Math Redesign Project

Joliet Junior College

Laura Egner
Developmental Math Coordinator
Joliet Junior College
legner@jjc.edu

Michael Sullivan
Joliet Junior College
msulliva@jjc.edu
What Is Redesign?

- Redesign defined
- Consideration of pathway
  - Traditional path
  - Major specific path
    - STEM versus Non-STEM
    - StatWay/MathWay
- www.thenccat.org
Why Redesign at JJC?

- Administrative challenge from VP of Academic Affairs
- Change Clearly Needed – Success rate in developmental math between 45.7% and 52.5%
- Faculty ready for a simpler change
- Pilot a possible solution – a reasonable choice for some
- Heterogeneous students
- Heterogeneous course
Desired Outcomes

- Increase pass rate/decrease DFW rate
- Increase student success in subsequent college-level courses
- Uniform course college-wide
- Self-acceleration
- Develop effective study skills
- Shelf life of modules
Math Redesign Project at JJC

- Model Decision: Fixed Emporium
  - Easy to Enroll Students
  - Financial Aid Consideration
  - Instructor Accessibility
Math Redesign Project
Current Overview

- Three development courses: College Arithmetic, Elementary Algebra, Intermediate Algebra
- Total - 511 students this semester
- The learning model for satellite campus
- A secondary choice at main campus (new pilot site)
- Two computer lab classrooms at each campus
- Student:instructor ratio 22:1
Typical Module

- Section Level
  - Objective Level Video Lecture
  - Homework at the Objective Level
  - Mixed Practice Homework
  - 90% Mastery

- Module
  - Two or three quizzes per module (80%) mastery
  - Personalized homework
  - 70% mastery on exams
  - Personalized homework
Student Responsibilities

- Sign policy contract
- Access to course management system
- Attendance
- Work outside of class
- Maintain quality notebook
Instructor Responsibilities

- Guide on the side
- Study skills
- Effective math/writing/communication skills
- Communication
How Are We Doing? Data Analysis
Math 090 – College Arithmetic

Grade Distribution by Delivery Method

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<th>Grade</th>
<th>Online</th>
<th>Traditional</th>
<th>Redesign</th>
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How Are We Doing?  Data Analysis  
Math 090 – College Arithmetic
How Are We Doing? Data Analysis
Math 094 – Elementary Algebra

Grade Distribution by Delivery Method

- Online
- Traditional
- Redesign

Relative Frequency

Grade

A B C D F W
How Are We Doing? Data Analysis
Math 094 – Elementary Algebra

Traditional (Popn 2) vs. Redesign (Popn 1)
How Are We Doing? Data Analysis Math 098 – Intermediate Algebra

Grade Distribution by Delivery Method

- Online
- Traditional
- Redesign

Relative Frequency

Grade

A  B  C  D  F  W
How Are We Doing? Data Analysis
Math 098 – Intermediate Algebra

Traditional (Popn 2) vs. Redesign (Popn 1)
Positive Student Reaction

I absolutely love that I can access any material or info that I need anywhere. The best part is I can go at my own pace. My instructor has been a motivating influence in the class. He always made his rounds letting students know their status, making recommendations and assisting who need further explanation; we all grasp math differently.

I like the one-on-one help. In a regular class you get bombarded with material - hard to remember all that without practice. I like hearing students in the video and that it forces me to do my homework. Material sticks.
Negative Student Comments (sort of)

No, because I did not know the type of class this was and I was in it made me lazier since I have to work at my own pace at home. I didn’t have time. I feel it’s easier to learn when personally taught and easier to ask questions that way.
Challenges

- Fine-tuning the vision of the curriculum, structure, and implementation
- Financial Aid and registration concerns
- Customizing curricular materials and auditing for accuracy
- Seeking and educating instructors on the new pedagogy and technology