



The Rice University Master Teaching Fellowship Program Midpoint Results: Progress in Development of Teacher Leaders in High-Need Urban Schools.

Adem Ekmekci, Anne Papakonstantinou, & Richard Parr – Rice University

Project

The Rice University Noyce Master Teaching Fellowship Program (RU-MTF) - DUE #1556006

PI: Anne Papakonstantinou

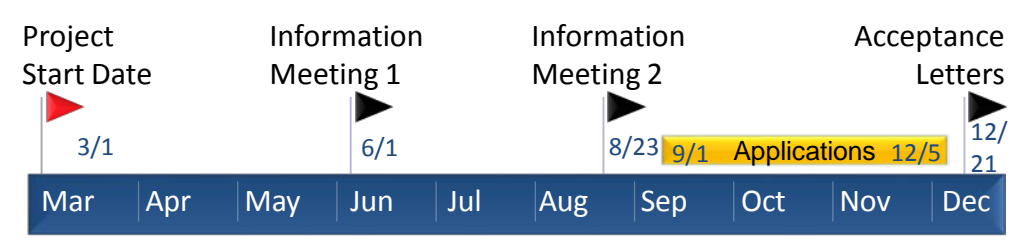
Co-PIs: Richard Parr, Judy Radigan, Richard Tapia

Goal

Guide exceptional secondary mathematics teachers' development as leaders who are deeply grounded in sound mathematical content and research-based pedagogical, leadership, adult education, and mathematics advocacy skills.

Timeline

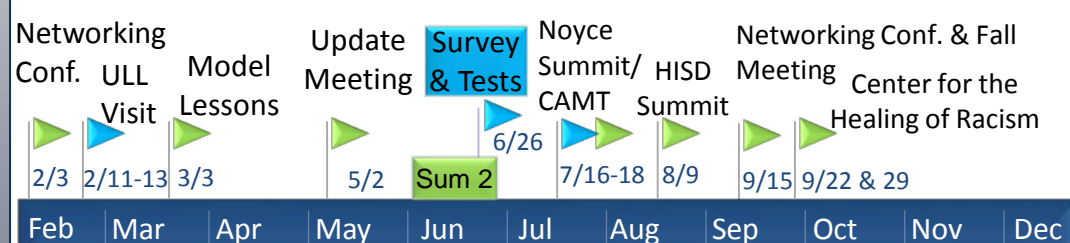
2016: Recruitment



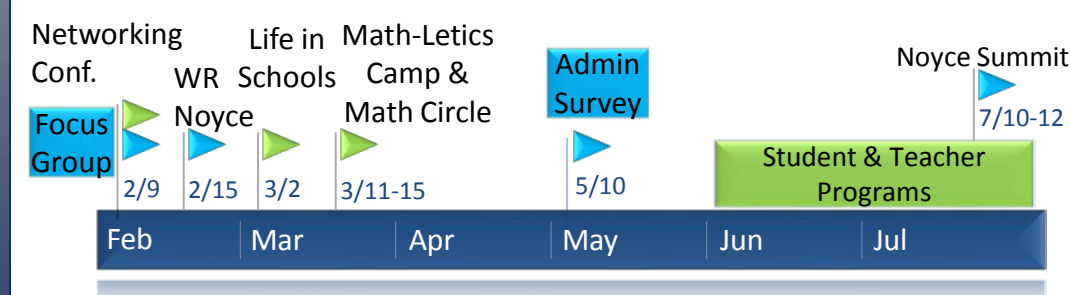
2017: Year 1



2018: Year 2



2019: Year 3 and cont.



