

## AMY J. HACKENBERG

Dept. of Curriculum and Instruction  
201 N. Rose Avenue  
Wright Education Building 3060  
Bloomington, IN 47405

W: (812) 856-8223  
H: (812) 345-3577  
ahackenb@iu.edu

### ***EDUCATION***

Ph.D. Mathematics Education, The University of Georgia, Athens, Georgia, August 2005  
Certificate of Qualitative Inquiry, The University of Georgia, Athens, Georgia, August 2005  
*Dissertation title:* "Construction of Algebraic Reasoning and Mathematical Caring Relations"  
*Advisor:* Leslie P. Steffe

M.A.T. Mathematics Education, University of Chicago, Chicago, Illinois, August 1992  
*Thesis title:* "Getting Students Started Using Writing to Learn Mathematics"  
*Advisor:* Zalman Usiskin

B.A. Visual and Environmental Studies, Harvard-Radcliffe University, Cambridge, Massachusetts, June 1988

### ***UNIVERSITY EXPERIENCE and APPOINTMENTS***

|                           |   |
|---------------------------|---|
| July 2014-present         | Associate Professor, Indiana University, Bloomington, Indiana.    |
| June 2008-present         | Affiliate of the Cognitive Science Program, Bloomington, Indiana. |
| August 2007-June 2014     | Assistant Professor, Indiana University, Bloomington, Indiana.    |
| December 2005-June 2007   | Assistant Professor, Portland State University, Portland, Oregon. |
| August 2005-December 2005 | Part-time Assistant Professor, The University of Georgia, Athens. |

### ***K-12 SCHOOL EXPERIENCE and APPOINTMENTS***

|                       |   |
|-----------------------|---|
| August 1992-June 1999 | Mathematics teacher, extracurricular dance and T'ai Chi Chih teacher. Glenbrook South High School, Glenview, Illinois.                |
| June 1988-June 1991   | Mathematics teacher, assistant speech team coach, extracurricular T'ai Chi Chih teacher. Marlborough School, Los Angeles, California. |

### ***SELECTED HONORS and FELLOWSHIPS***

|  |               |
|--|---------------|
| Trustees Teaching Award, Indiana University-Bloomington                              | April 2022    |
| Trustees Teaching Award, Indiana University-Bloomington                              | April 2020    |
| Trustees Teaching Award, Indiana University-Bloomington                              | April 2016    |
| Trustees Teaching Award, Indiana University-Bloomington                              | April 2015    |
| Dissertation Completion Assistantship, The University of Georgia                     | August 2004   |
| Semi-finalist for Spencer Dissertation Fellowship                                    | February 2004 |
| Presidential Fellowship for three years of doctoral study, The University of Georgia | August 2000   |
| Curricular Initiative Commendation, Glenbrook South High School                      | June 1995     |
| Wilbur T. Beauchamp Memorial Fund Prize, University of Chicago                       | August 1992   |
| Joseph Klingenstein Summer Institute Fellow, Teachers' College, Columbia University  | June 1990     |
| Graduated <i>summa cum laude</i> , Harvard-Radcliffe University                      | June 1988     |

**PUBLICATIONS**

**Notes:** Identified as Research or Teaching publication in the left margin; P indicates blind peer-review; Single asterisk indicates IU doctoral student; double asterisk indicates I was dissertation director; All publications from Hackenberg (2013) in the *Journal of Mathematical Behavior* have been published since tenure.

- R     **Hackenberg, A. J.** & Sevinc\*, S. (2022). Middle school students' construction of reciprocal  
P     reasoning with unknowns. *Journal of Mathematical Behavior*.  
<https://doi.org/10.1016/J.JMATHB.2021.100929> [70% authorship]
- R     **Hackenberg, A. J.**, Walsh\*, P. A., & Valero\*, J. (2021). A case of units coordination stage  
P     change in middle school. To appear in (Eds.), *Proceedings of the Forty-third Annual  
Meeting of the North American Chapter of the International Group for the Psychology  
of Mathematics Education*. Philadelphia, PA: Towson University. [80% authorship]
- R     **Hackenberg, A. J.** & Sevinc\*, S. (2021). A boundary of the second multiplicative concept:  
P     The case of Milo. *Educational Studies in Mathematics*. <https://doi.org/10.1007/s10649-021-10083-8> [70% authorship]
- R     **Hackenberg, A. J.**, Aydeniz\*\*, F., & Jones\*, R. (2021). Middle school students' construction  
P     of quantitative unknowns. *Journal of Mathematical Behavior*, 61, 100832.  
<https://doi.org/10.1016/j.jmathb.2020.100832> [70% authorship]
- R     **Hackenberg, A. J.**, Creager\*, M. & Eker\*, A. (2021). Teaching practices for differentiating  
P     instruction. *Mathematical Thinking and Learning*, 23(2), 95-124.  
<https://doi.org/10.1080/10986065.2020.1731656> [80% authorship]
- T     **Hackenberg, A. J.**, Jones\*, R., & Borowski\*\*, R. (2020). Tiering instruction for middle  
P     school students. *Mathematics Teacher: Learning and Teaching PK-12*, 113(2), 124-  
131. <https://www-jstor-org.proxyiub.uits.iu.edu/stable/10.5951/mtlt.2018.0048> [80%  
authorship]
- T     Tabor, P. D., Dibley, D., **Hackenberg, A. J.**, & Norton, A. (2020). *Numeracy for all learners:  
Teaching mathematics to students with special needs*. London: SAGE. [10%  
authorship]
- R     **Hackenberg, A. J.**, Aydeniz\*\*, F., & Matyska\*, R. (2019). Tiering instruction on speed for  
P     middle school students. In Otten, S., Candela, A., de Araujo, Z., Haines, C., & Munter,  
C. (Eds.), *Proceedings of the Forty-first Annual Meeting of the North American  
Chapter of the International Group for the Psychology of Mathematics Education* (pp.  
1396-1404). St. Louis, MO: University of Missouri. [80% authorship]
- R     **Hackenberg, A. J.**, Aydeniz\*\*, F., Jones\*, R., & Borowski\*\*, R. (2017). Students' meanings  
P     for extensive quantitative unknowns. In Galindo, E. & Newton, J. (Eds.), *Proceedings  
of the Thirty-ninth Annual Meeting of the North American Chapter of the International  
Group for the Psychology of Mathematics Education* (pp. 311-314). Indianapolis, IN:  
Hoosier Association of Mathematics Teacher Educators. [80% authorship]

