Hwa Young Lee

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EDUCATION

Ph.D., Mathematics Education — 2017
University of Georgia
Dissertation Title: *Students' Construction of Spatial Coordinate Systems*
Committee: Leslie P. Steffe (Chair), Kevin C. Moore, Edward A. Azoff

M.A., Mathematics — 2017
University of Georgia
Thesis Title: *Origami-Constructible Numbers*

M.Ed., Mathematics Education — 2009
Ewha Womans University
Thesis Title: *A case study of an English Immersion Program in 10th grade high school Mathematics*

B.A. Mathematics Education (Minor in Education) — 2004
Ewha Womans University

PROFESSIONAL EXPERIENCE

Associate Professor, Department of Mathematics, Texas State University	2023–Present
Assistant Professor, Department of Mathematics, Texas State University	2017–2023
Instructor of Record/Teaching Assistant and Research Assistant, Mathematics Education Department, University of Georgia	2011–2017
Mathematics Teacher, Seoul Global High School, Seoul, Korea	2008–2011
Mathematics Teacher, Jangpyung Middle School, Seoul, Korea	2004–2008

SCHOLARLY ACTIVITIES

Research Interests: Students' mathematical thinking; students' constructions of frames of reference and coordinate systems; students' spatial and quantitative reasoning; pre-service mathematics teacher education.

Grant Activities

Funded External Grant

Lee, H.Y. (PI). *CAREER: Reframing Students' Graph Literacy with a Focus on Students' Thinking (GLiST),* NSF, $972,301, DRL-2239316. Feb 2023–2028.

Lee, H.Y. (PI), Hardison, H.L. (Co-PI). *Collaborative Research: Middle School Students' Graphing From the Ground Up*, DRK-12, NSF, $293,841, DRL-2200778. June 2022–2026. [Collaborative project with Paoletti, T. (PI); total $444,776].

Funded Internal Grants

Lee, H.Y. (PI), Hardison, H.L. (Co-PI). Undergraduate elementary prospective teachers'

conceptions of angle measure: A study of an intervention. *Research Enhancement Program Internal Grant,* Texas State University, $8,000 (January, 2020 – December, 2021).

Lee, H. Y. (PI). Constructing spatial coordinate systems: A study of undergraduate elementary pre-service teachers. *Research Enhancement Program Internal Grant,* Texas State University, $8,000 (January, 2018 – May, 2019).

Publications

Invited Book/Monograph Chapters

Lee, H. Y. (2024). Researching coordinate systems using genetic epistemology constructs. In P. C. Dawkins, A. J. Hackenberg, & A. Norton (Eds.), *Piaget's Genetic Epistemology for Mathematics Education Research. Springer Cham: Switzerland.* https://doi.org/10.1007/978-3-031-47386-9.

Lee, H. Y. (2021). An algebraic discussion of paper folding. In B. Seo, H. Han, & K. Lee (Eds.), *The Korean Society of Mathematical Education & The Korea Society of Educational Studies in Mathematics Yearbook: School Mathematics and Construction Education* (2020, pp. 277–300). Kyungmoonsa: South Korea.

Lee, C., & **Lee, H. Y.** (2015). Student teaching in mathematics education at the secondary level in Korea. In J. Kim, I. Han, M. Park, & J. Lee (Eds.), *Mathematics Education in Korea: Contemporary Trends in Researches in Korea* (Vol. 2, pp. 37–55). Singapore: World Scientific Publishing Co. Pte. Ltd.

Steffe, L. P., Liss II, D. R., & **Lee, H. Y.** (2014). On the operations that generate intensive quantity. In K. C. Moore, L. P. Steffe & L. L. Hatfield (Eds.), *Epistemic Algebraic Students: Emerging Models of Students' Algebraic Knowing*, WISDOMe Monographs (Vol. 4, pp. 49–79). Laramie, WY: University of Wyoming.

Invited, Peer-Reviewed Journal Article

Lee, H. Y. (2024). An analytical framework for making sense of students' graphical representations with attention to frames of reference and coordinate systems. *The Mathematics Enthusiast, 21*(3), 603–632.

