



RESEARCH ABOUT NEW MATH TEACHERS' NEEDS/WANTS FOR ADMINISTRATORS

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Session Outline → Objectives

- Why this session at ACTM?
- Introduce the national Mathematics Teacher Education Partnership (MTEP)
- Define the Research Action Cluster who have compiled this research
- Present the results
- Discussion of the results
- Q&A

- Objectives
 - Inform administrators of on-going national research about sustainment in the profession (math)
 - Define Missing components in early career teachers
 - Present initial suggestions based on national and local survey data analysis

Why this session for admins at ACTM?

- My 10 years at UA in Secondary Math Education
 - Admins needing math teachers
 - AASB summer conference
 - Mobility of new teachers
 - Personality of Millennials (see my session tomorrow)
- Most importantly, practices my graduates have forwarded
- So here's the gist of the session
 - Do you know what beginning teachers say to their former professors?
 - Do you know what nationally, beginning math teachers say works?
 - What is lacking in support?
 - Why they move schools quickly? Or quick to consider?
- We all know, we can't afford high turnover, high dissatisfaction, but also poor preparation.

Mathematics Teacher Education Partnership

■ History

- The MTEP was convened by Association of Public and Landgrant Universities (APLU) Science and Mathematics Teaching Imperative (SMTI)
- Early 2012, really only entering the 5th year of national work

■ Premier partnership provides a coordinated research, development, and implementation effort for secondary mathematics teacher preparation programs

- rigorous college- and career-ready standards preparation
- based on research and best practices in the field
- vision to push towards and reach a gold-standard in preparation

■ Funding support

- Majority of the work part of partner institution faculty's research, teaching, and service commitments
- About \$600,000 from Leona M. and Harry B. Helmsley Charitable Trust for \$599,540,
 - Research Action Clusters with a focus on supporting program transformation.
- About \$900,000 across the Helmsley Trust, the National Science Foundation, 100Kin10, and the S.D. Bechtel, Jr. Foundation.

Mathematics Teacher Education Partnership

Members include:

39 teams across 31 states

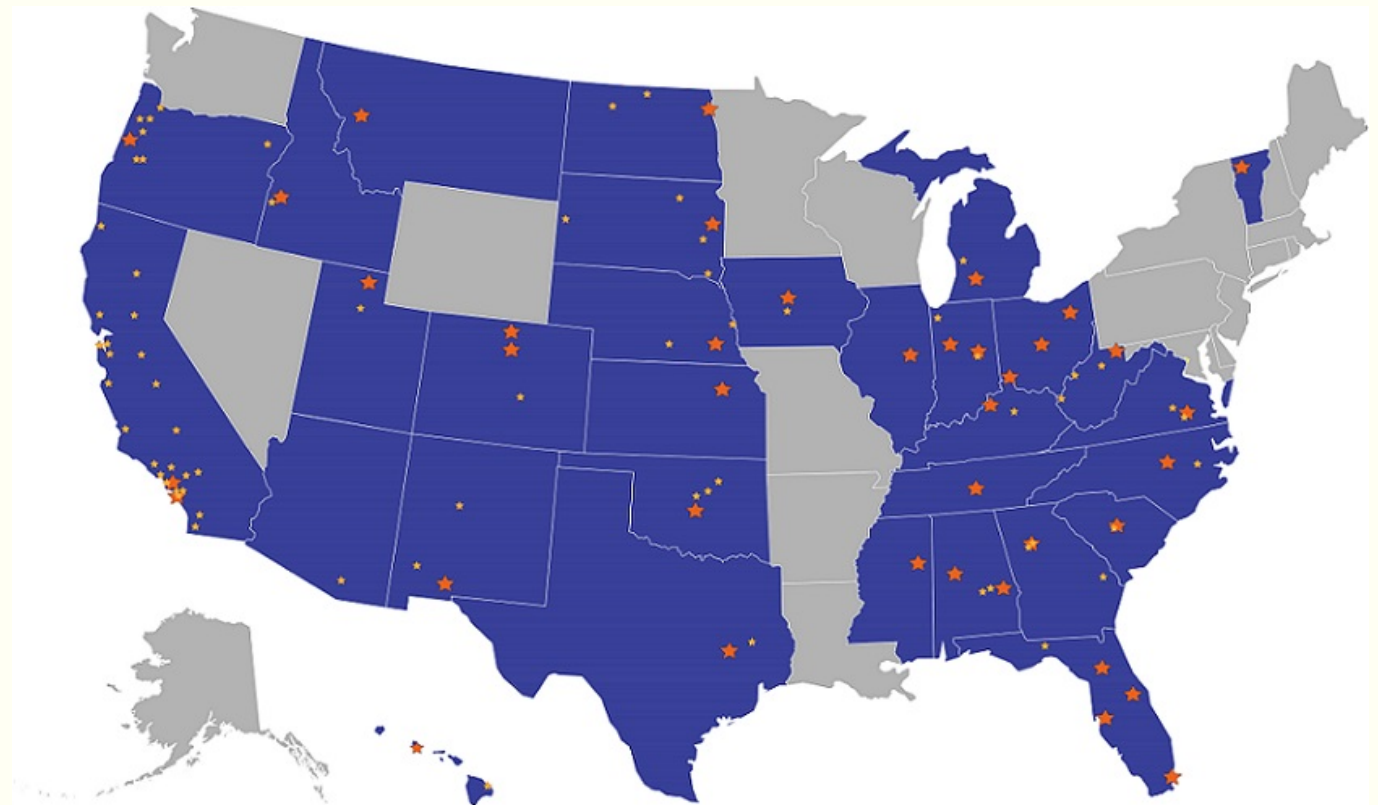
103 universities, univ. systems,
and community colleges

