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EDUCATION

- 2021 Ph.D. Curriculum and Instruction, University of Indiana, Bloomington
Major: Mathematics Education; Minor: Counseling Psychology
Advancing Fraction Proficiency via Deliberate Fraction Comparison
Dissertation committee: Dr. Erik Jacobson (Chair), Dr. Dionne Cross Francis, Dr. Erik Tillema, Dr. Joel Wong
- 2015 M.A. Institute of Education, Tsinghua University, China
Major: Higher Education
Factors and Mechanisms Influencing the Sociocultural Adaptation of International Students in China
Supervisor: Dr. Wen Wen
- 2012 B.A. Mathematics and Statistics, Zhanjiang Normal University, China
Double Major: Mathematics & Mathematics Education
Certificate: K-12 Mathematics Teacher Certificate

ACADEMIC APPOINTMENTS

- 2024-2025 Assistant Professor. Education Department. Scranton University
- 2022-2023 Postdoctoral Research Associate. School of Education, University of California, Irvine. *Reducing Inequalities in Opportunities to Learn Mathematics through Adaptive Teacher Professional Development*. William T. Grant Foundation. PI: Rossella Santagata; Co-PI: Adriana Villavicencio [[Link](#)]
- 2021-2022 Postdoctoral Research Associate. Department of Mathematics and Statistics, University of New Hampshire.
Investigation of Beginning Teachers' Expertise to Teach Mathematics via Reasoning and Proof. National Science Foundation. PI: Orly Buchbinder [[Link](#)]
- 2016-2019 Graduate Research Assistant. Project: *Assessing the Structure of Knowledge in Teaching Mathematics* (NSF#1561453), Bloomington, Indiana. PIs: Erik Jacobson, Temple Walkowiak, Laine Bradshaw [[Link](#)]
- 2018-2019 Graduate Research Assistant. Project: *Supporting Teachers to Promote Students' Mathematical Generalization*, Bloomington, Indiana. PI: Erik Tillema
- 2016-2018 Graduate Research Assistant. Project: *LIFE: A Professional Development Partnership between Lawrence Township Schools, Indianapolis Public School*

(IPS # 48), Fairview Elementary School; Improving Teacher Quality Grant, U.S. Department of Education Award # J22-16-C0462; Indiana University Bloomington and Indiana University Northwest. PI: Dionne Cross Francis

2016-2018 Graduate Research Assistant. Project: *Innovations in Math Education (IME) Professional Development Project*, Bloomington, Indiana. PI: Enrique Galindo

2017 Summer Graduate Research Assistant. Project: *Exploring the World Around Us: An Integrated Science and Math Collaboration with a Local Elementary School in Indiana*, Bloomington, Indiana. PIs: Dionne Cross Francis, Meredith Park Roger.

TEACHING IN HIGHER EDUCATION

- 2024 -2025 Assistant Professor, Education Department, University of Scranton.
Mathematics Teaching Method for PreK-1 (fall 2024)
Science and Technology Teaching Method Course for PreK-4 (fall 2024)
Mathematics Teaching Method for 2-4 (spring 2025)
Family-School-Community Partnerships (spring 2025)
- 2022 Adjunct Professor, Department of Mathematics and Statistics, University of New Hampshire.
Probability and Statistics for Teachers (spring 2022, online)
- 2016-2020 Associate Instructor, Department of Curriculum and Instruction, Indiana University, Bloomington.
Elementary Mathematics Methods Course (spring 2020, Hybrid)
Mathematics and Science Field Experience (spring 2020)
Teaching and Learning Elementary School Mathematics (fall 2018/2019)
Mathematics in the Middle School (fall 2019)
Core Academic Skills Assessment (spring 2016)

PUBLICATIONS

Articles in Refereed Journals

- Liu, J.,** & Buchbinder, O. (2024). Instructional Technology Tetrahedron and Network Visualization: Conceptualizing Online Teaching Through a Lens of Reflective Noticing. *Digital Experiences in Mathematics Education*, 1-31.
<https://doi.org/10.1007/s40751-024-00151-y>
- Liu, J.,** Zhou, L., Bharaj, P. K., Zhou, D., & Lo, J.-J. (2024). Using international large-scale assessment for learning: Analyzing U.S. students' geometry performance in TIMSS. *JRAMathEdu (Journal of Research and Advances in Mathematics Education)*, 9(3). <https://doi.org/10.23917/jramathedu.v9i3.4019>
- Santagata, R., Kimmerling, C., Fuentes Acevedo, P., & **Liu, J.** (2024). Conducting research on teacher professional development in partnership with educators: promises, tensions and opportunities. *Journal of Curriculum Studies*, 1–19.
<https://doi.org/10.1080/00220272.2024.2392600>

