

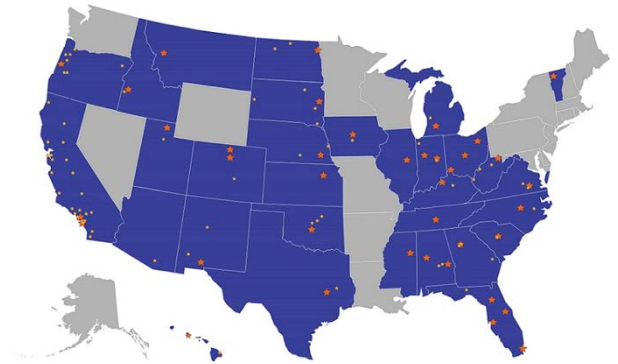
# Update: Transforming Secondary Mathematics Teacher Preparation

August 11, 2016

**Our Aim:** By 2020, to increase the supply by 40% of secondary mathematics teacher candidates who meet a “gold standard” of preparedness to address college- and career-ready standards across participating institutions. The gold standard will be established by a system of common measures.

**Who We Are:** The MTE-Partnership was organized in 2012 by the Association of Public and Land-grant Universities. It consists of 39 partnership teams across 31 states, encompassing 103 universities, university systems, and community colleges, and 142 K-12 school districts. Teams include mathematicians, mathematics teacher educators, K-12 leaders, and others involved in preparing secondary mathematics teachers.

*In aggregate, the Partnership currently accounts for 15% of new secondary mathematics teachers prepared in the U.S.*



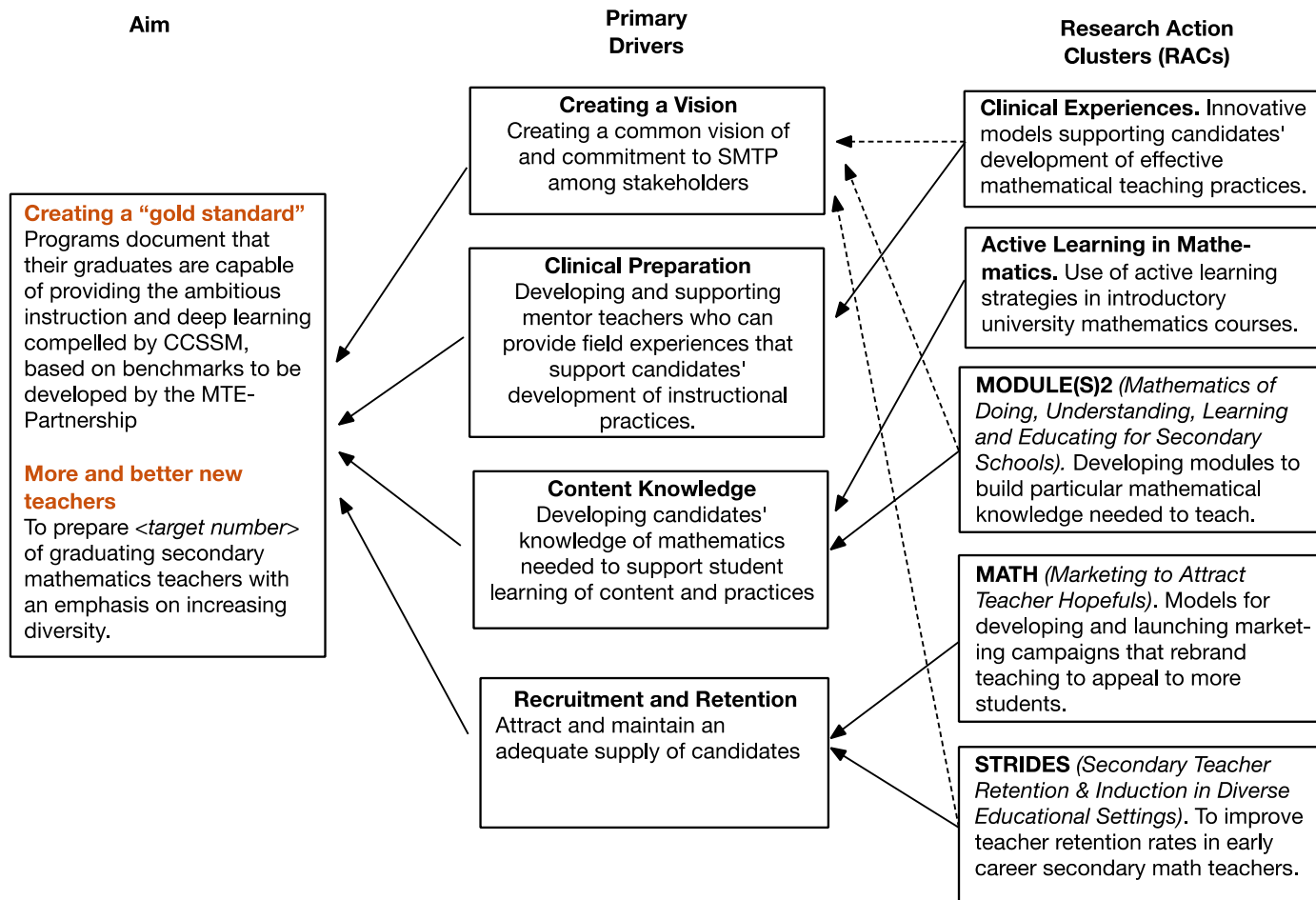
**The Problem:** The U.S. faces a significant shortage of well-prepared secondary mathematics teachers. More than **1 in 6** secondary schools report “serious difficulties” in filling vacant secondary mathematics teaching positions (Ingersoll & Perda, 2010); **1 in 12** leave the profession every year (Keigher, 2010); and almost **1 in 7** leave teaching after their first year (Ingersoll, Merrill, & May, 2012). Moreover, quality of mathematics instruction continues to be a concern, as seen in two national surveys of practicing secondary mathematics teachers (Banilower et al., 2013; Markow et al., 2013).

