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The Partnership Pipeline is a quarterly newsletter for MTE-Partnership members and those interested in the work and aims of the Partnership – 90 universities and their school partners working collaboratively to improve secondary mathematics teacher preparation. See [www.MTE-Partnership.org](http://www.MTE-Partnership.org) for more information

The purpose of the Pipeline is:

- To share updates from the Partnership, its Research Action Clusters, and its member institutions that are relevant to the work of the Partnership.
- To serve as a sounding board for suggestions from the membership.

## Sixth Annual MTE-Partnership Conference



While it may be hard to believe, this sixth conference marks the fifth anniversary of the MTE-Partnership (you can figure out the math), and accordingly the conference theme is “The MTE-Partnership at Five Years: Growing Capacity for Continuous Networked Improvement.” And to help with the celebration of this milestone, we are headed to New Orleans!

In support of the MTE-Partnership goal of producing more and better teachers, as a result of the conference:

- Partnership/institutional teams will plan next steps in transforming their programs.
- The Research Action Clusters (RACs) will continue their work, including considering how they share their work in order to contribute to additional teams’ transformational efforts.
- The Partnership as a whole will grow its sense of joint purpose and identity as a networked improvement community supporting program transformation.
- A specific focus on equity and social justice will be included throughout the proceedings.

During the conference, attendees can expect substantial time for work in the RACs, in addition to several general sessions addressing equity and social justice, improvement science, and other topics of general interest... plus time for connecting with others with an interest in secondary mathematics teacher preparation! Participants will also present research relevant to the Partnership aim. The conference will be captured in a Proceedings volume. (See the Proceedings for the 2016 Conference [here](#).)

The conference begins on Sunday, June 25 at 4:00 and runs through Tuesday, June 27 at 1:00 PM, all taking place at the historic Hotel Monteleone in the French Quarter. If you are interested in attending and have not yet registered for the conference, please contact the leader of the MTE-Partnership team or campus with which you are involved, who can then either add you to your team’s or campus’ application or submit a new application on behalf of the team. If you have questions on your contact, please email [Mary Leskosky](mailto:Mary.Leskosky@apl.u.org).

We also encourage everyone to attend the joint SMTI/ASCN workshop on Diversity and Inclusion immediately preceding the MTE-Partnership Conference. See [this link](#) for more information.

As exciting events happen for you, your RAC, and/or your institution, please share that information to Mary Leskosky ([mleskosky@apl.u.org](mailto:mleskosky@apl.u.org)), Partnership Pipeline editor, so we can include it in our next newsletter. We also welcome your input on the overall focus and format of the Pipeline.

## **Updates on MTE-Partnership RACs, Working Groups, and Projects**

### **Active Learning RAC**

In the Active Learning Mathematics RAC (ALM RAC), the 15 partner institutions continue to work on reform efforts in high-enrollment freshmen mathematics courses. Some upcoming RAC work includes common data analyses of student outcome data, and discussions about revised observation instruments and student surveys. [Click here for Full Update](#)

### **Clinical Experiences RAC**

The three subRACs (Paired Placement, Co-plan/Co-teach, and Methods) continue to develop mentor teachers and models for clinical experiences across the teacher development continuum to promote effective teaching practices. They presented on their work at several conferences. [Click here for Full Update.](#)

### **PR<sup>2</sup> RAC (formerly known as MATH)**

We have a new name! To better reflect our dual focus of 1) recruiting candidates into our programs and 2) providing the support necessary for program completion, we have changed our name to PR<sup>2</sup> for *Program Recruitment and Retention*. This winter/spring the PR<sup>2</sup> RAC has worked on revising our Driver Diagram (see below) to reflect our two foci, and to put the need for attending to issues of diversity, equity, and social justice front and center. [Click here for Full Update.](#)

### **MODULE(S<sup>2</sup>) RAC**

The MODULE(S<sup>2</sup>) RAC continues to develop, pilot, and revise modules for use in College Geometry, Statistics, Mathematical Modeling, and Abstract Algebra to build candidates' mathematical knowledge for teaching. They also presented at the AMTE Annual Conference. [Click here for Full Update](#)