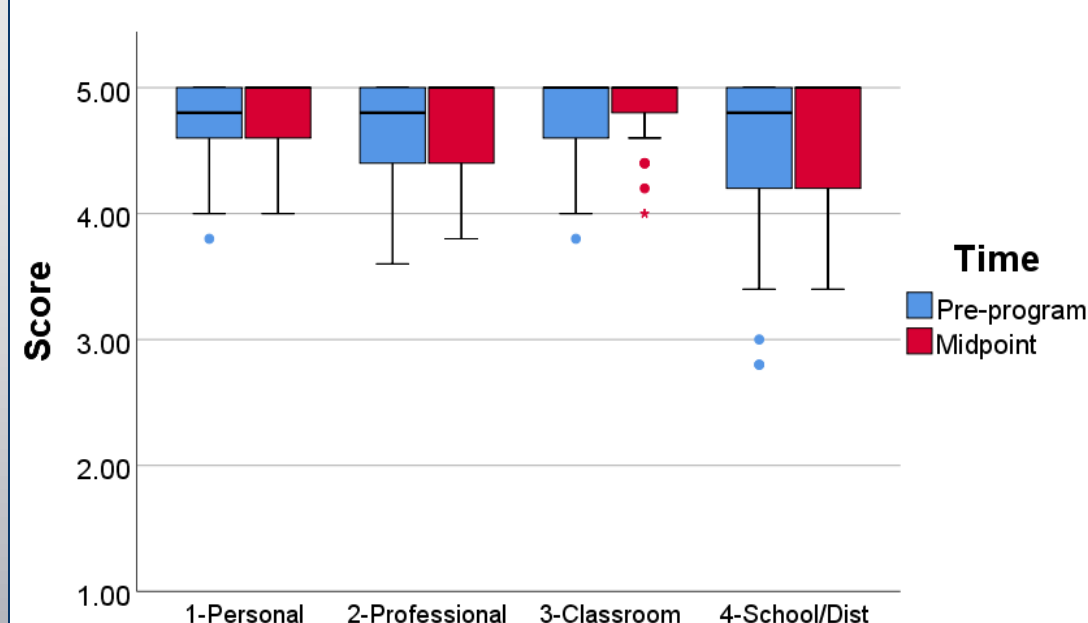
Theoretical Framework

- Teacher leadership [1]
- Reform-based mathematics teaching [2]
- Mathematical knowledge for teaching [3]
- Effective professional development [4, 5, 6]
- Culturally-relevant instruction [7, 8]
- Andragogy [9]

Latest Data Collection

- Administrator and colleague survey (AVID Teacher Leadership Survey) [10]
- Focus group
- Andragogical Practices Inventory [9]

Administrators' and Colleagues' Perceptions of Leadership Attributes



Personal Attributes

"Has open communication with the principal"

Professional Growth and Development

"Aspires to continue his/her education in leadership"

Classroom Environment

"Promotes high standards for all students"

School and District Environment

"Has served in leadership roles on campus"

Focus Group

What does effective mathematics instruction look like?

Students engaged; hands-on; teacher guiding; teacher led instruction followed by students discovering; effective communication in variety of ways

How well do your colleagues understand this?

Test-performance is perceived as the single most important criterion; deficit understanding of effective mathematics instruction; not enough done to make students love math

How well do administrators understand this?

Content background of administrators makes difference; sharing and collaboration is not valued; no content focus; micromanaging tendency

In what ways has the RU-MTF program affected your beliefs about equity and diversity issues in mathematics?

Self-realization of deficit personal perspectives; evolved in to having a wider scope; more attentive to diverse students; reflection writing is great!

