

**THE NEW MATHWAYS PROJECT:
DEVELOPMENTAL MATH PATHWAYS IN
TEXAS**

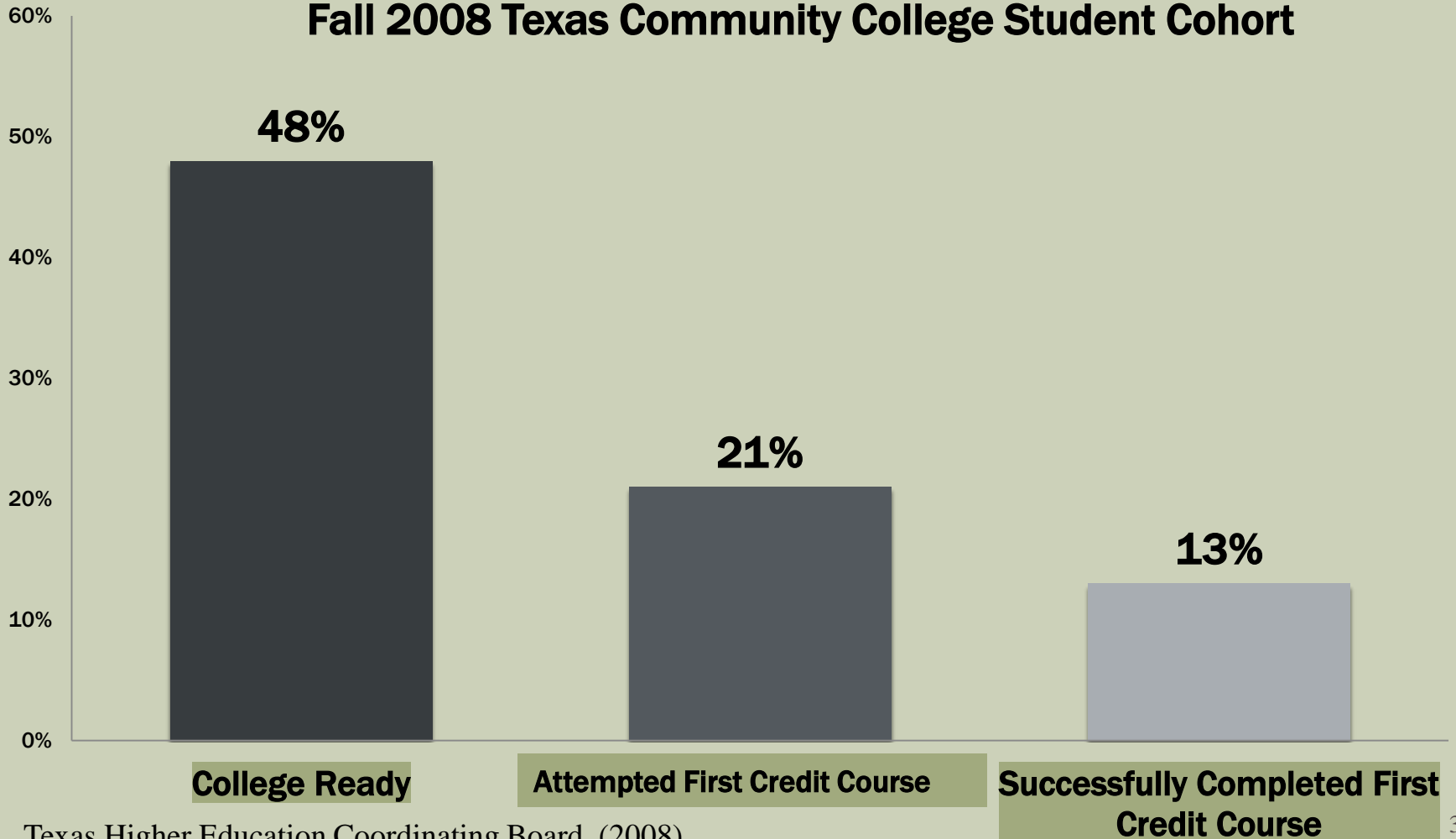
DEVELOPMENTAL MATH NATIONALLY

“Developmental math is a burial ground for the aspirations of myriad students.”

*-Uri Treisman, Executive Director
Charles A. Dana Center*

DEVELOPMENTAL MATH IN TEXAS

Fall 2008 Texas Community College Student Cohort



Texas Higher Education Coordinating Board. (2008).

