MAHTOB AQAZADE, Ph.D.

Rice University School Mathematics Project, Rice University
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Houston, TX 77030

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EDUCATION

Ph.D. in Mathematics Education August 2017 – August 2021
Purdue University
West Lafayette, IN
Dissertation: The Roles of Interactive Features, Language, Context, and Stories in Students' Conceptions of Integers.
Committee: Dr. Laura Bofferding (Advisor), Dr. Signe Kastberg, Dr. David Sears, Dr. Judith Lysaker, Dr. Nicole Wessman-Enzinger.

Graduate Certificates
Purdue University
West Lafayette, IN
- Integrated Science, Technology, Engineering, Mathematics (ISTEM) August 2021
- Qualitative Research August 2021

M.S. in Mathematics Education August 2015 – May 2017
Purdue University
West Lafayette, IN
M.S. Thesis: Time for Learning Integers: Changes in Second and Fifth Graders' Integer Understanding.
Committee: Dr. Jill Newton (Advisor), Dr. Laura Bofferding (Co-Advisor), Dr. David Sears.

B.S. in Industrial Mathematics September 2009 – July 2014
Sharif University of Technology
Tehran, Iran

POSITION

Postdoctoral Research Associate
Rice University, Rice University School Mathematics Project September 2021 – Current
Houston, TX

RESEARCH EXPERIENCE

Graduate Research Assistant
Purdue University, College of Education, Department of Curriculum and Instruction
- Leveraging the Contrasting Cases to Investigate Integer Understanding (Bofferding's NSF-Career award) Fall 2015 – Summer 2021
  PI: Dr. Laura Bofferding

- Promoting Commenting and Debugging in Early Years Programming (Bofferding's NSF-ITEST award) Fall 2018 – Summer 2021
  PI: Dr. Laura Bofferding
- Mathematics Teacher Educator Care and Questioning in Mathematics Methods Early Field Debriefing Discussions Fall 2018 – Summer 2021
  PI: Dr. Signe Kastberg
- Mathematics Education Researchers' Interdisciplinary Research Practices Spring 2018 – Summer 2021
  PI: Dr. William S. Walker

Undergraduate Research Assistant
Sharif University of Technology, Department of Mathematical Sciences

- Collaboration in a research about Latin Square Graphs especially in the area of Critical Sets and Graph Coloring Fall 2014 – Summer 2015

TEACHING EXPERIENCE

Instructor
Purdue University, College of Education, Department of Curriculum and Instruction

- Taught Mathematics in the Elementary School Spring 2019 – Fall 2020

Elementary Student Teacher
Wea Ridge Elementary School, Lafayette, IN

- Co-taught a second-grade classroom in the GK-12 Program Spring 2019

Teaching Assistant
Sharif University of Technology, Department of Mathematical Sciences

- Data Transmission and Network Fall 2014
- Numerical Computing Fall 2014
- Operation Research Fall 2014
- Graph Theory and its Applications Spring 2014

GRANTS AND AWARDS

- Bilsland Dissertation Fellowship Award, College of Education, Purdue University 2020 – 2021
- Mike Keedy Scholarship in Mathematics Education, College of Education, Purdue University 2019 – 2020
- Mathematics Education Graduate Student Award, College of Education, Purdue University 2019, 2020
- Dean's Graduate Student Support Program, College of Education, Purdue University Spring 2019

• Community Service Learning Grant by Purdue University's Office of Engagement for a collaborative mathematics lesson project at Wea Ridge Elementary School, Lafayette, IN	Spring 2019
• Community Service Learning Grant by Purdue University's Office of Engagement for a collaborative mathematics lesson project at Tecumseh Junior High School, Lafayette, IN	Spring 2018
• Graduate Student Travel Award, Department of Curriculum and Instruction, Purdue University	2016, 2017, 2018, 2019
• Dean's Graduate Student Travel Award, College of Education, Purdue University	2016, 2017, 2018, 2019
• Oral Presentation Recognition in Annual Graduate Student Educational Research Symposium (AGSERS), Awarded a plaque by Graduate Student Education Council (GSEC), Purdue University	Spring 2017