- R **Hackenberg, A. J.**, Jones\*, R., Eker\*, A., & Creager\*, M. (2017). “Approximate”  
P multiplicative relationships between quantitative unknowns. *Journal of Mathematical Behavior*, 48, 38-61. [80% authorship]
- R Jones\*, R., Aydeniz\*\*, F., & **Hackenberg, A. J.** (2017). Exploring differentiation with middle  
P school teachers. In Galindo, E. & Newton, J. (Eds.), *Proceedings of the Thirty-ninth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (p. 1269). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators. [20% authorship]
- R Tillema, E. S., & **Hackenberg, A. J.** (2017). Three facets of equity in Steffe’s research  
P programs. In Galindo, E. & Newton, J. (Eds.), *Proceedings of the Thirty-ninth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 57-67). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators. [50% authorship]
- R **Hackenberg, A. J.**, & Lee\*, M. Y. (2016). Students’ distributive reasoning with fractions and  
P unknowns. *Educational Studies in Mathematics*, 93(2), 245-263. [90% authorship]
- T **Hackenberg, A. J.**, Norton, A. H., Wright, R. J. (2016). *Developing fractions knowledge*.  
London: SAGE. [60% authorship]
- T **Hackenberg, A. J.**, Murray, E., Johnson, H., Blume, G., & Heid, M. K. (2015). Adding square  
P roots (Chapter 20). In M. K. Heid, P. W. Wilson, & G. W. Blume (Eds.). *Mathematical understanding for secondary teaching: A framework and classroom-based situations*. Information Age Publishing. [50% authorship]
- R **Hackenberg, A. J.**, & Lee\*, M. Y. (2015). Relationships between students’ fractional  
P knowledge and equation writing. *Journal for Research in Mathematics Education*, 46(2), 196-243. [80% authorship]
- R **Hackenberg, A. J.** (2014). Musings on three epistemic algebraic students. In L. P. Steffe, K.  
P C. Moore, & L. L. Hatfield (Eds.), *Epistemic algebraic students: Emerging models of students’ algebraic knowing* (Vol. 4 of WISDOM<sup>e</sup> monographs, pp. 81-124). Laramie, WY: University of Wyoming Press.
- R Lee\*, M. Y., & **Hackenberg, A. J.** (2014). Relationships between fractional knowledge and  
P algebraic reasoning: The case of Willa. *International Journal of Science and Mathematics Education*, 12, 975-1000. <https://doi.org/10.1007/s10763-013-9442-8>  
[30% authorship]
- R Tillema, E. S., **Hackenberg, A. J.**, Ulrich, C., & Norton A. (2014). Authors’ response:  
P Interaction: A core hypothesis of radical constructivist epistemology. *Constructivist Foundations*, 9(3), 354-359. [30% authorship]
- R Ulrich, C., Tillema, E. S., **Hackenberg, A. J.**, & Norton, A. (2014). Constructivist model  
P building: Empirical examples from mathematics education. *Constructivist Foundations*, 9(3), 328-359. [30% authorship]
- R **Hackenberg, A. J.** (2013). The fractional knowledge and algebraic reasoning of students with  
P the first multiplicative concept. *Journal of Mathematical Behavior*, 32(3), 538-563.

**Note:** Publications below completed prior to tenure.

- R     **Hackenberg, A. J.** (2013). Holding together. *For the Learning of Mathematics*, 33(1), 16-17.
- R     **Hackenberg, A. J.**, & Lee\*, M. Y. (2012). Pre-fractional middle school students' algebraic  
P     reasoning. In Van Zoest, L., Lo, J.-J., & Kratky, J. L. (Eds.), *Proceedings of the Thirty-fourth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)* [CD-ROM] (pp. 943-950). Kalamazoo, MI: Western Michigan University. [90% authorship]
- R     **Hackenberg, A. J.**, & Lee\*, M. Y. (2011). Students' distributive reasoning with fractions and  
P     unknowns. In T. Lamberg & L. Wiest (Eds.), *Proceedings of the Thirty-third Annual Meeting of PME-NA* [CD-ROM]. Reno, NV: University of Nevada. [90% authorship]
- R     **Hackenberg, A. J.** (2011). Participant research essay for DIME research team. In L. L. Hatfield & S. A. Chamberlin (Eds.), *New perspectives and directions for collaborative research in mathematics education* (pp. 128-134). Laramie, WY: University of Wyoming.
- R     Tillema, E. S., & **Hackenberg, A. J.** (2011). Developing systems of notation as a trace of  
P     reasoning. *For the Learning of Mathematics*, 31(3), 29-35. [50% authorship]
- R     **Hackenberg, A. J.** (2010). Mathematical caring relations in action. *Journal for Research in Mathematics Education*, 41(3), 236-273.  
P     <https://doi.org/10.5951/jresmetheduc.41.3.0236>
- R     **Hackenberg, A. J.** (2010). Mathematical caring relations: A challenging case. *Mathematics Education Research Journal*, 22(3), 57-83.  
P
- R     **Hackenberg, A. J.** (2010). Students' reasoning with reversible multiplicative relationships.  
P     *Cognition and Instruction*, 28(4), 383-432.
- R     Norton, A., & **Hackenberg, A. J.** (2010). Continuing research on students' fraction schemes. In L. P. Steffe & J. Olive (Eds.), *Children's fractional knowledge* (pp. 341-352). New York: Springer. [30% authorship]
- R     Sztajn, P., White, D. Y., **Hackenberg, A. J.**, & Allexsant-Snyder, M. (2010). Developing trusting relations in the in-service education of elementary mathematics teachers. In G. Anthony & B. Grevholm (Eds.), *Teachers of mathematics: Recruitment and retention, professional development and identity* (pp. 167-176). Kristiansand, Sweden: Swedish Society for Research in Mathematics Education. [20% authorship]
- R     **Hackenberg, A. J.**, & Tillema, E. S. (2009). Students' whole number multiplicative concepts: A critical constructive resource for fraction composition schemes. *Journal of Mathematical Behavior*, 28, 1-18. [60% authorship]  
P
- R     **Hackenberg, A. J.**, & Sinclair, N. (2007). Talking about embodiment and caring in relation to computer use in mathematics education. *For the Learning of Mathematics*, 27(3), 12-16. [60% authorship]

- R  
P **Hackenberg, A. J.** (2007). Units coordination and the construction of improper fractions: A revision of the splitting hypothesis. *Journal of Mathematical Behavior*, 26, 27-47.
- R  
P Sztajn, P., **Hackenberg, A. J.**, White, D. Y., & Allexsah-Snider, M. (2007). Mathematics professional development for elementary teachers: Building trust within a school-based mathematics education community. *Teaching and Teacher Education*, 23(6), 970-984. [30% authorship]
- R  
P **Hackenberg, A. J.** (2006). Sixth graders' construction of quantitative reasoning as a basis for algebraic reasoning. In S. Alatorre, J. L. Cortina, M. Sáiz & A. Méndez (Eds.), *Proceedings of the Twenty-eighth Annual Meeting of PME-NA* [CD-ROM]. Merida, Mexico: Universidad Pedagógica Nacional.
- T  
P Anthony, H. G., & **Hackenberg, A. J.** (2005). Making quilts without sewing: Investigating planar symmetries in southern quilts. *Mathematics Teacher*, 99(4), 270-276. [50% authorship]
- R  
P **Hackenberg, A. J.** (2005). Mathematical caring relations as a framework for supporting research and learning. In Lloyd, G. M., Wilson, M., Wilkins, J. L. M., Behm, S. L. (Eds.), *Proceedings of the Twenty-seventh Annual Meeting of PME-NA* [CD-ROM]. Roanoke, VA: Virginia Polytechnic Institute and State University.
- R  
P **Hackenberg, A. J.** (2005). A model of mathematical learning and caring relations. *For the Learning of Mathematics*, 25(1), 45-51.
- R **Hackenberg, A. J.** (2005). Response to Falkenberg. *For the Learning of Mathematics*, 25(3), 29-30.
- S **Hackenberg, A. J.** (2004). Diverse voices call for rethinking and refining notions of equity, a book review of *Which way social justice in mathematics education?* edited by Leone Burton, *The Mathematics Educator* 14(1), 47-51.
- T **Hackenberg, A. J.**, & Mewborn, D. S. (2004). Questioning assumptions: A critical pedagogical perspective on mathematics teaching and learning in rural places. Manuscript solicited by the Appalachian Collaborative Center for Learning, Assessment, and Instruction in Mathematics (ACCLAIM) and published on their website; scroll down to #18 on <http://www.acclaim-math.org/resworking.aspx> [60% authorship]
- R  
P **Hackenberg, A. J.**, & Tillema, E. S. (2004). Quantitative operations as a basis for algebraic reasoning and teaching practices. In D. E. McDougall & J. A. Ross (Eds.), *Proceedings of the Twenty-sixth Annual Meeting of PME-NA* (pp. 302-303). Toronto, Canada: OISE/UT. [70% authorship]
- R  
P Sztajn, P., Allexsah-Snider, M., White, D. Y., & **Hackenberg, A. J.** (2004). School-based community of teachers and outcomes for students. In M. J. Hoines & Fuglestad, A. B. (Eds.) *Proceedings of 28th Conference of the International Group for the Psychology of Mathematics Education* (Volume 4, pp. 273-281). Bergen, Norway: Bergen University College. [10% authorship]

