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ABSTRACT

This paper describes a team blog network method designed for a graduate class which surveyed the concepts and practices of system integration. To facilitate student participation and knowledge sharing, a project based on a network of team blog websites was designed. The paper introduces the project setting and summarizes student feedback collected through an end-of-semester survey. Experiences and lessons learned from this project will also be discussed.

Keywords

Blog, social media, active learning, collaborative learning

INTRODUCTION

Active learning refers to a general type of learning methods that focus on active participation of learners (Bonwell and Eison, 1991). It has been widely accepted in higher education as one of the effective instructional methods. Active learning practices favor student participation and engagement in learning activities, such as active writing, discussion, problem solving, case study, learning by teaching, etc. Collaborative or cooperative learning covers a subset of active learning involving students working in groups, or a joint effort of students and teachers (Smith and MacGregor, 1992). Like active learning, collaborative learning is centered on students' exploration or application of knowledge, and in addition, emphasizes interaction with others and knowledge sharing (Du and Wagner, 2005). Common practices include student team work in paper writing, presentation, and development projects.

Traditional active learning methods are focused in classroom settings. For the last decade, the fast growing Internet and e-learning technologies have expanded the learning environment beyond classrooms and face-to-face meeting times. This allows a greater level of interactions between instructors and students, and among students themselves. The learning environment has been further advanced by Web 2.0 technologies and applications (Blees and Rittberger, 2009). Content publication systems such as Wiki and Blog enabled a massive participation of content generation including learning materials and recourses. Social networking services have greatly expanded learner communications and collaborations. Learning is not confined in a closed and instructor centered environment any more (Dalsgaard, 2006). It is shifting to learner centered environments (Sclater, 2008) and is more about a collective and continuing experience that goes beyond classrooms and individual courses.

Many systems and technologies support active and collaborative learning outside classrooms, such as forum, blog, social network, open courseware, community of practice, etc. This paper will focus on the use of blogs. The paper describes a class project based on a team blog network to promote active and collaborative learning. The following sections will start with an overview of blogging used in teaching and learning, and then introduce project settings and summarize student feedbacks collected through an end-of-semester survey. Experiences and lessons learned from this project will be discussed at the end.

BLOGGING IN HIGHER EDUCATION

A blog (a shorten form of weblog) is an information site published on the Web consisting of posts in a chronological format. It is an easy way for people to freely publish content on the Web. Basic features provided by major blog services include easy online writing, basic organization, commenting, and instant publishing with little technical skill required, etc. Blog is viewed as one of the major Web 2.0 tools that facilitate people participation in online content generation and publication. WordPress, one of the major blog service platforms, provides some data about the blog usage on its system. As of December 31, 2012, there are more than 59.3 million WordPress blog sites; over 382 million people view more than 3.5 billion pages each month; WordPress.com users produce about 33.9 million new posts and 40.9 million new comments each month (check the latest numbers at http://en.wordpress.com/stats/).

Blog has many types and usages. Individuals use it to document life experience and express opinions, and organizations use it for news and public relations. Blog is also used widely by professionals for information sharing and knowledge contribution.

It has become one of the major resources of problem solving and learning. With the help of search engines, these contents are publicly available and relatively easy to access.

Blog has been also adopted by instructors in courses. Conceptually, the use of blogs in an educational context can be summarized as self-expression, self-reflection, social connection, and social interaction (Deng and Yuen, 2011). For example, it can be used as a tool for learning logs (Wagner, 2003), which reports learning experiences and findings that can be of interest to fellow students. This informal writing style (compared to more formal term papers) is an effective and efficient way of knowledge sharing and interactions. Blogging may facilitate student engagement and active learning in the following ways (Du and Wagner, 2005):

- Blogging is useful for students to reflect and publish their understanding and opinions. This requires students to actively explore and organize their thoughts.

- Blogging helps students identify what they have learned and what they need to improve through self-reflection.

- The on-going blogging promotes continuous learning. Students build their own understanding and knowledge over time.

- Blog is an open medium for people to present and express themselves, potentially developing an online presence and getting credits. It even helps students become subject-matter experts (Ferdig and Trammell, 2004).

