbally and visually while learning about the course content. Students could incorporate examples from their own work experience into the postings on the readings. The students also did some imaginative things in the Wiki with humor, videos, comics, case studies and scenarios to analyze the readings. This allowed for a deeper and broader understanding of the content. Through the Wiki, the topics became more alive and were not so dry. Students were excited about the project and learned a lot from each other in working on the Wiki. It enlivened their work and their dedication for each other. This dedication to each other is important for the MBA program because of the premise of

cohort groups imbedded in the design of this program as a whole. Given the limited time students have to physically be with each other activities that enhance the sense of community and belonging are particularly needed for building the cohort community in the program.

The Wiki assignment modeled the organization learning and knowledge creation process in a cutting-edge way and provided the students practical and hands-on experience with a technology tool increasingly used by organizations for the collection and transformation of knowledge. This awareness, in turn, gives the students an advantage in the workplace. In the Wiki, students learned about the process of organizational learning and knowledge transformation by actually doing the process.

Wiki Setup and Stages

In the initial offering of the Organization Behavior and Theory course, each team was assigned a section of classic readings organized by the topics found in appendix 1 from a classics reading text. They were to read the assigned classic excerpts, outline their findings in these excerpts and then add to the outlines notes on their own experiences within these topics. Finally, teams developed a "Challenge Question" for the remainder of the class to respond.

In the second offering of the course, teams again were assigned the same readings but needed to verify and expand on the content of the wikis they were assigned. (These wikis were brought over by a copy method available through the Blackboard course creation tools.) Finally, these teams also had to create a new "Challenge Question" for the remainder of the class to respond. An interesting point at this stage of the wiki development is that students are able to see the iterations of all the work done by the previous class with each modification being available and identified by the student submitting the work. This added information has the benefit of building a sense of the larger MBA community to which the students belong in addition to the cohort group to which they belong. As each student graduates the identity changes to "anonymous" but retains the date and time stamp.

In the third iteration of the wikis, the teams no longer had access to the original classic readings. They were assigned the same topics but were expected to do additional research in academic journals to enhance the materials found under those topics as well as correct any errors or omissions they might find. At that point the assignment reverts back to the rest of the assignment the first two classes had. The teams were to enhance the material with their own experiences and other research findings and finally, develop a "Challenge Question" on which the rest of the class should comment.

Shared Leadership Values Exercise

To support the development of a team culture that embraces collaboration and trust, the instructor created three activities to support the creative development of the Wikis. One of the activities engages students in a sharing of their leadership values with each other. At this stage of the course development, this activity uses a combination of a digital file exchange tool as well as in class activity but could be adopted to totally on-line activity. The author used a trust sharing exercise adapted from Learning to Lead: A workbook on Becoming a Leader, by Warren Bennis and Joan Goldsmith, Perseus Books, Reading Massachusetts, 1997.

Students complete the form giving their own core values and then share this with their teammates. Next each student must include the goals of their other teammates on their form in order to have a record of the leadership values of the various team members. The most important point to this exercise is not only the development of answers for the form but in using the data on the form to develop ways to reinforce each other in strengthening their values while using a value each individual student indicates they want to strengthen. This is a difficult concept for the students to initially grasp. It is therefore helpful for the facilitator to go group to group to create an example using the values the group finds particularly important. Though this stage is done in a face to face classroom this too could be moved to a Discussion Board tool. At the end of the session each student on a team should have a way to reinforce other team members using the values they would like to strengthen in themselves. This open sharing and assistance building seems to open up trust lines between the individuals on the team. False politeness drops away as they try to assist each other in strengthening their chosen leadership values. This portion of the activity is somewhat time consuming (needing approximately an hour for completion). However, the importance of having the team find appropriate matching reinforcements is worth the investment of time.

Paper Hat Creation for Teammate

After the serious discussion about leadership values and attempts to find ways to reinforce these values, the class needs a tension breaker. At this point, I use a paper hat exercise to break down personal barriers and build commitment to one other member of the team. Students are given a piece of newspaper each and must select a team member for whom they will create a paper hat using the newspaper. There are no restrictions on how the students must create the hat. They may search online for instructions (usually this wastes valuable time and students find the online instructions hard to follow.) They may use anything they happen to have with them. They particularly seem to look for either fasteners of some sort or some way to enhance the decorative quality of the hat. Time allotted for the creation of the hat is ten minutes. The psychological twist to this exercise is that participants are doing it for someone else (this edge was suggested to the instructor by a colleague as a way to build tension to do well with the assignment. Despite the fact that there is some extra tension in creating a hat for someone else to wear, this is a lighthearted exercise that engages the class in “philanthropic play”. Generally, each participant tries their best to impress their partner with the hat that they created for them. This could be completed in an on-line setting by simply having the partner create an simple avatar with symbolic content for their paired peer.

