

NMP Institutional Scaling Toolkit: Introduction and Readiness Assessment

THE
New Mathways
PROJECT

Introduction

In 2014, the Charles A. Dana Center published the *New Mathways Project (NMP) Implementation Guide*, which contains a set of tools and resources to support colleges in a one-year process of planning and preparation to offer math pathways aligned with the NMP model. The NMP Institutional Scaling Toolkit is designed to support the next set of challenges that colleges face in scaling the pathways to become the normative practice. These challenges include aligning math pathways to programs of study, developing advising tools, establishing effective practices, and increasing faculty engagement.

The NMP Institutional Scaling Toolkit comprises 11 documents that have been developed based on input from college faculty, staff and administrators, researchers, and external experts. These documents may be used consecutively or applied separately, depending on the institution's process and goals.

The toolkit includes:

- *Readiness Assessment* (p. 3 of this document)
- *Program of Study Inventory Guide: Designing Pathways for Students*
- *Program of Study Inventory Template*
- *Sample Math Pathways List*
- *A Guide for Setting Goals for Scaling*
- *Setting Goals for Scaling Tool*
- *Creating Effective Advising Tools*
- Resource article, *Faculty Orientations Toward Instructional Reform*
- *Building Faculty Engagement and Leadership Tool*
- *High Impact Practices Resource*
- *High Impact Practices Planning Tool*

We recommend that users review the complete toolkit to determine which tools best fit their needs. The *Readiness Assessment* will help users make that determination.

Supplementary Materials

Some items in the toolkit refer to other resources that serve to further inform and provide guidance. Such resources include the *New Mathways Project Implementation Guide*, the NMP *Program of Study* briefs, the *Mathematics Pathways Transfer Inventory*, and the Texas Higher Education Coordinating Board transfer data website. The tools provide website links to these additional resources.

Our Recommendations

- Review this document to understand the structure of the toolkit.
- Use the *Readiness Assessment* (on p. 3) to plan how you will use the toolkit.

Intended Users

Materials in the toolkit are intended for college administrators, faculty, and advisors. We generally recommend a team approach for using the tools. However, certain tools were developed for specific users; for example, the *Creating Effective Advising Tools* would be most useful to advisors. Look for the “Users” section in each document to help determine which users would benefit most from a particular tool or resource.

Terminology

Mathematics Pathways – Generally, a *mathematics pathway* is a mathematics course or sequence of courses that students take to meet the requirements of their program of study. In this tool, we also use this term as a shorthand reference to pathways that are aligned to the NMP principles of acceleration, alignment to program of study, integrated student supports, and evidence-based curriculum and pedagogy.¹ The concept of math pathways applies to pathways for college-ready and underprepared students.

Scaling – We say an innovation has “scaled” when it has become the normative practice for a significant proportion of the target population and is sustained over time.

Color Coding

In some materials in this toolkit, we purposefully use specific colors to distinguish one math course or pathway from another. This strategy was highly recommended by advisors. Therefore, we encourage users to follow this type of color coding to enhance the usability of their own tools. The colors used in this toolkit signify:

- **Statistics** (orange)
- **Quantitative reasoning** (green)
- **Calculus sequence** (blue)

¹ For more information about the NMP principles, see <http://www.utdanacenter.org/higher-education/new-mathways-project/the-new-mathways-project-in-texas/>.

Readiness Assessment

	Level of Readiness	Action Steps	NMP Tools
Program of Study	<i>If you have . . .</i>	<i>And you are preparing to . . .</i>	<i>Use these tools</i>
	Made an institutional commitment to implementing math pathways. – AND – Established a leadership team to oversee implementation.	<ul style="list-style-type: none"> ▪ Identify target population for math pathways. ▪ Align math pathways to programs of study. ▪ Establish transfer and applicability agreements. 	<i>Program of Study Inventory Guide: Designing Pathways for Students</i> <i>Program of Study Inventory Template</i> <i>Sample Math Pathways List</i>
		<ul style="list-style-type: none"> ▪ Set long-term goals for scaling. Note: If your team is having difficulty envisioning how math pathways can be implemented, we recommend using the <i>Program of Study Inventory</i> tools listed above.	<i>A Guide for Setting Goals for Scaling</i> <i>Setting Goals for Scaling Tool</i>
Advising Tools	<i>If you have . . .</i>	<i>And you are preparing to . . .</i>	<i>Use these tools</i>
	Clearly identified target population for math pathways. – AND – Set default math requirements for programs of study.	<ul style="list-style-type: none"> ▪ Train advisors. ▪ Enroll students into appropriate math pathways. 	<i>Advising and Multiple Math Pathways</i> <i>Creating Effective Advising Tools</i>
Faculty Engagement	<i>If you have . . .</i>	<i>And you are preparing to . . .</i>	<i>Use these tools</i>
	Started implementation on a small scale. – OR – Planned for a full implementation of math pathways.	<ul style="list-style-type: none"> ▪ Build faculty capacity to offer courses. 	<i>Research article, Faculty Orientations Toward Instructional Reform</i> <i>Building Faculty Engagement and Leadership Tool</i>
High Impact Practices	<i>If you have . . .</i>	<i>And you are preparing to . . .</i>	<i>Use these tools</i>
	Developed an implementation plan. – OR – Started an implementation plan.	<ul style="list-style-type: none"> ▪ Focus on specific implementation strategies. 	<i>High Impact Practices Resource</i> <i>High Impact Practices Planning Tool</i> <i>Back-to-Back Mathematics Strategies</i>

Copyright 2015, the Charles A. Dana Center at The University of Texas at Austin, with support from the Texas Association of Community Colleges

About the New Mathways Project

The NMP is a systemic approach to improving student success and completion through implementation of processes, strategies, and structures based on four fundamental 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

In Texas, the NMP is being developed as a statewide reform effort through a unique enterprise between the Charles A. Dana Center at The University of Texas at Austin and the Texas Association of Community Colleges. The presidents and chancellors of all 50 Texas community college systems agreed to support this joint enterprise.

About the Dana Center

The Dana Center develops and scales math and science education innovations to support educators, administrators, and policy makers in creating seamless transitions throughout the K–14 system for all students, especially those who have historically been underserved.

We focus in particular on strategies for improving student engagement, motivation, persistence, and achievement.

The Center was founded in 1991 at The University of Texas at Austin. Our staff members have expertise in leadership, literacy, research, program evaluation, mathematics and science education, policy and systemic reform, and services to high-need populations.

For more information about:

- The New Mathways Project, see www.utdanacenter.org/mathways.
- The Texas Association of Community Colleges, see www.tacc.org.

The tools and resources in the NMP Institutional Scaling Toolkit were developed by:

- Jennifer Hege Cullinane, The Charles A. Dana Center, The University of Texas at Austin
- Martha Ellis, The Roueche Graduate Center, National American University
- Amy Getz, The Charles A. Dana Center, The University of Texas at Austin
- Nancy Stano, The Charles A. Dana Center, The University of Texas at Austin
- Evan Weissman, MDRC