SERVICE AND ENGAGEMENT

• Reviewer, North American Chapter of International Group for the Psychology of Mathematics Education (PME-NA)	2016 – Present
• Reviewer, American Educational Research Association (AERA)	2019 – Present
• Reviewer, Learning Sciences Graduate Student Conference (LSGSC)	2020 – Present
• PME-NA 2017 conference Marketing, Communication, and Technology committee member	2016 – 2017
• Co-facilitated Family Mathematics (and Science) Nights	2015 – 2020
• Engineering Projects in Community Service (EPICS): Developing Makerspace Library, Delphi Community Elementary School, IN	Fall 2018
• President, Curriculum and Instruction Graduate Student Association (CIGSA), Purdue University	August 2018 – August 2019
• Midwest Graduate Summit Event, College of Education, Department of Curriculum and Instruction, Purdue University	October 27, 2018
• Curriculum and Instruction Senator, Purdue Graduate Student Government (PGSG), Purdue University	August 2017 – August 2018
• Vice President, Curriculum and Instruction Graduate Student Association (CIGSA), Purdue University	August 2017 – August 2018
• Student Mentor, Graduate School Peer Mentoring Program, Curriculum and Instruction Purdue University	August 2017 – August 2019

PUBLICATIONS

Peer-Reviewed Journals

[1] **Aqazade, M.** & Bofferding, L. (2021). Second and fifth graders' use of knowledge-pieces and knowledge-structures when solving integer addition problems. *Journal of Numerical Cognition, 7*(2), 82–103. https://doi.org/10.5964/jnc.6563

[2] Bofferding, L., Kocabas, S., **Aqazade, M.**, Haiduc, A, & Chen, L. (in press). The effects of play and worked examples on first and third graders' creating and debugging of programming algorithms. *ACM Special Issue on Computational Thinking.*

[3] Suazo Flores, E., Walker, W. S., Alyami, H., **Aqazade, M.**, & Kastberg, S. E. (2021). A call for exploring mathematics education researchers' interdisciplinary research practices. *Mathematics Education Research Journal.* https://doi.org/10.1007/s13394-021-00371-0

Book Chapters

[1] Bofferding, L., **Aqazade, M.,** & Farmer, S. (2018). Playing with integer concepts: A quest for structure. In L. Bofferding & N. M. Wessman-Enzinger (Eds.), *Exploring the integer addition and subtraction landscape: Perspectives on integer thinking* (pp. 3–25). Springer International Publishing AG.

Peer-Reviewed Conference Proceedings

[1] **Aqazade, M.** (accepted). Exhibiting integers' conflict and resolution using a mathematics storybook: The case of four fifth graders. *Proceedings of the 43rd annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education.*

[2] **Aqazade, M.** (2020). The role of interactive support within a mathematics storybook in students' learning of integers. *Proceedings of Learning Sciences Graduate Student Conference 2020*.

[3] **Aqazade, M.**, Bofferding, L., & Chen, L. (2018). A longitudinal study: The effects of time and early instruction on students' integer learning. In Hodges, T.E., Roy, G. J., & Tyminski, A. M. (Eds.), *Proceedings of the 40th annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 179–183). University of South Carolina & Clemson University.

[4] **Aqazade, M.**, Bofferding, L., & Farmer, S. (2017). Learning integers addition: Is later better? In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 219–226). Hoosier Association of Mathematics Teacher Educators.

[5] **Aqazade, M.**, Bofferding, L., & Farmer, S. (2016). Benefits of analyzing contrasting integer problems: The case of four second graders. In M. B. Wood, E. E. Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the 38th annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 132–139). University of Arizona.

[6] Bofferding, L. & **Aqazade, M.** (accepted). Interpreting worked examples of integer subtraction. *Proceedings of the 43rd annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education.*

[7] Bofferding, L., **Aqazade, M.**, Chen, L., Kocabas, S., & Haiduc, A. (2020, June 19–23). First and third graders' conceptions of programmers. In Gresalfi, M. & Horn, I. S.

(Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020*, Volume 2 (pp. 827–829). International Society of the Learning Sciences.

[8] Bofferding, L. & **Aqazade, M.,** Cameron, M. (2019). Language and number: Students' interpretation of "less low". In Otten, S., Candela, A. G., de Araujo, Z., Haines, C., & Munter, C. (Eds.). *Proceedings of the 41st annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 228–229). University of Missouri.