### **STRIDES RAC**

STRIDES has been busy combing through the results from their national survey of 141 early career mathematics teachers about the professional support they receive, the professional learning activities in which they engage, other factors that affect their effectiveness and growth, and their interest and likelihood in continuing to teach... STRIDES RAC members are also actively spreading the current survey data and reaching out for collegial support to strengthen their efforts. [Click here for Full Update](#)

### **SEMINAL**

The SEMINAL grant (Student Engagement in Mathematics through an Intuitional Network for Active Learning) is an IUSE grant from NSF (2016-2021), extending the work of the ALM RAC. The goal of SEMINAL is to better understand how to enact and support institutional change aimed at implementing active learning in undergraduate mathematics learning environments. In Phase 1, six case studies of successful institutions were undertaken. In Phase 2, small grants will be awarded to institutions seeking to accelerate transformation efforts in precalculus to calculus 2; *see announcement below.* [Click here for Full Update](#)

### **Transformation Working Group**

The Transformations Working Group is continuing its work in thinking about ways to support teams in making broad-scale, transformative changes. The group is currently working to define potential strategies programs could pursue in undertaking strategic change, including helping teams build and implement a common vision across stakeholders and incorporating findings developed across the five Research Action Clusters (RACs). To help better understand the landscape in which teams are working, a survey is being sent to all program leaders to gather further background information on their efforts. The working group will be holding a working meeting for all those interested at the 2017 Conference, Monday evening, June 26 at 5:30. It expects to issue an invitation for teams to join a RAC focused on program transformation following the conference.

### **Equity Working Group**

The Equity Working Group was launched in March 2017, including 14 members representing different teams and RACs from across the MTE-Partnership. The goal of the group is "to establish a foundation for better incorporating equity work into the MTE-Partnership." The group is beginning its work by identifying particular challenges faced by different teams and collecting potentially useful research reports and resources. The group will continue to meet virtually and in person throughout the spring and summer, with a goal of developing a preliminary plan to guide the MTE-Partnership's further work with regards to equity, access, and social justice. The Working Group will hold an open forum for all those interested in these issues at the 2017 Conference, Monday evening, June 26 at 5:30.

### **RFP for SEMINAL Phase 2 Grants Released!**

The RFP for Phase 2 of SEMINAL, which will award small grants to institutions seeking to accelerate transformation efforts in precalculus to calculus 2, has been posted at <http://www.aplu.org/seminal>

## Spotlight on the MTE-Partnership

The work being undertaken by the MTE-Partnership continues to gain notice!

Following are some recent **presentations** and **publications** related to the MTE-Partnership.

### The 2016 Conference Proceedings

provide a full record of what happened at this last conference and may be useful in learning more about MTE-P. They are available [here](#).

*“SEMINAL: A grant aimed at helping institutions develop and maintain active learning in the P2C2 sequence”*

was presented at the TPSE-Math Conference in March 2017 by **Allan Donsig** (University of Nebraska-Lincoln), **David Grant** (University of Colorado Boulder), **Michael O'Sullivan** (San Diego State University). This session reported on the SEMINAL grant that emerged from the Actively Learning Mathematics RAC.

*“Moving Mountains: How Networked Improvement Communities Can Impact Systems”* – **Gary Martin**

participated in a panel discussion at the Association of State Supervisors of Mathematics.

*“Measuring Co-Teaching Strategies During Clinical Experiences”*

was presented at the AMTE Annual Meeting in February 2017 by **Jennifer Oloff-Lewis** (California State University, Chico), **Ruthmae Sears** (University of South Florida), **Pier Angeli Junor Clarke** (Georgia State University), **Patti Brosnan** (The Ohio State University), **Laurie Riggs** (California State Polytechnic University, Pomona), and **Maureen Grady** (East Carolina University).

This session presented work by the Co-Planning/Co-Teaching subRAC of the Clinical Experiences RAC.

*“Paired–Placement: A Collaborative & Empowering Model for Clinical Teaching”*

– presented at the NCTM Research Conference in April 2017 by **Jennifer Whitfield** (Texas A&M), **Basil Conway** (Jacksonville State University), **David Erickson** (University of Montana), **Christopher Parrish** (University of South Alabama), and **Marilyn Strutchens** (Auburn University). This session presented work by the Paired Placement subRAC of the Clinical Experiences RAC.