Debriefing at the completion of this exercise should contain questions about the feelings surrounding the creation of the hat. Much of the discussion of feelings centers on conflicting emotions held at the same time such as frustration at working with newspaper while feeling silly at being required to create a paper hat for someone else.

Brainstorming with a Twist

The third activity involves brainstorming with a twist. The brainstorming activity as well as the previously described experiential exercises takes place in the live classroom portion of the course about midway through the teamwork on the Wiki production project. Teams are reminded to keep all of the typical rules for good brainstorming to come up with ways to enhance their wiki pages. The twist is that while conducting their brainstorming session they must each wear the

"thinking cap" (the paper hat) created for them by their teammate in the second exercise. The silliness of it all loosens them up to think in different ways and move toward a more creative response to what to include in the wiki. Timing for brainstorm session should not run more than 15 minutes. Again this could be duplicated by requiring the team members to use the avatars created for them by their partners for the discussion.

Overall Outcomes

In a presentation of the group processes given by the teams, several teams indicated that these exercises were a turning point in team bonding and allowed them to be more creative in their responses to the assignment. Even in their final presentation on team processes, their team supportive culture could be seen directly by how they handled the presentation. Of note, one team had a missing member due to a work situation. Rather than make excuses for not doing well on the substitute part, the team simply stepped in and adjusted using the strengths of the substitute member and did not try to simply do what the missing member would have done. The remainder of the class and the instructor could not detect the part of the presentation that was a substitute.

In addition in examining one of the "Challenge Questions" found in Figure 3, one can see the final complexity of the decision making of the team as well as the multiple layers of understanding of the integration of issues within a larger question.

Summary:

To conclude:

The author developed a theoretical approach for creating a Knowledge Creation Simulation using the Wiki Learning Object found within a course management platform, and carried out this approach over the course of three semesters. The outcomes from these semesters suggests that to improve the outcomes of Knowledge Creation and Innovation, further research and experimentation should focus on the possibility of a group organic type of decision making style used in conjunction with strong elements of team building as well as the relationship of these elements to explicit knowledge transfer. Focus on these elements should lead the way to understanding and improving how the explicit knowledge the group gathers and enhances moves to the more important tacit knowledge needed for innovation. It is particularly important for the development of such techniques for use in asynchronous teams composed of individuals from differing countries as differing cultures because elements like values must be made visible in some way in order for team members to develop explicit team values that incorporate the implicit values of the individuals composing the team.

References

Bennis, W., and Goldsmith, J., 1997. *Learning to lead: A Workbook on becoming a leader*. Perseus Books, Reading Massachusetts.

DeTienne, K. B., Dyer, G. Hoopes, C., Harris, S., 2004. Toward a model of effective knowledge management and directions for future research, culture leadership and CKOs. *Journal of Leadership and Organizational Studies,* 10(4).