[9] Bofferding, L. & **Aqazade, M.,** Chen, L. (2019). Encoding signs as subtraction signs: Case of second and fifth graders. In Otten, S., Candela, A. G., de Araujo, Z., Haines, C., & Munter, C. (Eds.). *Proceedings of the 41st annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 226–227). University of Missouri.

[10] Bofferding, L. & **Aqazade, M.** (2018). Second and fifth graders' integer subtraction performance: Learning from contrasting worked examples. In Hodges, T.E., Roy, G. J., & Tyminski, A. M. (Eds.), *Proceedings of the 40th annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 183–187). University of South Carolina & Clemson University.

[11] Bofferding, L., & **Aqazade, M**., & Farmer, S. (2018). Elementary students' integer comparisons. In E. Bergqvist, M. Österholm, C. Granberg, & L. Sumpter (Eds.). *Proceedings of the 42nd Conference of the International Group for the Psychology of Mathematics Education* (Vol. 5, p. 209). PME.

[12] Bofferding, L., **Aqazade, M.**, & Farmer, S. (2017). Second graders' integer addition understanding: Leveraging contrasting cases. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 243–250). Hoosier Association of Mathematics Teacher Educators.

[13] Bofferding, L., **Aqazade, M.**, & Farmer, S. (2016). Additive inverses: Second graders' use of "zero pairs". In M. B. Wood, E. E. Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the 38th annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (p. 202). University of Arizona.

[14] Bofferding, L., Haiduc, A., **Aqazade, M.**, Chen, L., & Kocabas, S. (2019). Where to start? Third graders' measurement critiques. In Otten, S., Candela, A. G., de Araujo, Z., Haines, C., & Munter, C. (Eds.). *Proceedings of the 41st annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 395–399). University of Missouri.

[15] Kocabas, S., Bofferding, L., **Aqazade, M.,** Haiduc, A., & Chen, L. (2019). Students' directional language and counting on a grid. In Otten, S., Candela, A. G., de Araujo, Z., Haines, C., & Munter, C. (Eds.). *Proceedings of the 41st annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 431–432). University of Missouri.

[16] Chen, L., Bofferding, L., & **Aqazade, M.** (2018). Comparison with closest and most: Second and fifth graders' conceptions of integer value. In Hodges, T.E., Roy, G. J., & Tyminski, A. M. (Eds.), *Proceedings of the 40th annual conference of the North*

American Chapter of the International Group for the Psychology of Mathematics Education (pp. 187–191). University of South Carolina & Clemson University.

[17] Walker, W. S., Suazo Flores, E., **Aqazade, M.**, Alyami, H., & Kastberg, S. E. (2018). Nature, challenges, and strategies of STEM research teams. In Hodges, T.E., Roy, G. J., & Tyminski, A. M. (Eds.), *Proceedings of the 40th annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (p. 1366). University of South Carolina & Clemson University.

[18] Bofferding, L., Farmer, S., **Aqazade, M.** & Dickman, K. (2016). Leveraging contrasting cases: Integer addition with second graders. In M. B. Wood, E. E. Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the 38th annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (p. 203). University of Arizona.

[19] Max, B., Amstutz, M., **Aqazade, M.**, Chen, L., Farmer, S., Bloome, L., & Weiland, B. (2017). At the crossroad of confidence and insecurity: A phenomenological study of mathematics teachers. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (p. 553). Hoosier Association of Mathematics Teacher Educators.

[20] Kocabas, S., Chen, L., Bofferding, L., **Aqazade, M.**, & Haiduc, A. (accepted). Identifying and fixing double counting errors in mathematics and programming. *Proceedings of the 43rd annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education.*

[21] Suazo Flores, E., Walker, W. S., Alyami, H., **Aqazade, M.**, & Kastberg, S. E. (accepted). Practices in interdisciplinary research groups: A mathematics education researcher's case study. *Proceedings of the 43rd annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education.*

[22] Suazo Flores, E., Walker, W. S., Alyami, H., **Aqazade, M.**, Kastberg, S. E., & Hahn, S. (2019). Mathematics education researchers' interdisciplinary collaboration practices. In Otten, S., Candela, A. G., de Araujo, Z., Haines, C., & Munter, C. (Eds.). *Proceedings of the 41st annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 650–654). University of Missouri.