- Sevinc, S., Cross Francis, D., Hudson, R., & **Liu, J.** (2024). The development of elementary teachers' personal meanings of problem-solving through engaging in open-ended tasks. *Mathematics Education Research Journal*, 1-27.
<https://doi.org/10.1007/s13394-024-00493-1>
- Lo, J. J., Zhou, L., & **Liu, J.** (2024). A comparative analysis of congruent triangle units in textbooks from China and the United States. *Asian Journal for Mathematics Education*, 27527263241266666.
- Liu, J.**, Francis, D. C., Lloyd, K., & Eker, A. (2023). Mathematically productive relationships (MPRs): A potentially effective classroom management approach. *Learning Environments Research*, 26(4), 573–593. <https://doi.org/10.1007/s10984-022-09444-8>
- Zhou, L., Lo, J., & **Liu, J.** (2023). The journey continues: Mathematics curriculum analysis from the official curriculum to the intended curriculum. *Journal of Curriculum Studies Research*, 5(3), 80-95. <https://doi.org/10.46303/jcsr.2023.32>
- Liu, J.**, Cross Francis, D., & Eker, A. (2022). Examining the US practicing elementary teachers' perceptions of and comfort with students' mathematical mistakes. *Journal of Mathematics Education*, 15(2), 70-75. <https://doi.org/10.26711/007577152790095>
- Zhou, D., **Liu, J.**, Ye, G., Wang, T., Xia, X., & Liu, J. (2022). Relationships among problematic smartphone use, mathematics achievement, teacher-student relationships, and subjective well-being: Results from a large-scale survey in China. *Behavioral Science*, 12(11), 454. <https://doi.org/10.3390/bs12110454>
- Liu, J.**, & Jacobson, E. (2022). Examining US elementary students' strategies for comparing fractions after the adoption of the common core state standards for mathematics. *The Journal of Mathematical Behavior*, 67, 100985. <https://doi.org/10.1016/j.jmathb.2022.100985>
- Zhou, D., **Liu, J.**, & Liu, J. (2022). Relationships among problematic smartphone use, mathematics anxiety, learning interest, and achievement: a multiple mediation model. *Computers in Human Behavior*, 129, 107171. <https://doi.org/10.1016/j.chb.2021.107171>
- Zhou, L., **Liu, J.**, & Lo, J. (2022). A comparison of U.S. and Chinese geometry standards through the lens of van Hiele. *International Journal of Education in Mathematics, Science, and Technology (IJEMST)*, 10(1), 38-56. <https://doi.org/10.46328/ijemst.1848>
- Cross Francis, D., Bharaj, P. K., **Liu, J.**, Phillips, A., Park Rogers, M., Zhong, Q., Cesljarev, C., & Lloyd, K. (2022). Questioning our credibility: An exploration of the professional identity development of mathematics teacher educators. *Mathematics*, 10(1), 1-22. <https://doi.org/10.3390/math10010066>
- Cross Francis, D., Eker, A., **Liu, J.**, Lloyd, K., & Bharaj, P. K. (2021). Mis (alignments) between noticing and instructional quality: The role of psychological and cognitive constructs. *Journal of Mathematics Teacher Education*, 25, 599–632. <https://doi.org/10.1007/s10857-021-09509-0>
- Zhou, D., **Liu, J.**, & Liu, J. (2021). Mathematical argumentation performance of sixth graders in a Chinese rural class. *International Journal of Education in Mathematics, Science, and Technology*, 9(2), 213-235. <https://doi.org/10.46328/ijemst.1177>
- Zhou, D., **Liu, J.**, & Liu, J. (2020). The effect of problematic Internet use on mathematics achievement: The mediating role of self-efficacy and the moderating role of

