Promoting Effective Study Skills in Developmental Mathematics Students
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• Research shows that effective study skills and behaviors have a greater impact on academic success than inherent ability.

• Yet many of our developmental math students lack awareness about how they learn best.
Lack of Strategy

JUST OUT OF CURIOUSITY, MOCCH...

HOW DO YOU EXPECT TO DO WELL ON THE MIDTERM IF YOU HAVENT READ ANY OF THE MATERIAL?

LUCK?
Ineffective Implementation of Strategy
Ineffective Implementation of Strategy

- The secret to doing well on a test is to not try to cram in the information all at once...
- But to keep steadily learning it bit by bit over a period of time.
- So if I just take one chapter an hour from now until dawn...
Studying

Notice how they conveniently put "DYING" at the end of this word.
Student Perceptions

• 90% (of students) agree or strongly agree that they have the motivation to do what it takes to succeed in college.

• 86% agree or strongly agree that they are prepared academically to succeed in college.

Source: 2013 SENSE
Perceptions vs Reality

- 66% (of students) report that they *never* discussed ideas from readings or classes with instructors outside of class.
- 64% say they *never* used writing, math, or other skill labs.
- 43% came to class without completing readings or assignments at least once.

Source: 2013 SENSE
Use of Resources Outside of Class

STAR Activities

Students Taking Advantage of Resources

» Textbook
» Online
» In person
» Instructional videos
STAR Model

- Menu of content-specific activities
- Students self-select
- Earn points for completion
- Required component of grade
- In addition to assigned homework
- Expiration date on some activities
Developmental Math STAR Activities

• Reading the textbook, completing practice exercises – 2 STAR points per section
• Instructional videos, watch and take notes – 2 points per section
• UCBA Math Lab – 1 point per hour
• Office Hours – 1 point per visit

At each exam, current STAR material due
Total Points available = weight of $\frac{1}{2}$ to 1 exam
Students’ STAR Selections

Intermediate Algebra Spring 2014,
54 students completed:
409 textbook sections
361 UCBA Math Lab hours
271 section videos
23 office visits
Average Exam Score vs Total STAR Points
Intro Algebra Fall 2013

Exam 1

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Exam 2

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Average Exam Score vs Total STAR Points
Intro Algebra Fall 2013, continued

Exam 3

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<td>Average</td>
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Final Exam

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<td>Average</td>
<td>51.5</td>
<td>63.7</td>
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Average Exam Score vs Total STAR Points
Intermediate Algebra Spring 2014

Exam 1

Exam 2

Final Exam
Average Exam Score vs Total STAR Points
Intro Algebra Fall 2014

Exam 1

Exam 2

<=7                  >7

<=17                  >=17

66.9                  69.3

70.4                  74.2
Average STAR Points vs Final Exam Grade
Intermediate Algebra S14 (n = 48)
Average STAR Points vs Exam 2 Grade
Intro Algebra F14 (n = 48)
DFW Rates – MATH 0031

Fall 2013 MATH 0031 Introductory Algebra
UCBA DFW rate: 48.9%
8 sections; 182 students

My DFW rate: 44.9%
2 sections; 49 students

1/6 of grade is determined by STAR points
DFW Rates – MATH 0034

Spring 2014 MATH 0034 Intermediate Algebra
UCBA DFW rate: 42.4%
8 sections; 198 students

My DFW rate: 35.2%
2 sections; 54 students

1/12 of grade is determined by STAR points
What helped you learn?
Student Feedback

• The star assignments were very helpful and forced students to understand what was going on in a positive way that rewarded them when being completed.

• Completing the star points helped to study.
• Star points are amazing.
• The instructor should put more emphasis on STAR activities as they are a huge help.
What helped you learn?  
Student Feedback

• …the second thing was the star assignments even though they were a little time consuming I felt that in the end they were helpful for review for the exam.

• *The star points, especially the text.*

• The star activities also helped me as well.
Alternative STAR Options

- www.interactmath.com
- YouTube, Khan Academy videos
- Textbook ancillary materials
Thank you!

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