142 K-12 schools/districts

Multiple state depts. of ed.

Other education organizations

Partners using the Network
Improvement Community model
highlighted in a recent publication



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.

Research Action Clusters of the MTEP

1. Developing Effective Clinical Experiences: Working to develop infrastructures and models that best meet the needs of teacher candidates.
2. MODULE(S²): Math of Doing, Understanding, Learning, and Educating for Secondary Schools: Developing mathematical knowledge and habits of mind for teaching prospective secondary mathematics teachers.
3. Actively Learning Mathematics: Reform of freshman/sophomore level mathematics courses.
4. MATH: Marketing for Attracting Teacher Hopefuls: Purposeful marketing campaign to attract secondary mathematics candidates, with special attention to diverse and underrepresented groups.
5. STRIDES: Secondary Teacher Retention & Induction in Diverse Educational Settings: Teacher preparation programs actively recruit high-quality and diverse teacher candidates and monitor and provide support to ensure program completion.



Special Thanks to Dr. Lisa Amick

University of Kentucky

Partnership Team Member

Work from her 2017 AMTE Session

Support Systems of Early Career Secondary Mathematics
Teachers and Their Effects on Teacher Retention

Her work and colleagues helped shape this session

Trivia Questions (they might be)

- What is the national “mode” in “year teaching” for the teaching force?
 - 1 year
- What was that prior to the standards-based instruction (1987) implementation?
 - 15 years
- What was this number prior to NCLB (2000)
 - 7 years
- THIS TREND HAS TO CHANGE, Boomers retirements are nearing that fall off

