

D'Anna Pynes
Curriculum Vitae

Institute for Educational Initiatives
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Education

- Ph.D. STEM Education, University of Texas at Austin
- Dissertation: *Teachers' collective noticing of children's mathematical thinking in self-facilitated collaborative inquiry*. Advisors: Anthony J. Petrosino & Susan B. Empson
- B. S. Applied Learning and Development, University of Texas at Austin

Previous Certifications

Texas Generalist, EC-4, 4-8

Texas English as a Second Language, Supplemental, EC-8

Professional Experience

University of Notre Dame, Institute for Educational Initiatives <i>Assistant Professor of the Practice</i>	Present
University of Michigan, School of Education <i>Lab Manager, Advancing Critical Consciousness, Methods & Equity</i>	2021-2022
University of Michigan, School of Education <i>Postdoctoral Research Fellow</i>	2018-2021
University of Texas at Austin, College of Education <i>Graduate Research Assistant</i> <i>Assistant Instructor</i>	2013-2018 Fall 2016
Region XIII, Teaching and Learning <i>Regional Elementary Science Specialist</i>	2012-2013
Pflugerville ISD, Curriculum and Instruction <i>District Elementary Science Specialist</i>	2011-2012
Pflugerville ISD, Highland Park Elementary <i>Classroom Teacher</i>	2006-2011

Publications and Proceedings

- Pynes, D., Kloser, M., Wagner, C., Szopiak, M., Wilsey, M., Svarovsky, G., & Trinter, C. (2024). Bridging theory and practice: A framework for STEM teacher leadership. <https://doi.org/10.1111/ssm.12686>
- Robutti, O., Trouch, L., Cusi, A., Psycharis, G., Kumar, R., & Pynes, D. (2024). Tools and resources used/created for teacher collaboration and resulting from teacher collaboration. To appear in H. Borko & D. Potari (Eds.) *Teachers of Mathematics Working and Learning in Collaborative Groups. New ICMI Study Series*. Springer, Cham. https://doi.org/10.1007/978-3-031-56488-8_5
- Jacobs, V. R., Empson, S. B., Jessup, N., Dunning, A., Pynes, D., Krause, G., Franke, T. M. (2022). Profiles of teachers' expertise in professional noticing of children's mathematical thinking. *Journal of Mathematics Teacher Education*. Advance online publication. <https://doi.org/10.1007/s10857-022-09558-z>
- Jacobs, V. R., Empson, S. B., Case, J. M., Dunning, A., Jessup, N., Krause, G., Pynes, D. (2022). A new twist on fraction equations. *Mathematics Teacher: Learning and Teaching PK-12*, 115(12), 859-866. <https://doi.org/10.5951/MTLT.2022.0105>
- Garcia, N., Shaughnessy, M., Blunk, M., Mortimer, J., Pynes, D., & Robinson, D. (2022, November). Exploring the impact of discussion-leading professional development on teachers' practice. In A. E. Lischka, E. B. Dyer, R. S. Jones, J. Lovett, J. Strayer, & S. Drown (Eds.), *Proceedings of the Forty-Fourth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1380-1388). Middle Tennessee State University.
- Shaughnessy, M., Garcia, N., & Pynes, D. (2021). Recording Student Thinking in a Mathematics Discussion. *Mathematics Teacher: Learning and Teaching PK-12*, 114(12), 926-232. <https://doi.org/10.5951/MTLT.2021.0117>
- Shaughnessy, M., Garcia, N., Mortimer, J., & Pynes, D. (2021, June). Challenges in improving and measuring mathematics discussion leading practice. In A.I. Sacristán, J.C. Cortés-Zavala & P.M. Ruiz-Arias, (Eds.), *Mathematics Education Across Cultures: Proceedings of the 42nd Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Mexico* (pp. 1968-1969). <https://doi.org/10.51272/pmena.42.2020>
- Empson, S. B., Jacobs, V. R., Jessup, N., Hewitt, A., Pynes, D., Krause, G. (2020). Unit fractions as superheroes for fraction instruction. *Mathematics Teacher: Learning and Teaching PK-12*, 113(4), 278-286. <https://doi.org/10.5951/MTLT.2018.0024>
- Pynes, D., Empson, S. B., Jacobs, V. (2020, February). Supporting Teachers in Self-Facilitated Collaborative Inquiry. *Proceedings of the Interactional Commission*

on Mathematical Instruction (ICMI) Study 25: Teachers of mathematics working and learning in collaborative groups, Lisbon, Portugal. Retrieved from https://www.mathunion.org/fileadmin/ICMI/ICMI%20studies/ICMI%20Study%2025/BaseProceedings4.24.2020_PageNumbers_FINAL.pdf

Boerst, T. A., Shaughnessy, M., DeFino, R., Blunk, M., Farmer, S. O., Pfaff, E., Pynes, D., (2019). Preparing Teachers to Formatively Assess: Connecting the Initial Capabilities of Preservice Teachers with Visions of Teaching Practice. C. Martin, D. Polly, & R. Lambert (Eds.), *Handbook of Research on Formative Assessment in Pre-K through Elementary Classrooms*.

Jacobs, V. R., Empson, S. B., Pynes, D., Hewitt, A., Jessup, N., & Krause, G., (2019). Responsive teaching in elementary mathematics (RTEM) project. P. Sztajn & P. H. Wilson (Eds.), *Designing Professional Development for Mathematics Learning Trajectories*.

Pynes, D., Empson, S. B., & Jacobs, V. R. (2016, November). Teachers' self-facilitated inquiry in noticing children's thinking. In M. B. Wood, E. E. Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the Thirty-Eighth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (p. 439). Tucson, AZ: University of Arizona.