*“Building Mathematical Knowledge for Teaching in Content Courses for Secondary Teachers: Geometry and Beyond”*

– presented at the AMTE Annual Meeting in February 2017 by **Alyson E. Lischka**, **Jeremy Strayer**, **Lucy Watson**, and **Candice M Quinn** from Middle Tennessee State University. This session reported on work by the MODULE(S)<sup>2</sup> RAC.

*“The Right Network for the Right Problem”*

was published in the *Kappan*, November 2016, written by staff and fellows of the Carnegie Foundation. MTE-Partnership is highlighted as an example of an “execution network” that is well-designed to address the “wicked problem” of improving secondary mathematics teacher preparation. See <http://www.kappanonline.org/right-network-right-problem/>

### Report on Recruitment

The MTE-Partnership (with the leadership of **Ed Dickey**, University of South Carolina) participated in designing and gathering data for a new report published by the American Physical Society entitled “Recruiting Teachers in High-Needs STEM Fields: A Survey of Current Majors and Recent STEM Graduates.” Among the interesting findings of the study are the large number of STEM majors (more than 50%) who express some interest in teaching. Most report that higher salaries would increase their interest; however, many underestimate the actual salaries that teachers receive. Moreover, interest in teaching is higher in departments where teaching is discussed as a viable career option. Thus, there may be more promise for recruitment among STEM majors than may be commonly thought. Read the full report [here](#).

### Carnegie Foundation Summit

Eight members of the MTE-Partnership attended the Carnegie Foundation Summit on Improvement in Education, which was held in San Francisco March 27-29, 2017. The participants learned a great deal about applying improvement science to the MTE-Partnership work, and want to share this learning with all the RACs. You can check out:

- the Summit program [here](#)
- presenter materials [here](#)
- notes from the participants [here](#)

We hope you will find some interesting insights you can apply to your work!

### Anything Missing?

Send us your latest MTE-Partnership-related presentations and publications so we can include them in our next issue! Contact the Pipeline Editor, Mary Leskosky, [mleskosky@aplu.org](mailto:mleskosky@aplu.org)



Planning Committee, January 2017 (clearly hard at work!). From left to right: James Martinez, Laurie Cavey, Alyson Lischka, Marilyn Strutchens, Gary Martin, Wendy Smith, Howard Gobstein, Diana Suddreth, Bob Ronau, Maria Fernandez, Mark Ellis, Brian Lawler, Ed Dickey

Over the next few issues of the MTE-Partnership Pipeline, we will consider several aspects of AMTE's new Standards and their implications for the work of the MTE-Partnership. The AMTE Standards can be downloaded at [www.amte.net/standards](http://www.amte.net/standards).

## **Spotlight on the AMTE Standards for Preparing Teachers of Mathematics: Supporting Improvement of Mathematics Teacher Preparation**

**By W. Gary Martin, Auburn University  
Co-director, MTE-Partnership; Member of Writing Team, AMTE Standards**

The final chapter of *Standards for Preparing Teachers of Mathematics* (AMTE, 2017) discusses several aspects of enacting effective preparation of teachers of mathematics. In this short summary, we focus on the section which discusses how to support the improvement of mathematics teacher preparation programs. One of the major claims of this discussion is that efforts at improvement must be considered as cyclic in nature rather than linear. The description of a cycle of improvement, drawn from a number of sources such as Elrod and Kezar's (2016) framework for improving undergraduate STEM teaching, follows: (a) Build a Common Vision; (b) Assess the Context; (c) Select Change Strategies; (d) Test and Refine Strategies; (e) Plan Next Steps; (f) Disseminate; and (g) Ensure Sustainability.