- R Sztajn, P., White, D. Y., **Hackenberg, A. J.**, and Alleksaht-Snider M. (2004). Developing  
P trusting relations in the in-service education of elementary mathematics teachers. Thematic Afternoon, 10th International Conference in Mathematics Education. Copenhagen, Denmark. Available at <http://www.icme-organisers.dk/taA/> [20% authorship]
- R White, D. Y., Sztajn, P., **Hackenberg, A. J.**, & Alleksaht-Snider, M. (2004). Building a  
P mathematics education community that facilitates teacher sharing in an urban elementary school. In D. E. McDougall & J. A. Ross (Eds.) *Proceedings of the twenty-sixth annual meeting of PME-NA* (pp. 977-983). Toronto, Canada: OISE/UT. [10% authorship]
- R **Hackenberg, A. J.**, & Lawler, B. R. (2002). An ethics of liberation emerging from a radical  
P constructivist foundation. In P. Valero & O. Skovsmose (Eds.), *Proceedings of the Third International Mathematics Education and Society Conference* (pp. 345-355). Helsingor, Denmark. [50% authorship]
- R Lawler, B. R., & **Hackenberg, A. J.** (2002). Exploring the roots of equity in teacher education.  
P In D. S. Mewborn, P. Sztajn, D. Y. White, H. G. Wiegel, R. L. Bryant, & K. Nooney (Eds.), *Proceedings of the Twenty-fourth Annual Meeting of PME-NA* (pp. 155-156). Athens, GA: The University of Georgia. [50% authorship]

### In Progress

- R Dawkins, P., Norton, A., & **Hackenberg, A. J.** *Piaget's genetic epistemology in and for*  
P *mathematics education research*. I signed a contract with Springer for this edited volume. I have co-authored one chapter with Serife Sevinc and will co-author another, as well as share editor duties equally. Authorship order has not been decided.
- R **Hackenberg, A. J.**, Aydeniz\*\*, F, Borowski\*\*, R. (under review). *Differentiating instruction*  
P *on speed for seventh grade students*. This is a refinement and expansion of the PME-NA 2019 conference paper, and we submitted it for publication in June 2022. [85% authorship]

### GRANT AWARDS

#### External

CAREER Grant Proposal, July 2012. Awarded \$663,559 from the National Science Foundation for the 5-year project “Investigating Differentiated Instruction and Relationships between Rational Number Knowledge and Algebraic Reasoning in Middle School” (IDR<sup>2</sup>eAM). The proposal is an integrated plan of research and educational activity. The research purposes of the project were to investigate how to differentiate instruction for middle school students at three different stages of reasoning and to understand how middle school students’ algebraic reasoning and rational number knowledge are related. The educational purposes were to enhance the abilities of prospective and practicing teachers to teach students with diverse ways of thinking, to improve doctoral students’ understanding of relationships between students’ learning and teachers’ practices, and to form a community of mathematics teachers committed to on-going professional learning about how to effectively differentiate instruction.

\*Research started in summer 2013, and the grant officially concluded in July 2020.\* Although the award was made prior to tenure, nearly all work on the project was done post-tenure.

## Internal

Proffitt Spring 2022 Research Proposal. Awarded \$19,000 from the School of Education at IU for the project “How can middle school math teachers learn to foster students’ feelings of belonging?” Funding will be used during the 2022-2023 academic year.

Research Proposal Incentive Fund Proposal, January 2012. Awarded \$8000 from the School of Education at Indiana University to support external grant writing and submission. Funding was used during the summer of 2012 to support submission of a Faculty Early Career Development (CAREER) Grant Proposal to NSF in July of 2012.

Proffitt Spring 2008 Research Proposal. Awarded \$18,000 from the School of Education at IU for the project “Exploring relationships between students’ quantitative reasoning with fractions and their algebraic reasoning.” Funding was used during the 2009-2010 academic year, with a no-cost extension into the 2010-2011 academic year.

## ***PRESENTATIONS (arranged chronologically within category)***

### **International and National**

**Note:** All presentations from November 2013 onward have been conducted since tenure.

**Hackenberg, A. J.** (2022, April). *Differentiating fractions instruction*. Invited breakout session conducted at the annual USMRC conference, Oak Brook, IL.

**Hackenberg, A. J.** (2022, April). *Differentiating instruction for diverse mathematical learners*. Invited keynote presentation given at the annual US Mathematics Recovery Council (USMRC) conference, Oak Brook, IL.

**Hackenberg, A. J.**, Walsh\*, P. A., & Valero\*, J. (2021, October). *A case of units coordination stage change in middle school*. Brief report presentation at the annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Philadelphia, PA.

**Hackenberg, A. J.** (2020, March). *Students’ reasoning with fractional relationships between quantitative unknowns*. Invited talk given at the Theories and Applications of Mathematics and Science Education course run by Dr. Thomas Bussey at University of California, San Diego.

**Hackenberg, A. J.**, Borowski\*\*, R., & Jones\*, R. (2020, February). *A case of differentiating instruction for prospective secondary teachers*. Presentation at the annual conference of the Association of Mathematics Teacher Educators (AMTE), Phoenix, AZ.

**Hackenberg, A. J.** & Aydeniz\*\*, F. (2019, November). *Tiering instruction on speed for middle school students*. Paper presentation at the annual conference of PME-NA, St. Louis, MO.

Borowski\*\*, A. J., Aydeniz\*\*, F., & **Hackenberg, A. J.** (2019, October). *Tiers, not tears! One strategy for differentiating in middle school*. Session presented at the regional conference of the National Council of Teachers of Mathematics (NCTM), Salt Lake City, UT.