- teacher-student relationships. *Children and Youth Services Review*, 118, 105372. <https://doi.org/10.1016/j.childyouth.2020.105372>
- Cross Francis, D., Hong, J., **Liu, J.**, Eker, A., Lloyd, K., Bharaj, P. K., & Jeon, M. (2020). The dominance of blended emotions: A qualitative study of elementary teachers' emotions related to mathematics teaching. *Frontiers in Psychology*, 11, 1865. <https://doi.org/10.3389/fpsyg.2020.01865>
- Zhou, D., **Liu, J.**, & Liu, J. (2020). On the different effects of teacher-student rapport on urban and rural students' math learning in China: An empirical study. *Psychology in the Schools*, 58(2), 268-285. <https://doi.org/10.1002/pits.22446>
- Cross Francis, D., **Liu, J.**, Bharaj, P. K., & Eker, A. (2019). Integrating social-emotional and academic development in teachers' approaches to educating students. *Policy Insights from the Behavioral and Brain Sciences*, 6(2), 138-146. <https://doi.org/10.1177/2372732219864375>
- Book Chapters**
- Zhou, D., **Liu, J.**, Wu, Q., Ye, Q., & Liu, J. (2025). Opportunities to Learn Reasoning and Proving in the Algebra of NCM Mathematics Textbooks. In: Qi, C., Fan, L., Liu, J., Liu, Q., Dong, L. (eds) Recent Advances in Mathematics Textbook Research and Development. ICMT 2022. Springer, Singapore. https://doi.org/10.1007/978-981-97-8426-4_5
- Santagata, R., **Liu, J.**, Scheiner, T., König, J., & Kaiser, G. (2024). Longitudinal Studies on Video-based Interventions for Mathematics Teacher Noticing: A Review and Future Directions. *Using Video to Foster Teacher Development*, 113-130.
- Cross Francis, D., Hong, J., **Liu, J.**, & Eker, A. (2018). "I'm not just a math teacher": Understanding the development of elementary teachers' mathematics teacher identity. In P. A. Schutz, J. Hong, & D. Cross Francis (Eds.), *Research on teacher identity and motivation: Mapping challenges and innovations* (pp. 133-143). Springer. https://doi.org/10.1007/978-3-319-93836-3_12
- Cross Francis, D., Park Rogers, M., Eker, A., **Liu, J.**, & Lloyd, K. (In press). Developing ecological literacy. In D. Cross Francis, M. Park Rogers, A. M. Gatz, K. Engebretson, & R. Hudson (Eds.), *Math in action: Tasks for building mathematical literacy, grades 3-5*. National Council of Teachers of Mathematics.

Refereed Proceedings

- Liu, J.**, & Weingarden, M. (2024). Exploring Preservice Teachers' Understanding of Fractions from A Commognitive Lens. In Kosko, K. W., Caniglia, J., Courtney, S., Zolfaghari, M., & Morris, G. A., (2024). *Proceedings of the forty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 554-562). Kent State University. [pdf](#)
- Liu, J.**, Zhou, L., & Lo, J-J. (2024). Conceptualizing Learning Pathways Presented by Textbooks: Introducing a 4S Framework and Its Visualization. In Kosko, K. W., Caniglia,

- J., Courtney, S., Zolfaghari, M., & Morris, G. A., (2024). *Proceedings of the forty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp.72-76). Kent State University. [pdf](#)
- Liu, J., & Zhuang, Y.** (2023). "I Understand It Even More!" Promoting Preservice Teachers' Relational Understanding of Fractions. In Lamberg, T., & Moss, D. (2023). *Proceedings of the forty-fifth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (Vol. 1)*, (pp. 486-494). University of Nevada, Reno. [\[Link\]](#)
- Lo, J., Zhou, L., & **Liu, J.** (2023). Stories of Congruent Triangles in Two Geometry Textbooks. Stories of congruent triangles in two geometry textbooks. *Thirteenth Congress of the European Society for Research in Mathematics Education (CERME13)*, Alfréd Rényi Institute of Mathematics; Eötvös Loránd University of Budapest, Budapest. [\[Link\]](#)
- Liu, J.,** Buchbinder, O., & Weingarden, M. (2022). Understanding Preservice Teachers' Noticing of Online. In A. E. Lischka, E. B. Dyer, R. S. Jones, J. N. 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. 1789-1798). Middle Tennessee, Nashville, TN. [\[Link\]](#)
- Lo, J., **Liu, J.,** & Zhou, L. (2022). A Story of Triangle Congruency in a Chinese Textbook. In A. E. Lischka, E. B. Dyer, R. S. Jones, J. N. 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. 149-157). Middle Tennessee, Nashville, TN. [\[Link\]](#)
- Weingarden, M., Buchbinder, O., & **Liu, J.** (2022). Opportunities for Reasoning-And-Proving in Mathematical Tasks: A Discursive Perspective. In A. E. Lischka, E. B. Dyer, R. S. Jones, J. N. 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. 839-848). Middle Tennessee, Nashville, TN. [\[Link\]](#)
- Liu, J.,** Jacobson, E., Bharaj, P. K., & Savich, T. (2022). Challenges in Assessing Teachers' Pedagogical Representation Competence. *NCTM Research Conference, One-day Virtual, US*. [\[Link\]](#)
- Liu, J.,** & Buchbinder, O. (2022). Learning to Teach Reasoning and Proof in an Online Setting: The Case of Nancy. In S. S. Karunakaran & A. Higgins (Eds.), *Proceedings of the 24th Annual Conference on Research in Undergraduate Mathematics Education*, (pp. 357-365). Boston, MA. [\[Link\]](#)
- Liu, J.,** Cross Francis, D., Eker, A., Lloyd, K. R., & Bharaj, P. K. (2021). (Mis)Alignment Between Teachers' In-the-Moment Noticing and Post-Instruction Noticing. In D. Olanoff, K. Johnson, & S. Spitzer (Eds.), *Proceedings of the Forty-third Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 744-748). Philadelphia, PA. [\[Link\]](#)
- Liu, J.,** & Jacobson, E. (2021). A Tool For Comparing Fractions or a Tool for Displaying Conclusions? Students' Fraction Number Line Use. In D. Olanoff, K. Johnson, & S. Spitzer (Eds.), *Proceedings of the Forty-third Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 337-338). Philadelphia, PA. [\[Link\]](#)

