

Reform at Scale: the Dana Center's New Mathways Project

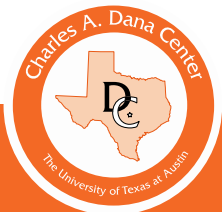
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THE
New Mathways
PROJECT

an initiative of the Charles A. Dana Center and the
Texas Association of Community Colleges



THE
New Mathways
PROJECT



What is the real problem?

It's not developmental education...

It's not college-level mathematics courses...

It's not student supports...

It's not programs of study...

It's not transfer or policy.

What is the real problem?

The problem is the **disconnect** between developmental education, college-level mathematics, student supports, programs of study, transfer and policy.

What is the New Mathways Project?

A systemic approach to improving student success and completion by reforming developmental and gateway mathematics based on four principles.

Dana Center's Role

To support the implementation of the four NMP principles:

1. Multiple pathways with relevant and challenging mathematics content aligned to specific fields of study
2. Acceleration that allows students to complete a college-level math course more quickly than in the traditional developmental math sequence.
3. Intentional use of strategies to help students develop skills as learners
4. Curriculum design and pedagogy based on proven practice

by working at the

State Level

Institutional
Level

Faculty &
Classroom
Level

Dana Center's Role

State Level

Institutional
Level

Faculty &
Classroom
Level

- Working with state agencies, and 2- and 4-year institutions to address policy obstacles
- Empowering math faculty to lead change.
- Leveraging resources and building support through collaboration with partners:
 - Other reform initiatives
 - Professional organizations

Dana Center's Role

State Level

Institutional
Level

Faculty &
Classroom
Level

Building tools and services that help colleges to implement systemic reform

- Detailed implementation guide
- Data templates
- Tools and strategies to help train advisors and plan for student recruitment

Dana Center's Role

State Level

Institutional
Level

Faculty &
Classroom
Level

Developing materials and services to support on-the-ground implementation

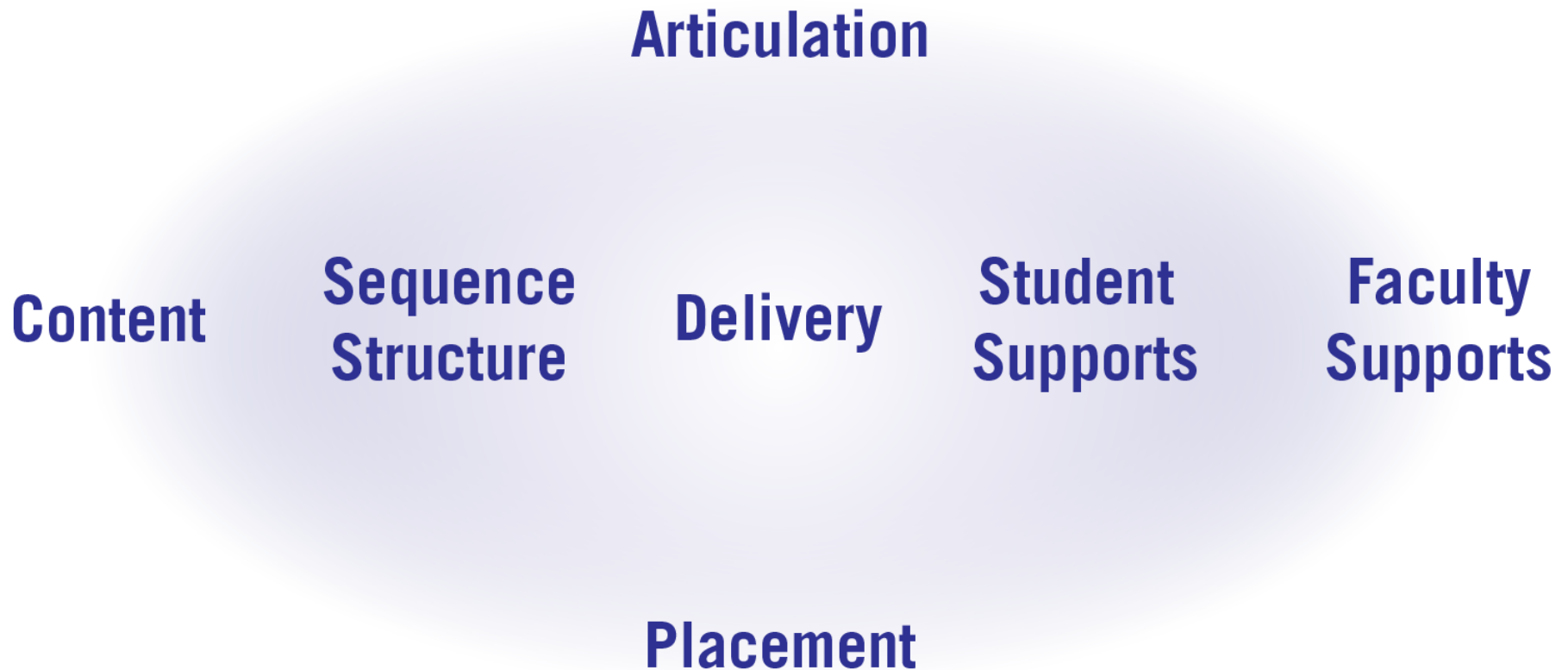
- Course materials
- Professional learning opportunities – general and specific to the Dana Center's course materials

The development process is based on input from and engagement with community college faculty and staff.