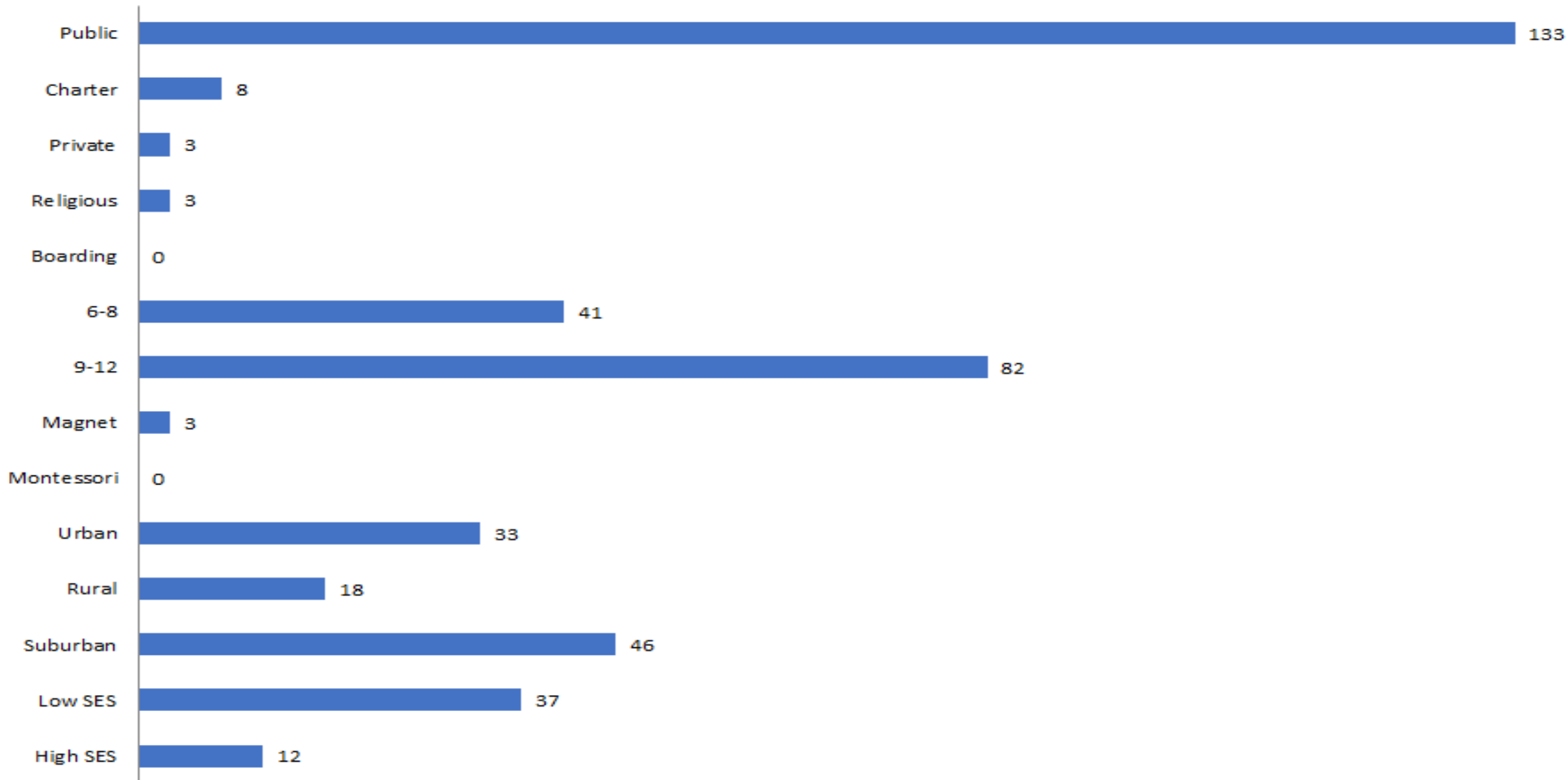
Surveys

- **National Survey “Reflection on Professional Activities”**
 - Iterative cycles of survey design, implementation, & data analysis
 - emerging and early career teachers at MTEP sites (n=41 matched pairs)
 - Year long pilot, October 2015 & April 2016
 - The work of the NIC across the MTEP and STRIDES RAC
- **Full Scale National Survey**
 - Electronic survey, early career secondary mathematics teachers
 - November 2016 & April 2017 (n=141)
- **Local UA Secondary Math Graduates**
 - Graduates from 2013, 2014, 2015 (in 2015, 2016, 2017)
 - N=17 (of 41) fully complete our survey

