Synergizing Wikis and Podcasts for Collaborative Class Texts

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Abstract: This tech-savvy generation of students, known as digital natives, desires to learn and to interact utilizing the collaborative technologies that have always been a part of their lives. The purpose of this paper and corresponding presentation is to demonstrate how a wiki can be used by students and the instructor to create a collaborative text and demonstrate how multimedia can be integrated into the texts using podcasting and vodcasting. A description of the procedures used to design, to produce, and to publish a wiki class text with integrated podcasts will be demonstrated. The challenges and benefits of using these technologies will also be discussed from both a student and faculty perspective.

Introduction

Technology, specifically, Web 2.0 technologies have facilitated, and in some cases perpetuated, changes in higher education. Technology and the Internet have spurred a move away from traditional, behavioral methods of classroom teaching and learning and a renewed interest in instruction based upon social constructivism. The role of the instructor is shifting from a "sage on the stage" that provides information for consumption to a guide that assists learners in refining their knowledge base in alignment with meaningful materials (Jonassen & Lard, 2000). The learning process that was previously defined as a consumption process is being redefined as a collaboration and construction process. Materials such as traditional textbooks are being supplemented with or replaced by the creation of collaborative, student-created texts. The need for learners to have twentieth century skills is being replaced by the need for twenty-first century skills, including the need for collaboration, communication, cultural sensitivity, creativity, and critical thinking (Wallis & Steptoe, 2006). Technological competence is also needed.

A variety of Web 2.0 technologies may be useful in assisting students in developing twenty-first century skills and facilitating an active, social learning process; wiki technology is particularly useful. Wikis are a Web 2.0 technology that allow users to collaboratively construct a document online by subscribing and then by editing using simple text editors (Caverly & Ward, 2008). In 1994, Cunningham created the first wiki to facilitate the exchange of ideas among programmers. Cunningham (2006) said, "[a] wiki is a work made by a community" (p. 6) and ideas and contributions can be made anonymously at any time. Long recognized as a tool with extreme potential, wikis have been considered significant, "not simply in the way they create and distribute information," but also "the way in which they organize people and activities" (Staley, 2009, p. 38). As technology rapidly infuses itself into higher education, wikis have been recognized as a platform for students and for educators to communicate, to share, to edit, and to develop knowledge collaboratively. Research has begun to demonstrate that wikis may be an effective medium for the creation of a class textbook , and the process of creating a class text using a wiki may assist learners in developing collaboration, creativity, critical thinking, writing, and negotiation skills (de Pedro, et al., 2006; Evans, 2006; Ravid, Kalman, & Rafaeli, 2008).

Although wikis are useful, to date, their use in higher education has been primarily text based. As a generation of technologically savvy learners enters higher education institutions, expectations are increasing for multimedia integration and multimedia rich learning materials. Corresponding research has shown that multimedia rich learning materials increase learning effectiveness (Savoy, Proctor, & Salvendy, 2009; Sundar, 2000). Thus, the addition of multimedia, specifically in the form of podcasts and vodcasts, to wiki technology may serve to enhance the use of wikis in the learning process. This paper describes the one manner in which a wiki can be used by students and the instructor to create a collaborative text and demonstrate how multimedia can be integrated into the texts using podcasting and vodcasting.

The Practice

The wiki book project described was implemented in an undergraduate differentiated teaching and learning class, a core requirement for the teacher education program, in Spring 2010. The course was 10 weeks in duration.

Learners were required to use a wiki to construct a class text on differentiated learning. The purpose of the assignment was three fold: 1) to assist learners in constructing an enhanced understanding of different populations of learners and differentiated teaching methods, 2) to expose learners to different uses of technology for differentiated learning, and 3) to create a sustainable resource for learners to access after completion of their academic career at the university. Students were permitted to work individually or in groups of 2-4 students. In this course the majority of learners chose to work in groups.