- Hackenberg, A. J.**, Walsh\*, P. A., & Johannisson, M. (2019, October). *Differentiation matters! Learn to differentiate instruction for middle school students*. Workshop presented at the regional conference of the NCTM, Salt Lake City, UT.
- Hackenberg, A. J.** (2019, September). *Differentiating instruction based on models of students' thinking*. Invited talk at Texas State University-San Marcos. [Talk was fully prepared but not given due to airline equipment failure.]
- Hackenberg, A. J.**, Jones\*, R., Jeon\*, M., & Matyska\*, R. (2019, May). *Differentiating mathematics instruction with middle school students*. Video made to participate in the National Science Foundation STEM videoshowcase.
- Hackenberg, A. J.**, Hunt, J., & MacDonald, B. (2019, April). *Differentiating instruction in mathematics education*. Organized this symposium on across three different research programs at the annual Research Conference of the NCTM, San Diego, CA.
- Hackenberg, A. J.**, Jones\*, R., & Aydeniz\*, F. (2019, April). *Tiering instruction for middle school students*. Presentation within the symposium organized by A. Hackenberg at the annual Research Conference of the NCTM, San Diego, CA.
- Hackenberg, A. J.** (2018, April). *Inverse reasoning with quantitative unknowns*. Presentation within the symposium organized by M. Simon at the annual Research Conference of the NCTM, Washington DC.
- Hackenberg, A. J.**, Jones\*, R., Borowski\*\*, R., Aydeniz\*\*, F., & Matyska\*, R. (2018, April). *Differentiating linear function instruction for 8<sup>th</sup> grade students*. Paper presentation at the Research Conference of the NCTM, Washington, DC.
- Hackenberg, A. J.**, & Norton, A. H. (2017, October). *Units coordination across whole numbers, fractions, and early algebra*. Invited keynote presentation given at the annual US Mathematics Recovery Council (USMRC) conference, St. Paul, MN.
- Hackenberg, A. J.** (2017, October). *Developing advanced fractions knowledge and early algebraic reasoning at Stages 2 and 3*. Invited breakout session conducted at the annual USMRC conference, St. Paul, MN.
- Hackenberg, A. J.**, Aydeniz\*\*, F., Jones\*, R., & Borowski\*\*, R. (2017, October). *Students' meaning for extensive quantitative unknowns*. Paper presentation at the annual conference of PME-NA, Indianapolis, IN.
- Jones\*, R., Aydeniz\*\*, F., & **Hackenberg, A. J.** (2017, October). *Exploring differentiation with middle school teachers*. Poster presentation at the annual conference of PME-NA, Indianapolis, IN.
- Tillema, E. S., & **Hackenberg, A. J.** (2017, October). *The first research program: What it looks like in middle school*. Invited discussant talk given at the annual conference of PME-NA, Indianapolis, IN.
- Hackenberg, A. J.**, & Norton, A. H. (2016, October). *Developing fractions knowledge*. Invited keynote presentation given at the annual USMRC conference, St. Paul, MN.



- Hackenberg, A. J.** (2016, October). *Developing fractions knowledge at Stages 2 and 3*. Invited breakout session conducted at the annual USMRC conference, St. Paul, MN.
- Hackenberg, A. J.**, Jones\*, R., Borowski\*\*, R., & Suksak\*\*, S. (2016, July). *Seventh grade students' meanings of division with fractions and unknowns*. Paper presentation at the International Congress of Mathematics Education, Hamburg, Germany.
- Hackenberg, A. J.** (2016, April). *Students' meanings of division with fractions and unknowns*. Presentation within the symposium organized by A. Izsak & S. Beckmann at the annual Research Conference of the NCTM, San Francisco, CA.
- Hackenberg, A. J.**, Creager\*, M., Eker\*, A., & Lee\*, M. L. (2016, April). *Understanding how to differentiate instruction for middle school students*. Paper presentation at the Research Conference of the NCTM, San Francisco, CA.
- Hackenberg, A. J.**, Eker\*, A., & Creager\*, M. (2015, November). *Differentiating mathematics instruction with middle school students*. Poster presentation at the annual conference of PME-NA, East Lansing, MI.
- Hackenberg, A. J.** (2015, April). *Learning fractional knowledge from students*. Presentation within the symposium organized by P. Matthews & C. C. Williams, *Fractions learning: One subject, multiple perspectives*. Symposium presentation at the annual conference of the American Educational Research Association (AERA), Chicago, IL.
- Hackenberg, A. J.**, Jones\*, R., Eker\*, A., Creager\*, M., & Timmons\*, R. (2015, April). *"Approximate" multiplicative relationships between quantitative unknowns*. Paper presentation at the annual conference of AERA, Chicago, IL.
- Hackenberg, A. J.**, & Sevinc\*, S. (2015, April). *On a learning trajectory for reciprocal reasoning with quantitative unknowns*. Paper presentation at the annual conference of AERA, Chicago, IL.
- Liss, D., Lee, H Y., **Hackenberg, A. J.**, & Ellis, A. (2014, April). *Elaborations on the construction of quantitative and algebraic reasoning*. Symposium presentation at the annual Research Conference of the NCTM, New Orleans, LA.
- Jansen, A., & **Hackenberg, A. J.** (2013, November). *Identifying relational mathematical instructional moves*. Poster presentation at the annual conference of PME-NA, Chicago, IL.
- Hackenberg, A. J.** (2013, June). *Musings on three epistemic algebraic students*. Paper presentation at the Epistemic Algebraic Student Conference in Athens, GA.
- Hackenberg, A. J.**, Creager\*, M. A., & Jones\*, R. (2012, November). *Mathematical caring relations in the Third International Mathematics and Science Study (TIMSS) lessons*. Presentation in the working group Developing Investigations into Mathematical Experience (DIME) at the PME-NA annual conference, Kalamazoo, MI.
- Hackenberg, A. J.**, & Lee\*, M. Y. (2012, November). *Pre-fractional middle school students' algebraic reasoning*. Presentation at the annual conference of PME-NA, Kalamazoo, MI.

Steffe, L. P., Norton, A., **Hackenberg, A. J.**, & Thompson, P. (2012, April). *Students' fractional knowledge and the Common Core Standards*. Symposium presentation at the annual NCTM Research Pre-session (now known as Research Conference), Philadelphia, PA.

**Hackenberg, A. J.**, & Lee\*, M. Y. (2011, October). *Students' distributive reasoning with fractions and unknowns*. Presentation at the annual conference of PME-NA, Reno, NV.

**Hackenberg, A. J.**, & Lee\*, M. Y. (2011, April). *How does students' fractional knowledge influence equation writing and solving?* Paper presentation at the annual NCTM Research Pre-session (now known as Research Conference), Indianapolis, IN.

**Hackenberg, A. J.** (2009, April). *Mathematical caring relations: A challenging case*. Paper presentation at the annual conference of AERA, San Diego, California.

**Hackenberg, A. J.** (2009, April). *Relationships between students' fraction knowledge and equation solving*. Paper presentation at the annual NCTM Research Pre-session (now known as Research Conference), Washington, D.C.

Norton, A., **Hackenberg, A. J.**, & Wilkins, J. (2009, April). *Testing hypotheses about students' operational development of fractions*. Symposium presentation at the annual NCTM Research Pre-session (now known as Research Conference), Washington, D.C.

**Hackenberg, A. J.** (2007, April). *Mathematical caring relations in action*. Presentation at the annual AERA conference, Chicago, Illinois.

Tillema, E. S., **Hackenberg, A. J.**, & Steffe, L. P. (2007, March). *Students' construction of a multiplicative algebra*. Symposium presentation at the annual NCTM Research Pre-session (now known as Research Conference), Atlanta, Georgia.

**Hackenberg, A. J.** (2006, November). *Sixth graders' construction of quantitative reasoning as a foundation for algebraic reasoning*. Presentation at the annual conference of PME-NA, Merida, Mexico.

**Hackenberg, A. J.** (2005, October). *Mathematical caring relations as a framework for research and teaching*. Presentation at the annual conference of PME-NA, Roanoke, Virginia.