Articles in Peer-Reviewed Journal Articles

Paoletti, T., **Lee, H. Y.**, Hardison, H. L., Olshefke-Clark, A., Zolt, H., Bui, M., ... & Gaspard, B. R. (2025). "We've been… trying to learn communication and kind of like coordinates": a case study of one middle school student's developing meanings for graphs, coordinate systems, and reference frames. *Mathematical Thinking and Learning*, 1–31. https://doi.org/10.1080/10986065.2025.2595714

Lee, H. Y., & Guajardo, L. R. (2023). A content analysis of tasks involving two-dimensional Cartesian graphs in grade 6 – 8 U.S. textbooks. *Investigations in Mathematics Learning*, *15* (3), 222–240.

Paoletti, T., Hardison, H. L., & **Lee, H. Y.** (2022). Students' static and emergent graphical shape thinking in spatial and quantitative coordinate systems. *For the Learning of Mathematics, 42*(2), 48–50.

Foster, J. K., & **Lee, H. Y.** (2021). Prospective teachers' pedagogical considerations of mathematical connections: A framework to motivate attention to and awareness of connections. *Mathematics Teacher Education and Development, 23*(4), 95–118. https://mted.merga.net.au/index.php/mted/article/view/622

An, T., Clark, D. L., **Lee, H. Y.**, Miller, E. K., & Weiland, T. (2021). A discussion of

programmatic differences within mathematics content courses for prospective elementary teachers. *The Mathematics Educator*, *30*(1), 52–70. https://openjournals.libs.uga.edu/tme/article/view/2166

Paoletti, T., **Lee, H. Y.**, Rahman, Z., Vishnubhotla, M., & Basu, D. (2020). Comparing graphical representations in mathematics, science, and engineering textbooks and practitioner journals. *International Journal of Mathematical Education in Science and Technology*. https://doi.org/10.1080/0020739X.2020.1847336

Lee, H. Y. (2020). Tell me where they are. *Mathematics Teacher: Learning and Teaching Pre-K-12*, *113*(11), e78–e84. https://doi.org/10.5951/MTLT.2019.0125

Lee, H. Y., Hardison, H. L., & Paoletti, T. (2020). Foregrounding the Background: Two Uses of Coordinate Systems. *For the Learning of Mathematics*, *40*(2), 32–37.

Hardison, H. L., & **Lee, H. Y.** (2020). Funky Protractors for Exploring Angle Measure. *Mathematics Teacher: Learning and Teaching PK-12*, *113*(3), 229–232. https://doi.org/10.5951/MTLT.2019.0214

Lee, H. Y., Moore, K. C., & Tasova, H. I. (2019). Reasoning Within Quantitative Frames of Reference: The Case of Lydia. *The Journal of Mathematical Behavior*, *53*, 81–95. https://doi.org/10.1016/j.jmathb.2018.06.001

Invited, Regional Journal Article

Lee, H. Y. (2020). A measurement lesson leveraging quantitative reasoning for prospective teachers. *Journal of Mathematics for Teacher Education in Texas*, *10*(2), 11–12.

Refereed Conference Proceedings and Abstracts

International:

Bui, M., **Lee, H. Y.**, Hardison, H. L., Paoletti, T., Zolt, H., & Gaspard, B. R. (2025). Students' arrangement of two number lines when creating a graphical representation: positioning and intersecting strategies. In Zbiek, R. M., Yao, X., McCloskey, A., & Arbaugh, F. (Eds.), *Proceedings of the forty-seventh annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 1406–1410). Pennsylvania State University. https://doi.org/ 10.51272/pmena.47.2025

Gaspard, B. R., **Lee, H. Y.**, Morrell, G., Zolt, H., Bui, M. Hardison, H. L., & Paoletti, T. (2025). Middle grade students' interpretations of cartesian axes labels. In Zbiek, R. M., Yao, X., McCloskey, A., & Arbaugh, F. (Eds.), *Proceedings of the forty-seventh annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 1396–1405). Pennsylvania State University. https://doi.org/ 10.51272/pmena.47.2025