Each individual learner or group of learners were instructed to contribute to the development of a wiki text by creating a wiki page that focused on a specific population of learners (e.g. auditory learners, LD students, ADHD students, etc.) and to discuss tips, strategies, and interventions for the selected population. Learners were required to review and integrate nine credible text-based or multimedia resources, four of which were to be peer-reviewed articles. The article was to be between 1,000 and 2,000 words and include graphics and at least one self-created multimedia artifact (i.e. audio, video, etc). As learners worked on their wiki page, they were instructed to write one page reflections about their experience using the wiki. Guiding questions were provided: (a) What was my contribution? (b) How did working on the wiki contribute to or hinder my learning or knowledge development? (c) How did working on the wiki contribute to or hinder my attitude toward the subject matter? (d) How did working on the wiki contribute to or hinder my ability to perform as a teacher (i.e. skill development)? (e) How did working on the wiki contribute or hinder my sense of reciprocity and cooperation among students in my class? (f) How did working on the wiki contribute to or hinder my diverse learning style? Furthermore, as part of the article, students were to formulate 5 final exam questions about the content of their wiki, three of which were to be multiple choice questions. The compilation of the questions from the wiki was the final exam for the course; however, prior to the final exam, the instructor provided feedback and asked learners to incorporate it. The rubric for this assignment is found at http://edtechexplorations.wikispaces.com.

Prior to the beginning of the course, the instructor created a private wiki using Wikispaces.com. The instructor invited learners to join the class wiki as contributors via email. Upon acceptance, learners were able to view, to modify, to contribute, and to edit the class wiki. When learners first visited the wiki, they could view the homepage (see http://edtechexplorations.wikispaces.com for an example), which provided written and audio (also known as podcasts) assignment instruction. Additionally, they could view video tutorials (also known as vodcasts) on: (a) how to create a wiki page, (b) how to edit a wiki page, (c) how to use basic wiki tools, (d) how to download and install open source software (e.g. Audacity, Camstudio) to create podcasts and vodcasts, (e) how to create audio and video files using open source software, and (f) how to integrate graphics and multimedia on the wiki page (i.e. upload mp3 audio to a wiki and how to embed a YouTube video in a wiki). These vodcasts gave students the opportunity to familiarize themselves with the free open-source technologies to create their wiki page as well. They also demonstrated one way for meeting the technological learning objectives necessary for successful assignment completion.

The vodcasts were created using screencast software. After creation, the vodcasts were uploaded to YouTube and then embedded on the course wiki homepage using a Wikispaces widget. The YouTube video interface is easily approachable and widely familiar to Internet users, so YouTube was used to store the authors' videos and recommended for learners' use in their wikis.

The vodcast demonstrated to the learners one manner in which they could incorporate multimedia into their wiki page. Several free screencast software are available. Camstudio or Techsmith's Jing were free open source screencast software recommended to the learners. Learners were also encouraged to add video of themselves using webcam or flip cam hardware and edit the video using Windows movie maker or iMovie. Students had the alternate option to also create podcasts. The free and open-source software Audacity was recommended by the instructor as a means of recording, editing, and exporting/saving audio files. It was also recommended that the free Lame Mp3 Encoder be downloaded and installed so that the audio files could be saved in the mp3 format and uploaded to the wiki.

Lessons Learned

Based upon the instructor's experience implementing this assignment in the course and interaction with learners throughout the course, several lessons were learned. Several challenges were identified.

Lesson 1

Learners were anxious about using the technologies needed to create their wiki pages. For some students this was the first time they used audio recording and editing software, video hardware, and wiki technology. Some students expressed concerns about presenting poor quality audio and video or messy wiki pages to their peers; others expressed concerns about deleting or ruining the wiki. Although some students reported that the tutorials and reassurance and encouragement from one of the course instructors alleviated some of this anxiety, this anxiety may have been further alleviated by providing the learners more time to interact with the technology in class prior to completing the project. Effective scaffolding for using the technology is needed to decrease learner anxiety and increase confidence.