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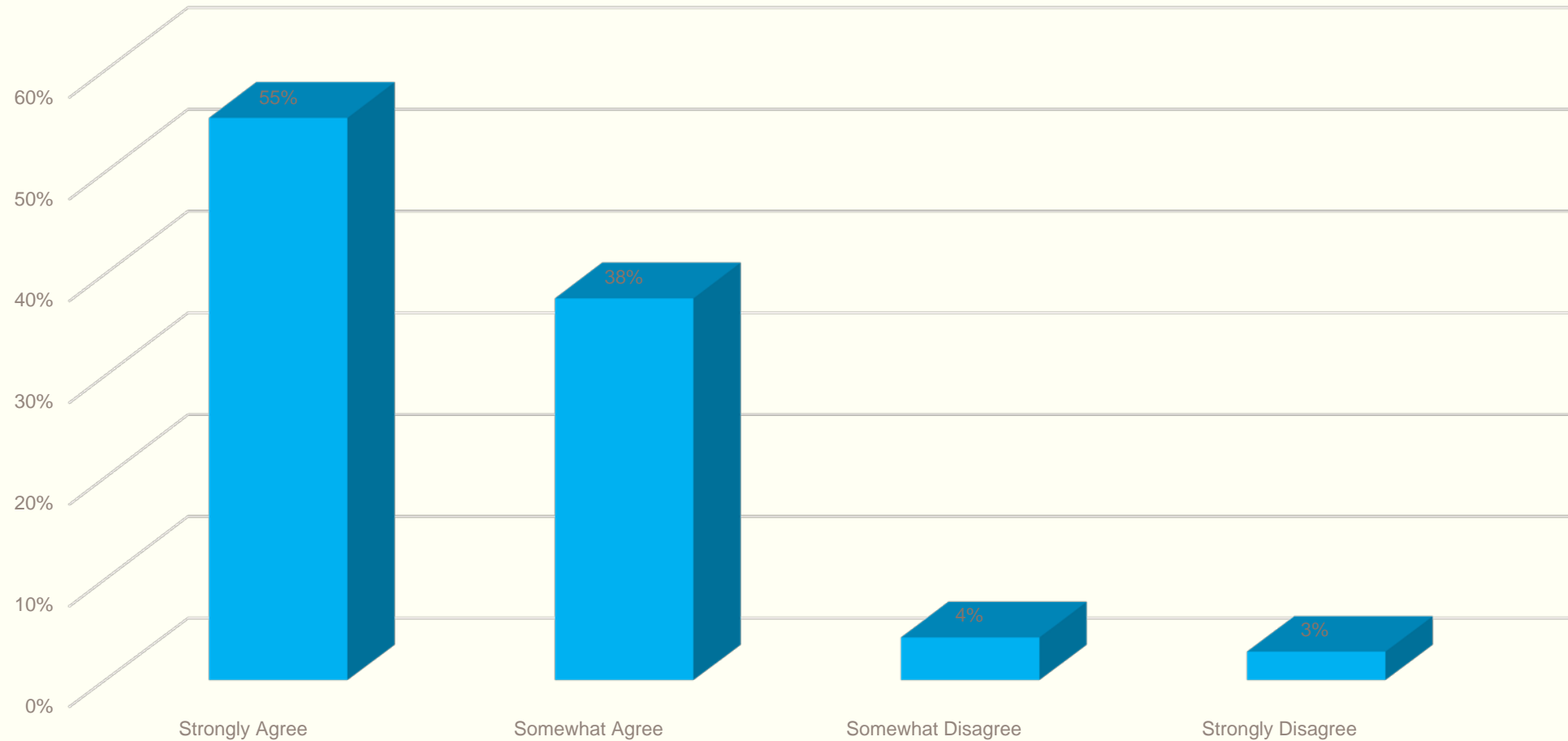
Describe the environment in which you currently teach, student teach, or observe. (Check all that apply.) (N = 141)



