Introduction

For the past two years we have been engaged in project to redesign the United States history survey course to make it a foundational experience for students. Our redesigned course now emphasizes the gateway purpose of this course:

- preparing engaged and informed students through historical content that reflects the diversity of the SJSU student body
- preparing students for successful college and career experiences through the development of transferable historical skills in active learning, reading, and writing.

To increase engagement in the classroom we have introduced a partially-flipped classroom model, or "mini-flip." This model continues to recognize the importance of lecture, but uses technology to increase interactivity in the classroom. To support our redesign project we have been awarded grants from SJSU ECampus and the CSU Chancellor's Office to purchase hardware to enable the use of technology in the classroom and ensure accessibility for all students.

Abstract

There is great potential for the use of technology to increase student engagement in the classroom, but instructors are often limited by hardware infrastructure and the need to ensure accessibility for all students. Our team has focused on using grants to acquire hardware to address these challenges.

The technology is utilized in a “mini-flipped” classroom. Instructors continue to give short lectures but use technology to ensure student engagement throughout through quick quiz polling. Students can take reading quizzes and exams in the classroom using the Ipad with keyboard cases, freeing class time for group work and interactivity and enabling instant feedback for student and instructor. Group work using the Ipad and applications like Google Docs, Google Slides, Smartboard, and Canva can be shared onto the class projector screen using Airplay and the Apple TVs.

Students in the course report greater engagement with the material and have shown some improvement in grades over students in non-redesigned courses. Although providing hardware continues to provide challenges of maintenance and integration with campus infrastructure, ensuring equity of access to students makes these challenges worthwhile.

Hardware and Strategies

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<th>Classroom Strategies</th>
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<td>Charges all carts and stores Ipad, Mounts Apple TVs for connection to classroom projector</td>
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<tr>
<td>Apple TV</td>
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Results

1. Students in redesigned courses reported a significant increase in engagement with the material after the course versus before. While the number of students who felt ambivalent about history remained the same, less students agreed that history was boring after the semester, and more disagreed or strongly disagreed (56% of students) with the statement.

2. A and B grades has increased to 75% of the class with the mounting of the Apple TVs.

3. Initial results show that students in the redesigned courses have seen improvement in the number of students getting D, W, or F grades. F grades have fallen to 5% from a department average of around 10%.

4. Overall student performance appears to have increased with increased engagement, as the proportion of students gaining A and B grades has increased to 75% of the class.

Conclusion

1. Bringing hardware into the classroom has been successful in creating accessibility to the technology used in class to all students and ensuring equity. The Ipad cart is an effective tool.

2. Acquiring hardware at the department level is a powerful tool for storage, charging, and creating a mobile technology suite with the mounting of the Apple TVs.

3. Bringing technology into the classroom has been essential to developing a “mini-flipped” classroom, increasing engagement using technology tools supported by hardware.

4. Future work in this project will focus on assessing student attitudes towards history, engagement in the course, and the use of technology to deliver innovation.