Lesson 2

Learners were encouraged to work on their wiki pages throughout the 10-week course. Several weeks prior to the final due date, learners were highly encouraged to post their final versions for review and for editing by their peers and instructor. Very few students used the wiki as a collaborative workspace to actually create their final project. Typically, the learners waited until the final two weeks of the course to write and post their contribution to the wiki. Only a few learners took advantage of the editing opportunity. To encourage higher quality, professional productions, the instructor could require at least one rough draft toward the mid-term point in the course and assign peer editors. The implementation of a timeline with due dates for different portions of the project and a peer editing system may have resulted in a more professional and quality project.

Lesson 3

Learners were empowered to direct their learning and given control over the text for the course. This required a departure from traditional methods of teaching such as lecturing and text book adoption, thus, requiring that the instructor relinquish control. Yet, the instructor still needed to ensure that instructional objectives were met. Providing some guidelines for chosen topics (see instructions and rubric on example wiki) and consulting with students on chosen topics and resources helped to ensure that instructional objectives were met. Additionally, the instructor contributed to the wiki to highlight key instructional material important to meeting the objectives of the course. Collaboration with students via feedback on their final product was also vital. Important to note, however, is that a certain degree of risk and comfortability with uncertainty was needed. The instructor needed to be comfortable with the role of a guide that assists learners in refining their knowledge base in alignment with meaningful materials.

Lesson 4

Surprisingly, students did not note traditional group work difficulties; however, they did note that working on the wiki required the learning of new norms and rules and a sense of trust when working in groups editing each others' work. When working in a group, some expressed difficulty editing, revising, and changing peers' work.

Lesson 5

In the current assessment process, the instructor assigned one grade per group; however, future implementation may require a complex assessment system. The challenge will be to develop an assessment process that accounts for the collaboration process in which edits and contributions are made and quantity and quality are both factors.

Lesson 6

Learners' adherence to copyright standards was a concern. The instructor stressed the importance to students of academic integrity, not only in their writing, but also in their use of images, pictures, figures, diagrams, charts, and any other potentially copyrighted material that they would like to include as part of a wiki. Issues with copyrights were avoided reviewing the wiki standards and policies and providing the learners with websites in which they could download free, legal images and graphics.

Lesson 7

Privacy and data security was another concern. One option and the one used in the present case is to use password protection for the wikis that requires authentication prior to accessing any data in a wiki. Wikispaces provides a password protection option. Bonk, Lee, Kim & Lin (2009) suggest that if password protection is not desirable, instructors could choose to delete all content on their wikis directly following the end of their courses. This, however, could "demotivate students as well as instructors" (Bonk, et al., p. 134). Bonk, et al. also suggest the use of internal university wikis as one solution but notes that this option limits access solely to the university and its students.

Although challenges existed, several benefits also existed:

Lesson 8

For teacher educators, technology competence is important and, for states in the U.S., a requirement for teacher licensure. Thus, one of the goals of the assignment was to expose learners to different uses of technology for differentiated learning. The wiki assignment provided the learners, teacher candidates, in this course with the opportunity to experience and use technology as well as reflect upon its benefits and challenges for use in the classroom.

Lesson 9

Learners' preferences and learning styles influenced their perception of the wiki assignment. Learners who considered themselves dependent and "not risk takers" described the assignment as "daunting" and "uncomfortable." Whereas, learners who considered themselves "risk takers" and "creative" described the assignment as fun and exciting. Despite the learners' preferences, most learners agreed that the assignment required critical thinking and gave them a sense of ownership in their learning that is not present when they simply read a text book and take a test. Learners who identified themselves as auditory and visual learners reported that they appreciated the opportunity to express their learning in a form that did not simply require writing.

Lesson 10

Learners' concerns about producing poor quality audio and video or messy wiki pages that would be viewed by their peers may have increased the quality of students' writing. Since the wiki project was not simply an assignment reviewed by the instructor but viewed by all class peers, the instructor found the quality of writing and professional presentation of the wiki assignment better than previous course assignments submitted only to the instructor. A student who worked in a group that used the wiki as a collaborative work space noted that the constant contributing, revising, and editing resulted in a high quality product that would not have been possible otherwise.

Conclusion

The contents of this article are practical and anecdotal. Both quantitative and qualitative research is needed that demonstrate the impact of this type of assignment on learning and satisfaction.

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