

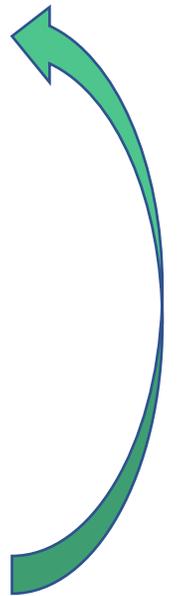
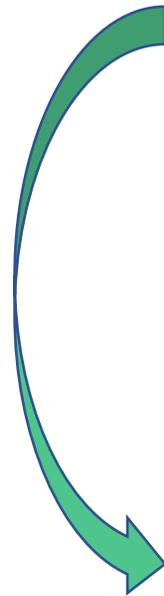
Higher Education Landscape: Mathematics Teacher Preparation

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Why
Mathematics
Teacher
Preparation Is
an Important
Part of the
Landscape

The success of efforts to improve mathematics pathways from K-12 to postsecondary mathematics depends on the teachers we are preparing.

These future mathematics teachers are a product of the K-12 to postsecondary mathematics pathways.



The Problem

The U.S. faces a continuing shortage of well-prepared secondary mathematics teachers, among the worst of any subject (Malkus, Hoyer, & Sparks, 2015).

Nearly 1 in 7 beginning mathematics teachers leave the profession after their first year (Ingersoll, Merrill, & May, 2012).

The quality of teacher preparation, particularly related to pedagogical practice, significantly impacts new teacher attrition (Ingersoll, Merrill, and May, 2014).



Transformation. Equity. Leadership.

The Mathematics Teacher Education Partnership (MTE-Partnership)

A networked improvement community organized by the Association of Public and Land-grant Universities (APLU) to address the supply and quality of new mathematics teachers.

40 teams across 31 states that include universities and their school partners



Aligned with the *Standards for Preparing Teachers of Mathematics* (AMTE, 2017)

Four Major
Challenges in
Secondary
Mathematics
Teacher
Preparation
(Martin &
Strutchens,
2014)

Common vision across
stakeholders

Clinical experiences

Mathematics content preparation
of teacher candidates

Recruitment and retention

Challenge #1:
Common Vision

Everyone involved in preparing mathematics teachers needs to have a common commitment to improving mathematics teaching and learning:

- Teacher educators
- Mathematicians
- K-12 partners
- Other stakeholders

Challenge #2:
Clinical
Experiences

Need effective mentor teachers who model effective instructional practices

Bidirectional relationships with school partners

- We can't send mixed messages!

New models for clinical experiences (e.g., paired placements)

Challenge #3:
Mathematics
Content
Preparation

Experiences with Active Learning
in their university mathematics
classes, especially calculus

- Increases candidates' success in mathematics
- Provides first-hand experiences with effective pedagogy, supporting what they are told is effective

Experiences designed to
particularly develop candidates'
content knowledge for teaching

Challenge #4:
Recruitment and
Retention

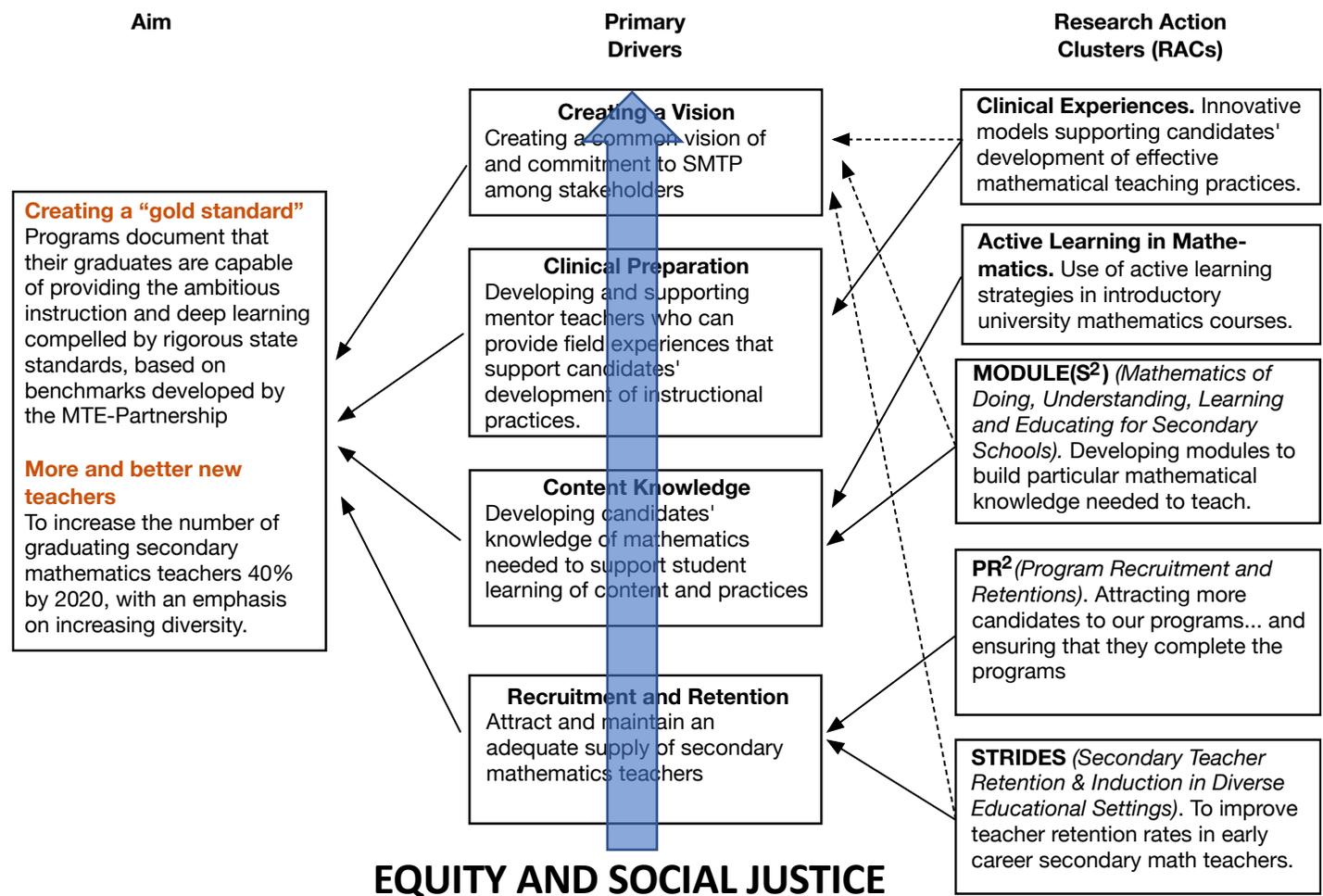
Marketing mathematics teaching
as an exciting profession

- Requires involvement of mathematicians
and K-12 partners

Supporting successful progress
through the program

Retaining them in the profession
after graduation

MTE-Partnership Driver Diagram



www.MTE-Partnership.org