
Marketing to Attract Teacher Hopefuls (MATH) Conference Working Group Report¹

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The MATH RAC convened on June 26 for the first of four working sessions during the MTE-P annual conference. RAC leader Ed Dickey had just provided the full audience of MTE-P attendees with a brief update of the work of the RAC over the past year. This update included the RAC's relation to the MTE-P Guiding Principles, in particular:

Guiding Principle 8. Student Recruitment, Selection, and Support: The Teacher Preparation program actively recruits high-quality and diverse teacher candidates into the program and supports their success in completing the program as well as the specific problem the RAC is addressing:

- Secondary Mathematics Teacher Programs² (SMTPs) are not enrolling or graduating secondary mathematics teachers to satisfy the needs of U.S. middle and high schools
- Salary, stereo-types, job-satisfaction, career prestige, and the challenges of learning mathematics contribute to low enrollments in mathematics teacher preparation programs

The RAC's general approach for addressing the secondary mathematics teacher recruitment problem is based on the driver diagram, Figure 1, that was established at the founding of the RAC.

¹ The RAC Promo Sheet, presented during the opening of the conference to report on current activities of the RAC, can be found after the reference list.

² An SMTP is a program that includes a nationally accredited course of study housed at an institution of higher education that leads to licensure for teaching mathematics in grades 6-12.

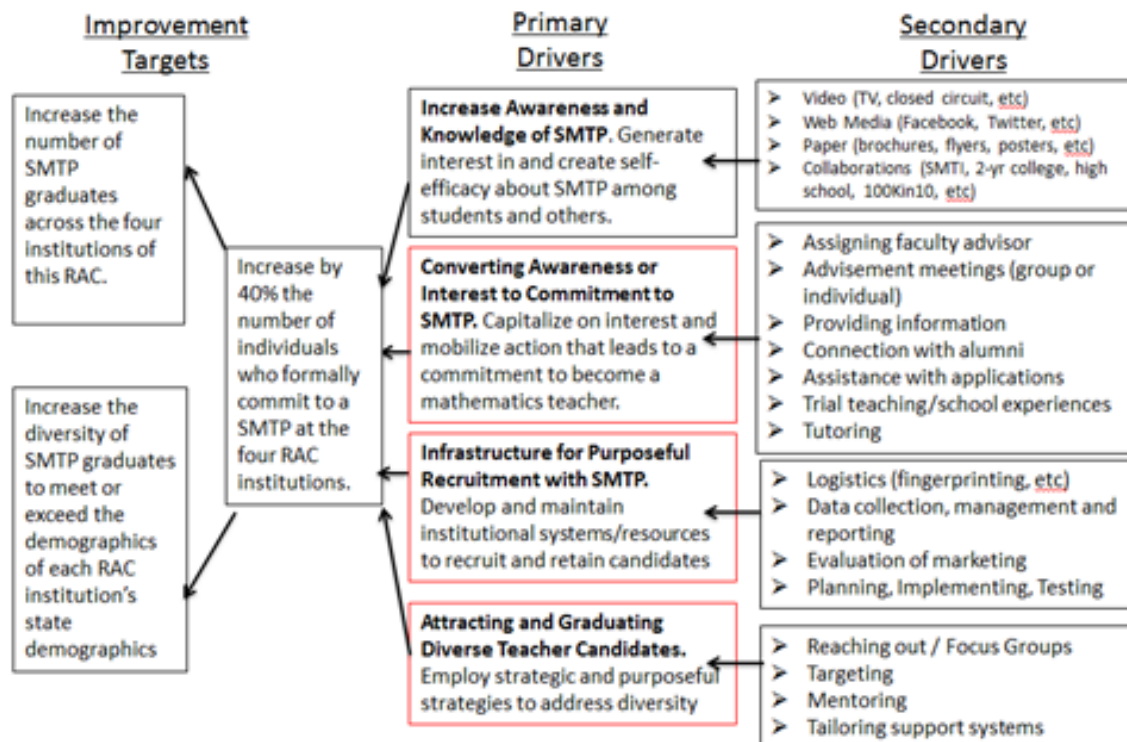


Figure 1. Driver diagram of the MATH RAC

RAC members attending the conference included those listed in Table 1, most of whom are seen in Figure 2.

Table 1.