NMP MODEL

- 1. Multiple pathways**
- 2. Acceleration**
- 3. Students develop skills as learners**
- 4. Curriculum design and pedagogy**

THE NMP COURSES

**Frameworks
Student
Success
Course**

**Foundations
of
Mathematical
Reasoning**

**STEM Prep
Pathway (Algebra)**
2 terms

College Statistics

**College
Quantitative
Reasoning**

THE PLAYERS IN TEXAS

- **Charles A. Dana Center at the University of Texas at Austin**
 - Over 20 years of state and national leadership in mathematics education

- **Texas Association of Community Colleges**
 - Represents all 50 community college systems in Texas

RESEARCH QUESTIONS

- Do NMP students have better academic outcomes than students in traditional developmental math programs?
- How do the curriculum and pedagogy in the NMP courses differ from colleges' traditional developmental math courses?
- Is NMP cost effective relative to business as usual?

**MDRC'S RESEARCH:
*NMP'S FIRST YEAR***

MDRC'S RESEARCH

- MDRC researchers have been involved since NMP's inception

- Qualitative research

Spring &
Summer 2013

Preparation

Fall 2013

Foundations &
Frameworks

Spring 2014

College-level
Statistics

- Student outcomes data

EARLY FINDINGS: IMPLEMENTATION

- The Dana Center provided extensive supports for implementation
- Strong commitment among faculty and staff
- Nearly all colleges faced significant obstacles in recruiting students into NMP courses
 - Majority filled 1-2 sections of NMP courses in Fall 2013 (goal was ~5)

TEACHING NMP

- Faculty implemented the courses with high fidelity
- NMP math courses looked qualitatively different from traditional math courses
- Faculty liked the real-world applications and active learning, but many cited concerns with the courses
- Students liked the Foundations and Statistics courses but had mixed opinions about Frameworks

FACULTY PERSPECTIVE

- Appreciation of real-world context

“This class teaches students to think... It gives them a boldness – there’s confidence there. ... There are so many things that are practical, real world. ... They’ll challenge what they saw in a magazine; they’ll challenge what they heard on TV. They’ve grown mathematically.”

-NMP

Foundations instructor

- Increased student engagement

- Relevant to students’ majors



FACULTY PERSPECTIVE

- Concerns about prep time

“I have an adjunct that’s taking over for me, and it’s a lot of work for her. ... She’s having to do so much extra work, as opposed to if she were taking over my Algebra class.”

-NMP Foundations instructor

- Concerns about rigor, course content

- Challenges with technology platform

STUDENT PERSPECTIVE

- Excitement about accelerated completion of developmental math requirements

“I took this class so that I wouldn’t have to go through so many remedial classes... That’s all I heard – fewer classes!”

-NMP Foundations student

- Appreciation of real-world context

“Instead of just memorizing a formula, you’re understanding how it’s used – how you can apply it in real life.”

-NMP Foundations student

STUDENT PERSPECTIVE

- Mixed opinions about active learning
- Frustration with technology platform
- Overall, most would recommend NMP courses to a friend



**STUDENT OUTCOMES:
*KEY FINDINGS***

STUDENT OUTCOMES: *OVERALL FINDINGS*

- **Developmental math milestones**
 - Completing developmental math
 - Enrolling in a college-level math class (NMP or other Stats)
 - Passing a college-level math class (NMP or other Stats)
- **Outcomes for NMP students are not directly comparable to students enrolled in traditional developmental math classes.**

EARLY FINDINGS: STUDENT OUTCOMES

Outcome	All Colleges Offering Foundations
Students enrolled in Foundations in fall 2013	233
<i>Among students enrolled in fall 2013 Foundations, by spring 2014:</i>	
Completed dev math requirement by passing Foundations with a “C” or higher	65%
Enrolled in Statistical Reasoning or other college-level statistics course	46%
Passed Statistical Reasoning or other college-level statistics course with “C” or higher	30%

CAPR'S NEW MATHWAYS PROJECT STUDY

- 2015-16 school year: random assignment evaluation starting at El Paso Community College and Trinity Valley Community College
- 2016-17 school year: 2-4 more schools joining evaluation
- Cost study
- Implementation study

CAPR |

CENTER FOR THE ANALYSIS OF
POSTSECONDARY READINESS

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