- Liu, J.,** & Jacobson, E. (2021). Do Visual Fraction Models Help Students Compare Fractions? Evidence from Elementary Students' Written Work. In D. Olanoff, K. Johnson, & S. Spitzer (Eds.), *Proceedings of the Forty-third Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 1356-1357). Philadelphia, PA. [[Link](#)]
- Jacobson, E., **Liu, J.,** Bharaj, P. K., & Savich, T. (2021). Teachers' Representational and Contextual Justifications for Selecting Pedagogical Representations. In D. Olanoff, K. Johnson, & S. Spitzer (Eds.), *Proceedings of the Forty-third Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 447-455). Philadelphia, PA. [[Link](#)]
- Lo, J., Zhou, L., & **Liu, J.** (2021). The Introduction and Development of Triangle Congruency in Chinese and US Textbooks. In D. Olanoff, K. Johnson, & S. Spitzer (Eds.), *Proceedings of the Forty-third Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 73-77). Philadelphia, PA. [[Link](#)]
- Jacobson, E., Bharaj, P. K., & **Liu, J.** (2021). Why Do Students Pick the Wrong Answer on Fraction Multiple Choice Word Problems? In D. Olanoff, K. Johnson, & S. Spitzer (Eds.), *Proceedings of the Forty-third Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 331-332). Philadelphia, PA. [[Link](#)]
- Liu, J.,** Jacobson, E., & Bharaj, P. K. (2020). Examining In-Service Teachers' Diagnostic Competence. 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*, (pp. 1892-1906). Mexico. [[Link](#)]
- Liu, J.,** Galindo, E., Yoder, G. B., & Bharaj, P. K. (2020). The Design, Implementation, and Effectiveness of a Collaborative Responsive Professional Development (CRPD) Model. 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*, (pp. 1897-1901). Mexico. [[Link](#)]
- Bharaj, P. K., Jacobson, E., **Liu, J.,** & Ahmad, F. (2020). Assessing Students' Understanding of Fraction Multiplication. 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*, (pp. 265-269). Mexico. [[Link](#)]
- Cross Francis, D., **Liu, J.,** Eker, A., Bharaj, P. K., Lloyd, K. R., Hong, J., & Jeon, M. (2020). "I must be a glutton for punishment": Teachers' emotions related to videorecording of mathematics instruction. 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*, (pp. 1791-1799). Mexico. [[Link](#)]
- Bharaj, P. K., Galindo, E., **Liu, J.,** & Yoder, G. B. (2020). A Collaborative Professional Development Model: Shifts Observed in Classroom 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, (pp. 1838-1842). Mexico. [\[Link\]](#)

