

Redesigned College Algebra

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Why redesign the course?

- Developmental courses previously redesigned
- College Algebra already in transition
- High failure rate
- Reduce course drift

How did we plan the redesign? What's important?

- Increase student success in course and subsequent courses
- Eliminate course drift
- Synchronous class
- Maintain standards for a college algebra course
- Instructor presentation of course material

How to address the principles of course redesign?

- Redesign the whole course.
- Encourage active learning.
- Provide students with individualized assistance.
- Build in ongoing assessment and prompt (automated) feedback.
- Ensure sufficient time on task and monitor student progress.

Modified Emporium Model

- Emporium Model—replaces lectures with a learning resource model using interactive software and on-demand personalized assistance
- But we still wanted to talk.....
- Short 10 to 15 minute, carefully planned presentations
- MyMathLab software
- Common student website

College Algebra Redesign Pilot

Spring 2012

- Piloted redesigned course with all main campus students in sections that met between 8:00 am and 3:30 pm
- 357 students enrolled at start of classes
- 5 instructors taught 9 sections
- Modified emporium model
- Used MyMathLab for class work and homework exercises, but students took paper and pencil quizzes and tests
- Common Final Exam used as comparison

Successes

- Increase of 16% of number of ABCs on common final exam as compared to Spring 2010.
- Weekly collaboration among College Algebra instructors.
- Elimination of course drift. All instructors gave the same assignments, quizzes, tests and final exam.
- Students were actively engaged “doing math” during the entire class period.
- Evening study sessions held on a regular basis were well attended.
- A realization among the students that mathematics is hard work, but the format of the redesigned course gives students the tools to be successful.

My Observations

- 14% more ABCs in my redesigned classes (Spring 12) than in my lecture classes (Spring 11).
- Students were awake and engaged and thinking about math. Very little Facebook or texting.
- Nice blend of explanation and independent work time.
- Able to work with students one-to-one before they leave the classroom.
- Students that were willing to work hard understood the expectations of the course and were successful.

Difficulties

- Students usually rent a textbook for \$25 per semester. Some students dropped the course because of the increased price of the MyMathLab package.
- Difficult for students without Internet at home.
- Piloted with too many instructors. Difficult adjustment for instructors to give mini-lectures. What's most important to discuss?
- Although final exam scores were improved, overall the grades in the class were not improved. This may in part be due to all students taking the same quizzes, tests and final exam. In the past, difficulty level of tests varied between instructors.

Future Improvements

- Plan, plan, plan.... and train, train, train....before the semester starts. Instructors need time to adjust to a new way of delivering the course.
- Spend time at the beginning of the semester making sure students are comfortable with the course.
- Use of MyMathLab mastery quizzes to practice the material without helps such as “View an Example”.
- Require a notebook so students learn how to write mathematics.
- Expand and increase attendance in study sessions.

Full implementation Fall 2012

- 816 students
- 12 instructors
- Main campus and 4 regional campuses
- Training?
- Buy-in?
- Continued collaboration?

Cost Savings

- More consistent use of non-tenure track instructors to teach the course
- Main campus maximum class size of 44 due to size of computer classrooms
- Possible future larger computer classroom

Future

- Continued collaboration
- Develop student resources
- Buy-in of faculty and students