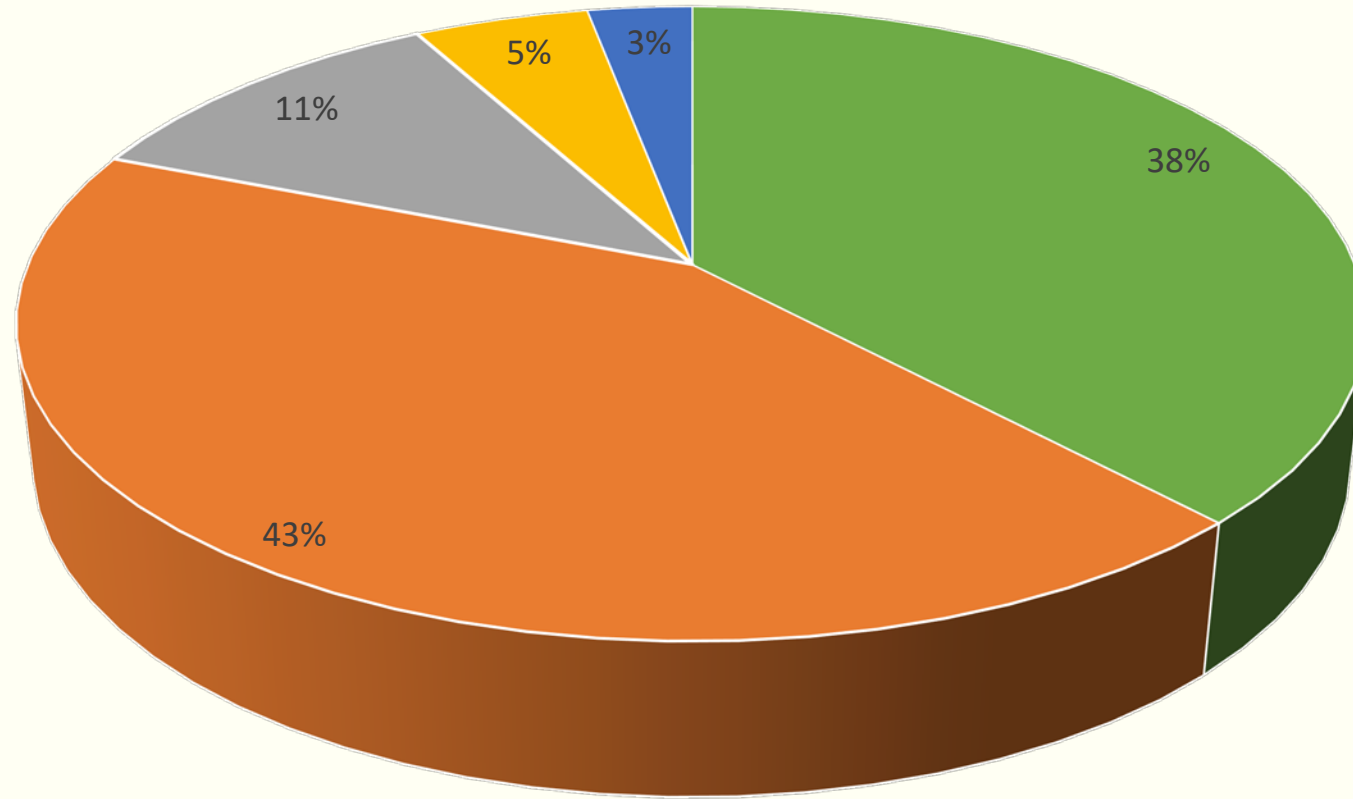
Excluding the UA responses (locations)



To what extent do you agree with the following statement: I am generally satisfied with being a teacher at this school.