- Liu, J.** (2019). Identifying U.S. Elementary Students' Strength and Weakness in Geometry Learning from Analyzing TIMSS-2011 Released Items. In S. Otten, A. G. Candela, Z. de Araujo, C. Haines, & C. Munter (Eds.), *Proceedings of the 41st Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 435-436). The University of Missouri. [\[Link\]](#)
- Cross Francis, D., Eker, A., Lloyd, K., **Liu, J.**, & Bharaj, P. (2019). Teachers' Perceptions of Teacher-Student Relationships and Their Importance for Students' Mathematical Success. In S. Otten, A. G. Candela, Z. de Araujo, C. Haines, & C. Munter (Eds.), *Proceedings of the 41st Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 536-541). The University of Missouri. [\[Link\]](#)
- Tillema, E., **Liu, J.**, & Bharaj, P. (2019). Combinatorics Problems: A Constructive Resource for Finding Volumes of Fractional Dimensions? In S. Otten, A. G. Candela, Z. de Araujo, C. Haines, & C. Munter (Eds.), *Proceedings of the 41st Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 405-410). The University of Missouri. [\[Link\]](#)
- Cross Francis, D., Eker, A., Lloyd, K., **Liu, J.**, Alhaayan, A., & Flessner, C. (2018). High-quality instruction \neq High-level noticing: Examining factors that influence teachers' noticing. In T. E. Hodges, G. J. Roy, & A. M. Tyminski (Eds.), *Proceedings of the 40th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 1020-1027). University of South Carolina & Clemson University. [\[Link\]](#)
- Galindo, E., **Liu, J.**, & Bharaj, P. (2018). Supporting Shifts in Classroom Practice: Lessons from a Collaborative Professional Development. In T. E. Hodges, G. J. Roy, & A. M. Tyminski (Eds.), *Proceedings of the 40th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (p. 444). University of South Carolina & Clemson University. [\[Link\]](#)
- Cross Francis, D., Eker, A., Lloyd, K., **Liu, J.**, & Alhaayan, A. (2017). Exploring the relationship between teachers' noticing, mathematical knowledge for teaching, emotions, and efficacy. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 122-1225). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators. [\[Link\]](#)

Book Reviews

- Jacobson, E., & **Liu, J.** (2019). Review of Marian Small. *Math That Matters: Targeted Assessment and Feedback for Grades 3-8*. New York: Teachers College Press. *Teachers College Record*. [\[Link\]](#)

CONFERENCE PRESENTATIONS

National/International Conference

- Liu, J.,** Li, H., Zhou, D., & Liu, J. (2025, April 23-27). *Unpacking of Smartphone Dependence Among Elementary Students: Insights from a Large-Scale Survey*. To present at 2025 AERA Annual Meeting, Denver, Colorado, US.
- Zhou, D., Liu, S., **Liu, J.** & Liu, J., (2025, April 23-27). *How does the problematic smartphone use affect students' academic achievement: A multiple mediation model*. To present at 2025 AERA Annual Meeting, Denver, Colorado, US.
- Liu, J.,** & Weingarden, M. (2024, November 7- 10). *Exploring Preservice Teachers' Understanding of Fractions from A Commognitive Lens*. Presented at the Forty-fifth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Cleveland, OH.
- Liu, J.,** Zhou, L., & Lo, J-J. (2024, November 7- 10). *Conceptualizing Learning Pathways Presented by Textbooks: Introducing a 4S Framework and Its Visualization*. Presented at the Forty-fifth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Cleveland, OH.
- Hudson, R., Cross Francis, D., Gatz, A., **Liu, J.,** & Wilkes III, C. (2023, October 23- 28). *Inquiry with a Purpose: Linking Data Analysis and Discipline-Based Literacies*. NCTM 2023 Annual Meeting & Exposition, Washington, DC.
- Liu, J.,** & Weingarden, M. (2023, April 13-16). *Beyond Correctness: Understanding Preservice Teachers' Fraction Discourse*. AERA 2023 Annual Meeting, Chicago, IL.
- Liu, J.,** Zhuang, Y. (2023, February 2-4). *Toward a More Relational Understanding of Fraction: The Case of Hannah*. Twenty-Seventh Annual AMTE Conference, New Orleans, LA.
- Walsh, P., Jacobson, E., & **Liu, J.** (2023, February 2-4). *Teachers Decenter to Understand Common Student Errors*. Twenty-Seventh Annual AMTE Conference, New Orleans, LA.
- Liu, J.,** & Zhou, D. (2022, October 11-14). *Using Variation to Maintain Flow: An Approach a Chinese Textbook Used to Teach Fraction Division*. The Fourth International Conference on Mathematics Textbook Research and Development. Beijing, China.
- Zhou, D., **Liu, J.,** Wu, Q., & Ye, Q. (2022, October 11-14). *Opportunities to Learn Reasoning and Proving in Algebra in Mathematics Textbooks in China*. The Fourth International Conference on Mathematics Textbook Research and Development. Beijing, China
- Lo, J., **Liu, J.,** & Zhou, L. (2022, October 11-14). *Using a Narrative Framework to Analyze Textbooks: The Affordances and Challenges*. The Fourth International Conference on Mathematics Textbook Research and Development. Beijing, China
- Liu, J.,** Cross Francis, D., & Eker, A. (2021, July 11-18). *Examining U.S. Elementary Teachers' Perceptions of and Comfort with Students Mathematical Mistakes*. 14th International Congress on Mathematical Education, Shanghai, China.
- Liu, J.,** Zhou, L., & Lo, J. (2021, July 11-18). *A Comparison of U.S. and Chinese Geometry Standards Through the Lens of van Hiele*. 14th International Congress on Mathematical Education, Shanghai, China.
- Cross Francis, D., Hong, J., **Liu, J.,** Eker, A., Bharaj, P. K., & Jeon, M. (2021, July 11-18). *Examining Teachers' Emotional Experiences Through the Process of Mathematical Instructional Change*. 14th International Congress on Mathematical Education, Shanghai, China.