**Hackenberg, A. J.**, & Tillema, E. S. (2005, April). *Constructive resources for algebraic reasoning: Middle school students' construction of fraction composition schemes*. Paper presentation at the annual conference of AERA, Montreal, Canada.

**Hackenberg, A. J.**, & Tillema, E. S. (2004, October). *Quantitative schemes as a basis for algebraic reasoning and teaching practices*. Presentation at the annual conference of PME-NA, Toronto, Canada.

White, D. Y., Sztajn, P., **Hackenberg, A. J.**, & Alleksaht-Snyder, M. (2004, October). *Building a mathematics education community that facilitates teacher sharing in an urban elementary school*. Presentation at the annual conference of PME-NA, Toronto, Canada.

Sztajn, P., White, D. Y., **Hackenberg, A. J.**, & Alexsaht-Snyder, M. (2004, July). *Developing trusting relations in the in-service education of elementary mathematics teachers*. Presentation at the

meeting of the 10th International Congress on Mathematics Education, Copenhagen, Denmark.

**Hackenberg, A. J.** (2003, February). *Investigating pre-service middle school teachers' algebraic reasoning and views on the generation of algebraic knowledge*. Poster presentation at "Mathematics Education and Mathematics in the 21<sup>st</sup> Century: The Roles of Outreach, Teacher Preparation, and Research on Teaching and Learning in a Research I Mathematics Department," a conference sponsored by the University of Arizona, Tucson, Arizona.

Steffe, L. P., & **Hackenberg, A. J.** (2003, February). *Construction of linear equations*. Presentation at "Creating Data, Modeling Worlds," a conference sponsored by Vanderbilt University, Nashville, Tennessee.

Hart, L. E., & Alleksaht-Snyder, M. (2002, October). *Achieving equity and improving teaching in mathematics education through teacher education and professional development*. Presentation in a Discussion Group at the annual conference of PME-NA, Athens, Georgia.

Steffe, L. P., & Izsak, A. (2002, October). *Pre-service middle-school teachers' construction of linear equation concepts through quantitative reasoning*. Presented in lieu of Leslie P. Steffe at the annual conference of PME-NA, Athens, Georgia.

**Hackenberg, A. J.**, & Lawler, B. L. (2002, April). *An ethics of liberation emerging from a radical constructivist foundation*. Presentation at the third conference of the Mathematics Education and Society, Helsingor, Denmark.

### State and Local Presentations

**Note:** All presentations from October 2013 onward have been conducted since tenure.

**Hackenberg, A. J.** (2021, January). *Mathematical mindS*. Invited presentation given to Bloomington Montessori School parents and teachers, as well as others in the community, in collaboration with the Monroe County Public Library.

**Hackenberg, A. J.**, Aydeniz\*\*, F., Jones\*, R., Matyska\*, R., Borowski\*\*, R., & Suksak\*\*, S. (2019, March). *Differentiating instruction for middle school students' diverse ways of thinking*. Presentation given at the ninth annual Indiana Mathematics Education Research Symposium (IMERS) in Indianapolis, IN.

**Hackenberg, A. J.** (2019, March). *Equity in action: Doing the work in Indiana and beyond*. Participation in a panel on this topic at IMERS, Indianapolis, IN.

Borowski\*\*, R., Walsh\*, P., & **Hackenberg, A. J.** (2018, November). *Tiered instruction: One strategy for differentiation in middle school*. Presentation given at the annual Indiana Council of Teachers of Mathematics (ICTM) conference in Indianapolis, IN.

Jones\*, R., Johannisson, M., **Hackenberg, A. J.**, & Borowski\*\*, R. (2017, November). *Two heads are better than one: Differentiating instruction in a middle school classroom through a teacher-researcher partnership*. Presentation given at the annual ICTM conference in Indianapolis, IN.

- Jones\*, R., Arnold, S., Navin, A., Walsh\*, P., & **Hackenberg, A. J.** (2016, November). *Lessons to differentiate instruction for middle school students*. Presentation given at the annual ICTM conference in Indianapolis, IN.
- Hackenberg, A. J.**, Creager\*, M., Jones\*, R., Eker\*, A., Timmons\*, R., Johannisson, M., & Walsh\*, P. (2015, October). *Differentiating instruction with middle school students*. Presentation given at the annual ICTM conference in Indianapolis, IN.
- Hackenberg, A. J.**, Eker\*, A., & Creager\*, M., Jones\*, R. (2015, March). *Differentiating mathematics instruction with middle school students: Findings in progress*. Presentation given at the fifth annual IMERS, Indianapolis, IN.
- Hackenberg, A. J.**, Jones\*, R., Eker\*, A., & Creager\*, M. (2015, February). *Differentiating mathematics instruction with middle school students: Findings in progress*. Presentation given at the fifth annual Curriculum and Instruction Research and Creativity Activity Symposium (CIRCAS), Bloomington, IN.
- Hackenberg, A. J.**, Aydeniz\*\*, F. A., Eker\*, A., & Jones\*, R. (2014, October). *Investigating differentiated instruction and algebraic reasoning in middle school*. Presentation at the Regional Conference of the National Council of Teachers of Mathematics (NCTM), Indianapolis, IN.
- Hackenberg, A. J.**, Jones\*, R., Sevinc\*, S., Eker\*, A., Aydeniz\*\*, F., Uzan\*, E., & Creager\*, M. (2014, February). *Investigating differentiated mathematics instruction in middle school*. Presentation given at the fourth annual CIRCAS, Bloomington, IN.
- Hackenberg, A. J.**, Aydeniz\*\*, F., Eker\*, A., Jones\*, R., & Uzan\*, E. (2013, October). *Investigating differentiated instruction in middle school*. Presentation at the annual ICTM conference in Indianapolis, IN.
- Hackenberg, A. J.**, Creager\*, M. A., & Jones\*, R. (2013, February). *Mathematical caring relations in the Third International Mathematics and Science Study (TIMSS) lessons*. Presentation at the third annual CIRCAS, Bloomington, IN.
- Hackenberg, A. J.**, & Lee\*, M. Y. (2012, March). *Tri-North presentation: Math interview study 2009-2010*. Presentation at Tri-North Middle School for teachers who supported this research study, Bloomington, IN.
- Hackenberg, A. J.**, & Lee\*, M. Y. (2012, February). *Pre-fractional middle school students' algebraic reasoning*. Presentation at the second annual CIRCAS, Bloomington, IN.
- Hackenberg, A. J.**, & Lee\*, M. Y. (2011, February). *How does students' fractional knowledge influence equation writing and solving?* Presentation at the first annual CIRCAS, Bloomington, IN.
- Hackenberg, A. J.**, Quander, J., Rhodes, G., Tunc-Pekkan, Z. (2010, May). *Academic life after Georgia*. Colloquium (panel discussion) at the University of Georgia's Department of Mathematics and Science Education, Athens.
- Hackenberg, A. J.** (2006, October). *The construction of mathematical caring relations*. Colloquium at Indiana University's Department of Curriculum and Instruction, Bloomington, IN.

**Hackenberg, A. J.** (2005, February). *Kernels of algebraic reasoning: A study of sixth grade students' mathematical learning in the context of mathematical caring relations*. Colloquium at the University of Georgia's Department of Mathematics and Science Education, Athens.