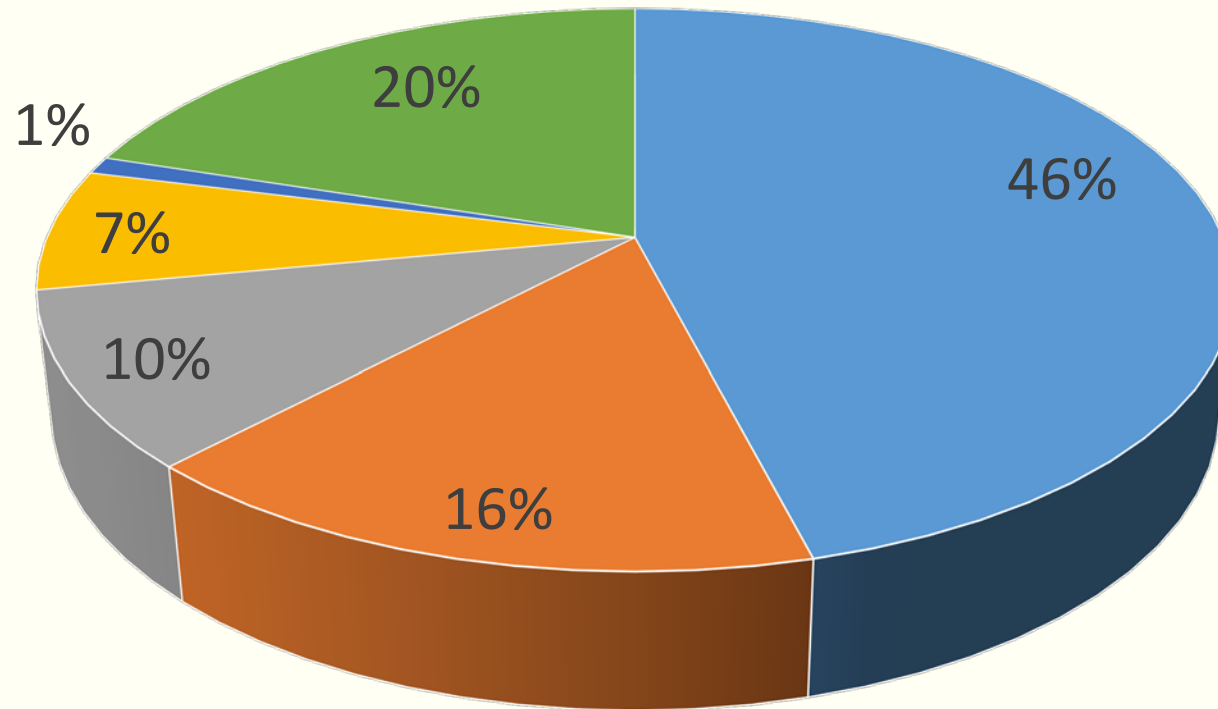


If you could go back and start college over again, would you still choose to be a math teacher?



■ Certainly ■ Probably ■ Unsure ■ Probably not ■ Certainly not

How long to you plan to remain a teacher?



■ As long as I am able

■ Until a specific life event (marriage, children, etc)