- Ippolito, D., Pinheiro, W. A., & **Liu, J.** (2021, July 11-18). *Gender Differences in Student-Student Interactions: Supporting Women in the Mathematics Classroom*. 14th International Congress On Mathematical Education, Shanghai, China.
- Cross Francis, D., **Liu, J.**, Eker, A., Bharaj, P. K., & Lloyd, K. R., Hong, J., & Jeon, M. (2021, April 8-12). *Goals, Appraisals, and Emotions: The Prevalence of Blended Emotions in Elementary Mathematics Teaching*. AERA 2021 Annual Meeting, Orlando, FL, US.
- Cross Francis, D., Eker, A., **Liu, J.**, Bharaj, P.K., & Lloyd, K. R. (2021, April 8-12). *Elementary Mathematics Teacher Identity: Perceptions and Tensions*. AERA 2021 Annual Meeting, Orlando, FL, US.
- Cross Francis, D., Bharaj, P. K., **Liu, J.**, & Lloyd, K. R. (2021, February 11-13 and 18-20). *How do we achieve credibility?": Examining international teacher educators navigating their professional identities*. Twenty-Fifth Annual AMTE Conference, Virtual.
- Liu, J.**, Galindo E., Bharaj, P. K., & Yoder, G. B. (2020, February 6-8). *Professional Development that is Inclusive of and Responsive to Teachers' Voices*. 24th AMTE Conference, Phoenix, AZ.
- Liu, J.**, Lloyd, K., Flessner, C., Cross Francis, D., & Eker, A. (2019, April 5-8). *The Impact of Mathematically Productive Relationships on Classroom Management*. AERA 2019 Annual Meeting, Toronto, Canada.
- Cross Francis, D., Eker, A., **Liu, J.**, Lloyd, K., & Flessner, C. (2019, April 5-8). *Examining the Role of Professional Identity on Teachers' Conceptions of Mathematically Productive Relationships (MPRs)*. AERA 2019 Annual Meeting, Toronto, Canada.
- Flessner, C., **Liu, J.**, Lloyd, K., & Bharaj, P. (2019, April 1-3). *The Impact of Professional Identity on Quality of Mathematics Instruction*. NCTM 2019 Research Conference, San Diego, CA.
- Liu, J.**, & Galindo, E. (2019, February 7-9). *Examining Teachers' and Students' Strategy Variability in Ordering Fractions*. Twenty-Third Annual AMTE Conference, Orlando, FL.
- Galindo, E., **Liu, J.**, & Bharaj, P. (2019, February 7-9). *Developing a Responsive and Emergent Curriculum for Elementary Teachers' Professional Development: Successes and Challenges*. Twenty-Third Annual AMTE Conference, Orlando, FL.
- Cross Francis, D., Eker, A., Lloyd, K., **Liu, J.**, & Campbell, M. (2018, April 13-17). *Teaching to Support Productive Struggle: Exploring Tensions between Positive Teacher-Student Relationships and Mathematical Relationships*. AERA 2018 Annual Meeting, New York, NY.
- Hong, J., Cross Francis, D., **Liu, J.**, & Eker, A. (2017, April 27-May 1). *"I'm not just a math teacher": understanding the development of Elementary Teachers' Mathematics Identification*. AERA 2017 Annual Meeting, San Antonio, TX.
- Cross Francis, D., Hong, J., **Liu, J.**, & Eker, A. (2017, April 27-May 1). *Examining the Role of Professional Development in Elementary Teachers' Emotional Shifts*. AERA 2017 Annual Meeting, San Antonio, TX.