MATH RAC Members That Attended the MTE-P 5 Conference

Name	Institution
Cynthia Anhalt	University of Arizona
Linda Venenciano	University of Hawai'i
Nancy Caukin	Middle Tennessee State University
Laurie Cavey & Jan Smith	Boise State University
Ed Dickey	University of South Carolina
Maria Fernandez	Florida International University
Dana Franz	Mississippi State University
Margaret Mohr-Schroeder (and Riley)	University of Kentucky
Rafaela Santa Cruz	San Diego State University
Carol Fry Bohlin	Fresno State University
Julie McNamara	CSU-East Bay
Cheryl Ordorica	CSU-Chico
Josh Males	Lincoln (NB) Public Schools
Amy Nebesniak	University of Nebraska at Kearney



Figure 2. Participants in the MATH RAC work groups during the MTE-P 5 conference.

Greg Chamblee (Georgia Southern University), Robin Hill (Association of State Supervisors of Mathematics), and Diana Suddreth (Utah State Office of Education), also participated in some of the work sessions. RAC members not attending the conference included Diana Barrett and Jim McKown (Hawai'i), Joe Champion (Boise State), Nadine Bezuk and Randy Philipp (San Diego State), Kathy Hann and Julia Olkin (Cal State East Bay), and Cheryl Roddick (San José State).

The RAC reviewed its progress to date that included the completion and dissemination of the **Secondary Mathematics Teachers Recruitment Campaign Implementation Guide** that was featured and described by Ed Dickey as part of his opening keynote address at the January 2016 meeting of the Association of Mathematics Teacher Educators. The Guide is posted for general use by teacher educators at bit.ly/MATHImplGuide.

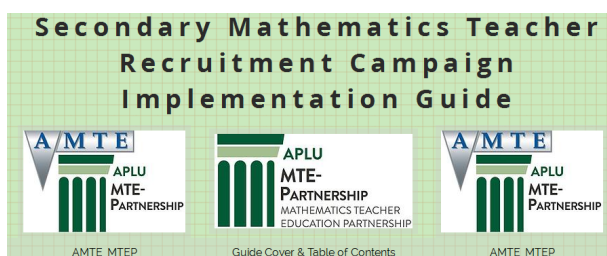


Figure 3. Format of the website hosting the Secondary Mathematics Teachers Recruitment Campaign Implementation Guide.

Many of the RAC's Plan, Do, Study, Act (PDSA) cycles are documented on a Padlet site that includes numerous products tied to the different interventions conducted over the past two years by RAC member institutions. The Padlet site is available at padlet.com/ed_dickey/vhle4gisbq82.

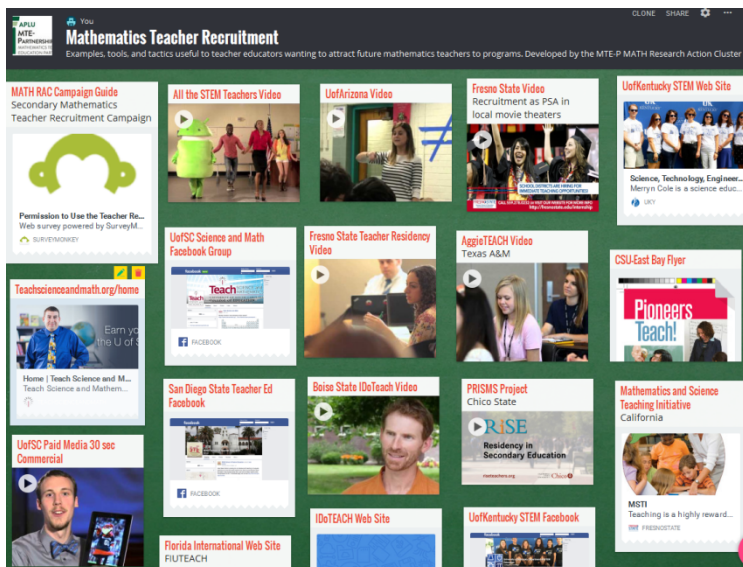


Figure 4. Format of the Padlet website reporting products of the MATH RAC.

The plan for the conference RAC work sessions was to first review the PDSA work at each site, then discuss future directions or initiatives for the RAC with attention to both identifying funding to support recruitment work and research and to address the MTE-P commitment to equity and social justice.