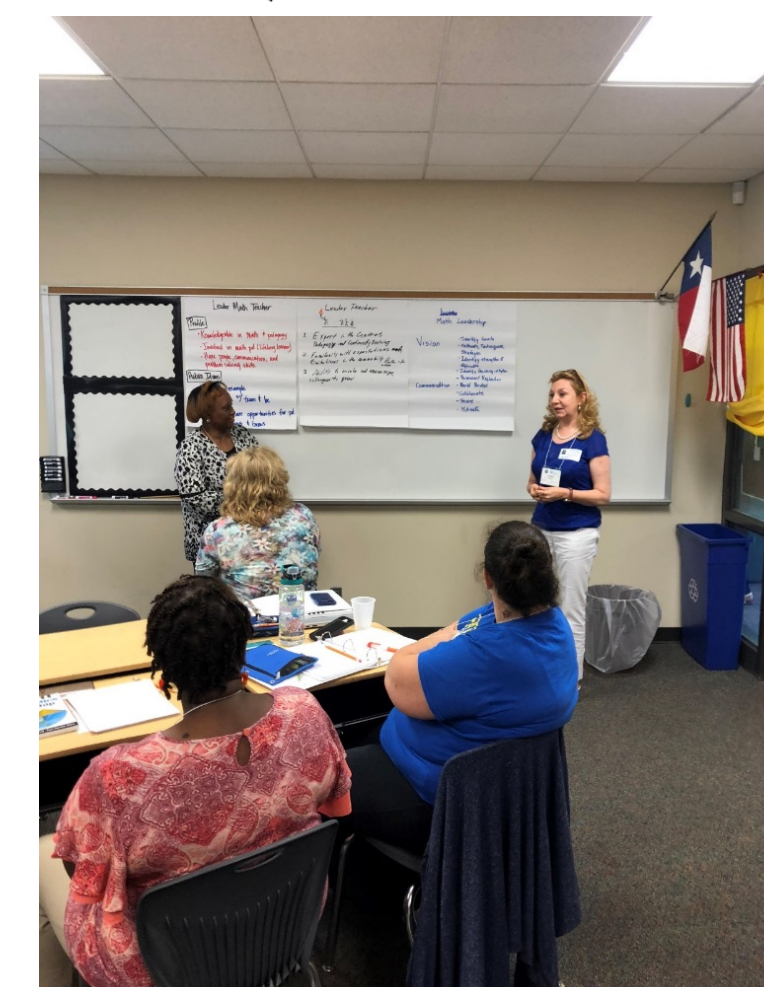
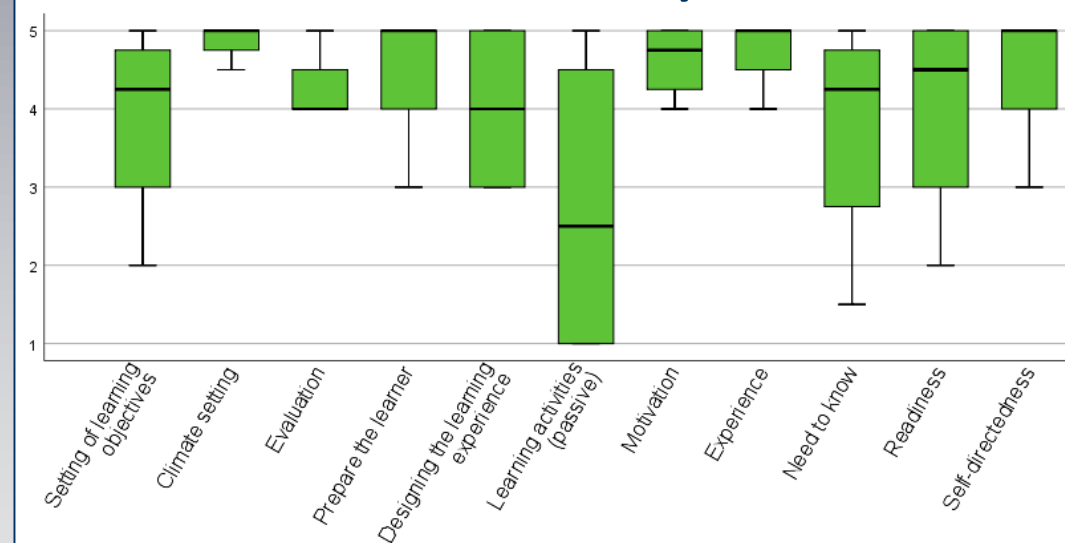
What leadership roles have you assumed on your campus, in your community since RU-MTF?

Changed from closed/individual to collaborative style; learned about every aspect of organizing a workshop/program

How important is community connectedness for your work?

Parent and stakeholder involvement is vital; community engagement supports education

Andragogical Practices Inventory



References

[1] York-Barr, J. & Duke, K. (2004). What do we know about teacher leadership? Findings from two decades of scholarship. *Review of Educational Research*, 74, 255-316.

[2] National Council of Teachers of Mathematics. (2000). *Principles and standards for school mathematics*. Reston, VA: NCTM.

[3] Hill, H. C., Ball, D. L., & Schilling, S. G. (2008). Unpacking pedagogical content knowledge: Conceptualizing and measuring teachers' topic-specific knowledge of students. *Journal for Research in Mathematics Education*, 39(4), 372-400.

[4] Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher*, 38(3), 181-199.

[5] Darling-Hammond, L., Hyster, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Palo Alto, CA: Learning Policy Institute.

[6] Loucks-Horsley, S., Stiles, K. E., Mundry, S., Love, N., & Hewson, P. W. (2010). *Designing professional development for teachers of science and mathematics*. Thousand Oaks, CA: Corwin.

[7] Gutiérrez, R. (2008). A "gap-gazing" fetish in mathematics education? Problematising research on the achievement gap. *Journal for Research in Mathematics Education*, 357-364.

[8] Ladson-Billings, G. (1994). What we can learn from multicultural education research. *Educational Leadership*, 51(8), 22-26.

[9] Holton, E. F., Wilson, L. S., & Bates, R. A. (2009). Toward development of a generalized instrument to measure andragogy. *Human Resource Development Quarterly*, 20(2), 169-193.

[10] Mills, S. J., Huerta, J. J., Watt, K. M., & Martinez, J. (2014). AVID teacher leadership: Administrator and teacher perceptions of leadership attributes. *Journal of School Leadership*, 24(1), 146-163.