Lee, H. Y., Gaspard, B. R., Zolt, H., Morrell, G., Bui, M., Hardison, H. L. (2025). Explicating the retrospective analysis process for characterizing students' thinking in a graphing task]. In Zbiek, R. M., Yao, X., McCloskey, A., & Arbaugh, F. (Eds.), *Proceedings of the forty-seventh annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 1427–1431). Pennsylvania State University. https://doi.org/ 10.51272/pmena.47.2025

Paoletti, T., Asiamah, O.A., Lee, H. Y., Hardison, H. L., Tasova, H.I., Olshefke-Clark, A., Gantt, A.L., Margolis, C., Gaspard, B. R., Zolt, H., & Bui, M. (2025, October). One student's differing meanings for points in spatial and quantitative coordinate systems. In Zbiek, R. M., Yao, X., McCloskey, A., & Arbaugh, F. (Eds.), *Proceedings of the forty-seventh annual meeting of the North American Chapter of the International Group for the*

Psychology of Mathematics Education. (pp. 1060–1065). Pennsylvania State University. https://doi.org/ 10.51272/pmena.47.2025

Gaspard, B. R., Lee, H.Y., Paoletti, T., Tarigan, S., & Ford, L. (2024). "It does show it both ways, though.": Emma's reasoning through graphing conventions. In Kosko, K. W., Caniglia, J., Courtney, S. A., Zolfaghari, M., & Morris, G. A., (Eds.) *Proceedings of the forty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Kent State University (pp. 666-676).

Gaspard, B.R.; Lee, H.Y.; Bui, M.; Hardison, H.L.; Paoletti, T; Ford, L.; Zolt, H.; Tarigan, S. (2024). *Students' reasoning through graph conventions*. In T. Evans, O. Marmur, J. Hunter, G. Leach & J. Jhagroo (Eds.). *Proceedings of the 47th Conference of the International Group for the Psychology of Mathematics Education* (Vol. 1). Auckland, New Zealand: PME. (p. 312).

Olshefke-Clark, A., Paoletti, T., Margolis, C., Lee, H.Y., Hardison, H. L., & Gantt, A. L. (2024). Students' meanings for coordinate systems: Continuous and ordered-discrete reference frames. In Kosko, K. W., Caniglia, J., Courtney, S. A., Zolfaghari, M., & Morris, G. A., (Eds.) *Proceedings of the forty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Kent State University (pp. 475-484).

Paoletti, T., Margolis, C., Gantt, A. L., Hardison, H. L., Lee, H.W., & Olshefke-Clark, A., (2024). Supporting learning through interpreting others' solutions from a radical constructivist perspective: A theoretical report. In Kosko, K. W., Caniglia, J., Courtney, S. A., Zolfaghari, M., & Morris, G. A., (Eds.) *Proceedings of the forty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Kent State University (pp. 1640-1645).

Zolt, H., Gaspard, B. R., Lee, H.Y., Paoletti, T., Hardison, H. L., Ford, L., Tarigan, S., & Bui, M. (2024). Modeling students' strategies when creating a graph: A focus on reference frames and coordinate systems. In Kosko, K. W., Caniglia, J., Courtney, S. A., Zolfaghari, M., & Morris, G. A., (Eds.) *Proceedings of the forty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Kent State University (pp. 695-701).

Hardison, H. L., **Lee, H. Y.**, Guajardo, L. R., & Bui, M. T. T. (2022). How many angles do you see? Prospective teachers' assimilatory domains for angularity. In A. E., Lischka, E. B., Dyer, R. S., Jones, J. N., Lovett, J., Strayer, & S. Drown (Eds.), *Proceedings of the 44th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 557–565). Nashville, TN: Middle Tennessee State University.

