

Measuring Student Comprehension

Florida State University, Florida

A Case Study

Finding the best way to gauge student understanding throughout the semester is challenging for teachers and professors of all levels. With over 350 students in some classrooms at Florida State University, it is often difficult to determine student comprehension of materials before they are tested on midterms or finals. Educators at the university decided to implement a single assessment solution that could be adopted across the entire campus. When Florida State University decided to utilize Interwrite PRS (Personal Response System), Joe Calhoun in the economics department was eager to put the system to use in his classroom.

Interwrite PRS is an interactive assessment tool that uses a wireless “clicker”, similar to a remote control, to encourage lecture discussions among all students and to gauge student understanding. Using wireless radio-frequency technology, students use the small handheld devices to answer questions projected in front of the class. Interwrite PRS allows questions to be answered in multiple choice, true/false, numeric, rank order, multiple correct or short answer formats. Educators receive instant notification on the percentage of students who answered correctly, as well as see the answers each student submitted.

Class Action

In order to assess his students’ understanding of lecture material, Calhoun uses Interwrite PRS to break up the class into smaller segments, allowing students to quickly gauge their understanding of a topic, and generate discussion points.

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For example, when teaching mutual gains from trade, wealth creation and inflation- topics that can easily lose students- Calhoun utilized Interwrite PRS to get their continuous feedback. After an interactive example on how the Federal Reserve increases money supply, which in turn creates inflation, Calhoun used Interwrite PRS to ask follow-up questions. He ended the lesson by giving detailed explanations of the correct answers to the questions because results indicated that the students had struggled with the questions.



In order to give students the chance to monitor their grade and to make sure the interactive tool is collecting their answers accurately, Calhoun posts the Interwrite PRS results online every day. The top-25 students in points receive extra credit. During the last class of the semester, Calhoun reviews for the comprehensive final exam by having the top-25 students compete with each other to answer potential final exam questions using the Interwrite PRS system. Reviewing in this manner engages the entire class and allows every student to learn.

Calhoun reports he has seen major benefits from using the Interwrite PRS. His grading system rewards students for any response but provides more points if students answer correctly. Therefore, students have an incentive to take the questions seriously. Additionally, Interwrite PRS creates a fun and dynamic learning environment that also generates a sense of competition among the students. “My students tend to get really

involved in the competitive aspect of the PRS questions,” said Calhoun. “Sounds of either collective cheers or groans can be heard echoing from my classroom on any given day.”

Improved Attendance

Prior to implementing Interwrite PRS, Calhoun only had roughly 60-percent class attendance. Now, class attendance is consistently 85-percent or better. The Interwrite PRS questions are good indicators of topics for exams, which provide incentive for students to be present for every lecture. The exam scores positively correlate to class attendance and correct or incorrect answers, thus affecting the overall final exam scores.

Adoption

Since the introduction of Interwrite PRS in Calhoun’s classroom, Florida State University has had a wide adoption. Ten lecture halls have since been outfitted with the interactive system. Interwrite PRS is being used in a wide range of subjects including: physics, economics, math, biology, geography, sociology, geology, nursing and chemistry.

After the university decided to implement Interwrite PRS for additional disciplines, the Center for Teaching and Learning (CTL) presented a workshop to help professors learn how to use the system. Since not all faculty members who were interested in learning about the technology were able to attend the workshop, the CTL approached Calhoun to create a series of online videos to help professors learn how to properly use Interwrite PRS. He eagerly agreed, and five videos on various topics, from an introduction to the system to learning best practices, were created.

Final Assessment

Joe Calhoun has continued to contribute to the implementation of Interwrite PRS in numerous ways. He has presented the technology at several national professional conferences and is working with a grad student’s research project about the effectiveness of the teaching tool.

Calhoun already has seen evidence that Interwrite PRS questions enhance exam scores in his classes and is conducting his own research to investigate that relationship more specifically. “The positive correlation between the PRS questions and exam scores shows that PRS is more than just fun and games” he says.

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