This cycle should seem quite familiar to those of us involved in the MTE-Partnership, as it is very consistent with the Partnership's Networked Improvement Community (NIC) design (Bryk, Gomez, Grunow, and LeMahieu, 2015). Over the course of its 5 years, MTE-Partnership participants have devised a common aim (as in a), developed driver diagrams (as in b), decided on change strategies to test and refine (as in c and d), and then plan next steps (as in e). In fact, the NIC design is later cited being of particular promise; Action Step 4 (AMTE, 2017) states:

*Faculty in programs preparing teachers of mathematics must build collaborations with faculty in other programs preparing teachers of mathematics. Learning from and with colleagues from other institutions and providers can accelerate progress in their improvement efforts, with faculty benefitting from experiences and results of each site. The networked improvement community model proposed by Bryk, Gomez, Grunow, and LeMahieu (2015) may be particularly useful in building knowledge across programs (cf. Martin & Gobstein, 2015). (p. 166)*

A similar cycle of improvement is being considered through a different lens by the MTE-Partnership Transformations Working Group, which has explored literature about institutional change to better understand how multi-dimensional transformation can be supported at the program level. That working group is particularly focused on the importance of developing a common vision among program stakeholders and is developing ways to support programs in their improvement efforts. (See update on the Transformations Group below.) Change efforts fall short of institutional transformation when the efforts are too narrow (failing to consider the broader system) or when key stakeholders are not sufficiently involved. Thus, the MTE-Partnership continues its leadership role in thinking about how to support the improvement of secondary mathematics teacher preparation.

We encourage each of the partnership teams in MTE-Partnership to schedule a meeting this spring among local (or statewide) stakeholders in secondary mathematics teacher preparation to discuss the new *Standards for Preparing Teachers of Mathematics*, and how those standards can inform ongoing program transformation efforts.

### References

- Bryk, A., Gomez, L. M., Grunow, A., & LeMahieu, P. (2015). *Learning to improve: How America's schools can get better at getting better*. Cambridge, MA: Harvard Education Press.
- Elrod, S., & Kezar, A. (2016). *Increasing student success in STEM: A guide to systemic institutional change*. Washington, DC: Association of American Colleges & Universities.
- Martin, W. G., & Gobstein, H. (2015). Generating a networked improvement community to improve secondary mathematics teacher preparation: Network leadership, organization, and operation. *Journal of Teacher Education*, 66(5), 482–493.

### **About MTE-Partnership**

*The MTE-Partnership is working to transform secondary mathematics teacher preparation. Organized by the Association of Public and Land-grant Universities, it includes 39 partnership teams comprised of over 90 universities and 100 school districts across 31 states. For more information, please visit [www.MTE-Partnership.org](http://www.MTE-Partnership.org)*



## *RAC Updates (continued...)*

### Active Learning RAC Update

In the Active Learning Mathematics RAC (ALM RAC), the 15 partner institutions continue to work on reform efforts in high-enrollment freshmen mathematics courses. On some campuses, efforts are at a stable place, while in others the efforts are expanding. For instance, at the University of Nebraska, the Omaha campus has begun piloting ALM in some sections of precalculus (in addition to the calculus 1 and 2 that have been in place for several years); the Lincoln campus has expanded efforts beyond precalculus to include calculus 1 and 2, as well as business calculus. The Math Department at Colorado Boulder has also expanded ALM efforts to encompass their precalculus-level course. Some ALM RAC members continue to work on will-building and piloting ALM in a few sections each semester. At most campuses, there are ongoing discussions about student outcome data, and how to use what we are learning to continue to improve reform efforts.

Some upcoming RAC work includes common data analyses of student outcome data, and discussions about revised observation instruments and student surveys. On some campuses, we have been able to look at student course-taking trajectories based on course grades (for example, we can see what proportion of students who passed precalculus with a C go on to pass calculus 1). We are finding that getting a C in a prerequisite course does not seem to be enough for most students to pass the subsequent course. This finding is generating conversations on those campuses about how to better support students and help students be successful.

ALM RAC efforts also overlap those of the SEMINAL I-USE grant, studying institutional transformation of mathematics departments. Very soon, SEMINAL will release an RFP for small grants to institutions interested in transforming their high-enrollment precalculus through calculus 2 courses. (See [SEMINAL Update](#) for more information.)