Lee, H. Y., Hardison, H. L., Kandasamy, S. S. S., & Guajardo, L. R. (2020). Establishing a Cartesian coordination in the ant farm task: A case of Ginny. In *Proceedings of the 42th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 931–939). Mazatlan, Mexico. https://doi.org/10.51272/pmena.42.2020-142

Lee, H. Y., & Guajardo, L. R. (2020). An analysis of coordinate systems presented in grade 6-8 textbooks. In *Proceedings of the 42th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 423–428). Mazatlan, Mexico. https://doi.org/10.51272/pmena.42.2020-53

Hardison, H. L., & **Lee, H. Y.** (2020). Prospective Teachers' Strategies for Evaluating Non-Standard Angular Measurement Tools. In *Proceedings of the 42nd Annual Meeting of the*

North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 1615–1619). Mexico. https://doi.org/10.51272/pmena.42.2020-254

Hardison, H. L., & **Lee, H. Y.** (2020). Funky Protractors Created by Prospective Teachers. In *Proceedings of the 42nd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 731–732). Mazatlan, Mexico. https://doi.org/10.51272/pmena.42.2020-108

Hardison, H. L., & **Lee, H. Y.** (2019). Supporting prospective elementary teachers' non-circular quantifications of angularity. 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. 1340–1344). St. Louis, MO: University of Missouri.

Lee, H. Y., Hardison, H. L., & Paoletti, T. (2018). Uses of coordinate systems: A conceptual analysis with pedagogical implications. 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. 1307-1314). Greenville, SC: University of South Carolina & Clemson University.

Paoletti, T., **Lee, H. Y**., & Hardison, H. L. (2018). Static and emergent thinking in spatial and quantitative coordinate systems. 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. 1315-1322). Greenville, SC: University of South Carolina & Clemson University.

Lee, H. Y.[1], & Hardison, H. L. (2017). Motivating the Cartesian plane: Using one point to represent two points. In Galindo, E., & Newton, J. (Eds.), *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 379–382). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators.

Lee, H. Y., Tasova, H., & Moore, K. C. (2017). Reasoning within quantitative frames of reference and graphing: The case of Lydia. In Galindo, E., & Newton, J. (Eds.), *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 753–756). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators.

Hardison, H. L., Stevens, I. E., Moore, K. C., & **Lee, H**. (2017). Lydia's circle concept: The intersection of figurative thought and covariational reasoning. In Galindo, E., & Newton, J. (Eds.), *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 391). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators.

Lee, H. Y. (2016). Just go straight: Reasoning within spatial frames of reference. In M. B. Wood, E. E. Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the 38th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 278–281). Tucson, AZ: The University of Arizona.

Lee, H. Y. (2016). Units coordinating and spatial reasoning in three dimensions. In M. B. Wood, E. E. Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the 38th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics*

[1] Received the *Excellence in Graduate Research Award* from the Psychology of Mathematics Education, North American Chapter.

Education (p. 303). Tucson, AZ: The University of Arizona.

Lee, H. Y., & Hardison, H. L. (2016). Spatial coordination as a prerequisite for representing quantitative coordination in two dimensions. In M. B. Wood, E. E. Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the 38th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (p. 304). Tucson, AZ: The University of Arizona.

National:

Kandasamy, S. S. S., **Lee, H. Y.**, & Guajardo, L. R. (2020). The Ant Farm task - The case of Ginny. In *Proceedings of the XXIII Annual Conference on Research on Undergraduate Mathematics Education* (pp. 1222–1223).

Lee, H. Y., & Hardison, H. L. (2017). Foregrounding the background: Two uses of coordinate systems. *Abstracts of Papers Presented to the American Mathematical Society, 38*(1), 563–564.

Other works in print

Lee, H. Y., & Park, K. (2006). *Problem solution of [11139].* The American Mathematical Monthly; Oct 2006; 113,8; Academic Research Library (p. 764).

13 columns introducing research articles of mathematics education in The Korean Society of Mathematical Education Newsletter (Bi-monthly, starting 2013 January to January 2015).

Under Review

Peer-reviewed Journal Articles

Olshefke-Clark, A., Paoletti, T., Magolis, C., **Lee, H.Y.**, Hardison, H.L., & Gantt, Al. (Accepted with minor revisions). Continuous and ordered-discrete: A distinction in how students construct reference frames. *Journal for Research in Mathematics Education*.

Gaspard, B. R., **Lee, H. Y.**, Tarigan, S., Ford, L., Zolt, H., Bui, M., Hardison, H. L., & Morrell, G. (under review). A guiding framework for designing graphing tasks: An illustration with the family frenzy task series. *International Journal of Mathematical Education in Science and Technology*.