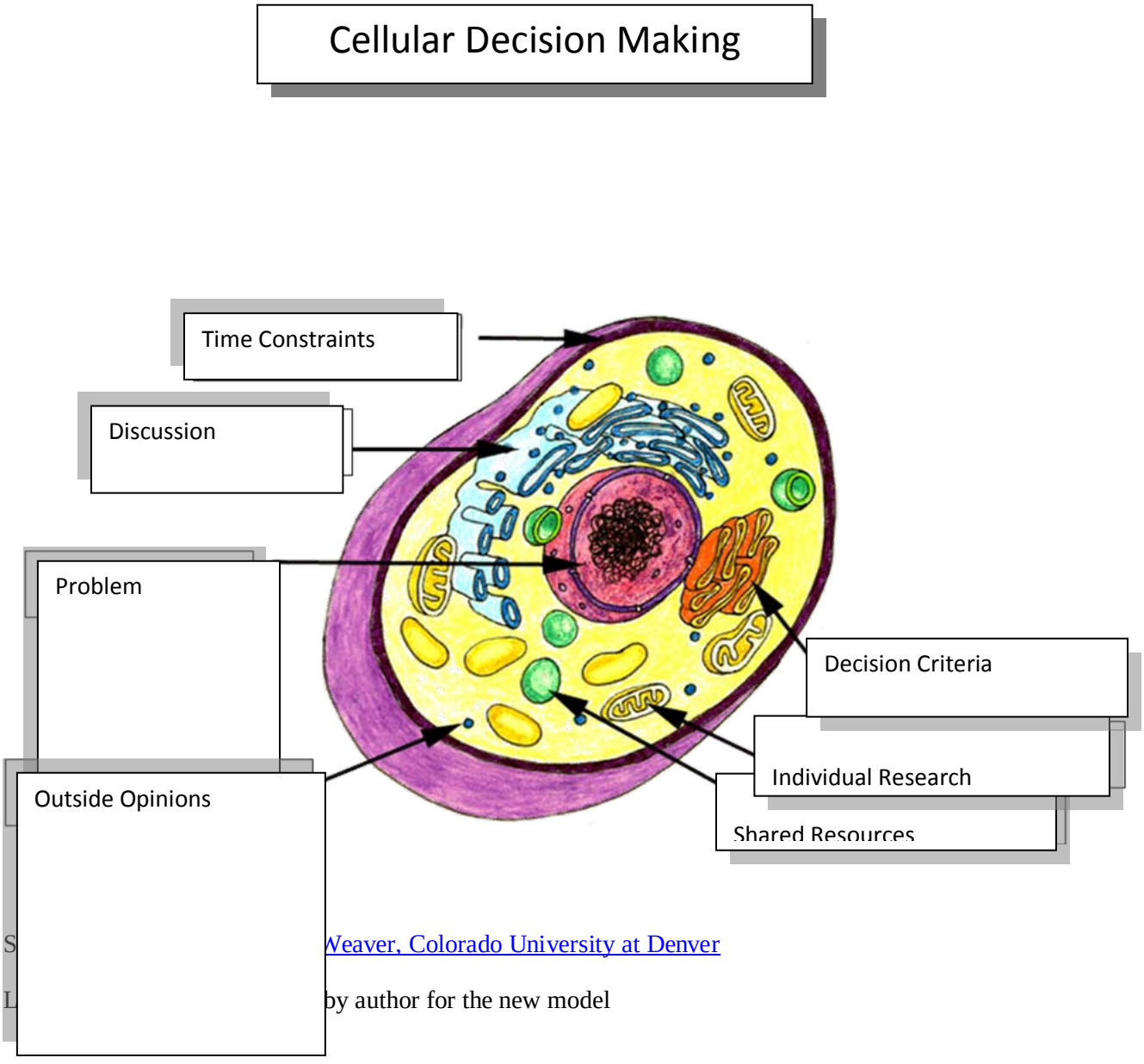
Gupta, B.,2007. Role of individual values, and organizational cultural values in knowledge sharing and acquisitions in organizations. Review of Business Research, 7(5).
LaDuke, B., 2004. Knowledge creation the quest for questions. The Futurist, January- February 2004, p.68.
Leidner, D., Alavi, M., Kayworth, T., 2006. The Role of culture in management: A Case study of two global firms. International Journal of e-Collaboration.
Stacey, R., 2000. The emergence of knowledge in organizations. Emergence 2(4) p. 23-39.
Smedlund, A., 2009. Social network structures, for explicit, tacit and potential knowledge. International Journal of Knowledge Management, 5(1) 2009.

Figure 1

Wiki Pages:

1- Understanding Yourself and Other People at Work
2- Theories Of Managing People
3- Individual and Organizational Learning
4- Decoding Human Behavior
5- Individual and Organizational Motivation
6 - Ethics and Values
7 - Personal Growth and Work Stress
8 - Interpersonal Communication
9 - Perception and Attribution
10 - Group Dynamics & Work Teams
11- Problem Solving
12- Managing Creativity
13- Managing Conflict
14- Keys to Effective Negotiation
15- Culture
16- Organizational Growth
17- Decision Making
18- Power and Influence
19- Empowerment and Coaching
20- Performance Management

Figure 2



S Weaver, Colorado University at Denver

L by author for the new model

Figure 3:

Sample Wiki Project Team Challenge Question:

Suppose you are an executive in an international company. Your company is researching developing markets (e.g. countries like Brazil, Turkey, and Russia) and looking for the next country to expand into. You are asked to lead a team including both domestic employees and developing market international employees to accomplish this company initiative. Answer the following questions:

1. How might ethics and values differ in a developing market?
2. What communication challenges might exist working on a developing markets team?
3. What perception problems might exist when entering the developing market?
4. Compare and contrast how group dynamics might be different on an international team including both domestic and international members than compared to a domestic only team?
5. Would social media be a benefit or hindrance when working with an international team?