Math Redesign at Kapiolani CC

Presenters

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Results for Fall 2010

Traditional model:

The traditional model (with minor variations by instructor) was the standard practice prior to the redesign project. In Fall '09, Math 24 had a pass rate of **48.7%** (out of **419 students**). This is what we are using as our benchmark for determining a successful redesign.

Hybrid model:

The hybrid model is the most successful model implemented to date. In Summer '10, the pass rate for developmental courses (Math 24/25) were **75% (out of 75 and 109 students respectively**). Of those who passed Math 24, 48% of these passed the next course the following semester (out of 46). Of those who passed Math 25, 64% of these passed the next course the following semester (out of 64). An adjusted version of this will be used in Fall '11.

Self-paced model:

The newest redesign model is based on the emporium model employed by Cleveland State CC in Tennessee. In Fall '10, the pass rate was **32.77%** (out of **415 students**) the course within one semester. We allowed some students to finish up this Spring. Our final pass rate that includes those who came back was **44.82%** (**51 students were able to finish**).

Student Performance

(Focus group from one instructor)

Fall 2009

Fall 2010

Average raw score on final exam: 17.75 (N=73) Scores ranged from 4 to 29 (out of 30)

Number of problems per assignment: 25-45

Time spent on homework (textbook problems): 2-3 hours/wk * 16 wks = 32-48 hours (estimate)

Contact time with instructor:

2.5 hours/wk (in class) + 1 hour/wk (OH)

Average raw score on final exam: 21.56 (N=34) Scores ranged from 15 to 28 (out of 30)

Number of problems per assignment: 25-45* *students had unlimited attempts per problem

Time spent in MML (HW, Quiz, Mod test): 35-152 hours (completed course)

Contact time with instructor: 2 hours/wk (in class) + 2 hours/wk (lab)* *Note this only reflects hours individual instructor is required per week. Students were free to seek help from other instructors.

Advantages/Challenges of redesign Advantages Challenges

- Unit mastery vs. high stakes testing
- Multiple attempts on assignments helps prevent students from getting discouraged
- More individualized approach to teaching
- Flexible hours allow students to adjust weekly based on personal schedule
- Advanced students can move faster while challenged students can slow down
- Portfolio teaches organization and note taking skills
- Students now get the repetition they need to learn math at their own pace

- Motivating students (finishing on time)
- Training students to succeed in new model
 - Use multimedia options to learn
 - Independent learning
- Time management (students and instructors)
- Transitioning (from redesign Math 24 to traditional model course)
- Limited resources (funding)
 - Classroom (computer lab needed)
 - Number of instructors
 - Support staff (tutors, lab monitor, etc.)

IMPROVEMENTS

(Moving in the right direction)

- Incorporate "orientation" in first week of class
- Online office hours now available through Elluminate (MML upgrade)
- Make almost everything available in MML (final will be online for Fall 2011)
- Offering hybrid model (most successful model to date) for students who need more structure (Fall 2011)
- Require students to use resources *before* starting homework
- Take advantage of personalized homework (pre-quiz/pre-test) option that is now available in MML
- Creating an accelerated course for beginning algebra sequence (in discussion)
- Removing limits to "roll over" feature (in discussion)