UNPUBLISHED WORK

Submitted (Peer-Reviewed Journals)

[1] Bofferding, L. & **Aqazade, M.** (revise & resubmit). "Where does the square go?" Reinterpreting shapes when solving a Tangram puzzle. *Educational Studies in Mathematics.*

[2] **Aqazade, M.** & Bofferding, L. (under review). Designing mathematics storybooks: What students bring to mathematics stories and mathematics stories bring to students. *Digital Experiences in Mathematics Education.*

CONFERENCES AND PRESENTATIONS

Refereed International Meetings

[1] **Aqazade, M.** (2021, April 9–12). Interpreting story conflict and resolution within a mathematics storybook: The case of two fifth graders [roundtable session]. *American Educational Research Association Annual Meeting*. Orlando, FL, United States.
[2] **Aqazade, M.** & Bofferding, L. (2021, April 9–12). From research to practice: Narrative of kindergarten teacher in a lesson study cycle [roundtable session]. *American Educational Research Association Annual Meeting*. Orlando, FL, United States.
[3] **Aqazade, M.** & Bofferding, L. (2019, April 5–9). From noticing to incorporating negatives: Second graders' use of prior knowledge on integer addition problems [paper session]. *American Educational Research Association Annual Meeting*. Toronto, ON, Canada.
[4] Bofferding, L., Kocabas, S. **Aqazade, M.**, Chen, L., & Haiduc, A. (2020, April 17–21). Exploring practices to support commenting and debugging in early years of tangible programming [structured poster session]. *American Educational Research Association Annual Meeting.* San Francisco, CA, United States. http://tinyurl.com/yyd7ayh4 (Conference canceled)
[5] Chen, L., Bofferding, L., **Aqazade, M.**, Kocabas, S., & Haiduc, A. (2020, April 17–21). Breaking down mathematical explanations: What elementary girls attend to in number sentences and visuals [roundtable session]. *American Educational Research Association Annual Meeting.* San Francisco, CA, United States. http://tinyurl.com/wy7dhwg (Conference canceled)
[6] Suazo Flores, E., Walker, W. S., Alyami, H., **Aqazade, M.**, & Kastberg, S. E. (2021, September 24–29). Interdisciplinary research and mathematics education: Understanding practices from a case study. *Proceedings of eleventh International Mathematics Education and Society conference.*
[7] Kastberg, S., Chen, L., Richardson, S., & **Aqazade, M.** (2021, July). Mathematics teacher educator care and questioning in mathematics methods early field debriefing discussions. *International Congress on Mathematical Education*. Shanghai, China.
[8] Suazo Flores, E., Walker, W. S., Alyami, H., Kastberg, S. E., & **Aqazade, M.** (2020, April 17–21). Interdisciplinary research practices: The case of mathematics education researchers [poster session]. *American Educational Research Association Annual Meeting.* San Francisco, CA, United States. http://tinyurl.com/r96ugq4 (Conference canceled)

Refereed National Meetings

[1] **Aqazade, M.**, & Bofferding, L. (2021, February). From research to practice: Narrative of a kindergarten teacher in lesson study. *Association of Mathematics Teacher Educators.* Orlando, FL.
[2] **Aqazade, M.**, Bofferding, L., Kastberg, S., Richardson, S., & Simpson, A. (2020, February). Promoting curiosity and wonder through family mathematics and science nights. *Association of Mathematics Teacher Educators*. Phoenix, AZ.
[3] Bofferding, L., & **Aqazade, M.** (2019, June). Children's commenting and debugging when playing a tangible coding program. *2019 NSF ITEST Principle and Evaluator Summit.* Alexandria, VA. June 13–14

[4] Bofferding, L., **Aqazade, M.**, & Farmer, S. (2017, February). Promoting learning by leveraging contrasting cases: Helping preservice teachers and students make use of structure. *Association of Mathematics Teacher Educators*. Orlando, FL.

[5] Kastberg, S., Chen, L., Richardson, S., & **Aqazade, M.** (2020, February). Learning to question in lesson debriefing. *Association of Mathematics Teacher Educators*. Phoenix, AZ.

Refereed Regional Meetings

[1] **Aqazade, M.** (2020, March). The role of interactive support within a mathematics storybook in students' Learning of integers. *Tenth annual Indiana Mathematics Education Research Symposium (IMERS)*. Indiana University – Purdue University, Indianapolis, IN.