The second and part of the third working sessions on June 27 included brief presentations from each RAC member about current and past PDSAs. These were supported by a PowerPoint presentation compiled and distributed to attending RAC members and are summarized briefly as follows:

- **Arizona:** After School and Tutoring programs, undergraduate Teaching Assistant Program, Noyce Seminars and recruitment efforts that include high school visits, orientations, career fairs, posters brochures, web site development and program video. More information including video at smep.math.arizona.edu.
- **Boise State:** completion of web site and several recruitment and program videos as part of the IDoTeach program. More information including videos at idoteach.boisestate.edu.
- **Florida International;** Student orientations through advising and resources fairs, recruitment courses, personalized email to all STEM majors, math/science course visits, STEM advisors briefings, web site development, open houses, Educators Rising Conference and high school events, internships. Survey and data collection on all strategies. More information at fiuteach.fiu.edu.
- **Kentucky:** continued social media efforts through Facebook, retention efforts through [#IamAWomanInSTEM](https://twitter.com/IamAWomanInSTEM), NSF Showcase video: stemforall2016.videohall.com/presentations/815, working with newly hired recruiter and statewide STEM Education Center. More information at education.uky.edu/stem.

- **Mississippi State:** focused on data gathering that documented critical shortage of science and mathematics teachers in rural areas of state. University and College of Education efforts around #STATEPROUD campaign that addresses teacher preparation.
- **California State East Bay:** development of flyers and posters used throughout campus and community, with Pioneers Teach! Branding, meeting with undergraduate organizations, personal message to all applicants. More information at csueastbay.edu/ted.
- **Chico State:** completed first marketing campaign (described below) and beginning plans for second campaign. Graduate fairs and diversity forums, partner with New Media Agency for video production, and ads. Will use YouTube and Pandora. Expand to Sacramento area. Developing radio, movie theatre PSAs and flyers. More information at www.csuchico.edu/soe/rise
- **Fresno State:** leading Mathematics & Science Teacher Initiative (MSTI) that includes support for entire California State System in recruitment: conference travel support, early field experiences, interactive workshops, advisement, fee waivers for methods courses, stipends for student. Work with Fresno Teacher Residency Program including web site development, social media, open houses, direct emails, and video used as PSA in movie theaters and available at vimeo.com/114188236. More information at www.fresnostate.edu/kremen/teachmathscience.
- **San Diego State:** Social media presence through Facebook at www.facebook.com/SDSUSTE/?fref=ts.
- **Middle Tennessee State:** presenting at freshman mathematics and science classes, open house, advertising on campus TV, posters in science and mathematics buildings. Developing recruitment video. More info at www.mtsu.edu/mteach.
- **South Carolina:** completion of multifaceted recruitment campaign that include TV commercial, ambassadors program, Social Media effort with All the STEM Teachers Video and web site development. More information at teachscienceandmath.org/home and Beyonce video at youtu.be/i60KEyHtwgA. Facebook site at www.facebook.com/teachscienceandmath.

In addition to the work session presentations, two RAC members provided 30-minute Research Reports as part of a set of breakout sessions on June 27. Cheryl Ordorica of Chico State presented her work on the **CSU Chico Program RiSE: Analysis of the First Recruitment Cycle**. Cheryl described her project's recruitment efforts and data collection for Promoting Rural Improvement in Secondary Mathematics and Science (PRISMS), which includes the Residency in Secondary Education program. Her presentation highlighted the analytical tools tied to the project web site and social media strategies described in the Implementation Guide. Linda Venenciano spoke on the Mobilizing Efforts of the MTE-P Hui in Hawai'i describing the initiative's recruitment efforts tied the interest of indigenous peoples and with attention to ethnomathematics of interest to Hawai`ian teacher and learners.

In the third work session, RAC members determined that new efforts must be initiated to measure and document the impact of the different recruitment interventions employed by RAC members. The group assessed that significant progress has been achieved in understanding and creating recruitment strategies and now more effort and thought must be given to the assessment of how and to what degree the interventions work. To this end and as part of its final meeting on June 28, the group committed to gathering and analyzing data gathered through the MTE-P Hub from all partnership members to assess the current status of secondary mathematics teacher recruitment among partnership teams and to create a summary table for past PDSA activities that expands the documentation available through the Padlet site. The summary table will include more details on the PDSAs and also include an assessment of the impact (green representing positive gains, yellow indicating inconclusive, and red suggesting the intervention was not effective). The table will allow for documentation of future interventions. The data analysis will include particular attention to assessing progress toward recruiting diverse teacher candidates. Table 2 provides a preliminary draft of the summary table.

Table 2.