Gaspard, B. R. & **Lee, H. Y.** (under review). A task series for exploring cartesian graphs. *Mathematics Teacher: Learning and Teaching PK-12*.

Cattey, C., **Lee, H. Y.**, Morrell, G., & Gaspard, B. R. (under review). Puzzling points in the Cartesian plane. *Mathematics Teacher: Learning and Teaching PK-12*.

Lee, H.Y., Warshauer, H.K., Angel, C.A., & Ford, L. (under review). Connecting prospective teachers' fraction placement on number lines with their analyses of a classroom video. *School Science and Mathematics*.

Paoletti, T., Asiamah, O. A., **Lee, H. Y.**, Hardison, H. L., Tasova, H. I., Olshefke-Clark, A., Gantt, A. L., Margolis, C., Gaspard, B. R., Zolt, H., & Bui, M. (under review). One Student's Differing Meanings for Points in Spatial and Quantitative Coordinate Systems. *The Journal of Mathematical Behavior*.

Invited Presentations

Lee, H. Y. (2021, August). Foregrounding the background of graphs: Coordinate systems. Presented at Universidad de Chile Center for Mathematical Modeling monthly seminar in Mathematics Education, online via Zoom.

Lee, H. Y. (2020, February). Investigating students' coordinate systems: Types, the Ant Farm

Task, and future directions. Presented at the Arizona State University Mathematics Department Colloquium, Arizona State University, Tempe, AZ.

Lee, H. Y. (2019, November). Two uses of coordinate systems: A distinction and implications. Presented at the Oklahoma-Texas Conference on Research in Undergraduate Mathematics Education.

Lee, H. Y. (2017, September). On students' construction of coordinate systems for spatial organization. Presented at the 15th Korean-American Scientists and Engineers Association Austin Chapter technical seminar, University of Texas, Austin.

Lee, H. Y., Hardison, H. L. (2017, April). Theoretical Framing in Mathematics Education Research. Presented at the Mathematics Education Doctoral Seminar, Texas State University, San Marcos.

Lee, H. Y. (2016, February–April). Writing a Dissertation. Guest lecture via three face-to-face synchronous online meetings at the Dissertation Proposal Seminar (invited by Dr. Teo Paoletti), Montclair State University.

Liss II, D. & **Lee, H. Y.** (2013, June). On the operations that generate intensive quantity: Data presentation. Paper presented at the Epistemic Algebraic Students Conference, Athens, GA.

Lee, H. Y. (2009/2010 Feb). A case of an English immersion program in 10th grade high school Mathematics. Presented at the Ewha International Conference for Teacher Education, "In Search of Excellence in Primary and Secondary Teacher Education for the Globalizing and Multicultural Society," Seoul, Korea.

Other Scholarly Presentations Not in Print

Refereed Research Conference Presentations

Bui, M., **Lee, H. Y.**, Hardison, H. L., Paoletti, T., Zolt, H., & Gaspard, B. R. (October, 2025). Examining students' memorized graphing rules and conventions and their quantitative reasoning. NCTM 2025 Annual Meeting & Exposition, Atlanta, GA, United States.

Lee, H. Y., Gaspard, B. R., Ford, L., & Bui, M. (October, 2025). Family Frenzy: Making sense of students' thinking as they create graphical representations [Practitioner presentation]. NCTM 2025 Annual Meeting & Exposition, Atlanta, GA, United States.

Lee, H. Y., Gaspard, B. R., Tarigan, S., & Ford, L. (July, 2025). A guiding framework for designing graphing tasks for student learning [TSG report]. The 9th ICMI-East Asia Regional Conference on Mathematics Education (EARCOME9), Siheung, Korea.

Lee, H. Y., Paoletti, T., Hardison, H. L., Gaspard, B. R., Bui, M., & Zolt, H. (July, 2025). Designing graphing tasks from the ground up [Poster presentation]. The 9th ICMI-East Asia Regional Conference on Mathematics Education (EARCOME9), Siheung, Korea.