Anthony, H. G., & **Hackenberg, A. J.** (2002, October). *Exploring transformational geometry through symmetry patterns in quilts*. Presentation at the annual Georgia Council of Teachers of Mathematics (GCTM) conference, Eatonton, GA.

Sztajn, P., White, D. Y., **Hackenberg, A. J.**, Teston, D., & Logan, P. (2002, October). *Building a mathematics education community in an urban elementary school: Participants' perspectives*. Presentation at the annual GCTM conference, Eatonton, GA.

Lawler, B. R., **Hackenberg, A. J.**, & Stinson, D. W. (2001, October). *Social justice in the mathematics classroom: Connecting beliefs to practice*. Presentation at the annual GCTM conference, Eatonton, GA.

**Hackenberg, A. J.** (1996, October) *The modified curriculum at Glenbrook South High School: A computer intensive program for algebra and geometry*. Presentation at the annual Illinois Council of Teachers of Mathematics conference, Springfield, IL.

Brunner, A., **Hackenberg, A. J.**, & McConnell, J. (1995, October). *The modified curriculum at Glenbrook South High School*. Presentation at the annual Illinois Council of Teachers of Mathematics Leadership conference, Springfield, IL.

**Hackenberg, A. J.**, & McConnell, J. (1994, October). *Grading and learning with writing*. Presentation at the annual Illinois Council of Teachers of Mathematics Leadership conference, Springfield, IL.

**Hackenberg, A. J.** (1993, October). *Getting risky kids on the write track: Writing with At-Risk Students*. Presentation at the annual Illinois Council of Teachers of Mathematics conference, Springfield, IL.

## **UNIVERSITY COURSES TAUGHT**

### **Undergraduate, IUB, recent and most frequent**

Instructor of record for N101, Teaching and Learning Elementary School Mathematics, during fall 2010, spring 2011, fall 2011 (2 sections), spring 2013, fall 2013, fall 2014 (2 sections), fall 2015 (2 sections), spring 2018, fall 2019, fall 2020, and fall 2021 (2 sections). This course focuses on helping undergraduate students who plan to be elementary school teachers to develop their understanding of whole numbers and fractions, including their strategic reasoning with quantities. A supporting purpose of the course is to understand the reasoning strategies that elementary school students create and use in these mathematical domains. Number of students: 23, 20, 48, 24, 24, 45, 48, 24, 24, 22, and 46, respectively.

In most semesters since spring 2011, I have been the instructor of record for at least one doctoral student doing an internship in the N101 course. In most semesters since spring 2012 I have mentored 1-2 graduate students (associate instructors) who taught 1-2 sections of the course. In fall 2019 we were able to start offering 3-5 sections of the course per semester, and each semester I am now mentoring 2-3 other AIs who teach the course.

Instructor of record for M321, Curriculum and Assessment in Secondary School Mathematics, during spring 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2017, 2018, 2019, 2020, 2021, and 2022. This course is the first of two methods courses for undergraduate prospective middle and high school teachers. The major focus of the course is to re-construct school mathematics so as to see it as problematic, and use that re-construction to envision constructive possibilities for students in grades 6-9. (The second methods course focuses on grades 9-12 students.) In spring 2009 a graduate assistant and I also reorganized the accompanying field experience for this course. Number of students: 14, 22, 25, 14, 16, 13, 13, 8, 17, 12, 12, 12, 7, and 6, respectively.

Instructor of record for N517, Advanced Methods in the Teaching of Secondary School Mathematics, a graduate student version of M321, during spring 2009, 2010, 2011, 2012, 2014, 2015, 2018. Number of students: 2, 1, 5, 3, 2, 1, and 4, respectively. No N517 students enrolled in spring 2008, 2013, 2017, 2019, 2020, 2021, or 2022.

Instructor of record for graduate student internships in M321 for doctoral students: 1 during spring 2008, 2 during spring 2009, 2 during spring 2011, 1 during spring 2012, 1 during spring 2013, 4 during spring 2017, 2 during spring 2018, 1 during spring 2019, 1 during spring 2020, and 1 during spring 2021. Graduate student internships involve a graduate student in working in a particular course to support instruction, and sometimes in conducting a small study or writing a paper related to the course.

### **Undergraduate, IUB, past courses**

Instructor of record for E343, Teaching Mathematics in the Elementary School, during fall 2007, 2009, 2010, and 2012. This comprehensive methods course is for undergraduate prospective elementary teachers. The two major foci of the course are to understand how young students learn mathematics and to grapple with how to design a classroom environment that fosters children's mathematical learning. This course is taken with M201 (see below). In fall 2007 I taught a recitation section of the course with 22 students and the lecture for the course with 42 students (2 recitation sections). In fall 2009 I taught two recitation sections (24 students in each) and the lecture for the course with both sets of students. In fall 2010 I taught one recitation section with 24 students and the lecture for the course with 43 students (2 recitation sections). I also mentored a graduate assistant who taught the other recitation section. In fall 2012 I taught two recitation sections (22 and 17 students) and the lecture with both sets of students.

Instructor of record for M201, Mathematics and Science Field Experience, during fall 2007. This course complements E343 (see above). Undergraduate prospective elementary school teachers prepare to teach small groups of elementary school students by participating in university-based workshops and by conducting mathematics and science interviews with elementary school students. Prospective teachers then teach mathematics lessons for the first half of the term and science lessons for the second half to groups of 4-6 elementary school students. Number of students: 22.

Instructor of record for graduate student internships in E343 for doctoral students: 1 during fall 2007 and 2 during fall 2009. Graduate student internships involve a graduate student in working in a particular course to support instruction, and in producing a paper related to the course that involves both research literature and resources about practice.

Instructor of record for N443, Teaching Elementary School Mathematical Problem Solving, during spring 2010. This course is designed for students who want to specialize in mathematics at the elementary level, or add a middle school mathematics license to an elementary school license.

The purpose of this course is to engage in mathematical thinking that underlies algebraic reasoning at the upper elementary and middle school levels, to explore using problem solving as a method of instruction, and to design problem solving activities for students in grades 3-8. Number of students: 12.

### **Graduate, IUB**

Instructor of record for N716, Doctoral Seminar on Mathematical Learning, during spring 2009, 2012, 2014, fall 2017, and fall 2020. This course for doctoral students is aimed at helping them develop their understanding of mathematical learning and research on mathematical learning. The course involves in-depth exploration of neo-Piagetian and neo-Vygotskian perspectives on mathematical thinking and learning. Students grapple with the nature of mathematical knowledge, the role of interaction in mathematical learning, and how to design, assess, and account for changes in mathematical knowledge. Number of students: 13, 8, 6, 9, and 10, respectively.

Instructor of record for N717, Contemporary Issues in Mathematics Education, during 2018-2019, 2019-2020, 2020-2021, and 2021-2022. This year-long course for doctoral students in their first three years of their program is a professional seminar whose purpose is to help doctoral students to thrive in the program and in academia more generally. The seminar is a venue for supporting the spread of “practical” knowledge and skills among all doctoral students, and for discussing questions and issues about the program and about becoming a professional mathematics educator. Number of students: 10, 9, 11, and 8, respectively.

