Using A Wiki As A Group Communications Tool

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ABSTRACT

The research explains wiki development and use in industry and potential benefits in higher education as a collaborative communication tool. The findings of a study conducted in a business administration class involving the use of wikis is discussed. The paper concludes with useful guidelines for college instructors incorporating wikis as a teaching methodology.

Keywords: wiki, group collaboration, pedagogy, computer-mediated communication

INTRODUCTION

Faculty members in the business discipline typically try to provide their students with opportunities to enhance their communication and collaboration skills. Changes in technology impact the way people communicate both in classroom settings and in workplace situations. Exposing students to new forms of technology that they will be using in the workplace can be an important part of pedagogy. Additionally, the way individuals collaborate in both educational and workplace settings is no longer bound by place and time. Members of teams are using technological tools to replace face-to-face meetings. While computer-mediated communication formats such as email and intranets have become the industry standard for internal communication, there is evidence that companies are switching to newer technology tools for teams, such as the wiki.

The research begins by explaining wiki's development and it's use in industry, followed by a section that focuses on the use of technology to enhance collaboration in teaching. Next, the research reports the findings of the survey which was conducted with students in a business administration class who used wikis as group communication tools. The paper concludes with useful guidelines for college instructors who wish to use wikis as a teaching methodology.

WIKI- WHAT?

Perhaps the most common concept associated with the term wiki is the website *wikipedia,* which our students frequently use when looking for an easy information source. While not viewed highly by academics, it provides a wealth of information and serves as a great example of a collaborative communication tool, in the so-called second generation of the Web, or Web 2.0. A wiki is a simple type of webpage that allows multiple users to create and edit content on the fly, or in real-time. The information on the online encyclopedia, wikipedia, is created by users and can be changed by other users. Wikipedia has become a powerhouse for information, and not just for students writing term papers. Thirty-six percent of adults in America use the non-profit site started by Jimmy Wales in 2001. Currently, there are over 1.8 million entries in multiple languages (Gschwandtner, 2007).

The original technology used for wikis was open source software developed in 1994 by Ward Cunningham under the name WikiWikiWeb, mainly used by programmers (Leuf & Cunningham, 2001). The word wiki is of Hawaiian origin meaning fast, quite apropos as a description for a tool that can instantly format information. Wikis have moved from selected use by nerdy computer types to more conventional use in both industry and education.

Tapscott & Williams (2006) give details in their comprehensive analysis, *Wikinomics*, on how mass collaboration is changing the workplace. They state: "Work has become more cognitively complex, more team-based and collaborative, more dependent on social skills, more time pressured, more reliant on techno-logical

competence, more mobile, and less dependent on geography (p.246)." Clearly, work in the 21st century requires technology tools to encourage collaboration.

Gartner Research, experts in picking up on IT trends, predicts that by 2009 wikis will be a mainstream type of collaboration tool, used by 50 percent of companies (Conlin, 2005). Wikis allow for team members to avoid the search through clogged in-boxes for the most current version of a document and because a wiki archives older versions, the trail documenting changes is easy to follow. Additionally, wikis can contain hyperlinks to connect to other websites, making sources easy to verify.

Pioneers in the wiki world are The Walt Disney Company, Kodak, Yahoo, IBM, Intel, and the U.S. Military (Conlin, 2005). Intel, for example, is using a wiki to encourage employees to collect information and collaborate on projects. This tool, called Intelpedia, houses over 9000 articles and provides employees with a way to search the collective knowledge of the company (Vara, 2006).

Other experts view the use of wikis as a bottom-up approach to team work. Corporate e-mail in-boxes are overloaded and productivity is crushed by employees slogging through messages for hours on end. Ross Mayfield, founder of Socialtext, thinks a solution is in collaborative, open source tools, like wikis, that adapt to how teams work (Tapscott & Willaims, 2006).

Lamb & Johnson (2004) point out five characteristics that distinguish wikis from other forms of social collaborative technologies. First, wikis are unique in that they can share original content and link other content on the web. Second, wikis are, by design, collaborative. They are free, open sites meant for sharing. While some wiki designs allow only invited member's input, oftentimes a wiki will be open to all employees in a work setting. Third, wikis allow for open editing, with the archive feature saving older versions. Fourth, the simple coding and basic unstructured design make the tool a no-brainer, even for luddites. Lastly, wikis are constantly evolving and changing.

TECHNOLOGY ENHANCES COLLABORATION

The generation of students in our classrooms today has been called the "digital natives" implying that they have grown up with technology integrated in all parts of their lives (Prensky, 2001). This level of technological expertise, combined with the high social needs of most students, make the use of technology to support collaboration a natural fit. Kvanik (2005) reported current students have levels of technical expertise, which results in an expectation for use of technology in classroom settings.

Tapscott and Williams (2006) refer to those described above as the 'Net Generation' and these members of N-Gen expect to collaborate because their "norms reflect a desire for creativity, social connectivity, fun, freedom, speed, and diversity in their workplaces" (p.248). Social networking sites continue to be major influences for our students. The next logical step is to help them connect with their peers to enhance learning opportunities.