Paoletti, T., Gantt, A. L., **Lee, H. Y.**, Hamilton, H. L., Gaspard, B. R., Olshefke-Clark, A., Bui, M. T., Zolt, H., & Margolis, C. (April, 2025). A student's developing meanings for spatial reference frames and coordinate systems. *2025 American Educational Research Association Annual Meeting*.

Hardison, H. L., Paoletti, T., **Lee, H. Y.**, Gaspard, B., Bui, M., Zolt, H., & Gantt, A. (July, 2024). *Designing graphing tasks from the ground up: the zoo tasks.* Poster presented at the 15th International Congress on Mathematical Education. Sydney, Australia.

Lee, H.Y., Warshauer, H.K., Angel, C.A., & Ford, L. (July, 2024). Prospective teachers' coordination of fractions on number lines and their analyses of student video episodes. Paper presented at the 15th International Congress on Mathematical Education. Sydney,

Australia.

Olshefke, A., Paoletti, T., Margolis, C., Gantt, A., **Lee, H. Y.**, & Hardison, H. L. (July, 2024). *Different ways students interpret axes on graphs.* Paper presented at the 47th annual meeting of the International Group for the Psychology of Mathematics Education. Auckland, New Zealand.

Paoletti, T., **Lee, H. Y.**, Hardison, H. L., Gantt, A., Zolt, H., Bui, M., Gaspard, B., & Acharya, S. (July, 2024). *Supporting students' meanings for spatial coordinate systems.* Poster presented at the 15th International Congress on Mathematical Education. Sydney, Australia.

Lee, H. Y. (February, 2020). A measurement lesson leveraging quantitative reasoning for elementary prospective teachers. Research Report to be presented at the 24th annual conference of the Association of Mathematics Teacher Educators, Pheonix, AZ.

An, T., **Lee, H. Y.**, Clark, D., Weiland, T., Miller, E. (February, 2020). Continue growth of teaching and learning in mathematics education for elementary prospective teachers. To be presented at the Conference for the Scholarship of Teaching & Learning, Savannah, GA.

Hardison, H. L., **Lee, H. Y.** (February, 2020). Funky protractors: Examining unconventional measurement tools to spark classroom conversations. Brief Report to be presented at the 24th annual conference of the Association of Mathematics Teacher Educators, Pheonix, AZ.

Tillema, E., **Lee, H. Y.**, Barrett, J. (April, 2019). Middle grades and high school students three-dimensional reasoning. Symposium presented at the Annual meeting of the National Council of Teacher of Mathematics Research Conference, San Diego, CA.

Hardison, H. L., & **Lee, H.Y.** (February, 2019). Supporting Prospective Elementary Teachers' Ways of Reasoning About Angle Measure: Effects of a Research-based Intervention. Brief Report presented at the 23rd annual meeting of the Association of Mathematics Teacher Educators, Orlando, FL.

Tasova, H.I., **Lee, H.Y.**, & Moore, K.C. (February, 2019). Supporting quantitative reasoning through establishing frames of reference. Brief Report presented at the 23rd annual meeting of the Association of Mathematics Teacher Educators, Orlando, FL.

Foster, J. & **Lee, H. Y.** (February, 2018). Preservice Teachers Thoughts on the Practice of Making Connections. Brief Report presented at the 22nd annual meeting of the Association of Mathematics Teacher Educators, Houston, TX.

Lee, H. (2017, April). Task design to support constructions of coordinate systems. Poster presented at the Annual Meeting of the National Council of Teacher of Mathematics Research Conference, Tucson, AR.

Foster, J. & **Lee, H.** (2017, February). Building an online professional learning community to enhance preservice teachers' field experience. Brief Report presented at the annual meeting of the Association of Mathematics Teacher Educators, Orlando, FL.

Lee, H. Y. (2016, April). Constructions of Coordinate Systems: Four Ninth Grade Students. Brief Research Report presented at the Annual Meeting of the National Council of Teacher of Mathematics Research Conference, San Francisco, CA.

