

## Case Study

# Introducing Adaptive Learning Increases Exam Scores

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### SUMMARY OF FINDINGS

- A comparison of average scores for the 21 students on the tests given before prepU was available to those taken after prepU was available, revealed a significant increase in performance.

### Course

In the spring semester I taught Mental Health, to the level II students in our vocational program. The program is a one year program and level II students are in their second semester. The course is mostly lecture (three hours per week) with additional video components incorporated as well. I co-teach the course with another instructor who teaches another section of the course.

### Course Grading Policies and Assessment

Course grades are made up of:

- Five exams
- Final Exam
- Pre-lecture reading quizzes (delivered via Blackboard and worth 6% of the grade)

### prepU Implementation

I only began using prepU about four weeks before the end of the semester. Our rep gave us a presentation on prepU and we heard about how other schools were using it. We struggle with the population at our school with getting them engaged in the book and other resources. I immediately saw the potential for prepU and was excited to give it a try. We got some class codes, gave them to the students and said "off you go!" Our rep even came into the class and helped the students learn how to use prepU. I was so enthusiastic about it and I think it rubbed off on the students!



Students in this course struggle with some of the terminology from earlier courses and they also don't often read before class. This is one reason we started using pre-lecture reading quizzes. We have implemented a Quality Improvement Program which is designed to help get the students reading before the lecture. The pre-reading quizzes are assigned some points to encourage students to take them, but only a small amount (6% of the grade).

I have looked at the data in PrepU almost every day and it's great to be able to follow and track my students. I know who is doing what. Right before the final exam I saw a huge surge of students taking quizzes in prepU. I was amazed and the next day I gave them all a big "thumbs up" in class—I reported to the students the usage statistics I was seeing in prepU as a way to encourage them.

Even in the short time that I used it I think that prepU helped students prepare for their tests. The misconception section is a great way for me to go back and see where students are having difficulties and we can discuss them. I can ask student what they were thinking when they answered a certain question. I love that section! It allows me to see where the students are coming from which is really useful.

Feedback from students was very positive—they particularly liked the adaptivity of the system and it was a great tool for keeping students engaged (that was a godsend!). One of my students got up to a mastery level of 8, even in the short time we used prepU. The motivated students really got into it and I would hear them in class comparing mastery levels and challenging each other to get to a higher one.

## Findings

Students took off using prepU much more than I had expected. I really didn't expect them to answer as many questions as they did in such a short period of time (usage data are shown below). I had some low-performing students who were on the border—the ones I really didn't

think would pass. One of them is a repeat student and she was getting about a 60 average in the class and I thought she wouldn't pass. She started using PrepU and her average moved up to a 68—which for this student was a pretty big jump. It was amazing to see! My other three students who were borderline all passed with grades over 70%. Prior to using prepU they were all in the 65-68% range and were in danger of failing the course. I was really pleased and for them to improve to that degree was very impressive.

I give 5 exams in my class (plus the final). On test 4, the average score was 68 and on test 5 the average score went up to 83! When I saw that I was amazed. The only thing that changed between test 4 and test 5 was that we introduced prepU. I took a look at the students who had done a lot of quizzing in prepU and those were the ones that improved the most.

Table 1: Student Usage Data

Overall Usage Data: Psychiatric Mental Health Nursing_101 Spring 2012	
Number of Students	23
Students who've taken a quiz:	23 (100%)
Quizzes taken:	521
Average number of quizzes: (among those who've taken quizzes)	22.7
Questions answered:	5,790
Average number of questions: (among those who've taken quizzes)	252
Overall average class mastery level	3.1

## Conclusions and Future Use

In the future, if I can get students in to prepU early I think it will be a great tool to actually use in class as well. I would like to be able to go into a chapter and show some questions to the students and have a classroom discussion. The next time I teach Mental Health (spring 2013) I might have students answer a certain number of questions from a certain chapter per week.