

Ed Prep x Family Math Bibliography 2018 - 2025

This bibliography represents a curated compilation of research from 2018–2026 examining the intersection of mathematics teacher preparation and family and community engagement. It is not intended to be exhaustive; rather, it highlights a strategically selected set of peer-reviewed studies, books, and conference proceedings that collectively illuminate key dimensions of this emerging area of work. The selection reflects a focus on scholarship that either directly addresses how mathematics teachers are prepared to engage families or provides critical insight into the role of families, communities, and cultural contexts in mathematics teaching and learning.

The bibliography is organized into six thematic categories that, taken together, illustrate both the breadth of the field and the gaps that remain:

- **Family Math & Home/Community-Based Learning** includes research demonstrating that children’s mathematical thinking is deeply rooted in everyday interactions within families and communities, underscoring the importance of pre-service teachers recognizing and building on these contexts in math education.
- **Teacher Preparation for Family & Community Engagement** highlights studies that explicitly examine how pre-service teachers are prepared to engage families, including coursework, clinical experiences, and structured interventions designed to shift beliefs and practices.
- **Community-Engaged & Culturally Sustaining Pedagogies** brings together work that positions families and communities as sources of knowledge and partners in learning, emphasizing culturally grounded and asset-based approaches to mathematics education.
- **Equity, Identity, and Social Justice in Mathematics Education** includes scholarship that situates mathematics learning within broader social, cultural, and political contexts, emphasizing the role of identity, race, and power and the need for humanizing and equitable approaches to teaching.
- **Teacher Learning, Noticing, and Professional Growth** draws on research that examines how teachers develop professionally, including how they learn to interpret and respond to students’ thinking and contextual factors, providing a theoretical foundation for designing effective preparation experiences.
- **Practice-Based & Experiential Learning** features studies that offer concrete examples of applied learning opportunities (such as family math nights, community-based projects, and modeling tasks) that illustrate how teacher preparation can connect theory to practice.

Together, these categories reveal a growing but still fragmented body of knowledge. While there is strong evidence that families and communities play a critical role in mathematics learning, and emerging examples of how teacher preparation can incorporate this understanding, relatively few efforts bring these strands together in a coherent, systematic approach to preparing mathematics teachers to engage families as partners in learning. This compilation is intended to support ongoing efforts to synthesize the field and inform the development of more integrated models of mathematics teacher preparation.

We view this bibliography as a living document. If you have relevant research to contribute, please contact us at casphem@nafsce.org so that we can continue to expand and update this resource.

Family Math & Home/Community-Based Learning

Civil, M., & Quintos Alonso, B. (2022). Mothers and children doing mathematics together: Implications for teacher learning. *Teachers College Record*, 124, 13-29.
<https://doi.org/10.1177/01614681221105008>

Colen, J. Y., Colen, Y. S., & Pak, B. (2025). Enhancing STEM education through collaborative game nights. In L. Sun & C.-Y. Lin (Eds.), *Cases on informal learning for science and mathematics education* (pp. 337–404). IGI Global.
<https://doi.org/10.4018/979-8-3693-1894-2.ch012>

DePascale, M., & Ramani, G. (2025). *The role of math games for children's early math learning: A systematic review*. *Journal of Numerical Cognition*, 11, Article e14897.
<https://doi.org/10.5964/jnc.14897>

Quintos, B., Civil, M., & Bratton, J. (2019). Promoting change through a formative intervention: Contradictions in mathematics education parental engagement. *Mind, Culture, and Activity*, 26(2), 171–186. <https://doi.org/10.1080/10749039.2019.1602656>

Stoehr, K. J., Salazar, F., & Civil, M. (2022). The power of mothers and teachers engaging in a mathematics bilingual collaboration. *Teachers College Record*, 124(5), 30–48.
<https://doi.org/10.1177/01614681221103947>

Teacher Preparation for Family & Community Engagement

Ramirez, O., Galarza, M. O., & Fernández, L. M. (2024). Using a two-way engagement community- and family-centered pedagogy to prepare pre-service mathematics teachers in a Hispanic-serving institution. *Teaching for Excellence and Equity in Mathematics*, 15(1). <https://doi.org/10.63966/teem.v15i1.1535>

Hinojosa, D. M., & Bonner, E. P. (2023). The community mathematics project: Using a parent tutoring program to develop sense-making skills in novice mathematics educators. *Mathematics Education Research Journal*, 35(3), 497–524. <https://doi.org/10.1007/s13394-021-00401>

Kelley, T. L. (2020). *Examining pre-service elementary mathematics teacher perceptions of parent engagement through a funds of knowledge lens*. *Teaching and Teacher Education*, 91, Article 103057. <https://doi.org/10.1016/j.tate.2020.103057> Kye, H. (2023). Framework to field: Preparing preservice teachers to engage diverse families through science. *Journal of Early Childhood Teacher Education*, 44(1), 66–79. <https://doi.org/10.1080/10901027.2021.1990167>

Stoehr, K. J., Rodriguez-Mojica, C., & Bravo, M. (2026). A mix of knowledge: Preservice teachers' shifting beliefs about parents' mathematics knowledge. *Journal of Education*, 206(2) 142-154 <https://doi.org/10.1177/00220574251357547>

Tinajero, J., An, S., Tillman, D., & Tinajero, R. (2025). "A family math day": Analysis of pre-service elementary teachers' instructional plans for supporting emergent bilingual students. *Learning: Research and Practice*, 11(2), 244–261. <https://doi.org/10.1080/23735082.2025.2485877>