### **Courses taught at Portland State University**

Instructor of record for MTH 211, and 212, Foundations of Elementary Mathematics I and II, during winter 2006 and spring 2006, and again during fall 2006 and winter 2007. This sequence of courses for undergraduate prospective elementary and middle school mathematics teachers focuses on analyzing conceptual foundations of mathematical knowledge including number and basic operations, fractions and decimals, quantitative reasoning, ratios, geometry, probability, and statistics. Number of students in MTH 211 during winter 2006 and fall 2006: 27, 28. Number of students in MTH 212 during spring 2006 and winter 2007: 15, 32.

Instructor of record for MTH 213, Foundations of Elementary Mathematics III, during spring 2007. This course is the third in the sequence mentioned above for undergraduate prospective elementary and middle school mathematics teachers. It addresses algebraic reasoning, including the expansion of multiplicative reasoning; unknowns and equation solving; variables, variation, and co-variation; linear and quadratic functions. Number of students: 17.

Instructor of record for MTH 487/587, Introduction to Combinatorial Analysis, during spring 2007. This course is for in-service secondary teachers pursuing a master’s degree in the science of teaching (MST), and it is also open to undergraduate mathematics majors and master’s students in mathematics. Topics include the fundamental principle of counting, permutations and combinations, the construction of bijections as a counting technique, multiset combinations, distributions, inclusion-exclusion, and some basic graph theory. Number of students: 24.

Instructor of record for MTH 695, Topics in Research in Mathematics Education, during fall 2006. This course for doctoral students is designed by the instructor. A central goal of my course, entitled “Constructivism as a Framework for Research and Learning,” was for students to develop their theoretical orientation to doing research in mathematics education. Topics of discussion included conceptions of mathematics, the nature of mathematical learning, and developing constructs to explain students’ mathematical thinking and learning. Number of students: 8.

Instructor of record for MTH 495/595, History of Mathematics for Middle School Teachers, during winter 2006. This course is for in-service middle school teachers earning their master's degrees, prospective middle school teachers, and undergraduates who plan to enter a teaching certificate program. Topics include early number systems, early computational methods, connections between algebraic and geometric reasoning, non-Euclidean geometry, and the implications of studying history of mathematics for mathematics teaching today. Number of students: 18.

### **Course taught at The University of Georgia**

Instructor of record for EMAT 3400, Children's Mathematical Learning, during fall 2005. This course for undergraduate prospective elementary teachers focuses on how children learn mathematics and includes a field experience at a local elementary school in which prospective teachers work one-on-one with an elementary school student once per week for 8 weeks. Number of students: 30.

## ***SERVICE***

### **Professional, Editorial Positions**

Guest Editor for *The Journal of Research in Mathematics Education* (March 2020-November 2020).

Those who have served as the Chair of the Editorial Panel (see below) are often asked to serve as a guest editor when a conflict of interest arises. I solicited reviews, synthesized reviews, and wrote a decision letter for the original submission of a manuscript and for a revision of the manuscript.

Member of the Editorial Board for *EURASIA Journal of Mathematics, Science, and Technology Education*, an on-line journal published monthly by the iSER Publications in Turkey.

Responsible for reviewing manuscripts, disseminating information about the journal, and encouraging submissions. (April 2015-present)

Member of the Advisory Board of *For the Learning of Mathematics*, a Canadian journal published three times per year at University of Alberta. Responsible for reading manuscripts to comment on suitability for review and publication, as well as encouraging writing from those in my local mathematics education community. (October 2006-present)

Chair of the Editorial Panel of *The Journal of Research in Mathematics Education*, a journal published five times per year in the United States through the National Council of Teachers of Mathematics. Responsibilities of the Chair in 2014-2015 include planning and running the two annual panel meetings per year, as well as heading the search for the next journal editor. See also other responsibilities below. (April 2014-April 2015)

Member of the Editorial Panel of *The Journal of Research in Mathematics Education*, a journal published five times per year in the United States through the National Council of Teachers of Mathematics. Responsibilities include reviewing 1-2 manuscripts per month, attending two annual panel meetings, determining policy for the journal, and submitting a budget for the journal. (April 2012-April 2015)

Member of the Editorial Board of *The Journal of Mathematical Behavior*, a journal published four times per year in the United States at Rutgers University. As a board member I was responsible for assisting the editors in the review process, disseminating information about the journal, and encouraging submissions. (February 2008-April 2012; reviewer since February 2007)



Editor of *The Mathematics Educator*, a biannual journal published at the University of Georgia by the Mathematics Education Student Association (MESA). Directed all parts of the editing and publishing process. (December 2001-December 2002)

In-house editor of primary and middle grades mathematics materials. Scott Foresman Addison Wesley, Glenview, Illinois (June 1998-August 1998).

Freelance writer on the second editions of University of Chicago School Mathematics Project textbooks *Functions, Statistics, and Trigonometry* and *Precalculus and Discrete Mathematics*. Wrote material for teachers' editions, developed technology activities for ancillaries, compiled and checked answers to assessment materials. Scott Foresman Addison Wesley, Glenview, Illinois (June 1997-June 1998).

### **Professional, Other**

Member of the Advisory Board for the project "Covariational and algebraic reasoning (CARE) Project: A new path to algebra," a CAREER project funded by the National Science Foundation and led by PI Teo Paoletti at University of Delaware. (February 2022-present).

Ad hoc reviewer for a proposal for the DRK-12 Program at the National Science Foundation. (January 2021).

Member of the Advisory Board for the project "Enhancing engagement and conceptual understanding of fractions for students with disabilities using the ModelME curriculum," an ITEST project funded by the National Science Foundation and led by PI Jessica Hunt at North Carolina State University. (December 2019-present).

Member of the Program Development sub-committee of the Local Organizing Committee for the annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA) held in Indianapolis in 2017. (June 2016-October 2017).

Member of the Advisory Board for the project "Theorizing and advancing responsive teaching based on children's thinking about rational numbers and operations," funded by the DRK-12 program of the National Science Foundation and led by co-PIs Susan Empson of University of Missouri and Victoria Jacobs of University of North Carolina at Greensboro. (December 2012-July 2020).

Member of an Advisory Board for the *Cognitively Based Assessment as, of, and for Learning* (CBAL) Project at the Educational Testing Service in Princeton, NJ. (September 2012).

Chair of the Membership Committee of the Steering Committee of PME-NA. (November 2013-November 2014). In this role, I led steering committee elections in fall 2014.

Member of the Steering Committee of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA). (November 2011-November 2014).

Mentor through the Association for Women in Mathematics (AWM) Network for a doctoral student in mathematics education at University of Montana. (September 2007-January 2010).

Panelist for reviewing proposals for the Research and Evaluation on Education in Science and Engineering (REESE) program for the National Science Foundation (NSF). (two terms of service: 2008 and 2006)

Reviewer for the following journals and conferences:

*Educational Studies in Mathematics*, (2020-present)

*Cognition and Instruction*, (Sept 2010-present)

*International Journal for Science and Mathematics Education*, (May 2008-present)

*Journal of Mathematical Behavior*, (August 2007-present)

*Journal of Numerical Cognition* (November-December 2016)

*Journal for Research in Mathematics Education* (January 2006-present)

Conducted a group review with a team of three graduate students (March 2021)

*Mathematical Thinking and Learning*, (January 2008-present)

*Mathematics Education Research Journal* (January 2011-present)

*The Mathematics Educator*, (August 2001-present, excluding term as editor)

*Pythagoras*, (March 2006-present)

American Educational Research Association Conference, Division C 2009, 2011 (August 2008, 2010)

International Congress of Mathematics Education 2016 (March 2016)

Mathematics Education in Society Conference 2005 (MES4), (March 2005)

Research Conference of the National Council of Teachers of Mathematics (September 2017, October 2018)

Psychology of Mathematics Education-North America Conferences 2004, 2005, 2006, 2012, 2013, 2015, 2017, 2021 (reviews completed in March 2004, 2005, 2006, 2012, 2013, 2015, 2017, 2019, 2021)

Psychology of Mathematics Education International Conference 2016 (February 2016)

**University/School/Department (asterisks highlight current, on-going assignments)**

\*Member of the Diversity Committee. (begins August 2022).