Proposed Template to Summarize previous PDSA activities conducted in the MATH RAC

Recruitment Strategy / Intervention	MATH RAC Institution	Brief Description	Link to Resource(s)	Impact or Results
Call to Action: TV Commercial on STEM Teaching	University of South Carolina	30 second commercial to inform about UofSC commitment to STEM teaching and to send view to web site for more information	youtu.be/oxzEdcFn62E	Significant web traffic after each broadcast.

Recruitment strategies or interventions will include:

- *Calls to Action*: phone, flyer, mailing, poster, web site, online video, TV commercial video, PSA video, radio, billboard, open house
- *Cultivation*: classroom observation, school visit, tutoring, teaching enactment
- *Conversion*: advisement meeting, faculty interview

The RAC members decided to use the Trellisience.org online community to share recruitment tools that are under development within the newly created MATH RAC group. As tools begin to be used, they will be made available to the MTE-P group within Trellis as will the summary table. This will allow both the RAC and Partnership groups to provide appropriate feedback and support. As products mature, they will be posted on Padlet for a broader audience.

Funding through the National Science Foundation Noyce program was discussed. Several members participated in the June Webinar on the new solicitation but determined that the expectations for Track 4 research funding are now focusing more narrowly on teacher effectiveness, persistence, or retention in high-need education agencies, which the members determined to be incompatible with current RAC efforts. The RAC will not submit a proposal for the September 2016 cycle and will consider other funding options for the future.

The RAC members committed to participating in the Purposeful Recruitment, Exploration, and Preparation (PREP) Initiative begun among the California State University MTE-P members. The initiative includes a process of identifying promising future secondary mathematics teachers through mathematics and other university faculty members then inviting them to participate in a “celebration of teaching” event designed to include both working mathematics students and secondary school age students so as to provide the promising future teacher with a positive experience that might cultivate a commitment to teaching. Particular attention will be given to identifying promising teachers of color and the mathematics activities will be selected to address how mathematics might serve to impact or inform social justice issues.

At the closing session of the MTE-P conference, Ed Dickey presented a summary of the work accomplished and plans for the coming year to the attendees from all partnership teams.

Problem Addressed

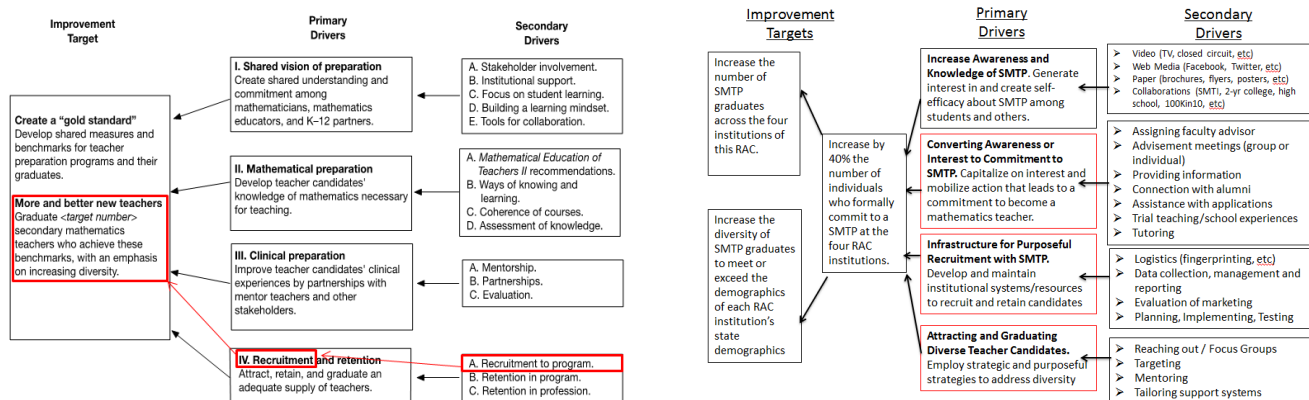
Guiding Principle 8. Student Recruitment, Selection, and Support: The Teacher Preparation program actively recruits high-quality and diverse teacher candidates into the program and supports their success in completing the program.

Problem:

- Secondary Mathematics Teacher Programs* (SMTPs) are not enrolling or graduating secondary mathematics teachers to satisfy the needs of U.S. middle and high schools
- Salary, stereo-types, job-satisfaction, career prestige, and the challenges of learning mathematics contribute to low enrollments in mathematics teacher preparation programs

* An SMTP is a program that includes a nationally accredited course of study housed at an institution of higher education that leads to licensure for teaching mathematics in grades 6-12.