Faculty members have been using cooperative learning as pedagogy for a few decades and as technology has changed, the way group members communicate and educators deliver material has also changed. The commercial market for technology tools in education includes an array of products. These include the so-called courseware products, such as Desire to Learn, Blackboard and WebCT. While all of these products include discussion forums which allow for groups to compose a threaded discussion and collaborate, these tools come with complex structures that standardize and limit choices for creation of new content and linkage of content to external sources.

Research shows that wikis are more flexible in connecting material from the web. For example, Ebersbach et al (2006, p.13) states that wikis "enable the creation of associative hypertext with non-linear navigation structures" as an advantage over the courseware products. Further, wikis can include pictures and streamed video in addition to text (Farabaught, 2007).

Seminal work on cooperative learning by Johnson, Johnson & Smith, (1991) and Felder & Brent (1996) noted that getting students to collaborate facilitated learning through improved interpersonal relationships, increased

self-esteem, and higher motivation However, collaboration for improved learning is more than simply grouping students together. It must involve structured learning activities that promote mutual learning and accountability (Smith & Waller, 1997). Since wikis enable group members to see which contributions others have made, it can serve as an accountability measure helping to ensure individual responsibility and at the same time, help with group processing of information.

The results of using a collaborative teaching method can have important benefits which are linked to higher levels of learning. Students tend to be more interested in the topics, have better understanding of the material, and are able to apply the material, thereby increasing retention (McGlynn, 2001). Wikis work well with hyperlinks, pictures and streamed video, and students can easily build on course material by adding current examples of key ideas from the Internet. Retention of key material is enhanced when students collaborate to apply key concepts.

Faculty members use collaborative teaching with technological tools to foster cooperative learning. The bottom line is that we search for teaching tools which help our students learn more. The driver for technology should never be the technology itself; rather, the driver should be improved learning.

THE STUDY

The study involved the use of wikis in a course that was built on a cooperative learning pedagogy. The course, Business 370 Management Information Systems, is required for all business majors and is an upper level course. Students were grouped alphabetically with four to seven members per group and seven groups per class. Grouping took place the second day of class and students were required to come up with a group contract by the second week of class.

Students were given guidelines the first week of class on developing the contract and each group was required to develop its own contract to be signed by all members. This contract reinforced group commitment throughout the semester. The emphasis in the course was on helping student groups move to high levels of performance.

Over the semester, a variety of approaches were used to cover the material including group discussions, group presentations, and lectures. Students worked informally each week on a low-stake assignment designed to increase self-efficacy and also on a structured group presentation worth 15 percent of their grade. The final group assignment involved a group essay completed in a wiki. This was a logical progression of the group assignments with an opportunity to apply a technology that was discussed as subject matter in the course. This final assignment was designed to be a wrap-up of the course material. Although designed as the wrap-up of the course material, the final wiki assignment had a low point value at four percent of the overall course.

While the points connected with the assignment were low, students knew they would be evaluated by their peers in the group. Therefore, the assignment had a built-in incentive for group members to cooperate and work together, since a negative peer evaluation had the potential to lower a student's grade.

Additionally, students were required to select what they considered one of the major issues surrounding Management Information Systems as the topic for their group essay to be conducted in the wiki. The handout which detailed the assignment was distributed five weeks from the end of the course. This handout included instructions on how to set up the wiki and required groups to invite each group member and the instructor into the wiki. The site used in this class was wikispaces.com. However, free services are also provided by wetpaint.com and pbwiki.com.

On the last day of class, students completed the following survey.

Please indicate by number your perception of your group experience in this class. Please use the following scale to determine if the statement matches what you think.

Scale: 5 strongly agree, 4 agree, 3 neutral, 2 disagree, 1 strongly disagree.

1. I felt the wiki was a useful tool for group communication._____
2. Overall I thought the wiki was easy to use._____
3. I think that meeting face-to-face to work on our group essay was easier than using the wiki._____
4. The wiki helped my group share ideas._____
5. I think using e-mail and an attachment to work on a group project is easier than using the wiki_____
6. I felt involved with what my group accomplished through the wiki._____
7. It was easy to track the progress of our essay on the wiki._____
8. I could see contributions made by individual group members on the wiki._____
9. I feel I will use a wiki again, either for work or on another project._____

DISCUSSION OF THE RESULTS

Conducting the survey in class at the end of the term yielded a high number of responses. The response rate was 86 percent with 95 actual responses. Conducted over two terms, with two sections each term, there were 24 student groups involved in the survey results. For each question, there was a significant portion of responses in the neutral category. To better understand the results, the following discussion combines agree, and strongly agree answers and compares them with the other end of the spectrum; disagree and strongly disagree. Neutral remains a separate category.

