

USING PROJECT-BASED LEARNING AND GOOGLE DOCS TO SUPPORT DIVERSITY

Amy Leh

California State University San Bernardino, 5500 University Parkway, San Bernardino, CA 92407 USA

ABSTRACT

A graduate course, ETEC543 (*Technology and Learning I*), was revised to better serve increasing new student population, international students, in an academic program. Project-based learning, Google Docs, and instructional strategies fostering diversity and critical thinking were incorporated into the course redesign. Observations, surveys, and instructor's reflective journaling were used to collect data for the project evaluation. The results indicated that the course redesign was beneficial for student learning and reduced distance between native speakers and students born in foreign countries.

KEYWORDS

Project-based Learning, Google Docs, Diversity

1. INTRODUCTION

The author has been teaching at a four-year university at Southern California in the USA for more than 15 years. One of the university strategic plans is to increase the number of international students at the university. Following the university strategic plan on increasing international student enrollment, the number of international students has been increasing in the author's Instructional Technology program. However, the international students were often viewed by native speakers as a burden of a group when conducting team work. International students also often feel intimidated when conducting team work with native speakers due to their language barriers. During 2013, the author redesigned a course, ETEC543 Technology and Learning I, and taught the course during Fall 2013. The purpose of the course redesign was to support diversity and to prepare a pleasant learning environment for both native speakers and international students. The course redesign included the use of a variety of teaching strategies and technologies. The paper contributes to the professional community by providing teaching strategies that support diversity and student learning.

2. BODY OF PAPER

The project took place during Fall 2013. Below illustrates the teaching strategies employed and research conducted in the course, including data collection, analysis, and preliminary results.

2.1 Teaching Strategies

In the course, the author employed project-based learning, technology use (especially the use of Google Docs), and strategies fostering diversity and critical thinking.

2.1.1 Diversity

In one of the assignments in ETEC543, each student made a presentation on the education system of his/her own country, its strengths, and its weaknesses of the education systems. For example, a student from Saudi Arabia talked about K-12 and higher education in Saudi Arabia, its strengths and weaknesses. This assignment allowed students to better understand education systems in a variety of countries.

The purpose of the assignment was to help students realize that not a single education system would be perfect and that they all could learn from each other. It was hoped that, through this exercise, students would learn respect and diversity.

2.1.2 Project-Based Learning

One of the goals of ETEC543 was for students to understand educational research. One of the assignments of the course required students to conduct a team research project by applying what they learned from the textbook/instructional materials to an actual research project they would conduct. Each team should consist of native speakers and students born in foreign countries. The research project required students to identify a specific issue concerning education of two countries that they were interested in exploring, for example, pressure of entrance examination on students in Japan, extra curriculum activities in Korea. The project was designed in a way that students who were born in foreign countries were valuable resources for the team project because of their connections to and experiences with foreign countries.

2.1.3 Integration of Google Docs into Class

For the team research project, students were required to share literature review, co-construct research instruments (e.g., survey or questionnaire), and co-author the research paper with their team members using Google Docs. Prior to conducting the team project, Google Docs were introduced to the students as tools for collaborating on the project. The Google Docs introduced included the use of word, spreadsheet, and online form.

2.1.4 Pedagogies for Critical Thinking

To make sure that each team's research instruments were well-developed, each team needed to present their research instruments to other classmates for feedback before they actually conducted data collection. Classmates needed to critique the instruments by explaining the strengths of the instruments and by offering suggestions on the instrument improvement.

2.2 Research Study

The research was conducted throughout the entire quarter, lasting 10 weeks. The author was interested in finding if the course redesign would support student learning, both native speakers and students born in foreign countries. In another words, foreign students would not feel intimidated when working with native speakers; native speakers would appreciate the experience working with foreign students and would not view them as a burden to the team project. There were a total of 21 students in the course.

