

Additional Resources for EMS Teacher Educators and EMSs

This list includes standards and policy documents as well as recommended research and resources to support EMS Teacher Educators including EMSs with designing elementary teacher professional learning focused on content, pedagogy, and leadership. Items with an asterisk are also specifically referenced in the *Guidelines for Preparing and Supporting Elementary Mathematics Specialists* (AMTE, 2024).

PK-12 Standards and Policy Guidelines

- *Bargagliotti, A. Franklin, C., Arnold, P., Gould, R., Johnson, S., Perez, L., & Spangler, D. (2020). *Pre-K-12 guidelines for assessment and instruction in statistics education II (GAISE II): A framework for statistics and data science education*. American Statistical Association. <https://www.amstat.org/asa/education/Guidelines-for-Assessment-and-Instruction-in-Statistics-Education-Reports.aspx>
- Common Core Standards Writing Team. (2022). *Progressions for the common core state standards for mathematics*. Tucson, AZ: Institute for Mathematics and Education, University of Arizona.
- *Consortium for Mathematics and Its Applications (COMAP) and Society for Industrial and Applied Mathematics (SIAM). (2019). *Guidelines for assessment and instruction in mathematical modeling (GAIMME report), 2nd Edition*. <https://www.siam.org/publications/reports/detail/guidelines-for-assessment-and-instruction-in-mathematical-modeling-education>
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- *National Council of Teachers of Mathematics. (2000). *Principles and standards for school mathematics*.
- National Council of Teachers of Mathematics. (2006). *Curriculum focal points for prekindergarten through grade 8 mathematics: A quest for coherence*.
- *National Council of Teachers of Mathematics. (2020). *Catalyzing change in early childhood and elementary mathematics: Initiating critical conversations*.
- National Governors Association Center for Best Practices & Council of Chief State School Officers. (2010). *Common core state standards for mathematics*. <https://learning.ccsso.org/wp-content/uploads/2022/11/ADA-Compliant-Math-Standards.pdf>
- *National Research Council [NRC]. (2001). *Adding it up: Helping children learn mathematics*. National Academies Press. <https://doi.org/10.17226/9822>

Teacher Preparation Standards and Policy Guidelines

- *Association of Mathematics Teacher Educators. (2017). *Standards for preparing teachers of mathematics*. <https://amte.net/standards>
- *American Statistical Association. (2015). *Statistical education of teachers*. <https://www.amstat.org/asa/files/pdfs/EDU-SET.pdf>
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- *Conference Board of the Mathematical Sciences. (2012). *The mathematical education of teachers II*. American Mathematical Society and Mathematical Association of America. <https://www.cbmsweb.org/the-mathematical-education-of-teachers/>
- Ma, L. (2020). *Knowing and teaching elementary mathematics: Teachers' understanding of fundamental mathematics in China and the United States, 20th anniversary edition*. Routledge. <https://doi.org/10.4324/9781003009443>
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-23. <https://doi.org/10.17763/haer.57.1.j463w79r56455411>

Teacher Leader Preparation Standards and Policy Guidelines

- *Association of Mathematics Teacher Educators. (2013). *Standards for elementary mathematics specialists: A reference for teacher credentialing and degree programs*. https://amte.net/sites/all/themes/amte/resources/EMS_Standards_AMTE2013.pdf
- Association of Mathematics Teacher Educators. (2024). *Guidelines for preparing and supporting elementary mathematics specialists*. https://amte.net/sites/amte.net/files/EMS%20Standards%202024_AMTE.pdf
- Center for Strengthening the Teaching Profession. *Teacher leadership skills framework*. <https://cstp-wa.org/teacher-leadership-skills-framework/>
- Teacher Leadership Exploratory Consortium. (2011). *Teacher leader model standards*. https://www.nea.org/sites/default/files/2020-07/teacher_leader_model_standards.pdf
- Sutton, J. T., Burroughs, E. A., & Yopp, D. A. (2011). Coaching knowledge: Domains and definitions. *Journal of Mathematics Education Leadership*, 13(2), 12-20.