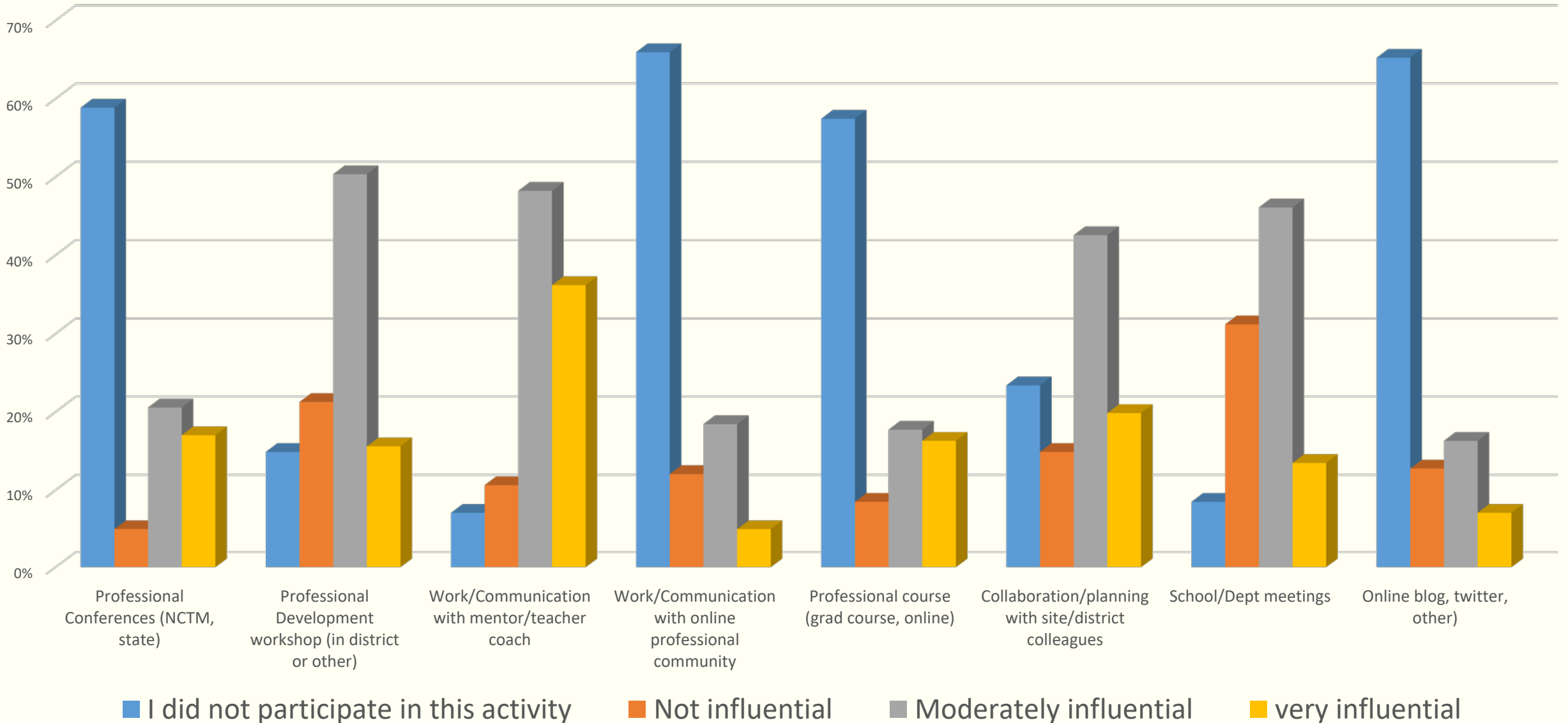
■ Definitely will leave very soon

■ Until I'm eligible for retirement

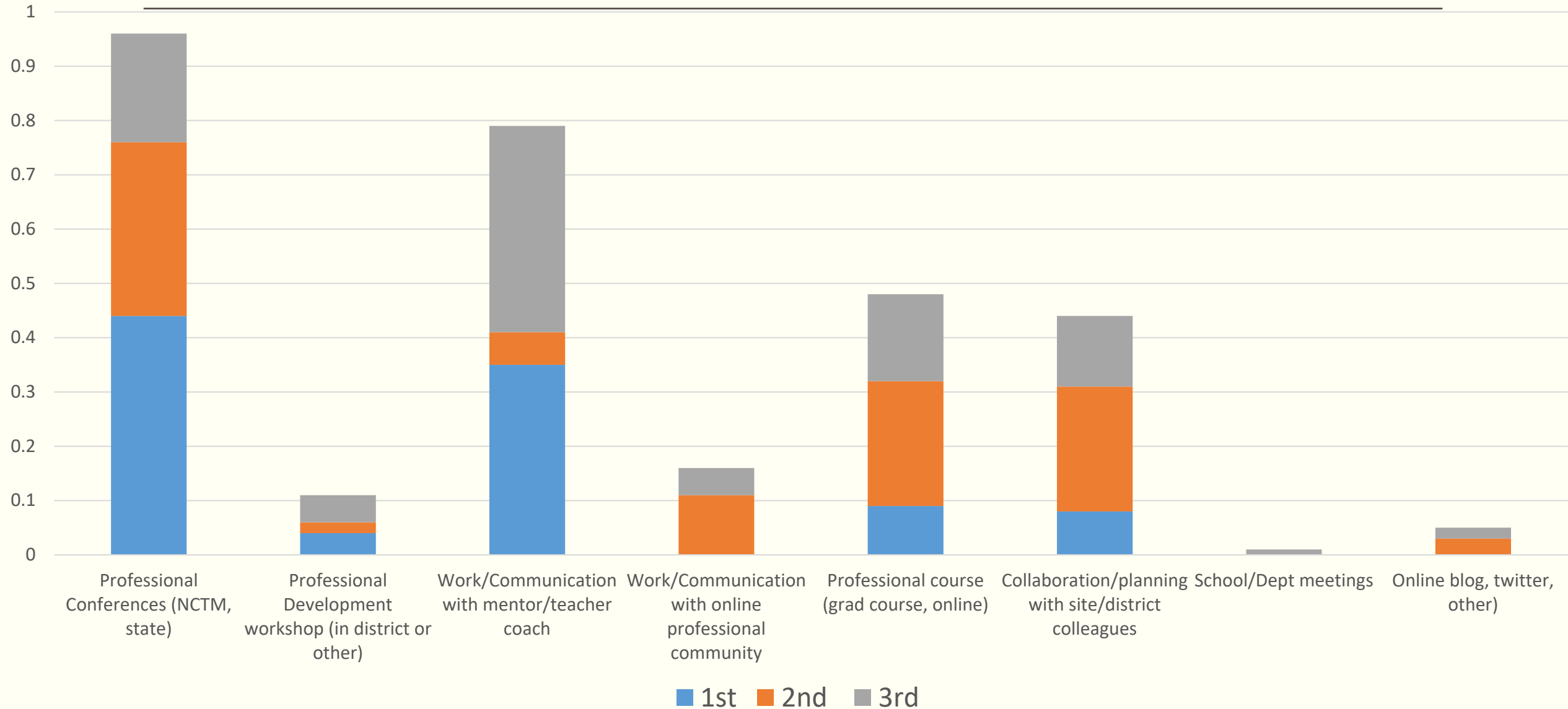
■ Until a more desirable job opportunity comes along

■ Undecided at this time

To what degree, did each set of professional learning activities you participated in during the last five months, increase your enthusiasm for teaching mathematics?



Of what of these professional learning experiences you have not participated, rank the top three in preference you wish to participate:



Preliminary Intervention Ideas

1. Opportunities (travel funds) to engage in professional conferences outside of the district
 - NCTM National, Regionals
 - ACTM, others
2. Common planning periods or designated time to plan w/ mentor/teacher-coach
 - Strengthening mentor programs
 - Support for same subject/grade planning
3. Support to enroll in graduate study
 - We think this might be related to pay raises as much as learning opportunities
 - Based on local inquiries
4. Specialized professional development
 - Workshops for math teachers specifically
 - Membership in professional teaching organizations, discounted PD opps
5. Administrator support from districts/central office to support new teachers

Local Survey from UA Secondary Math Graduates (Struggles)

- Disproportionate assignment of most challenged student classes
 - Includes seniority imbalance
- Central office and/or administration mandates
 - Daily math review
 - Testing prep days
 - Testing days
 - Curriculum pacing guide requirements
- Support for attending ACTM each year (biased 😊)
- Classroom materials (missing or purchase by self)
 - Lack of any math technology (CSE 401, Math 403, Math 405, Math 409)
 - Supplies
 - IT support minimal (wireless issues, computer issues, projector issues)



Q&A

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