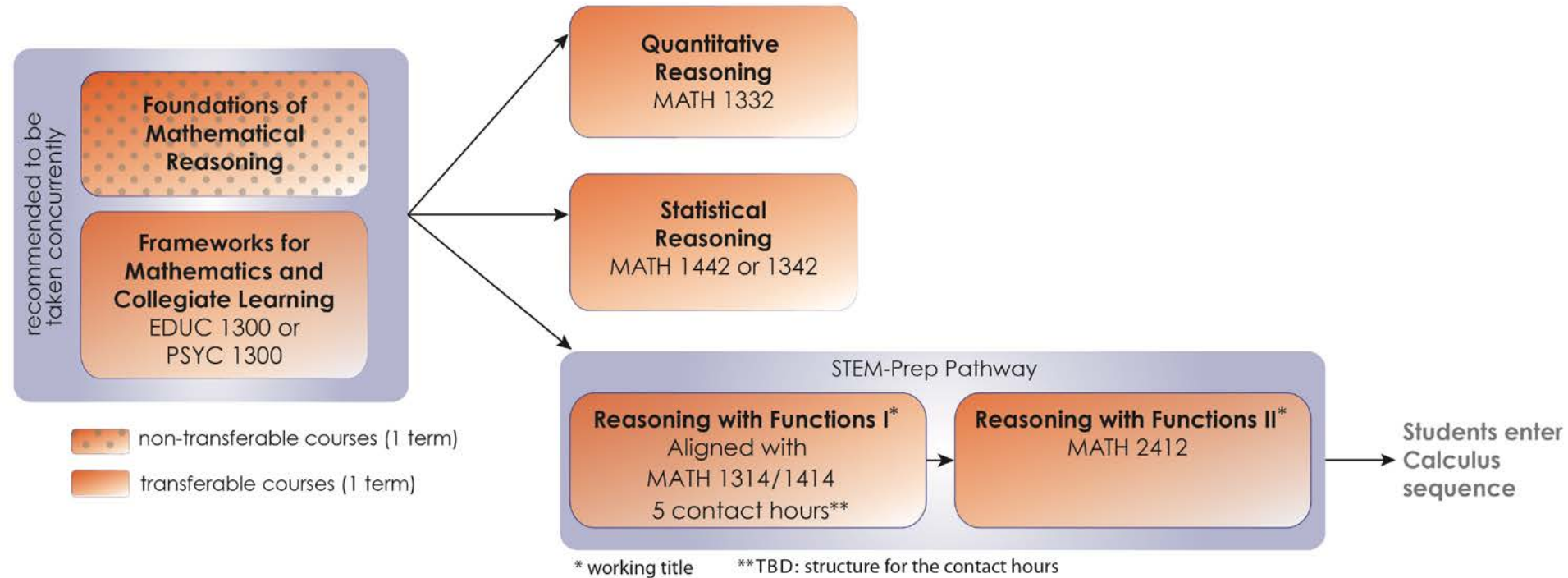
A Deeper Look at Tools and Resources

- Course materials
- Faculty training
- NMP Implementation Guide
- New resources coming soon

A Systemic View of Course Redesign



The NMP Courses



Curriculum Development Timeline

Course	Status
Frameworks*	No further development currently planned.
Foundations	V. 2.0 out this fall, further development will be online
Statistical Reasoning	V. 2.0 out this spring, further development will be online
Quantitative Reasoning	V. 1.0 out this spring, further development will be online
STEM-Prep	In development, introductory information available in webinar posted on website

*A PDF version of the Frameworks course is available on the Dana Center website for open use.

To Learn about the Curriculum...

- NMP Curriculum Adoption Workshop
 - Mathematics and Frameworks faculty members and departmental leadership spend a full day in hands-on investigation of NMP course materials.
- NMP Website
 - Curriculum Design Standards
 - Student Learning Outcomes for all courses
 - Sample lessons for *Foundations of Mathematical Reasoning, Statistical Reasoning, and Quantitative Reasoning* (STEM-prep samples coming soon!)
 - Complete curriculum for *Frameworks for Mathematics and Collegiate Learning*.

To Prepare to Teach Dana Center Courses...

- NMP Newcomer Faculty Workshop
 - All Mathematics and Frameworks faculty members who are new to the NMP materials are invited to spend four days in Austin, immersed in authentic content and active learning pedagogy. Choose from:
 - May 18-21
 - July 13-16

To Support Local Professional Learning

- NMP Online Professional Learning Series (not specific to any curriculum)
 - Currently available:
 - *Unlocking the Power of Collaboration*
 - *Supporting Learning with Questioning Strategies*
 - Coming soon:
 - *Establishing and Maintaining a Learning Culture*
 - *Assessing Open-Ended Work*
 - *And More!*

See handout for more information.

