Mar 11th, 4:00 PM - 4:45 PM

Wiki Technology: Promoting Academic Success in the Science Classroom

Alessandra L. Barrera
Georgia Gwinnett College, abarrera@ggc.edu

Allison D’Costa

Alexandra M. Kurtz
Georgia Gwinnett College, lkurtz@ggc.edu

Follow this and additional works at: https://digitalcommons.georgiasouthern.edu/sotlcommons

Part of the Curriculum and Instruction Commons, Educational Assessment, Evaluation, and Research Commons, Educational Methods Commons, Higher Education Commons, and the Social and Philosophical Foundations of Education Commons

Recommended Citation
https://digitalcommons.georgiasouthern.edu/sotlcommons/SoTL/2010/40

This presentation (open access) is brought to you for free and open access by the Conferences & Events at Digital Commons@Georgia Southern. It has been accepted for inclusion in SoTL Commons Conference by an authorized administrator of Digital Commons@Georgia Southern. For more information, please contact digitalcommons@georgiasouthern.edu.
Wiki Technology: Promoting academic success in the science classroom

Alessandra L. Barrera, Allison D’Costa and Alexandra M. Kurtz

School of Science and Technology, Georgia Gwinnett College, Lawrenceville, GA 30043, USA

Abstract
The Georgia Gwinnett College campus wiki site has progressed from a tool to accompany the traditional educational platform to a site utilized by multiple faculty and students to generate a collaborative learning environment. Biology faculty’s utilization of the wiki varies classroom to classroom, including solving case studies or problems, completing group research projects, and student development of chapter reviews and exam study guides. In all three applications of the wiki, students consistently rank the wiki in the top three course resources that are useful to help achieve academic success, surpassing the course textbook. It ranks as the number one course resource in classrooms using the wiki to develop reviews and exam study guides. Additional data results from the student survey will show the comparison of the student’s experiences in wiki and non-wiki classrooms, as well as the effectiveness of the wiki in various aspects of student learning.

Project Outline

Methodology: wiki set up
Campus wiki site provides the platform for course material.

Methodology: wiki implementation 1
1. Course lesson objectives were entered as the template for student entry and response.
2. Students answered lesson objectives on the wiki.
3. Responses graded and corrected by faculty member.
4. Student uses final version of wiki to study for exams.

Methodology: wiki implementation 2
1. Project topic outlines were entered as the template for student entry and response.
2. Students completed the information on the wiki.
3. Responses graded faculty member.
4. Students present final versions of project via the wiki.

Methodology: collection of data
1. A post-course survey consisting of qualitative and Likert scaled questions to determine student views of the effectiveness of the wiki in their course work and learning.
2. Survey results for this conference consist of multiple upper and lower division biology classes with 97 students participating.

Preliminary Data

In-class Group Activities

Student response

School of Science and Technology

Biology 3400-01 Section Exam 1 Lesson Objectives

1. CHAPTER 1: INTRODUCTION TO CELLS
2. Cytoskeleton
3. Prokaryotic and eukaryotic cells
4. Cell division

Preliminary Conclusions

1. Useful to achieve academic success
Preliminary results show that the wiki is ranked by the students (n=97) as the second most useful course resource (data shown at left). This was ranked from ten utilized resources in the classroom, including videos, websites, in-class group activities and study groups.

For classes where the wiki was developed as an exam study tool, students ranked it as the most useful course resource to help them achieve academic success. Students ranked the top three as: 1) wiki, 2) lecture PowerPoint, and 3) required textbook (data not shown, n=32).

2. Effective in studying for the course
Preliminary results show that for classrooms where the wiki was developed as an exam study tool, students ranked the wiki as the top resource to help them study for the course. The wiki was used once a week for the whole semester with student inputting their answers to the course lesson objectives. Ranking second is PowerPoint lectures which were used every class session. In-class group activities which were used the once a week (similar to wiki) ranked third (data shown to left).

3. Effective in seeking answers to questions
Preliminary results show that for classrooms where the wiki was developed as an exam study tool, the wiki ranked on par with the PowerPoint lectures for effectiveness in seeking answers to questions in the course (data shown to left). All three teaching methods showed achievement in this area for all methods of wiki use (data not shown, n=97).

Future Directions

Research in the wiki will progress into analyzing the method of wiki implementation within the classroom. This seems to affect the students views on use and effectiveness. It is unclear if there can be a clear determination into which wiki method is the most successful in helping students be successful in Biology courses. The wiki may be secondary to the effectiveness of the teaching style by the instructor.