Lee, H. Y. (2015, April). The Construction of Coordinate Systems: Two Ninth Graders. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

Lee, H. Y. (2015, April). Constructing Coordinate Systems: The Case of Morgan and Kaylee. Poster presented at the Annual Meeting of the National Council of Teacher of Mathematics Research Conference, Boston, MA.

Lee, H. Y. (2014, April). Levels of units and proportionality: The case of Blake and Mike. In D. Liss (Chair), Elaborations on the Construction of Quantitative and Algebraic Reasoning. Symposium conducted at the Annual Meeting of the National Council of Teachers of Mathematics Research Conference, New Orleans, LA.

Non-Refereed Local Conference Presentations

Lee, H. Y. (2018, November). Investigating coordinate systems: types, constructions, and applications. Presented at the 9th Annual Mathematics Department Graduate Expo, Texas State University, San Marcos.

Lee, H. Y., Hardison, H. L. (2018, October). Two uses of coordinate systems. Presented at the Mathematics Education Doctoral Seminar, Texas State University, San Marcos.

Lee, H. Y. (2017, October). Foregrounding the background: Task-design principles to support students' construction of spatial coordinate systems. Mathematics Education Doctoral Seminar, Texas State University, San Marcos.

Research Awards and Fellowships

Excellence in Research Award at the assistant professor, senior lecturer, lecturer level, Mathematics Department, Texas State University	2020
STaR Fellow, Association of Mathematics Teacher Educators	2018
Excellence in Graduate Research Award, PME-NA	2017
Dr. Thomas Cooney Graduate Student Travel Award, Mathematics Education, University of Georgia	2016
Scholarship Program, PME-NA	2016

TEACHING

Teaching Experience

Texas State University, San Marcos — 2017–Present

Graduate Level

- *MATH7324—Curriculum Design and Analysis* (doctoral course)
- *MATH7323—Theories of Knowing and Learning in Mathematics Education* (doctoral course)
- *MATH7366B—Teaching K-12 Students* (doctoral course)
- *MATH7356B—Advanced Qualitative Research* (doctoral course)

Undergraduate Level

- *MATH2311—Principles of Mathematics I*: First semester content course for prospective elementary and middle grades teachers with a focus on numbers, operations, and algebra.
- *MATH 2312—Informal Geometry:* Second semester content course for prospective elementary and middle grades teachers with a focus on geometry and measurement.
- *MATH4302—Principles of Mathematics II:* Hybrid content and pedagogy course for prospective middle school math teachers

University of Georgia, Athens

Instructor of Record

- *EMAT 4800/4800L Pedagogy 1—Focus on Student Thinking* 2015–2017
  First semester mathematics education secondary pedagogy course with focus on students' mathematical thinking.
- *EMAT 4950/6950 Professional Seminar in Teaching Mathematics* 2014–2015
  Fourth semester mathematics education seminar for secondary teacher candidates

Professional Development Instructor/Facilitator

- *Lesson Study Project* with Clarke County high school and middle school mathematics teams 2016–2017
- *Unit Preview Project* with Clarke County high school Analytic Geometry teachers 2015–2016

University Supervisor

- *EMAT 5460/7460 Student Teaching in Secondary School Mathematics* 2013–2015
- 9 Teacher Candidates (2 Hooten Award for Excellence in Mathematics Education Recipients)

Teaching Assistant 2011–2014

- *EMAT4850/4800L Pedagogy 2—Focus on Group Facilitation*
- *EMAT 4950 Professional Seminar in Teaching Mathematics*
- *EMAT 5290/7290 Teaching Geometry and Measurement in the Middle School*
- *EMAT 4680/4000 Pedagogy 1— Focus on Student Thinking*

Secondary Mathematics Teacher, Seoul, Korea 2004–2017

- *Teaching Certificate*: Certified to teach secondary Mathematics, grades 7–12. License issued February 13, 2004 by Seoul Metropolitan Office of Education.
- *Seoul Global High School*: Grades 10, 11, 12 with partial English Immersion Program 2008–2011
- *Jangpyung Middle School*: Grades 7, 8, 9 2004–2008

Directed Student Learning

Dissertation Chair: Ryan, Kate.

