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Designing Developmental Mathematics for Student Success

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Designing Developmental Math for Student Success

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The Problem

- A state of crisis exists in developmental education in the state of Georgia. According to USG data, out of more than 37,000 students who entered the system in Fall 2004, 6,627 were required to take developmental mathematics. Of those only 38.9% exited within two semesters. Forty-five percent had not exited by Fall 2006 and were not enrolled at that time.
Issues with Developmental Math Courses

Issue: Students have different math expertise

Issue: Students have different learning rates

Issue: Students are ill-prepared for college work
Solution: Teach math when they are ready

Solution: Teach them college survival skills
Math 99 at Georgia Gwinnett College

- Innovative Design
- Self-Paced
- Multiple Semesters
- Mastery-Based
- Frequent Assessment
- Instructor as Facilitator
Innovative design

- Early exits allow students who just need a review to finish the course early.
- Just-in-time teaching helps students with what they need when they need it.
- Incorporating study skills into the course will present students with the survival skills they need for success in college math.
Self-paced

- Students are permitted to exit early if objectives are met before the semester ends
- Students are able to review topics as needed
Multiple Semesters

- Students can take up to 3 semesters to learn the topics
- Eliminates need for MATH 0097 and MATH 0098 by putting different levels in one course
Mastery-based

- Initial assessment.

- Students have to master the material before new topics are accessible.
Frequent Assessment

- Measures whether students have retained the material.
- Automatically or manually-triggered.
- Can be over recently-learned topics or all topics.
Instructor as Facilitator

- Instructors move from lecturing in front of the classroom to assisting individual students with just-in-time teaching
How well does it work?

Fall 2007 to Summer 2009
- 480 students enrolled
- 62% qualified to exit (C or better)
- 48% exited
- Mean time to exit: 1.57 semesters
How well does it work?

MATH 99 PERFORMANCE IN MATH 1111
F07 – Su10

% DWF rate (F 09–Su 10):

- GGC: 30.9%
- USG overall: 51.4%
- USG state colleges: 51.9%
Continue to monitor.

- Exit rate
- MATH 1111 performance
- Compare LS and non-LS students.
Thanks for your time and attention!!

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