Cross-Cutting Resources

- Arnold, E. G., Burroughs, E. A., Carlson, M. A., Fulton, E. W., & Wickstrom, M. W. (2021). *Becoming a teacher of mathematical modeling grades K-5*. National Council of Teachers of Mathematics.
- Bartell, T. G., Yeh, C., Felton-Koestler, M. D., & Berry III, R. Q. (2022). *Upper elementary mathematics lessons to explore, understand, and respond to social injustice*. Corwin Press.

- *Carpenter, T. P., Fennema, E., Franke, M. L., & Empson, S. (2015). *Children's mathematics: Cognitively Guided Instruction*. Heinemann.
- *Carpenter, T. P., Franke, M. L., & Levi, L. (2003). *Thinking mathematically: Integrating arithmetic and algebra in elementary school*. Heinemann.
- *Carpenter, T. P., Franke, M. L., Johnson, N. C., Turrou, A. C., & Wager, A. A. (2017). *Young children's mathematics: Cognitively Guided Instruction in early childhood education*. Heinemann.
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- *Empson, S. B., & Levi, L. (2011). *Extending children's mathematics: Fractions and decimals*. Heinemann.
- Koestler, C., Ward, J., del Rosario Zavala, M., & Bartell, T. G. (2022). *Early elementary mathematics lessons to explore, understand, and respond to social injustice*. Corwin.
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- *National Council of Teachers of Mathematics. (2020). *Catalyzing change in early childhood and elementary mathematics: Initiating critical conversations*.
- Van de Walle, J. A., Karp, K. S., & Bay-Williams, J. M. (2023). *Elementary and middle school mathematics: Teaching developmentally* (11th ed.). Pearson.
- Small, M. (2019). *Understanding the math we teach and how to teach it K-8*. Stenhouse.

Content-Focused Resources

- *Blanton, M. L. (2008). *Algebra and the elementary classroom: Transforming thinking, transforming practice*. Heinemann.
- *Blanton, M. L., & Kaput, J. J. (2003). Developing elementary teachers' algebra eyes and ears. *Teaching Children Mathematics*, 10(2), 70-77. <https://doi.org/10.5951/TCM.10.2.0070>
- Driscoll, M. (1999). *Fostering algebraic thinking: A guide for teachers grades 6-10*. Heinemann.
- *Driscoll, M. (2007). *Fostering geometric thinking: A guide for teachers grades 5-10*. Heinemann.
- McNamara, J., & Shaughnessy, M. M. (2015). *Beyond pizzas and pies, second edition*. Math Solutions.
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- Petit, M. M., Laird, R. E., & Marsden, E. L. (2010). *A focus on fractions*. Routledge.
<https://doi.org/10.4324/9780203855515>
- Russell, S. J., Schifter, D., Kasman, R., Bastable, V., & Higgins, T. (2017). *But why does it work? Mathematical argumentation in the elementary classroom*. Heinemann.
- Schifter, D., Bastable, V., & Russell, S. J. (2016). *Building a system of tens casebook: Calculating with whole numbers and decimals*. National Council of Teachers of Mathematics.
- Schifter, D., Bastable, V., & Russell, S. J. (2016). *Making meaning for operations casebook: In the domains of whole numbers and fractions*. National Council of Teachers of Mathematics.

- *Schifter, D., Bastable, V., & Russell, S. J. (2017). *Measuring space in one, two, and three dimensions casebook*. National Council of Teachers of Mathematics.
- Schifter, D., Bastable, V., & Russell, S. J. (2017). *Reasoning algebraically about operations casebook: In the domains of whole numbers and integers*. National Council of Teachers of Mathematics.
- Schifter, D., Bastable, V., & Russell, S. J. (2018). *Examining features of shape casebook*. National Council of Teachers of Mathematics.
- Schifter, D., Bastable, V., & Russell, S. J. (2018). *Modeling with data casebook*. National Council of Teachers of Mathematics.
- Schifter, D., Bastable, V., & Russell, S. J. (2019). *Patterns, functions, and change casebook*. National Council of Teachers of Mathematics.