### Clinical Experience RAC Update

The Clinical Experiences RAC is composed of higher education faculty, partnering school district personnel, and school personnel working together to actively recruit, develop, and support in-service master secondary mathematics teachers who can serve as mentors across the teacher development continuum from preservice to beginning teachers. Moreover, the Clinical Experiences RAC helps to ensure that teacher candidates have the knowledge, skills, and dispositions needed to implement educational practices found to be effective in supporting all secondary students' success in mathematics as defined in the CCSS-M and other college- and career-ready standards. The aim for the RAC is: "During student teaching teacher candidates will use each of the eight Mathematics Teaching Practices (NCTM, 2014) at least once a week during full time teaching. This RAC is divided into three sub-RACs: Methods, Co-Planning and Co-Teaching (CPCT), and Paired Placement. The leadership of the RAC is provided by Marilyn Strutchens, Auburn University, chair of the RAC and leader of the Paired Placement sub-RAC; Ruthmae Sears, University of South Florida, leader of the CPCT sub-RAC; Michele Iiams, University of North Dakota, leader of the Methods sub-RAC; and Mark Ellis, California State University, Fullerton.

#### *Paired Placement SubRAC Updates*

During spring semester 2017, members of the Paired Placement subRAC are implementing the model at four different sites: Auburn University, Jacksonville State University, Montana State University, and Texas A & M University. Team members are happy about the progress the teacher candidates are making and the role that the approach is playing in their growth. We are receiving positive feedback from the mentor teachers, teacher candidates, university supervisors, and others.

In addition, team members conducted a research symposium at the National Council of Teachers of Mathematics Research Conference in San Antonio, TX, April 2 – 4, 2017. Team members answered the following questions related to the implementation of the paired placement approach and research:

- What are the successes and challenges of implementation of the paired-placement model for clinical experiences at each different university?
- How do the successes and challenges of the paired-placement model compare across the various institutions involved in the study?
- What are attributes across the institutions that contributed to the successes of the paired-placement model?
- What are attributes across the institutions that contributed to the challenges of the paired-placement model?

Team members are writing a research article related to their work.

### Co-planning and Co-teaching SubRAC Update

The co-planning and co-teaching (CPCT) sub-research action cluster (RAC) have actively sought to disseminate their work via conference presentations, proceedings and a journal. Particularly, in January 2017, the CPCT subRAC presented and published in the proceedings of the Hawaii International Conference of Education. In this presentation, the CPCT subRAC team highlighted practical examples of how mentors and preservice teachers can teach mathematical content and facilitate students learning. In February 2017, the team presented at the American Mathematics Teacher Educators (AMTE) conference, on how improvement science was used to implement CPCT across multiple institutions, and on the complexities of adopting CPCT during clinical experiences, which is viewed as a paradigm shift. Furthermore, the CPCT subRAC proposal for a working group at PME-NA 39 in Indianapolis, Indiana on October 5-8, 2017 was recently accepted. The goal of the working group is to enhance the network of individuals willing to adopt CPCT during clinical experiences. The team also published an article in the Annual Perspective of Mathematics Education: Reflective and Collaborative Processes to Improve Mathematics Teaching. Therefore, the CPCT subRAC have advanced their work by sharing it with a wider audience.

Additionally, the CPCT subRAC also continues to meet on a regular basis. During these meetings, they reflect on complexities and challenges faced and consider means to address them. Thus, team members also seek to support each other as we work within our local context.