Krause, G., Empson, S. B., Pynes, D., & Jacobs, V. R. (2016, November). Teachers' knowledge of children's strategies for equal sharing. In M. B. Wood, E. E. Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the Thirty-Eighth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 466–473). Tucson, AZ: University of Arizona.

Mann, M. J. and Pynes, D. (2016). In our neighborhood: Who's been here? *Science & Children*, 54(2), 49-55.

Presentations

Kloser, M., Özülkü, E., Wagner, C., Bullinger, S., Ostdiek, L., Malkani, A., Meuninck, A., Pynes, D. (2023, April). Qualitative cases of science teaching practice: Comparing instruction based on VAM ratings. *Presentation at the 96th Annual Conference of the National Association for Research in Science Teaching*, Chicago, IL.

Boerst, T., Shaughnessy, M., & Pynes, D. (2021, February). Learning Mathematical Knowledge for Teaching in and from Simulations. *Presentation at the 25th Annual Conference of the Association of Mathematics Teacher Education*.

Pynes, D. (2020, February). Supporting Teachers in Self-Facilitated Collaborative Inquiry. *Presentation at the Interactional Commission on Mathematical Instruction (ICMI) Study 25: Teachers of mathematics working and learning in collaborative groups*, Lisbon, Portugal.

- Shaughnessy, M., Garcia, N., Mortimer, J., Pynes, D., & Ball, D. L. (2020, February). Practice-based Professional Development: Dilemmas in Balancing Pedagogies of Enactment and Pedagogies of Investigation. *Presentation at the 24th Annual Conference of the Association of Mathematics Teacher Education*, Phoenix, AZ.
- Pynes, D. (2019, June). Exploring Children's Thinking with Colleagues. *Presentation at the 10th Cognitively Guided Instruction (CGI) National Conference*, Minneapolis, MN.
- Pynes, D., Garcia, N., & Shaughnessy, M. (2019, June). Discussions: Learning from Others' Ideas. *Presentation at the 10th Cognitively Guided Instruction (CGI) National Conference*, Minneapolis, MN.
- Garcia, N., Mortimer, J., Pfaff, E., Pynes, K., & Shaughnessy, M. (2019, April). Components of Professional Development that Lead to Change in Teaching. *Presentation for the Research Conference of the 2019 Annual Meeting of the National Council of Teachers of Mathematics*, San Diego, CA.
- Jessup, N., & Pynes, D. (2019, April). Teachers' Use of Insider Knowledge when Noticing Children's Thinking. *Poster presentation for the Research Conference of the 2019 Annual Meeting of the National Council of Teachers of Mathematics*, San Diego, CA.
- Empson, S. B., Jacobs, V. R., Krause, G., Pynes, K. D., Jessup, N., & Hewitt, A. (2018, April) An expanded view of the instructional practice of anticipating children's mathematical thinking. *Paper presentation at the 2018 annual meeting of the American Educational Research Association*, New York, NY.
- Empson, S., Jacobs, V., Pynes, D., Krause, G., Jessup, N., & Hewitt, A. (2017, June). Using equations to develop children's fraction thinking. *Presentation at the 9th Cognitively Guided Instruction (CGI) National Conference*, Seattle, WA.
- Hewitt, A., Jessup, N., Krause, G., Pynes, D., Jacobs, V., & Empson, S. (2017, June). The untapped power of unit fraction quantities for building children's fraction understanding. *Presentation at the 9th Cognitively Guided Instruction (CGI) National Conference*, Seattle, WA.
- Empson, S. B., Jacobs, V., Krause, G., Jessup, N., Hewitt, A., & Pynes, D. (2017, April–May). Core practices in elementary school teaching: Anticipating and noticing children's mathematical thinking. *Roundtable paper presentation at the 2017 annual meeting of the American Educational Research Association*, San Antonio, TX.
- Jacobs, V., Empson, S., Pynes, D., Hewitt, A., Jessup, N., & Krause, G. (2017, April–May). Prioritizing practice in professional development: Anticipating, noticing, and questioning children's mathematical thinking. In J. Richards (chair), Exploring varied approaches to supporting responsive teaching in science and mathematics. *Symposium presentation at the 2017 annual meeting of the American Educational Research Association*, San Antonio, TX.

- Pynes, D., Krause, G., & Empson S. (2017, April). The power of unit-fraction quantities for building children's understanding. *Presentation at the annual meeting of the National Council of Teachers of Mathematics*, San Antonio, TX.
- Mann, M. J. and Pynes, D. (2016, March). Using effective project-based learning in a third grade science classroom. *Paper presented at the Texas Academy of Science*, Junction, TX.
- Krause, G., Pynes, D., & Empson S., (2015, June). Notating fractional relationships. *Presentation at the 8th Cognitively Guided Instruction (CGI) National Conference*, Lawndale, CA.
- Jacobs, V. R., Empson, S. B., Krause, G., & Pynes, D. (2015, April). Responsive teaching with fractions. *Paper presentation for the Research Conference of the 2015 Annual Meeting of the National Council of Teachers of Mathematics*, Boston, MA.
- Mann, M. J. and Pynes, D. (2013, November). Who's been here: Overview of a PBL unit for third grade. *Presentation at the Conference for the Advancement of Science Teaching*, Houston, TX.

Media and Design Work

- Empson, S. B., Jacobs, V., & Pynes, D. (2016). Online application for teachers' collaborative inquiry into children's mathematical thinking. 12 sessions.