[2] **Aqazade, M.**, Bofferding, L. (2019, March). Third graders' composition of a tangram figure. *Eighth annual Indiana Mathematics Education Research Symposium (IMERS)*. Indiana University – Purdue University, Indianapolis, IN.

[3] **Aqazade, M.**, Suazo Flores, E., Alyami, H., Walker, W. S., Hanh, S. & Kastberg, S. E. (2019, January). Challenges and strategies for researchers in STEM research teams. *Fourth Annual Indiana STEM Education Conference.* Purdue University, West Lafayette, IN.

[4] **Aqazade, M.**, & Bofferding, L. (2018, March). Analyzing contrasting integer problems: A case study. *Seventh annual Indiana Mathematics Education Research Symposium (IMERS)*. Indiana University – Purdue University, Indianapolis, IN.

[5] **Aqazade, M.**, & Bofferding, L. (2017, October). Learning with contrasting cases: Second and fifth graders' understanding of integers. *National STEM Education Research and Practice Summit.* West Lafayette, IN, October 16–17.

[6] **Aqazade, M.**, & Bofferding, L. (2017, March). Integer addition problems: The role of negative sign. *Sixth Annual Indiana Mathematics Education Research Symposium (IMERS)*. Indiana University – Purdue University, Indianapolis, IN.

[7] **Aqazade, M.** (2017, March). Learning integer addition: Is later better? *11th Annual Graduate Student Educational Research Symposium (AGSERS).* Purdue University, West Lafayette, IN.

[8] **Aqazade, M.** (2017, March). Encoding integer addition and subtraction worked examples. *12th Annual Graduate Student Educational Research Symposium (AGSERS)*. Purdue University, West Lafayette, IN.

[9] **Aqazade, M.**, Bofferding, L., & Farmer, S. (2016, March). Benefits of analyzing contrasting integer problems on high- and low-achieving students (poster). *Fifth Annual Indiana Mathematics Education Research Symposium (IMERS)*. Indiana University – Purdue University, Indianapolis, IN.

[10] **Aqazade, M.**, Bofferding, L., & Farmer, S. (2016, March). Benefits of analyzing contrasting integer problems: The case of four second graders. *10th Annual Graduate Student Educational Research Symposium (AGSERS).* Purdue University, West Lafayette, IN.

[11] Bofferding, L., **Aqazade, M.**, Chen, L., Kocabas, S., & Haiduc, A. (2019, January). First and third graders' explanations of programming commands. *Fourth Annual Indiana STEM Education Conference.* Purdue University, West Lafayette, IN.

[12] Alyami, H., Suazo Flores, E., Walker, W. S., Kastberg, S., & **Aqazade, M.** (2020, March). Interdisciplinary research practices: The case of mathematics education researchers. *Tenth annual Indiana Mathematics Education Research Symposium (IMERS)*. Indiana University – Purdue University, Indianapolis, IN

Video Showcase

[1] Bofferding, L., **Aqazade, M.**, Chen, L., Kocabas, S., & Haiduc, A. (2019, May 13–20). Promoting commenting and debugging in early years programming. *2019 STEM For All Video Showcase.* https://stemforall2019.videohall.com/presentations/1569

PROFESSIONAL MEMBERSHIPS

- American Educational Research Association (AERA)
- North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)
- Hoosier Association of Mathematics Teachers Educators (HAMTE)
- Curriculum and Instruction Graduate Student Association (CIGSA), Purdue University
- Graduate Student Education Council (GSEC), Purdue University

COMPUTER SKILLS

Programming Languages: Java, Python.
Professional Software: SPSS, Matlab, Nvivo, Storyline 3, Articulate 360.
Typesetting: LaTeX, TeX, Microsoft Office.
Instructional Digital Badges: Evernote, Creately, Movie Maker, Prezi Next, PowToon, Weebly, Padlet, Screencast-O-Matic, EdPuzzle, Kahoot, Voice Thread.
Other: Qualtrics, Online collaboration tools, Endnote, Adobe Acrobat Pro, AutoCAD, Photoshop, GeoGebra.

LANGUAGES

Farsi (Persian): Native
English: Fluent