

A Qualitative Investigation of Undergraduate Students' Experience in a Flipped, Remote Course During the COVID-19 Pandemic

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FLIPPED LEARNING

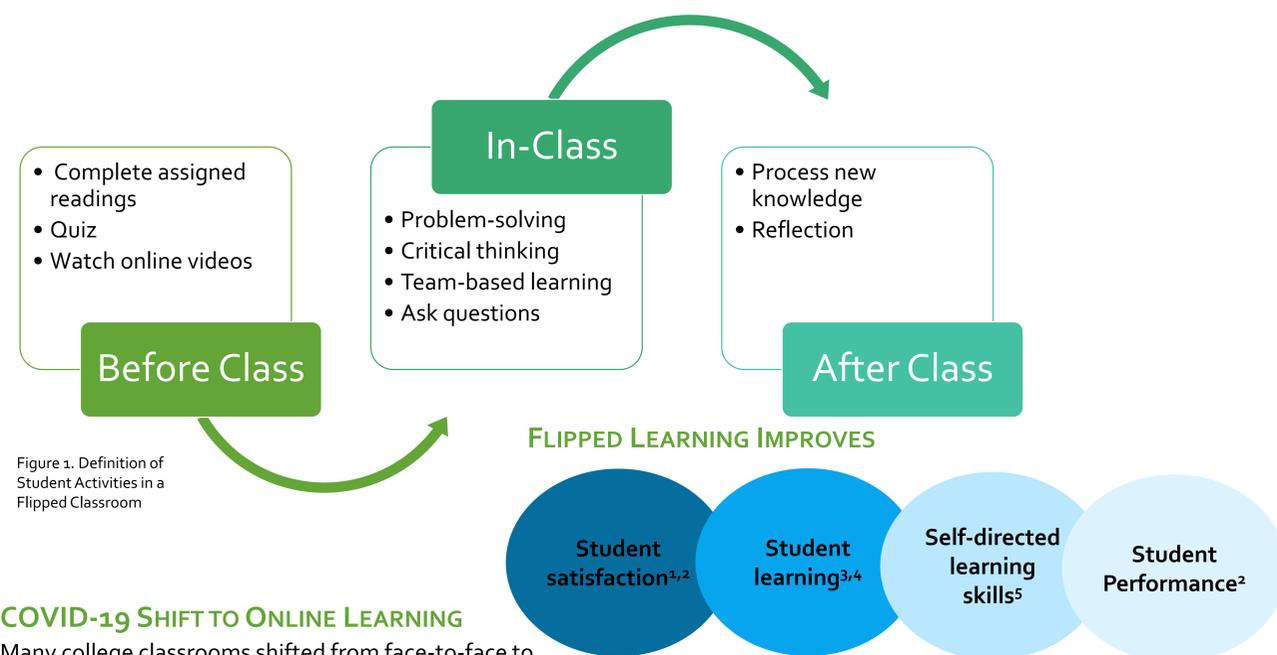


Figure 1. Definition of Student Activities in a Flipped Classroom

COVID-19 SHIFT TO ONLINE LEARNING

Many college classrooms shifted from face-to-face to online learning, either synchronous or asynchronous, which posed challenges for educators,⁶ many of whom did not have training or preparation.⁷

The objective of this study was to evaluate undergraduate students' experiences in a flipped, synchronous online advanced nutrition course during the COVID-19 pandemic at a U.S. university.

METHODS

- Approved by Bradley University's Committee on the Use of Human Subjects in Research

Setting

- Upper-level advanced nutrition class (i.e. digestion & absorption, macronutrient and micronutrient metabolism, etc.)
- Previously taught as a flipped, face-to-face course, but shifted to synchronous, remote format (Zoom) in spring 2021.

Data Collection

- After the semester, students (n=12) consented to have their 5 learning reflections used in this study.
- Learning reflections were completed during weeks 3, 5, 9, 12, and 15 of the semester.
- First 4 reflections contained the same 5 questions and the last reflection asked students to look back and reflect on previous responses.

Data Analysis

- Content analysis applied to learning reflections by due date in order to understand the students' experience in the class over time.

LEARNING REFLECTION PROMPTS

- Complete this sentence and elaborate: One thing I learned about how I learn is...
- How have you been challenged in this class? How did you overcome those challenges?
- How would you describe your efforts to learn so far in this class?
- What action did anyone in the class take that you found most affirming or helpful?
- What are the most important learning moments you've had in this course so far? What makes them so important?

RESULTS



EFFORT

The flipped class demanded more of students' time vs. their other courses, which could be frustrating and overwhelming at times. Students were proud of their accomplishments and felt that their effort paid off. "I remember reading the book at the beginning of the semester and having this moment of realization how complex this class was going to be. But we're on the other end of the semester about to finish and I look back and am like 'wow, I really did all of that.' It's pretty incredible the amount of information we've been able to learn this semester." (Reflection #5, Student #3).

DEPENDENCY

Students never became self-directed learners. They felt traditional lectures were necessary for learning. Did not recognize they were responsible for their own learning. "I find your [the instructor] dry-erase diagrams and charts incredibly helpful. It takes all of the text and alphabet soup from the readings and puts it in a form that I can visualize. The dry-erase board helps me understand steps to a process included all of the micro-steps and intricacies sprinkled throughout. I am able to draw along in my notebook and look back for a visual anytime I get lost in a concept or reading." (Reflection #4, Student #11)

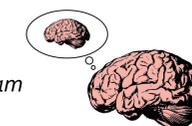


ASKING QUESTIONS

Asking questions was viewed as important for learning. Students relied on others to ask and answer questions at the beginning of the semester, but got more comfortable and confident asking questions as semester progressed. "I am a shy person by nature, so I am always more comfortable when the majority of students ask questions and contribute to discussions." (Reflection #3, Student #11)

METACOGNITION

Students understood they learn from mistakes and wrong answers, and felt they were able to adapt to be successful in the flipped class, but had more work to do in order to become skilled at learning independently. "I think this class style is challenging because I have never really experienced it before in another class. In a sense, I am learning how to learn AND doing my best to learn the metabolism-centered content, which can be tricky in and of itself." (Reflection #3, Student #9)



PEER SUPPORT

Learning teams were a safe space to ask and answer questions, provided social support, interaction, and affirmation that it was okay to be confused, and students encouraged each other throughout the semester. "I also found it helpful when classmates had a positive attitude. In the virtual setting, we often miss out on human interactions. When others turned on their videos, smiled, and talked with enthusiasm, I felt more engaged, joyful, and passionate about the class." (Reflection #5, Student #10).

CONCLUSIONS

To become self-directed learners, students may need scaffolding from instructors⁵ and metacognition skills^{5,8} in order to develop skills and confidence to learn independently. In this study, as the semester progressed students started reflecting more on being burnt out or the importance of self-care. This was not seen in a similar study among graduate students,⁵ which may suggest that the students in the present study were struggling with the results of the COVID-19 pandemic which hindered academic success and becoming self-directed learners. Students in this study emphasized the importance of learning teams in their experience of the course. In remote, synchronous classes, instructors should make an effort to provide opportunities for instructor-student and student-student interaction, such as small groups for activities in breakout rooms. Future research would benefit by repeating this study once COVID-19 restrictions have lifted and students return to a more "normal" collegiate experience and compare to a similar class that uses the face-to-face format.

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