**Our Design:** The MTE-Partnership has been organized using the Networked Improvement Community (NIC) model developed and used by the Carnegie Foundation for the Advancement of Teaching (cf. Bryk et al., 2015). This approach combines the disciplined inquiry of improvement science with the power of networking to accelerate improvement through broad participant engagement in order to create well-founded improvements that can be adapted to a range of contexts.

**Our Approach:** The Partnership identified four high-leverage areas in which progress was needed (see “primary drivers” in the following diagram) in order to achieve the aim. A review of the literature and established best practices led to initial formulations of challenges, actions to date, and potential interventions for improvement in each problem area.

Partnership members organized **Research Action Clusters (RACs)** to address five specific areas of intervention identified as most important and of highest interest; see following diagram. Each RAC consists of a set of partnership teams committed to working on specific improvements in that research area following the NIC model.

**Organization:** APLU serves as the central hub, coordinating and facilitating the activities of the Partnership with support from universities involved in the initial foundation of the network. The hub is supported by a planning team representing the leadership of the RACs, along with other key individuals to ensure representation across our institutions. An Advisory Board of national leaders in mathematics and mathematics education provides additional guidance.



**Accomplishments:** The following provides a brief outline of the development of the Partnership:

- Initiation of the Partnership (2011-2012) – Recruitment of members; First Partnership Conference; Development of [Guiding Principles for Secondary Mathematics Teacher Preparation](#), the foundational document for the Partnership. Funding from the National Science Foundation.
- Problem Definition (2012-2013) – Adoption of the Networked Improvement Community model; Second Partnership Conference; White papers detailing highest priority challenges. Funding from the Helmsley Charitable Trust.
- Pivot to Action (2013-2014) – Launch of Research Action Clusters; Third Partnership Conference. California State University System joins Partnership. New award from the Helmsley Charitable Trust.
- Extending the Action Phase (2014-2015) – Scale up work of the RACs as they develop validated interventions; Fourth Partnership Conference. Continued funding from the Helmsley Charitable Trust.
- Pivot to Transformation (2015-2016) – New focus on program transformation incorporating work across RACs; continued scale up of the RACs; addition of new RAC on teacher retention; Fifth Partnership Conference. New award from Helmsley Charitable Trust.

**Next Steps:** The Partnership strives to continue progress towards its transformational goal by:

- Ramping up the work of the RACs to expand their scope of work and the number of teams involved, adding new RACs as needed.
- Supporting teams in undertaking broad-scale program transformation of teacher preparation programs incorporating results across multiple dimensions of improvement developed by the RACs.
- Extending membership in the MTE-Partnership to additional universities and school systems.
- Building national leadership and recognition for its groundbreaking design and work.

**More Information:** Visit [www.MTE-Partnership.org](http://www.MTE-Partnership.org) or contact the Co-Directors: Howard Gobstein ([hobstein@aplu.org](mailto:hobstein@aplu.org)) and W. Gary Martin ([wgarymartin@auburn.edu](mailto:wgarymartin@auburn.edu)).