



A flipped classroom approach can help food science students feel prepared for laboratory components

What is this Research About?

Laboratory courses allow food science and technology students to develop important practical skills. Yet students often miss out on potential learning because they arrive to the lab unprepared. The flipped classroom approach has shown to be an effective strategy for increasing student engagement and planning in laboratory classes. This approach often uses technology to provide students with learning materials that support their independence and critical thinking in preparation for classroom activities/experiments. In this study, researchers analyzed student performance and perceptions of using a flipped laboratory approach in a food and technology course.

What did the Researchers Do?

The researchers collected data from first-year students in a food technology course at a South African university. Students were provided with pre-laboratory educational videos and pre-laboratory quizzes. Their engagement was assessed through YouTube analytics. Their performance was assessed with pre-laboratory quizzes and post-laboratory reports. Students also completed surveys regarding their perception and acceptance of the online pre-laboratory component.

What did the Researchers Find?

The results indicate that students were engaged with the online pre-laboratory materials and felt prepared for their labs. YouTube video analytics demonstrated that students rewatched videos multiple times. Pre-lab quizzes indicated that the course learning outcomes were achieved. Most students reported feeling somewhat or very prepared for the laboratory component. Students perceived the online materials positively in terms of video resources, course feedback provided by quizzes, motivation and self-efficacy, course organization, online engagement, and online active learning.

SoTTL

Snapshot

A synopsis of a scholarship of teaching and learning journal article

➔ How to Implement this Research in Your Classroom

- A flipped classroom approach prepares students for classes with engaging materials such as videos and pre-session quizzes. This research demonstrated that a flipped method approach allowed food technology students to engage with pre-laboratory materials and feel prepared for their laboratory session. For laboratory courses, instructors can provide students with YouTube videos relevant to the upcoming lab and require students to complete a pre-laboratory quiz to ensure that students will come to labs prepared to learn.

➔ Citation

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➔ Keywords

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