Student-reported strategies for success in Learner-centered course design
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Project Description

AVS 331, Anatomy and Physiology of Domestic Animals (85 students), was redesigned following Learner-centered teaching principles (Weimer, 2013) to promote student preparation for class time and active learning in the classroom. Lectures were available online and students were quizzed on material before class. This course format allows for class time to be most effectively used to review course content, introduce more difficult concepts, answer questions and engage students in collaborative activities.

This project was approved by URI IRB protocol #HU1617.

Pathway of Learning - CHECKLISTS

BEFORE CLASS ON TUESDAY:

1. Watch Lecture

2. Review material with other suggested resources

3. Complete Vocabulary list

4. Take Prelab

5. Complete reflections

TUESDAY IN CLASS:

1. Review Pre-quiz

2. Responsive Lecture 1 (R*)

3. Practice pathway questions for Thursday

4. Submit a question to TopHat

BEFORE CLASS ON THURSDAY:

1. Review Lectures 1 & 2

2. Take Post-Quiz

3. Practice with pathway questions

THURSDAY IN CLASS:

1. Answer questions

2. Complete pathway question (U*)

3. Current research discussion/ next week

Project Goals

1. Determine if self-regulated reflections on study skills improved quiz and exam grades

2. Compile student-reported skills for success

This project was approved by URI IRB protocol HU1617-015. Students that chose to not participate in the study signed a waiver (n=1). Students were ranked by GPA then randomly assigned to one of two groups with each group representing the range of student GPAs. Group 1 completed self-regulated reflections (Nilson, 2013) and Group 2 completed reflections related to course material during Section I. For Section II, the group reflection assignments were swapped to allow all students the opportunity to complete all reflections. Examples of study skills were discussed at the beginning of the course and after Exam I. At the end of the course, all students completed a final reflection. After final grades were submitted, all grades and reflections were de-identified before data was compiled.

Results

Self-regulated Reflection 1: Develop a plan for studying the course material so you are prepared for class.

Self-regulated Reflection 2: Assess your plan for keeping current with course material that you described in Reflection 1. What modifications/adjustments have you made?

Control Reflection 1: What questions do you have about nervous system physiology?

Control Reflection 2: Answer your question from Reflection 1.

Sections that completed self-regulated reflections did not have higher quiz or exam grades on average compared to those that did not.

Final Reflection Student Quotes

“This course introduced a new way of thinking, not only did we need to know the basic information, but we needed to be able to make connections with everything we had previously learned.”

“Without this format, I tend not to do as much outside of class studying in a way that I am learning the material in a sustainable way to be able to understand and apply much later. I have never needed to learn the material before a class, rather just cram and the regurgitate it onto a test where I never have to see it again. So this format of learning really helped solidify the course content in my mind by making me do more outside of class studying.”

“This class also showed me in order to get the really good grade its reflected of how much time you spend studying.”

“I know that I am now more prepared for my classes, and I know better how to become prepared.”

“I have gained a better knowledge of the material and got a deeper learning, while the material actually stuck a lot more than usual.”

Conclusions

Effective strategies for student success in the AVS 331 learner-centered format were identified. Next, specific strategies for learning with online lectures, identifying gaps in knowledge & asking questions, collaborative learning and retention of course material in upper level Animal Science courses will be evaluated.

REFERENCES:
