

Changing Times, Changing Students

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SMART Math Redesign A Dream Come True



A Tennessee Board of Regents Institution

Mathematics Department

www.jsc.edu/smart-math


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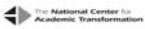
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SMART Math
A Dream Come True!
 www.jsc.c.edu/smart-math



Jackson State
Community College

A Tennessee Board of Regents Institution



Experts in reimagining learning and
reducing cost to higher education

www.thencat.org

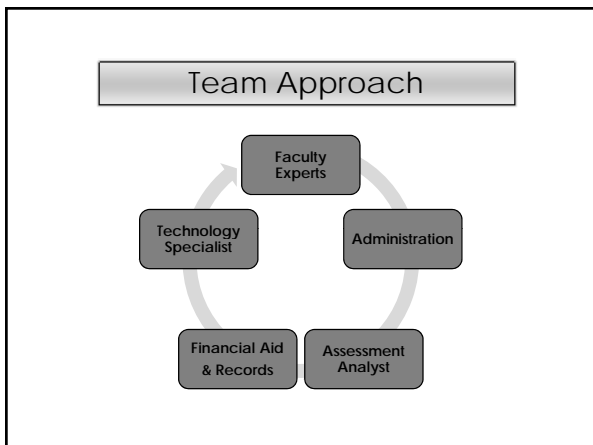
What is Course Redesign?

- ❖ Course redesign is the process of redesigning whole courses to achieve better learning outcomes at a lower cost by taking advantage of the capabilities of information technology.
- ❖ Course redesign is not just about putting courses online. It is about rethinking the way we deliver instruction, especially large-enrollment core courses, in light of the possibilities that new technology offers.

Why redesign?

Course redesign allows institutions to:

- Increase student retention
- Meet goals for student achievement
- Accommodate diverse learning styles and levels of preparation
- Decrease time to graduation
- Improve consistency and quality across multiple sections.
- Use state and student tuition dollars more efficiently
- Accommodate more students without adding resources



Components of Redesign

- Redesign whole course
- Emphasize active learning
- Rely heavily on available interactive software such as MyMathLab®
- Require mastery learning
- Increase on-demand individualized assistance
- Automate those course components that can benefit from automation
- Consider modularization

Advantages of Modularization

- Individual student requirements based on educational and career goals
- Students can change schedule without interrupting learning
- More frequent opportunities to successful completion
- Multiple exit opportunities
- Student begins new semester with next required module

What Did We Do Before the Redesign?

- Three Traditional Courses
 - Enrollment: 2200
 - Number Sections: 90
 - Max Size per Section: 24
 - Pass Rate: 42%
- Student had to pass course or start over next term
- Each instructor designed own course presentations, lectures, homework assignments, and tests
- Student class time was inflexible
- Students had to learn at the same rate
- Student had to successfully complete all three courses before enrolling in Allied Health or Nursing programs or taking certain college level courses

Jackson State Community College Developmental Mathematics

Goal of Our Redesign

Improve Student Success and Increase Learning

- ✓ Accommodate varying levels of preparation, math anxiety, and diverse learning styles
- ✓ Prepare students for educational and career goals – not just remediate high school deficiencies

Key Features of Redesign

- SMART Math Center
- Mastery Learning
- Modularization
- Multi-Exit Opportunities

Survive Master Achieve Review Transfer



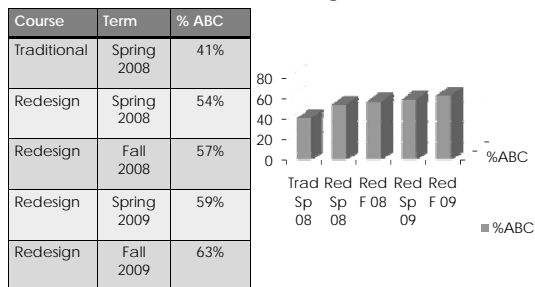
SMART Math Center at Jackson State

When did we do what?