Lessons Learned from Implementation

- Leadership sets the charge.
- Understand your context before making decisions.
- Plan for changing normative practice.
- Include all stakeholders throughout the process.
- Communicate, communicate, communicate!

Implementation Guide: Phases of Planning

Primary Responsibilities	Key Activities By Phase		Suggested Timeline
Phase I: Organizing for Change			
College Leadership	<ul style="list-style-type: none"> • Set the Charge • Establish the Leadership Team 		1 month
Phase II: Planning for Change			
Leadership Team	<ul style="list-style-type: none"> • Understand the Current Context • Assess the Needs • Explore the Options • Make a Plan 		4 months
Phase III: Preparing for Implementation			
Leadership Team and Course-Specific Instructional Teams	College-Wide Work		6 months
	<ul style="list-style-type: none"> • Plan Campus-Wide Communication • Allocate Resources • Schedule Courses • Plan Advising and Recruitment • Prepare for Evaluation • Plan for Academic Support • Conduct Outreach to External Partners 	Instructional-Level Work	
		<ul style="list-style-type: none"> • Establish the Instructional Teams • Identify Obstacles and Opportunities • Plan Instructional-Level Communication • Prepare to Teach the Courses: Logistical Planning • Prepare to Teach the Courses: Instructional Planning 	

Implementation Guide: Involving Stakeholders

Overview of Primary Responsibilities in Implementing the NMP Model

Stakeholder Group	Phase I	Phase II	Phase III
Board of Trustees	<ul style="list-style-type: none">Set high-level goals for student success and completion.	<ul style="list-style-type: none">Ask for reports on planning.	<ul style="list-style-type: none">Ask for reports on preparation.
President	<ul style="list-style-type: none">Set the charge for the college and leadership team.	<ul style="list-style-type: none">Review and promote implementation plan.Allocate resources.	<ul style="list-style-type: none">Ask for reports on preparation.Allocate resources.Support outreach to external partners.

Implementation Guide: Action Items and Resources

Action Items

Establish and convene the leadership team.

- Identify members in the leadership team. See suggestions below about members.
- Establish responsibilities for individual members. The list below may be used as a guideline, but the responsibilities should be customized based on local needs. In addition, consider a communication lead who is responsible for sharing information widely.
- Have each team member read this *Implementation Guide*.
- Schedule regular meetings and develop a timetable for sharing reports and for receiving reports from the instructional team and other subcommittees.

Dana Center Resources

Implementation Guide

NMP website: http://www.utdanacenter.org/nmp/implementation_guide

Sample Implementation Plans for Phase I and Phase II from McLennan Community College (Appendix B) and Tarrant County College (Appendix C)

Implementation Guide: Things to Consider



Things to Consider

- At your college, are there additional stakeholder groups (e.g., developmental English or major programs of study, faculty from affected programs of study) that should have a representative on the team? Are there groups that should be given roles as advisors or liaisons?
- Who will be responsible for managing meetings, including setting agendas, facilitation, etc.? Is there administrative support to assist with scheduling meetings, recording minutes, etc.?
- Should there be any subcommittees? Since instruction is a primary focus of the work, it may be useful to establish a cross-disciplinary instructional subcommittee.

Implementation Guide: Examples



Example from the Field: Prioritizing Necessary Resources

Jeff Detrick, Dean of Instruction at Brazosport College, ensures that instructors have what they need to be successful because funds are budgeted for their travel and participation in conferences, professional development, meetings, and workshops. He believes that “you value teachers with your budget.”

Detrick says that prioritizing funding for a program like NMP makes sure that it’s “not seen as some little experiment that’s being funded on the side. Our support is unwavering, and teachers feel like we have their back and they are valued.”

Coming Soon...

Institutional Scaling Toolkit

- Tools to support alignment of math pathways to programs of study.
- Exemplars and best practices in advising resources.
- List of high impact practices identified in the field.
- Planning guide to build faculty engagement and leadership.

How can you benefit from the NMP?

- Sign up for monthly updates to receive notifications of new postings, services and tools:
mathways@austin.utexas.edu
- Use the resources on our website (see handout)
- Send faculty to NMP course adoption workshops and faculty training
- Use the online faculty training modules
- Contact us for more information.

Finding our tools:

Charles A. Dana Center Website www.utdanacenter.org

→ Higher Education

→ Higher Education Resources

Contact Information

- To receive monthly updates about the NMP, contact us at: mathways@austin.utexas.edu
- General information about the Dana Center: www.utdanacenter.org
- Higher Education work: www.utdanacenter.org/higher-education/
- Amy Getz : getz_a@austin.utexas.edu

About the Dana Center



The **Charles A. Dana Center** at The University of Texas at Austin works with our nation's education systems to ensure that every student leaves school prepared for success in postsecondary education and the contemporary workplace.

Our work, based on research and two decades of experience, focuses on K–16 mathematics and science education with an emphasis on strategies for improving student engagement, motivation, persistence, and achievement.

We develop innovative curricula, tools, protocols, and instructional supports and deliver powerful instructional and leadership development.