Questions	Strongly Agree/Agree	Neutral	Strongly Disagree/Disagree
Question 1 Usefulness	46 %	28 %	26 %
Question 2 Ease of use	65 %	20 %	15 %
Question 3 F2F	59 %	23 %	18 %
Question 4 Shared Ideas	34 %	33 %	33 %
Question 5 Email	42 %	22 %	36 %
Question 6 Involved	52 %	25 %	23 %
Question 7 Progress	56 %	25 %	19 %
Question 8 Contributions of group	66 %	16 %	18 %
Question 9. Use again	29 %	35 %	36 %

Question 1: "I felt the wiki was a useful tool for group communication" sought an overall impression of the technology's usefulness. Combining the strongly agree and agree response resulted in the total of 46 percent as compared to 26 percent disagree or strongly disagree, while 28 percent remained neutral. Overall this indicates that students felt the wiki was useful.

Question 2: "Overall, I thought the wiki was easy to use" showed that the majority of students found the technology easy to use, since 65 percent agreed or strongly agreed with the statement. However, out of the 24 groups surveyed, one group was not able to get the wiki set up. Those students' frustration is reflected in the strongly disagree responses which was less than 1 percent. Total negative responses combined were 15 percent, and 20 percent were neutral. Clearly, not all students embraced the technology with ease.

Question 3: "I think that meeting face-to-face to work on our group essay was easier than using the wiki" Fifty-nine percent of the responses were in agreement with this statement. This makes sense since students were meeting in class each week, and because their group project had already required meeting times outside of class.

Question 4: "The wiki helped my group share ideas," focused on the synergy that collaborative technologies can provide. However, the number of responses in agreement or disagreement was about the same as the neural responses, at about 33 percent. There was not a clear answer on this question.

Question 5: "I think using e-mail and an attachment to work on a group project is easier than using the wiki." Typically students use e-mail to communicate on a regular basis. Forty two percent of the respondents were in agreement with this statement, with 36 percent in disagreement, and with 22 percent neutral.

Question 6: "I felt involved with what my group accomplished through the wiki." This question attempted to measure group involvement. Fifty-two percent of students were in agreement with the statement, with 23 percent disagreeing and 25 percent neutral. I anticipated a much higher number of students to agree with this statement. Clearly, technology in this case does not translate into a feeling of involvement.

Question 7: "It was easy to track the progress of our essay on the wiki." Fifty-six percent of the students were in agreement with this statement. Nineteen percent did not agree with the statement, with 25 percent remaining neutral. One of the benefits of a wiki is that you can save all revisions, so I would think that tracking progress would be easy.

Question 8: "I could see contributions made by individual group members on the wiki." Sixty-six percent of students agreed with this statement and 16 percent of the responses were neutral, with 18 percent not in agreement. I anticipated that this would be much higher. As noted previously, the wikis' revisions show who edited what and simply reviewing the revisions would help team members see what others had contributed.

Question 9: "I feel I will use a wiki again, either for work or on another project." Even though we spend time in class talking about how companies are using this tool, students do not seem to think they will be working in firms that use wikis. Only 29 percent of the students agreed with the statement. The vast majority of our students work in small to mid-size firms and the examples we used in class were from big corporations. From the responses, it appears that students do not think they will be using the technology that many large firms are embracing.

GUIDELINES

The following is a 'how to' list for instructors wanting to use wikis in their classrooms. For me, the experience was overall positive. Wikis are user friendly, free, and simple. While no technology can replace human interaction, it can be a way to help students organize their thoughts and can help foster collaboration.

- Clearly define and communicate to the students what the project is.
- Learning objectives need to drive the technology, the technology should not drive the learning objectives.
- Keep in mind that technology is a tool and means to an end. The end should be a high quality project.
- Be clear on what your expectations from the assignment are. Students get frustrated with time fillers.
- View the site immediately before you give the assignment to make sure the site has not changed.
- Make sure the directions are clear on the website you are using as to how to set it up.
- Provide a reason for the group members to see that they all have a stake in the project, such as peer reviews.
- Plan to help groups that may be technologically challenged.
- Allow for a debrief or reflection period on the use of the wiki and the project.

CONCLUSION

Social networking settings, such as blogs and wikis, have changed the way students communicate. It is apparent that wikis can help improve collaboration. However, the technology is not as important as the course content or the purpose behind the use of the technology. Balancing new teaching tools with content delivery and learning objectives will continue to be a challenge to educators. Social networking is continuing to evolve as higher education institutions look for ways to connect via the Web.

Is the future of higher education setting up a classroom full of avatars? Some say yes.

Online virtual tools, which are 3D, such as Second Life and Kaneva have been identified in The Horizon Report (2007) as emerging technologies that will begin to become important tool for educators in the future. A recent study notes that over 100 higher ed institutions reported active projects in Second Life (Joly, 2007). Keep in

mind this study only noted those instructors and institutions that have reported their numbers. No doubt there are many others who are using tools that go beyond wikis to use virtual teams in virtual classrooms.

ACKNOWLEDGEMENTS

The author acknowledges the support of the University Personnel Development Committee.

AUTHOR INFORMATION

Barbara Mihm is an Assistant Professor at the University of Wisconsin-Stevens Point. She acknowledges her experience as a Wisconsin Teaching Fellow and support from the University Personnel Development Committee as facilitators in her quest for teaching excellence.

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