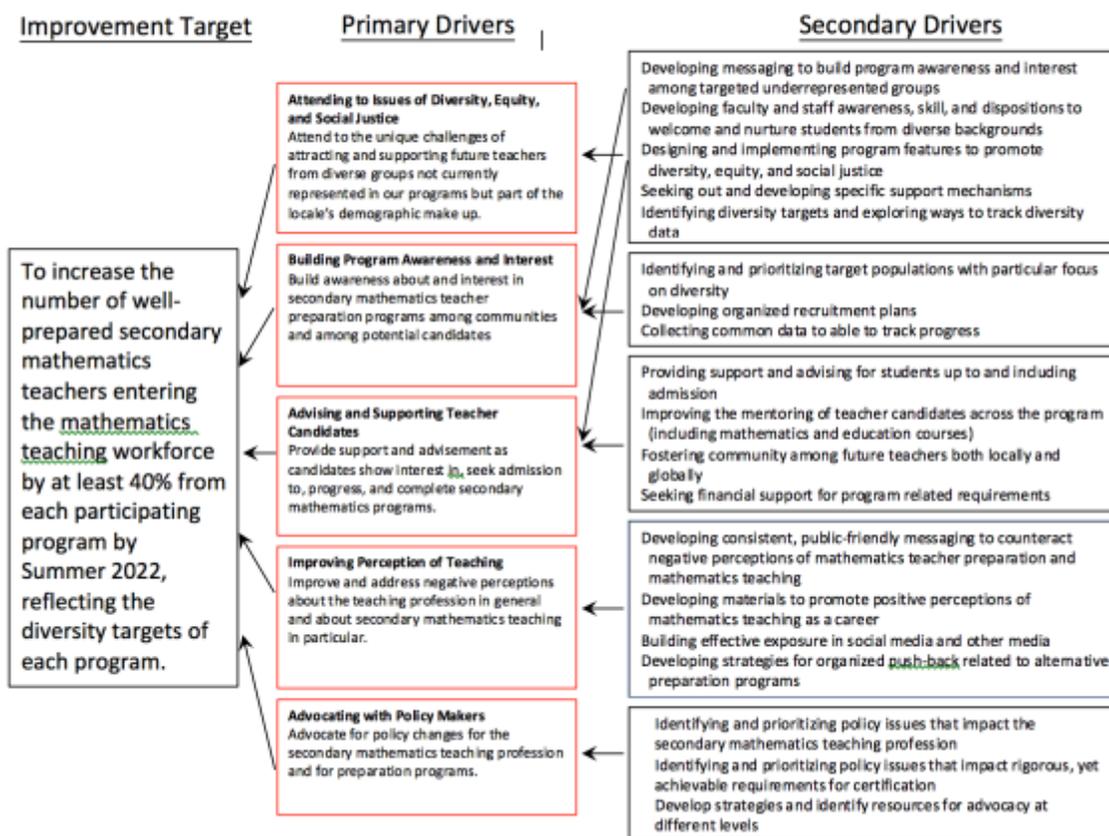
### Methods SubRAC Update

The Methods subRAC does not have anything new to report. Members are implementing the modules that they are creating.

### PR<sup>2</sup> (Program Recruitment and Retention) RAC (formerly known as the MATH RAC) Update

First, the big news – we have a new name! To better reflect our dual focus of 1) recruiting candidates into our programs and 2) providing the support necessary for program completion, we have changed our name to PR<sup>2</sup> for *Program Recruitment and Retention*. This winter/spring the PR<sup>2</sup> RAC has worked on revising our Driver Diagram (see below) to reflect our two foci, and to put the need for attending to issues of diversity, equity, and social justice front and center.

### Program Recruitment & Retention RAC Driver Diagram



The RAC met over a weekend in January to flesh out the Secondary Drivers and identify Change Ideas for moving forward. In addition, based on feedback from the RAC, Dana Franz and Ed Dickey crafted a Preamble to the Driver Diagram. We are still gathering feedback on these ideas and will use this information to help plan our work during the June convening in New Orleans. One possibility that has been discussed is the creation of sub-RACs. We will determine if this is something the RAC wants to consider in June. We continue to implement and evaluate our recruitment efforts at our different sites and share our challenges and successes. We have been looking into the strategies used by CSU EduCorps to determine how best we can utilize these strategies within our varied programs.

### **MODULE(S<sup>2</sup>) RAC Update**

In January 2017 the Math of Doing, Understanding, Learning, and Educating for Secondary Schools RAC, also known as the MODULE(S<sup>2</sup>) RAC, submitted an NSF IUUSE proposal for a five-year project to develop, pilot, and revise modules for use in College Geometry, Statistics, Mathematical Modeling, and Abstract Algebra. As we wait to hear the results of this proposal, we are working to pilot, revise, and further disseminate the work of the RAC.