Vomvoridi-Ivanovic, E., van Ingen Lauer, S., & Ward, J. (2025). Mathematics teacher educators brokering caregiving experiences to enhance communication with families. *Educational Studies in Mathematics*. <https://doi.org/10.1007/s10649-025-10408-x>

Zhou, L. (2025). Transforming preservice teachers in teaching mathematics through family math night: Community-based learning in an urban context. *Journal of Urban Mathematics Education*, 18(1), 12–30. <https://doi.org/10.21423/jume-v18i1a690>

Community-Engaged & Culturally Sustaining Pedagogies

Harper, F., Stumbo, Z., & Kim, N. (2021). When robots invade the neighborhood: Learning to teach PreK–5 mathematics leveraging both technology and community knowledge. *Contemporary Issues in Technology and Teacher Education*, 21(1), 19–52. <https://citejournal.org/volume-21/issue-1-21/mathematics/when-robots-invade-the-neighborhood-learning-to-teach-prek-5-mathematics-leveraging-both-technology-and-community-knowledge>

Leung, S.-K. S. (2025). Mathematics problem posing in action: Students' learning, teachers' professional development, and parental involvement. Springer. <https://doi.org/10.1007/978-981-96-8480-9>

Quintos, B., Buli, T., Steflitsch, D., & Martin-Beltrán, M. (2025). Lesson study with caregivers as a resource for a culturally sustaining mathematics pedagogy for multilingual learners. *Educational Studies in Mathematics*. <https://doi.org/10.1007/s10649-025-10407-y>

Yi, J., Jung, H., & Sourwine, J. (2025). Preservice teachers posing mathematical modeling problems for culturally and linguistically diverse learners. *Discover Education*, 4, Article 538. <https://doi.org/10.1007/s44217-025-00955-z>

Equity, Identity, and Social Justice in Mathematics Education

Gilbert, A., Suh, J., & Choudhry, F. (2025). Exploring the development of preservice teachers' visions of equity through science and mathematics integration. *International Journal of Science and Mathematics Education*, 23(2), 489–514. <https://doi.org/10.1007/s10763-024-10467-1>

Jung, H., & Magiera, M. T. (2023). Connecting mathematical modeling and social justice through problem posing. *Mathematical Thinking and Learning*, 25(2), 232–251. <https://doi.org/10.1080/10986065.2021.1966713>

Danny Bernard Martin, Valoyes-Chávez, L., & Valero, P. (2024). Race, racism, and racialization in mathematics education: Global perspectives. *Educational Studies in Mathematics*, 116(3), 313–331. <https://doi.org/10.1007/s10649-024-10346-0>

Nolan, K. T., & Xenofontos, C. (2023). The role of insights in becoming a culturally responsive mathematics teacher. *Education Sciences*, 13(10). <https://doi.org/10.3390/educsci13101028>

Yeh, C. (2023). DisCrit noticing: Theorizing at the intersections of race and ability in mathematics education. *School Science and Mathematics*, 123(8), 417–431. <https://doi.org/10.1111/ssm.12628>

Yeh, C., Martinez, R., Rezvi, S., et al. (2021). Radical love as praxis: Ethnic studies and teaching mathematics for collective liberation. *Journal of Urban Mathematics Education*, 14(1), 71–95. <https://doi.org/10.21423/jume-v14i1a418>

Yeh, C., Bianco, K., Asato, K., Thanheiser, E., Victoria, B., Roady, N., Elliott, R., & Heaton, R. (2022). Navigating the white space of mathematics: Lessons learned from mathematics teacher educators of color. In *Proceedings of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (1512-1520) <https://doi.org/10.51272/pmena.44.2022>

Teacher Learning, Noticing, and Professional Growth

Desai, S., Safi, F., B. Bush, S., Wilkerson, T., Andreasen, J., & Orey, D. C. (2022). Ethnomodeling: Extending mathematical modeling research in teacher education. *Investigations in Mathematics Learning*, 14(4), 305–319 <https://doi.org/10.1080/19477503.2022.2139092>

Jessup, N. A. (2023). Exemplifying the situated nature of teacher noticing: Elementary teachers' use of insider knowledge. *School Science and Mathematics*, 123(8), 502–514. <https://doi.org/10.1111/ssm.12598>

Kurz, T. L., & Ganesh, T. G. (2025). Bridging theory and practice through family math night. In D. Polly & C. S. Martin (Eds.), *Elevating clinical practice in mathematics education: Cases that showcase teaching practices in action* (pp. 105–117). Emerald Publishing.

Machalow, R., Goldsmith-Markey, L. T., & Janine T. Remillard (2022). Critical moments: Pre-service mathematics teachers' narrative arcs and mathematical orientations over 20 years. *Journal of Mathematics Teacher Education*, 25(1), 35–61. <https://doi.org/10.1007/s10857-020-09479-9>

Practice-Based & Experiential Learning

Carlisle, W. R., Jung, H., Wickstrom, M. H., Sutcliffe, K., & Kim, H. J. (2025). Insights into pothole damage: Exploring culturally responsive mathematical modeling. *International Journal of Science and Mathematics Education*, 23(4), 1013–1032. <https://doi.org/10.1007/s10763-024-10492-0>

Carlson, M. A., Turner, E., Suh, J., & Aguirre, J. (2023). Unpacking equity-oriented teaching dilemmas in elementary mathematical modeling lessons. In *Proceedings of the North American Chapter of the International Group for the Psychology of Mathematics Education*. 2, 558-566.

Sutcliffe, K., Enrique Hernández-Zavaleta, J., & Jung, H. (2025). Designing a temporary skate-safe area. Mathematics Teacher: Learning and Teaching PK–12, 118(10), 769–773.
<https://doi.org/10.5951/MTLT.2025.0040>