Member of the Faculty Annual Review Committee (called “Digital Measures – Activity Insight”) in 2022 for the Department of Curriculum and Instruction. (January-February 2022).

Co-led the Secondary Program Review of the secondary mathematics education undergraduate program. (February 2021-present).

\*Member of the University Committee on Research Affairs. (September 2021-present).

Reviewer for the Research Support Funds Grant at IUPUI. (May 2021).

Member of the Committee on Teacher Education. (February 2021-May 2022).

Member of the Annual Review Working Group in the School of Education. (December 2019-May 2020).

Member of Policy Council in the School of Education. (August 2019-May 2021).

Member of the Committee on Faculty Development (August 2017-May 2019).

Wrote and led the Program Review of the Doctoral Program in Mathematics Education (June 2017-May 2018).

\*Coordinator of the Mathematics Education Program (December 2016-present).

Alternate member of the Policy Council in the School of Education. (August 2015-May 2018).

\*Member of the Steering Committee of the Center for Research on Learning with Technology (CRLT) in the School of Education. (April 2015-present).

Coordinator of the Secondary Teacher Education Program in the Teacher Education Programs Council (August 2015-December 2015).

Member of the Third Year Review Committee for assistant professor Craig Willey at IUPUI. (March-April 2015).

Member of the IUtpa Curricular Integration group in the School of Education. (January 2015-April 2015).

Member of the Committee for Learning and Teaching with Technology in the School of Education. (August 2014-April 2017).

Member of the Research and Development Committee in the School of Education. (August 2014-April 2017).

Member of the Faculty Annual Review Committee in 2013 for the Curriculum and Instruction Department. (January-February 2013).

Member of the Dissertation of the Year Award Committee for 2012 in the School of Education. (January 2012).

Member of the Academic Standards Committee in the School of Education. (August 2009-May 2015).

Member of the Diversity Committee in the School of Education. (September 2008-April 2011).

Member of the Secondary Council in the School of Education. (October 2007-May 2015).

## ***STUDENTS***

### **Dissertations**

Director of the dissertation committee for Sukanya Suksak. (July 2017-December 2020). Sukanya conducted an observational and interview study with two middle school mathematics teachers to understand how they orchestrate classroom discussions, including their perspectives on the process and assessments about whether they achieve their goals.

Director of the dissertation committee for Rebecca Borowski (July 2017-May 2020). Rebecca conducted a teaching experiment with two pairs of fifth grade students to study how they conceive of linear quantity, both discrete and continuous, and to understand how their conceptions influence their construction and use of number lines.

Director of the dissertation committee for Fetiye Aydeniz. (February 2015-July 2018). Fetiye conducted a teaching experiment with two prospective elementary teachers to understand their distributive and proportional reasoning, as well as how these ways of reasoning are related.

Member of the dissertation committee for Lori Burch, a doctoral student writing her dissertation under the direction of Erik Tillema. (March 2021-present).

Member of the dissertation committee for Kemol Lloyd, a doctoral student writing his dissertation under the direction of Dionne Cross. (February 2020-present).

Member of the dissertation committee for Mark Creager, who wrote his dissertation under the direction of Peter Kloosterman. (November 2013-August 2016).

Member of the dissertation committee for Mi Yeon Lee, who wrote her dissertation under the direction of Enrique Galindo. (spring 2011-May 2013).

Member of the dissertation committee for Rachael Aming-Attai, who wrote her dissertation under the direction of Peter Kloosterman. (fall 2010-August 2012).

Member of the doctoral committee for Katy Ulrich, who wrote her dissertation under the direction of Leslie P. Steffe at the University of Georgia. (October 2008-July 2012).

#### **Program of Studies and Qualifying Portfolio Committees**

Chair of the program of studies committee for Albertha Sabree. (August 2021-present).

Chair of the program of studies committee for Mariela Duarte. (August 2020-present).

Chair of the program of studies committee for Hyunjeong Lee. (August 2020-present).

Chair of the program of studies committee for Patti Walsh. (August 2019-present).

Chair of the program of studies committee for Courtney Flessner. (October 2017-December 2021).

Chair of the program of studies committee for Abdul Alhayan. (May 2014-May 2020).

Chair of the program of studies committee for Robin Jones. (May 2014-April 2019). Robin graduated with an Ed.S. degree (summer 2020).

Chair of the program of studies committee for Rebecca Borowski. (March 2015-July 2017).

Chair of the program of studies committee for Ayfer Eker. (May 2013-January 2016).

Chair of the program of studies committee for Fetiye Aydeniz. (May 2013-February 2015).

Member of the program of studies committee for Jonathan Valero. (October 2020-present).

Member of the program of studies committee for Desiree Ippolito. (January 2021-May 2022).

Member of the program of studies committee for Jenny Cox. (August 2018-March 2021).

Member of the program of studies committee for Sukanya Suksak. (March 2015-May 2018).

### **Early Inquiry Projects**

Advisor of the Early Inquiry Project conducted by Hyunjeong Lee (May 2021-present).

Advisor of the Early Inquiry Project conducted by Jonathan Valero (May 2021-present).

Advisor the Early Inquiry Project conducted by Patti Walsh (November 2020-present).

### **Portland State University**

Masters' advisor for Michael Arcidiacono at Portland State University. Supervised a masters' project entitled "Increasing Probabilistic Reasoning through Investigations in Binomial Probability," in partial fulfillment of a Masters' of Science in Teaching Mathematics. (October 2006-June 2007).

Member of the masters' committee for Kellie Kutkey, who completed her masters' project under the direction of Jeanette Palmiter. (December 2006-March 2007).

### **PROFESSIONAL AFFILIATIONS**

American Educational Research Association (AERA), 2001-present

Association of Mathematics Teacher Educators (AMTE), 2019-present

Hoosier Association of Mathematics Teacher Educators (HAMTE), 2012-present

National Council of Teachers of Mathematics (NCTM), 1989-present

Psychology of Mathematics Education-North America (PME-NA), 2000-present

### **REFERENCES**

Leslie P. Steffe  
The University of Georgia  
Department of Mathematics & Science Education  
105 Aderhold Hall  
Athens, GA 30602-7124  
(706) 542-4194  
lsteffe@uga.edu

Denise Spangler  
The University of Georgia  
Department of Mathematics & Science Education  
105 Aderhold Hall  
Athens, GA 30602-7124  
(706) 542-4194  
dspangle@uga.edu

Jeremy Kilpatrick  
The University of Georgia  
Department of Mathematics & Science Education  
105 Aderhold Hall  
Athens, GA 30602-7124  
(706) 542-4194  
jkilpat@uga.edu

Paola Sztajn  
North Carolina State University  
Department of Elementary Education  
317J Poe Hall  
(919) 515-0369  
paola\_sztajn@ncsu.edu