In February at the Association of Mathematics Teacher Educators annual conference, Alyson Lischka and Jeremy Strayer (along with two doctoral students from Middle Tennessee State University) presented results from a pilot study conducted on the Geometry Modules in Spring 2016. The group shared elements of the modules and pre- and post-assessments of student work that resulted from the course. Results indicate that students engaging with these modules increased their mathematical knowledge for teaching geometry according to the Silverman and Thompson (2008) framework. The session was well attended and the audience thoughtfully engaged with the discussions, helping MODULE(S<sup>2</sup>) spread the word of our work.

Both the Geometry and Statistics sub-groups have engaged instructors to pilot materials this year. The Statistics group, led by Stephanie Casey and Andrew Ross, has established piloting agreements with instructors at Auburn University, Boise State University, University of Arizona, Salisbury University, and California State University Chico. The research team designed the instructional module "Statistical Knowledge for Teaching Bivariate Categorical Data Analysis". Instructor and student versions of the modules were created and distributed to all piloters. Piloters are currently implementing materials but have not yet completed the lessons. The group hopes to begin data collection towards the end of April and continue with additional piloters in the fall. The Geometry group, led by Emina Alibegovic and Alyson Lischka, have piloters this spring at California State University Monterey Bay, Auburn University, University of North Dakota, and Grand Valley State University. All four sub-groups are continuing work on development of the modules.

Silverman, J., & Thompson, P. W. (2008). Toward a framework for the development of mathematical knowledge for teaching. *Journal of Mathematics Teacher Education*, 11(6), 499-511.

### **STRIDES RAC Update**

STRIDES has been busy combing through the results from their national survey of 141 early career mathematics teachers about the professional support they receive, the professional learning activities in which they engage, other factors that affect their effectiveness and growth, and their interest and likelihood in continuing to teach. The data analysis was bifold, with half of the RAC members analyzing the qualitative data while the other half analyzed the quantitative results. From this analysis, RAC members began to brainstorm possible interventions that would support these teachers for the upcoming school year. In early March, the entire RAC met again to flush out some of the proposed interventions, assure that they aligned with the data collected through the surveys, and discussed the feasibility of each intervention at different local communities.

Secondary Teacher Retention & Induction in Diverse Educational Settings (STRIDES) RAC members are also actively spreading the current survey data and reaching out for collegial support to strengthen their efforts. For example, just recently the STRIDES RAC asked all of MTE-P for feedback on their intervention ideas or to possibly suggest other interventions that may align with the work of other RACs. STRIDES members have also recently spoke at AMTE in Orlando and put together a proposal for SSMA in Lexington in the fall of 2017. Upcoming work involves narrowing down the intervention list to a manageable amount, detailing what those interventions would look like in action, and divvying up the work amongst RAC members so that implementation in the fall goes as smoothly as possible.

### **SEMINAL Update**

The SEMINAL grant (Student Engagement in Mathematics through an Intuitional Network for Active Learning) is an I-USE grant from NSF (2016-2021). The goal of SEMINAL is to better understand how to enact and support institutional change aimed at implementing active learning in undergraduate mathematics learning environments. In spring 2017, the research and evaluation teams for SEMINAL engaged in Phase I data collection, and conducted six site visits to build case studies of institutions that have successfully transformed their mainstream precalculus to calculus 2 (P2C2) courses: University of Colorado Boulder, University of Nebraska-Lincoln, San Diego State University, University of Michigan, Sam Houston State University, and University of Illinois at Chicago. Following analyses of the many interviews and observations conducted, SEMINAL will develop a handbook for institutional transformation that tells the stories of the successful programs, and helps to provide potential trajectories for institutions seeking to improve student learning outcomes in P2C2 courses. SEMINAL's work should both help the ALM RAC members, and also help MTE-Partnership as a whole, providing insights into how institutional transformation can be enacted in university mathematics departments.

In April, SEMINAL will launch Phase II of their project, which involves awarding small grants to institutions seeking to accelerate their transformation efforts in P2C2 courses. The RFP is available online (<http://www.aplu.org/seminal>) and is open to institutions within MTE-Partnership as well as other institutions nation-wide. Phase II awardees will work collectively in a networked improvement community (NIC), using the improvement science MTE-Partnership follows of creating driver diagrams, complete with aim statements, and engaging in Plan-Do-Study-Act cycles. Small conferences funded by SEMINAL will help participants engage in the "networking" part of working in an effective NIC.