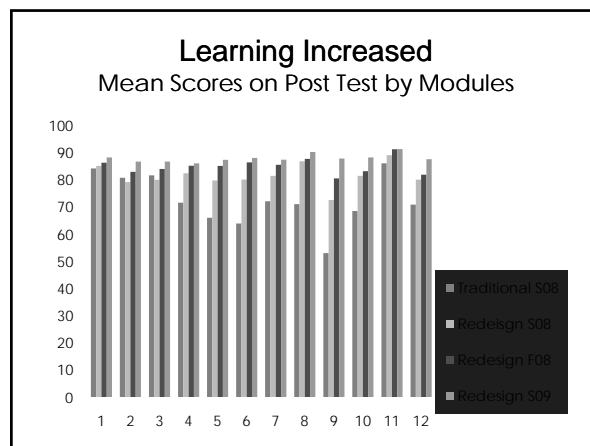
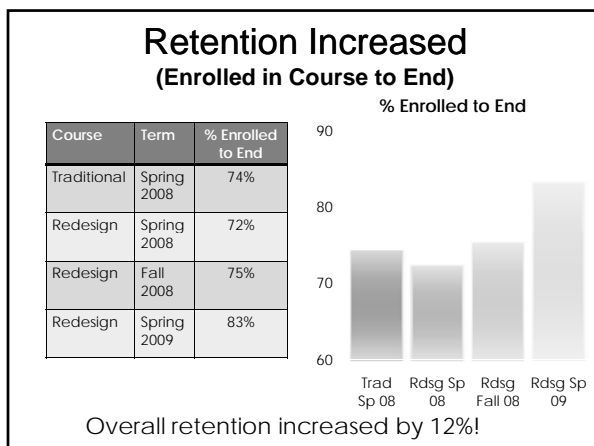
- Spring 2007 – attended statewide orientation sessions lead by NCAT
- Summer 2007 – wrote & submitted proposal to NCAT
- Fall 2007 – Notified that our proposal was accepted
- Fall 2007 – Began implementing plans to begin pilot 1 in Spring 2008
- Spring 2008 - Pilot 1 Offered Parallel Sections
 - Traditional – taught by instructors who liked traditional
 - Redesign -
 - Same competencies, same post-tests
- Fall 2008- Pilot 2 Redesign Sections - SMART Math!
 - One section of traditional
- Spring 2009 - Pilot 3 Redesign Sections – SMART Math only!

Student Success Increased!

Percent of Students Passing the Course



Overall Success Rate increased dramatically!



Completion Rates Per Module

Module	Fall 2008		Spring 2009	
	Enrolled	Passed	Enrolled	Passed
1	487	91%	216	85%
2	472	89%	200	87%
3	388	93%	205	87%
4	382	97%	200	96%
5	269	93%	223	84%
6	213	96%	194	94%
7	170	95%	193	93%
8	178	88%	176	86%
9	98	77%	76	70%
10	91	87%	70	79%
11	68	97%	59	100%
12	52	96%	49	96%

- ### Cost Savings for Students
- Students do not pay for unnecessary coursework
 - Students are able to complete developmental math requirements in one term if motivated
 - Students can adjust schedule to suit life changes instead of withdrawing from the course
 - Students can decrease travel & childcare expenses

- ### Cost Savings for Institution
- Reduce cost per student by over 20%
 - Reduce total number of sections by 28%
 - Increasing maximum class size from 24 to 30
 - Providing opportunity for students to complete developmental coursework more quickly
 - Reduce number of sections taught by full time faculty from 78% to 58%
- | | Full time | Adjunct | Total |
|--------------|-----------|---------|-------|
| Historically | 63 | 26 | 89 |
| Redesign | 37 | 34 | 71 |
- Utilize tutors at lower cost per hour than faculty
 - Improve retention of students by over 12%
 - Increase college enrollment numbers by enrolling students more readily in credit bearing courses

- ### Redesign Outcomes
- Student requirements based on educational and career goals
 - Accommodation of Learning Styles
 - On-demand Individual Assistance
 - Immediate Feedback on Tests and Homework
 - motivating students to continue until they get it right!
 - Opportunity to Progress More Quickly (or slowly)
 - Students know material before moving ahead
 - More Frequent Opportunities for Success
 - Students have the attitude “I can do this!”
 - Students begin new semester with the next required module

Jackson State Mathematics Department
wishes to say thanks to:

- ❖The Tennessee Board of Regents for giving us the opportunity to make our dreams a reality.
- ❖National Council of Academic Transformation for guidance and encouragement throughout the whole process.
- ❖Pearson Education for continuing to work with us through this whole process.

Come visit us and see our
SMART Math Center!



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More information available at
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