General Approach



- Provide models for developing and launching purposeful and sustained marketing campaign that rebrands teaching to appeal to STEM majors
- Include adaptations for programs focusing on undergraduates, UTeach, alternative pathways, and other models
- Identify critical experiences in mathematics and clinical work that impact recruitment and retention

Who We Are

Cynthia Anhalt , University of Arizona, & Maria Fernandez , Florida International University	Jennifer Whitfield , Texas A&M University
Diane Barrett , Jim McKown & Linda Venenciano , University of Hawaii	Nadine Bezuk , Randy Philipp & Rafaela Santa Cruz , San Diego State
Nancy Caukin , Middle Tennessee State	Carol Fry Bohlin , Fresno State University
Laurie Cavey , Joe Champion & Jan Smith , Boise State	Kathy Hann , Julie McNamara & Julia Olkin , CSU-East Bay & Cheryl Roddick , San Jose State
Ed Dickey , University of South Carolina	Cheryl Ordorica , CSU-Chico
Dana Franz , Mississippi State University	Sofia Vicuna , CSU-Monterey Bay
Margaret Mohr-Schroeder , U of Kentucky	

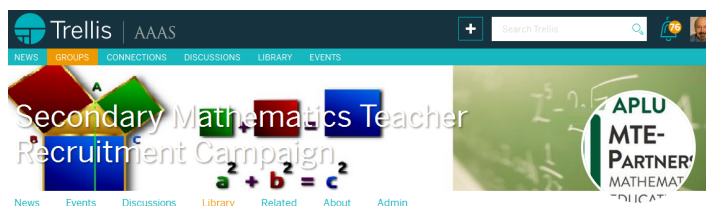
Current Progress

Each partner is implementing *Plan Do Study Act* cycles tied to recruitment and using measures of program inquires and enrollments to monitor impact. Boise State, Middle Tennessee State, and FIU are addressing UTeach replication recruitment efforts. Arizona, Kentucky, Mississippi State, Texas A&M, and UofSC as well as the California State System campuses are implementing various strategies and recruitment tactics tied to their own programs. Efforts include website development, class meetings, posters, social media efforts and videos. Sample partner websites are at

- U of Arizona: **SMEP**: <http://math.arizona.edu/~smep/>
- Boise State Univ, **IDoTeach**: <http://idoteach.boisestate.edu/>
- Florida International Univ, **FIUTEACH**: <http://fiuteach.fiu.edu/>
- University of Kentucky, **STEM Dept**: <https://education.uky.edu/stem/>
- Mississippi State: **CISE**: <http://www.cise.msstate.edu/>
- Texas A&M Univ, **AggieTeach**: <http://aggioteach.tamu.edu/index.shtml>
- Univ of South Carolina, **TeachScienceandMath**: <http://teachscienceandmath.org>

The RAC has created and disseminates a 9-module **Secondary Mathematics Teacher Recruitment Campaign Implementation Guide** available within Trellis and at <http://bit.ly/MATHImplGuide> .

- Module 1 Teacher Recruitment Campaign Overview
- Module 2 Campaign Planning
- Module 3 Campaign Research
- Module 4 Branding
- Module 5 Social Media
- Module 6 Public Relations
- Module 7 Paid Broadcast Media
- Module 8 Web Site Identity
- Module 9 Lessons Learned/Evaluation



RAC members share **recruitment tools** (flyers, posters, videos, websites, etc) at http://padlet.com/ed_dickey/vhle4gisbq82

The RAC is collaborating with the STRIDES RAC to implement the **Purposeful Recruitment, Exploration, and Preparation (PREP) Initiative** in Fall 2016.

The RAC is preparing a **proposal** to anticipated **NSF Noyce Track 4** solicitation.

Opportunities for Engagement

- As a full partner commit to implementing marketing tactics and share strategies, results, and data with RAC members. As participating partners, join in periodic conference calls to learn about activities and share information as appropriate.
- Review and provide feedback to improve the Implementation Guide.
- Participate in the PREP Initiative planning and implementation.
- Collaborate and consider participating in the NSF Noyce Proposal that will be submitted by in Fall 2016.
- Explore and implement strategies to diversify pool of teacher candidates and more effectively impact issues of equity and social justice in school settings.
- Participate in the building of a Recruitment Resources Collection with the new MTEP online communication and collaborative work platform with the AAAS Trellis site: <http://www.trelliscience.com>