Local/Regional Conference

- Zhou, D., **Liu, J.**, & Liu, J. (2021, March 12). *A Comparative Analysis of Congruence in the U.S and Chinese Standards and Textbooks*. Indiana Mathematics Education Research Symposium (IMERS), Bloomington, IN.
- Pinheiro, W. A., Ippolito, D., & **Liu, J.** (2020, March 6). *Mathematics Problem Solving and Doing Gender*. Indiana Mathematics Education Research Symposium (IMERS), Bloomington, IN.
- Tillema, E., **Liu, J.**, Gatza, A., & Miller, J. (2019, September 29-30). *Effectively Selecting and Sequencing Students Work: Examples from Spatial Reasoning*. Indiana Council of Teachers Conference, Indianapolis, IN.
- Bharaj, P. K., Galindo E., **Liu, J.**, & Yoder, G. B. (2019, September 29-30). *Shift Happens: Ideas for Empowering Young Mathematicians in Your Classroom*. Indiana Council of Teachers Conference, Indianapolis, IN.
- Galindo, E., Yoder, G. B., Bharaj, P. K., & **Liu, J.** (2019, September 29-30). *Examining Shifts in Teachers' Perceptions and Practices: Building Professional Development on Teachers' Needs*. Indiana Council of Teachers Conference, Indianapolis, IN.
- Liu, J.**, & Hoffman, S. (2018, November 4-5). *Eight Geometrical Strategies to Make Sense of the Staircase Problem*. Indiana Council of Teachers Conference, Indianapolis, IN.
- Galindo, E., Yoder, G. B., **Liu, J.**, & Bharaj, P. (2018, November 4-5). *Supporting Shifts in Classroom Practice to Learn to Implement the Process Standards for Mathematics*. Indiana Council of Teachers Conference (ICTM), Indianapolis, IN.
- Liu, J.** (2018, February 23). *Examining Students' and Teachers' Strategy Use in Solving a Multiple-Solution Task of Fraction Magnitude Comparison*. Curriculum and Instruction Research Creative Activities Symposium (CIRCUS), Bloomington, IN.
- Cross Francis, D., Eker, A., Lloyd, K., **Liu, J.**, Alhaayan, A., & Flessner, C. (2018, February 23). *Examining the Influential Factors on Teachers' Noticing in Cases of Enacted High-Quality Instruction*. Curriculum and Instruction Research Creative Activities Symposium (CIRCUS), Bloomington, IN.
- Liu, J.** (2017, September 22). *Finding the Holes in the Umbrella: Understanding Fifth Graders' Fraction and Decimal Learning*. STEM Education Research Talk, Bloomington, IN.
- Liu, J.**, & Matyska, R. (2017, March 3). *Increasing PST's Geometry Knowledge for Teaching based on TIMSS 2011*. Indiana Mathematics Education Research Symposium (IMERS), Bloomington, IN.
- Enrique, G., & **Liu, J.** (2017, March 3). *When U.S. Teachers Look into Chinese Mathematics Classrooms: Lessons from a Group of STEM Teachers Visiting China*. Indiana Mathematics Education Research Symposium (IMERS), Bloomington, IN.
- Jacobson, E., **Liu, J.**, Matyska, R., Sadak, M., & Sukanya, S. (2017, February 17). *Examining Different Kinds of Mathematical Work for Teaching the Same Mathematical Topic: How is Knowledge for Teaching Mathematics Structured?* Indiana Mathematics Education Research Symposium (CIRCUS), Bloomington, IN.
- Liu, J.**, & Jacobson, E. (2017, February 17). *Mapping Fraction Misconceptions to the Common Core*. Curriculum and Instruction Research Creative Activities Symposium (CIRCUS), Bloomington, IN.

Cross Francis, D., Eker, A., Lloyd, K., **Liu, J.**, & Alhaayan, A. (2017, February 17). *Examining the relationship between mathematical knowledge for teaching and teachers' noticing*. Curriculum and Instruction Research Creative Activities Symposium (CIRCUS), Bloomington, IN.

Liu, J. (2016, November 6-7). *Extending Teachers' Knowledge of Students' Geometry Learning from Analyzing TIMSS-2011 Released Data and tasks*. Indiana Council of Teachers Conference (ICTM), Indianapolis, IN.

Khikmatillaeva, U., **Liu, J.**, Cho, Y. (2016, March 4). *Developing Online Students' Critical Thinking Skills*. 16th Instructional Systems Technology Conference, Bloomington, IN.