Pedagogy-Focused Resources

- *Aguirre, J. M., Mayfield-Ingram, K., & Martin, D. (2024). *The impact of identity in K-12 mathematics learning and teaching: Rethinking equity-based practices*. National Council of Teachers of Mathematics.
- Allsopp, D. H., Lovin, L. H., & van Ingen, S. (2018). *Teaching mathematics meaningfully: Solutions for reaching struggling learners*. Paul H. Brookes Publishing.
- *Chval, K. B., Smith, E., Trigos-Carrillo, L., & Pinnow, R. J. (2021). *Teaching math to multilingual students: Positioning English learners for success*. National Council of Teachers of Mathematics.
- *Cohen, E. G., & Lotan, R. A. (2014). *Designing groupwork: strategies for the heterogeneous classroom third edition*. Teachers College Press.
- *Fennell, F., Kobett, B. M., & Wray, J. A. (2024). *The formative 5 in action, grades K-12*. Corwin.
- *Huinker, D., & Bill, V. (2017). *Taking action: Implementing effective mathematics teaching practices in K-grade 5*. National Council of Teachers of Mathematics.
- Kazemi, E., & Hintz, A. (2014). *Intentional talk: How to structure and lead productive mathematical discussions*. Stenhouse. <https://doi.org/10.4324/9781032681337>
- *Kobett, B. M., & Karp, K. S. (2020). *Strengths-based teaching and learning in mathematics: Five teaching turnarounds for grades K-6*. Corwin.
- *National Council of Teachers of Mathematics. (2014). *Principles to actions: Ensuring mathematics success for all*.
- *Seda, P., & Brown, K. (2021). *Choosing to see: A framework for equity in the math classroom*. Dave Burgess Consulting, Inc.
- Small, M. (2020). *Good questions: Great ways to differentiate mathematics instruction* (4th ed.). Teacher College Press.
- *Smith, M. S., Bill, V., & Sherin, M. G. (2020). *The 5 practices in practice: Successfully orchestrating mathematics discussions in your elementary classroom*. Corwin.
- *Smith, M. S., & Stein, M. K. (2018). *5 practices for orchestrating productive mathematics discussions* (2nd ed.). National Council of Teachers of Mathematics.

*Tan, P., Padilla, A., Mason, E. N., & Sheldon, J. (2019). *Humanizing disability in mathematics education. Forging new paths*. National Council of Teachers of Mathematics.

Leadership-Focused Resources

- Aguilar, E. (2020). *Coaching for equity: Conversations that change practice*. Jossey-Bass.
- Baker, C., & Knapp, M. (2023). *Proactive mathematics coaching: Bridging content, context, and practice*. National Council of Teachers of Mathematics.
- Barnes, B., & Toncheff, M. (2016). *Activating the vision: The four keys of mathematics leadership*. Solution Tree & National Council of Teachers of Mathematics.
- Campbell, P. F., Ellington, A. J., Haver, W. E., & Inge, W. L. (Eds.)(2013). *The elementary mathematics specialist's handbook*. National Council of Teachers of Mathematics.
- Croft, A., Coggshall, J. G., Dolan, M., Powers, E., & Killion, J. (2010). *Job-embedded professional development: What is it, who is responsible and how to get it done well*. Issue Brief April 2010. Washington, DC: National Comprehensive Center for Teacher Quality.
- Doerr, H. M., Goldsmith, L. T., & Lewis, C. C. (2010). *Mathematics professional development, A National Council of Teachers of Mathematics Research Brief*. National Council of Teachers of Mathematics.
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- and students, A National Council of Teachers of Mathematics Research Brief.* National Council of Teachers of Mathematics.
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