Blogging may also create a sense of community (Top, 2012) and encourage students to actively participate in peer learning:

- Blog commenting provides a convenient and effective way for sustained and informal discussion among students. Students communicate in a way that is simpler and easier to follow than emails or discussion forums (Du and Wagner, 2005).

- Blogs provide opportunities for diverse perspectives, and enrich students' learning experience (Ferdig and Trammell, 2004).

As Web 2.0 technologies develop, the features of blog have also evolved. Two major improvements are the social networking feature and blog site development framework feature. With these features, blog has been meshed into a bigger system together with other tools to help create a learner centered social learning environment.

A TEAM BLOGGING NETWORK APPROACH

Class background

This was a graduate level course as part of an information systems degree program in a business college. This course focused on information systems integration in organizations. It introduced concepts and principles that enable different computing systems and software applications to work together physically or functionally. It also examined strategies and methods for blending a set of interdependent systems into a functioning or unified whole, thereby enabling two or more applications to interact and exchange data seamlessly. The course would explore technologies and tools for system integration as well as proven management practices for integration projects.

Upon completion of this course, students should be able to:

- Describe basic concepts, approaches, and methods related to system integration.

- Identify commonly used technologies and tools for integrating information systems, describing the benefits of each.

- Explain how service oriented architecture can aid in system integration, and identify underlying tools and technologies that facilitate the creation of such services.

- Analyze a particular problem and design a feasible integration solution to address the problem.

This class in nature was a topic survey course with some hands-on experience. It was one of the required foundation courses to prepare graduate students for a general understanding of the information systems domain. There was a wide range of concepts, practices, and technologies to cover. To engage students in the learning process to a greater extent, student teams were set up with each focusing on two specific topics. They were required to study the assigned topics in depth and report their learning. The deliverables include two presentations in class and a team blog site.

There were total 31 students in the class and they were divided into 11 teams. Each team had 2 or 3 people with a team name. Broad topics were assigned at the beginning of the semester based on the course plan and their preferences.

Project design

To facilitate student participation and knowledge sharing, a project based on a network of team blog websites was designed. Each of the 11 teams created a team blog site using the blogger.com platform. All members of the team were added as co-

authors of the same blog. A general course blog site was also set up and managed by the instructor, which was used for instructor blogging as well as online class communication. It also included blogging resources and feeds from recommended professional blogs related to system integration, which also served as reading materials and blog samples. All blog sites were required to link to and integrate contents from other team blog sites. So there were total 12 blog sites interconnected to one another, forming a team blog site network.

There were three major aspects of the student work in this project (which are also the major grading basis; the grading weight is indicated by percentage numbers below):

1. Blogging (informal writing) – 40%
2. Social networking – 25%
3. Blog website development – 25%

First, blogging is an effective and efficient way of learning and knowledge sharing. Students were required to write blogs throughout the semester. Generally, students could write anything related to system integration topics, with a focus on their two selected topics. Example blog contents include:

- Introducing concepts, practices, and technologies.
- Sharing personal or professional real life experiences with specific products, technologies, people, or company.
- Presenting questions and problems; describing the situation, sharing own thoughts, and seeking other people's feedback.
- Reviewing and recommending websites, books, articles, or blogs.
- Expressing casual thoughts and ideas.
- Summarizing class presentations and posting presentation files.

Everyone in the group needed to contribute. Each group was required to post at least 2 blog entries per month and at least 10 entries for the whole semester. Good blogs should be informative, educational, inspiring, thinking in depth, good analysis, etc. The Blogger of the Class was voted and rewarded at the end of the project.

Second, the project also featured a social aspect. All 12 blog sites were meshed into a network of social learning and sharing. All contributors' names were listed on the team blog site. Each blogger had a public profile page so people would get to know the author. Students were free to follow others using a tool provided by the platform. Each blog site also used the RSS (Really Simple Syndication, a news feed format) gadget to dynamically display live posts from other sites in and outside the network. Students were also required to read blogs on all member sites and write relevant comments. Each person was required to make a minimum of ten meaningful comments. Sign-in was required for making a comment, so the instructor can track student contributions. The blog owner was encouraged to respond to comments promptly.