Dissertation Chair: Ford, Lucinda. Undergraduate Developmental Mathematics Students' Fraction Understandings. Status: Mathematics Education Ph.D. Qualifying Exam and Proposal. (March 2022–August 2025). Hired as an Assistant Professor (tenure-track) at Georgia Southwestern State University.

Dissertation Committee Member: Kularajan, Sindura. STEM Undergraduates' Structural Conception of a Real-World Situation. Status: Mathematics Education Ph.D. Candidate (October 2020–Present).

Teaching Mentor

Layla Guyot (doctoral student), Jacob Shapiro (doctoral student), Alana Rosenwasser (lecturer), Amy Lawrence-Wallquist (master's student), Lucinda Ford (doctoral student), Brandi Rygaard (doctoral student), Abigail Quansah (doctoral student)

Teaching Honors and Awards

Excellence in Research Award at the assistant professor level 2020
Mathematics Department, Texas State University

Excellence in Teaching Award at the assistant professor level 2019
Mathematics Department, Texas State University

Outstanding Teaching Assistant Award 2017
Office of Instruction, University of Georgia

Nominated by Department of Mathematics and Science Education for 2015
The 2015 Graduate School Excellence in Teaching Award
University of Georgia

SERVICE

Professional Service

Reviewer

Journals:

- *Journal for Research in Mathematics Education*
- *Journal of Mathematical Behavior*
- *Cognition and Instruction*
- *Journal of Mathematics Teacher Education*
- *Mathematics Teacher: Learning and Teaching PK-12*
- *The Mathematics Educator,* Mathematics Education Student Association, University of Georgia

Conferences:

- Annual Research Conference of the Psychology of Mathematics Education, North American Chapter
- The National Council of Teachers of Mathematics Research Conference
- Association of Mathematics Teacher Educators Annual Conference

Mentorship

- Mentored Brooke Krejci (doctoral student at University of Northern Iowa) and Amy Smith (doctoral student at CU Denver) during the 2019 PME-NA mentoring program for graduate students.

Institutional Service

University level:

- Welcome staff, 2019 Family Weekend, Texas State University (2019)

Department level:

- Member, Colloquium Committee, Texas State University (2022–2024)
- Chair, Awards Committee, Texas State University (2020–2022)
- Member, Awards Committee, Texas State University (2017–Present)
- Member, Library Committee, Texas State University (2018–Present)
- Hosted department table at events such as Graduate and Professional School Fair and Graduate Open House (2017–2019)

Associations:

- Public Relations, Korean Student Association, University of Georgia (2013–2014)
- Secretary, Mathematics Education Student Association, University of Georgia (2012–2013)

PROFESSIONAL DEVELOPMENT AND WORKSHOPS ATTENDED

- TXST Program of Excellence in Teaching and Learning (2017-18)
- TXST PD: Allies Training (2019)
- TXST PD: Helping Graduate Students Dealing with Procrastination, Perfectionism and Mental Health Issues (2020)
- TXST PD: Teaching First-generation Students: Practical Tips for the Classroom (2020)
- TXST PD: Teaching Online @TxState (2020)
- TXST PD: Faculty and Staff: Supporting College Students through COVID-19 (2020)
- TXST PD: Successfully Supervising Graduate Students' Theses and Dissertations (2022)

OTHER ACTIVITIES

Translation Activities (English-Korean)

Translator and Grading Rubric Interpreter, Korean co-representative for TIMSS 2015 grading meeting in Prague, Czech Republic (March 9–March 13, 2015)

Translator, TIMSS 2011 result analysis published from Korea Institute for Curriculum and Evaluation (2013–2014)

Translator and Item Developer, Korean co-representative for TIMSS 2015 item development meeting in Amsterdam, Netherland (May 11–May 16, 2013)

Program Design Activities

Course Development, Mathematics Education Doctoral Level Course on Learning Theories, Texas State University	In preparation
Revision of Undergraduate Program Handbook Mathematics Education, University of Georgia	2014
Revision of Student Teaching Handbook Mathematics Education, University of Georgia	2014
Development of Intern Keys Mathematics Evaluation Form Mathematics Education, University of Georgia	2014