The author used both quantitative and qualitative research methods for the study. Survey, observations, and instructor journaling were used to collect data. Throughout the quarter, the author observed student behaviors in class as well as online. She documented students' noted behaviors in her journal on a regular basis. She distributed a survey that consisted of eight Likert scale questions (1 being least agreeing to a statement while 5 being strongly agreeing to a statement) and one open-ended question to her students toward the end of quarter. Numerical data were analyzed using descriptive statistics. Qualitative text data were analyzed using content analysis.

The data from the observations and instructor journaling indicated that the course redesign fostered student learning and reduced the distance between native speakers and foreign students. The instructor often heard the following statements from students during discussions on their team project: "Interesting!! I didn't know that you spent so much time in schools;" "I heard about those things happening in that country. Now, the information becomes real to me when I heard from my classmates describing their experiences with their education in their countries." It was also observed that foreign students become valuable resources for the team project rather than being viewed as a burden in the author's previous courses. Inquiry, clarifying information among students, smiling, and aha moments often were observed when student working on their team projects. Several students clearly told the author that they greatly enjoyed the team project assignment and that the assignment opened their eyes to different education systems in the world.

The student survey data also indicated positive impact of the course redesign on student learning. Fifteen out of twenty one students responded to the survey. The majority of the students agreed that the project helped them better understand education systems of other countries, better understand diverse cultures, and better communicate with people from diverse backgrounds. The team project also increased their knowledge of some countries/cultures, confidence of working with people from different countries, and appreciation of other cultures as well as their own cultures and backgrounds. The table 1 below showed the impact of the course redesign (team research project) on student learning.

Table 1. Impact of the Course Redesign on Student Learning

	Mean
1. The Diversity project in ETEC543 helped me better understand education systems of other countries.	4.55
2. The Diversity project in ETEC543 helped me better understand diverse cultures.	4.64
3. The Diversity project in ETEC543 helped me better communicate with people from diverse backgrounds.	4.09
4. The Diversity project in ETEC543 increased my knowledge of some countries and cultures.	3.82
5. The Diversity project in ETEC543 increased my confidence of working with people from different countries.	4.00
6. The Diversity project in ETEC543 increased my appreciation of other cultures.	4.45
7. The Diversity project in ETEC543 increased my appreciation of my own culture and background.	4.82
8. I greatly enjoyed working on the diversity project in ETEC543.	4.18

The open-ended question asked students to describe what they liked and disliked about the team research project. Below were quotations from some of the students:

“I liked to work with classmates. It has improved my ability how I can collaborate and communicate with teammates appropriately. Also, I could learn about educational systems of Taiwan and Saudi Arabia. And I earned a lot through this diversity work, but it was a bit stressful and overwhelming to me because teammates were not cooperative.”

“I like the interaction with had with people from different backgrounds. It was interesting to learn how different my educational background is from others.”

“What I liked most about this project was getting to know another person in the group and the ability of asking them questions that I wanted to learn without appearing to be nosy. One thing that I disliked was the hardship of accommodating everyones schedules to complete the project.”

Although the results indicated that the course redesign (team research project) had a positive impact on student learning, a team exhibited some challenges working together. Challenges expressed by the students included, but were not limited to: (1) foreign students were not responsive, and the team project was delayed; (2) foreign students’ English was not proficient enough for communication; (3) native speakers dropped the ball at the last moment.

3. CONCLUSION

The project incorporated project-based learning, Google Docs, and instructional strategies fostering diversity and critical thinking in redesigning a course. It had several advantages based on students’ input: the students (1) better understood education systems of other countries and diverse cultures, (2) better communicated with people from diverse backgrounds, (3) enhanced their knowledge of some countries/cultures, (4) increased their confidence of working with people from different countries, and (5) had a greater appreciation of other cultures as well as their own cultures and backgrounds. The project is limited because the student survey data relied on student self reports. In addition, the project lasted only for 10 weeks. Repeating the research in several quarters (semesters) and collecting non-student-self-report data will be beneficial and strengthen the current study.

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