OTHER RESEARCH EXPERIENCE

- 2013-2015 Survey of International Students' Experience & Satisfaction, Beijing, China. PI: Wen Wen
- 2013-2014 China College Student National Survey, Beijing, China. PI: Jinghuan Shi
- 2013-2014 Formative evaluation of primary school students' learning, Beijing, China. PI: Wen Wen
- 2012-2014 Action Study of Primary School Students' Math Learning Habits, Beijing, China. PI: Wen Wen

K-12 TEACHING EXPERIENCE

- 2016-2017 High school mathematics teacher (Summer), Bloomington, IN, US
- 2009 Fall Elementary School Math Teacher, China
- 2009 Spring Middle School Math Teacher, China
- 2005-2015 K-12 Math Tutor, China

FELLOWSHIPS & AWARDS

- 2024 University of Scranton Faculty Development Grant for Intersession 2025
- 2024 The Faculty Travel Fund from the University of Scranton
- 2022 The University of New Hampshire Research Engagement Academy Professional Development fund
- 2021 AERA Graduate Student Travel Award
- 2021 PME-NA Scholarship Award
- 2021 Indiana University Graduate and Professional Student Government Travel Award
- 2021 AMTE 2021 Susan Gay Graduate Student Conference Travel Scholarship
- 2020/19 Daisy M. and Vivian L. Jones Dissertation Fellowship, IUB
- 2020/19/18 Neatrour-McGlasson Fellowship, IUB

- 2018 Hoosier Association of Mathematics Teacher Educators Travel Grant
 2020/19/18/17 Curriculum and Instruction Department Graduate Student Travel Award
 2020/19/18/17 Mathematics Education Program Travel Award

PROFESSIONAL SERVICE

Journal Reviewer

- 2024 *Psychology in the School*
Mathematics Teaching and Learning
Teaching and Teacher Education
 2023 *STEM Education Review*
 2022 *Psychology in the School*
 2022 *Mathematics Teacher: Learning and Teaching PK-12*
 2021 *The Mathematics Teacher Educator*
 2020 *International Journal of Education in Mathematics, Science, and Technology*

International/National Conference Proposal Reviewer

- 2023 CERME; PMENA
 2022 AMTE; ICMT; PME-NA
 2021 RUME; PME-NA
 2020 AERA; AMTE; PME-NA
 2019 ICME; PME-NA
 2018 AMTE; PME-NA
 2017 AMTE; NCTM; PME-NA
 2016 NCTM

To Profession

- 2024 Mentor, mentoring 11 undergraduate students at University of Scranton
 2022 Supervisor, supervising and mentoring 7 undergraduate students' research at University of California, Irvine
 2022 Academy Scholar, The Research and Engagement Academy Scholar, the University of New Hampshire, US
 2021 Committee member, Indiana University Graduate and Professional Student Government Travel Award (GPSG) Fall Travel Awards Committee, US
 2021 Invited Co-facilitator, Virtual, *Engaging Tasks with 4 Virtual Math Manipulatives* (three sessions), Reggae Math Foundation, Jamaica

- 2020 Invited speaker (Virtual), “Advancing Prospective Teachers’ Fraction Proficiency Through Writing Collective Argumentation,” Chinese Education Finance and Policy Association
- 2019 Volunteer, Graduate Women in STEM Teaching Fellows Program, WonderLab the Museum of Science, Health, and Technology, Bloomington, IN
- 2017 Volunteer, PMENA conference, Indianapolis, IN
- 2016 Committee Member, Mathematics Education Community Development Committee, IN
- 2016 Facilitator, Indiana Mathematics Education Research Symposium, Indianapolis, IN,

PROFESSIONAL ASSOCIATIONS

New Hampshire Teachers of Mathematics (2021-2022)

American Educational Research Association (AERA), 2016-present

North American Chapter of Psychology of Mathematics Education (PME-NA), 2016-present

National Council of Teachers of Mathematics (NCTM), 2016-present

Association of Mathematics Teacher Educators (AMTE), 2017-present

Hoosier Association of Mathematics Teacher Educators (HAMTE) (2015-202)

Association of Mathematics Teacher Educators in Texas (2021-2022)

Indiana Council of Teachers of Mathematics (ICTM) (2015-2021)

IT COMPETENCY

MAXQDA, SPSS, C++, Stata, MATLAB, GeoGebra, TinkerPlot, CODAP, Python