The third aspect is blog website development. Blogger.com is a leading blog website building platform and provides comprehensive features and tools not only for blogging but also for website development and hosting. Many useful gadgets are provided to integrate external applications and resources. This was closely related the course subject of system integration. Students would gain some hands-on experience of web-based integration and mash-up. The best blog website was voted and rewarded at the end of the project.

Project results

At the end of the semester, 11 student team blog websites had generated a total of 195 blog entries, about 18 per team. A survey was distributed to students at the end of the semester to collect their feedback and perception of the project. 31 survey forms (out of 31) were returned. In the survey, students were asked to use a 5-point scale to evaluate how much they agree to a set of statements, ranging from "1 - Strongly Disagree" to "5 - Strongly Agree". Table 1 shows a summary of the results. Overall students liked the project although some issues could not be ignored in the future design of the project.

DISCUSSION

The purpose of this blog project was two-fold. First, like any other class, blogging (writing and commenting) was used to engage students in the learning process by active student contribution and interaction with peers. Second, in a particular technology subject course, the development of the blog website enabled student to have hands-on practices on using technologies and tools. The hands-on exercise part applies to courses that cover topics like system integration, Web 2.0, social media, web development, web application frameworks, etc.

Survey item (statement)	Average	Std. Dev.
Active learning		
Writing blogs helps do my own research and organize my thoughts.	3.7	1.2
The blogging network encourages student participation.	3.7	1.1
Peer learning		
I got a lot of good information and resources from reading other groups' blogs.	3.8	1.2
I like to read my classmates' blogs.	3.5	1.0
The blogging network expands the learning by incorporating and appreciating student contributions.	3.5	1.0
Sense of community		
Commenting on other blogs is a good way of discussion and idea sharing.	3.7	0.9
I enjoy reading comments as well as blogs.	3.9	1.0
The comments from others encouraged me to devote more time to blogging.	3.1	1.3
The blog network facilitates communication and information exchange outside the classroom.	3.7	1.0
Overall		
Overall, I like how the blogging network is set up in this class.	3.7	1.2
Overall, I like blogging as part of an educational experience.	3.9	0.8

Table 1: Summary of Survey Results

Considering this was the first time of project design and offering, the result is somewhat satisfying. There had been a number of challenges along the semester, and the feedback also signaled some future improvements of this project.

First, majority of the students did not have blogging experience. They did not know what to blog about and how to blog. It was a slow start to get them into a habit of informal and continuous writing to review their learning, express their own opinions, and respond to other's writings. Usually this is expected when people are learning something new. As students continued to participate and be engaged, they actually learned from their peers. In the future, this may be facilitated by providing more guidance and examples, and narrowing down the topic scope, so they may feel a bit more oriented.

Second, students had diverse feelings about the concept of a learning community. On one hand, some students welcomed this project and thought it brought new perspectives, experiences, and skills. They were excited to read other's blog and make comments to interact with other students. On the other hand, some students felt frustrated as readings were not structured, and they were not comfortable at learning from peers. The project focused more on student participation and experience, but less on learning efficiency. Because students were new to blogging, inevitably some posts were of low quality and did not contribute much to the class learning. That bothered some students with busy schedule and with a dedicated goal for the course. "Blogging should not be a replacement for classroom instruction," as one student complained. One potential way to address the problem is to have blog topic and scope more related to course content, and to offer more quality guidance. In addition, blogs can also be connected to classroom activities, e.g., used for in-class discussion. In this way, blogging does not have to be an effort on its own, but integrated to the whole class work.

CONCLUSION

Web 2.0 has brought us many useful technologies that extend the learning beyond the classroom and a single course. Blog as a major tool has been widely used for teaching and learning. A blog project is not only a way to engage students in active and collaborative learning, but also to bring students to the world of open knowledge publishing and sharing. A few students out of the class have become regular and professional bloggers and I have really enjoyed their posts. However, as this was the first time to design and offer a team blog network project, it had shown some issues and challenges. The project can be adjusted and improved based on the feedback collected. I will continue to develop and refine this method, as I believe it brings unique learning experience and new perspectives to students, particularly in today's open and resourceful learning environments.

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