CV

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ver. February 13, 2026

CURRENT FIELDS OF INTEREST:

- Learning Sciences
- Technology-mediated Learning (Augmented reality, Artificial intelligence)
- Mathematics Education
- Family Engagement
- Mixed Methods

I. MASTERY OF A COMPLEX FIELD

A. Thesis/Dissertation

Ph.D. Boston College, Chestnut Hill, MA.

Major: Curriculum and Instruction (Specialization: **Mathematics and Technology Education**)

Dissertation title: The effects of school mathematics resources on students' intention to study mathematics over other subjects: Multilevel mediation structural equation modeling

B. Publications, Presentations, Posters

1. Published Journal Papers

1.1 **Flavin, E**. & Flavin, M. (2025). Speculative design for mathematical modeling and belonging, *Mathematics Teacher: Learning and Teaching PK–12*, 118 (9), https://doi.org/10.5951/MTLT.2024.0315 [*selected as a cover article]

1.2 Hwang, S., Kang, Y., JE, Lee., & **Flavin, E**. (2025) Analysis of generative AI's diagnostic and feedback capabilities regarding fraction multiplication errors: Focusing on ChatGPT, Gemini, and DeepSeek, *Journal of Educational Research in Mathematics*. https://doi.org/ 10.29275/jerm.2025.35.3.467

1.3 Lee, J. H. & * **Flavin. E**. (2025). AI decision making and statistical modeling. *Mathematics Teacher: Learning and Teaching PK–12*. https://doi.org/10.5951/MTLT.2024.0217 *Equal contribution

1.4 **Flavin, E.** Chung, M. Hwang, S., & Flavin, M. (2025). Augmented reality for area measurement reasoning of elementary students. *Educational Technology Research and Development*. https://doi.org/10.1007/s11423-025-10502-0

1.5 **Flavin, E.**, Hwang, S., & Morales, M. (2025). "Let's ask the robot!": Epistemic stance between teacher candidates toward AI in mathematics lesson planning. *Journal of Teacher Education*, *76*(3), 262-279. https://doi.org/10.1177/00224871251325079

1.6 **Flavin, E., *** Hwang, S & Flavin, M.T. (2025). Augmented reality for mathematics achievement: A meta-analysis of main and moderator effects. *International Journal of Science and Mathematics Education*. https://doi.org/10.1007/s10763-025-10546-x (*equal contribution)

1.7 M. Flavin,* K. Ha,* Z. Guo,* S. Li,* J. Kim,* T. Saxena, F. D. Simatos, F. Al-Najjar, Y. Mao, S. Bandapalli, C. Fan, D. Bai, Z. Zhang, Y. Zhang, **E. Flavin**, K. Madson, Y. Huang, L. Emu, J. Zhao, J. Yoo, M. Park, J. Shin, A. Huang, H. Shin, J. Colgate, Y. Huang, Z. Xie, H. Jiang, J. Rogers. (2024) Bioelastic state recovery for haptic sensory substitution, *Nature*, 635, 345–352. https://doi.org/10.1038/s41586-024-08155-9

1.8 Lee, J., **Flavin, E**., & Hwang, S. (2024). Open mathematical tasks conceived, designed, and reflected upon by preservice elementary teachers. *Journal of Mathematics Teacher Education.* https://doi.org/10.1007/s10857-024-09661-3

1.9 **Flavin, E.** & *Lee, J. H., Chamberlin, M., Powers, R. (2024). Artificial intelligence image processing. *Mathematics Teachers: Learning and Teaching PK-12, 117* (11). 848–852. https://doi.org/10.5951/MTLT.2024.0103 (*equal contribution)

1.10 **Flavin, E.**, & Flavin, M. (2024). Black feminist thought as a guide for ethical integration of artificial intelligence in mathematics classroom. *Connections, 34*(1), 1–8, https://amte.net/sites/amte.net/files/FlavinFlavin_Connections_Fall2024.pdf

1.11 Lee, J., **Flavin, E.**, Kim, S, & Hwang, S. (2024). Recording and representing student mathematical thinking: A comparison of preservice teachers in the U.S. and Korea. *Research in Mathematical Education (Journal of the Korean Society of Mathematical Education Series D), 34(3), 511–542.* https://doi.org/10.29275/jerm.2024.34.3.511

1.12 **Flavin, E.** & Suh, J. (2024). Centering empathy in a mathematics classroom. *Mathematics Teacher: Learning and Teaching PK–12. 117*(5), 361–370. https://doi.org/10.5951/MTLT.2023.0246

1.13 **Flavin, E.**, Lima Becker, M., Hubacz, H., Barbieri, O., & Oliveira, G. (2024). "(Not) the same as it was": Parents' and teachers' perception of the impact of COVID-19 on a bilingual elementary program. *Language and Education*, 1–19. https://doi.org/10.1080/09500782.2024.2343479

1.14 Segel, M., **Flavin, E**., Hubacz, H. & Oliveira, G. (2024). A currency of love: Illuminating motherhood across immigrant, cultural, and socioeconomic lines during Covid–19. *Urban Education*, 00420859241244769, https://doi.org/10.1177/00420859241244769

1.15 **Flavin, E.** *&* * *Hwang, S.* (2024). *U.S. and Korean teacher candidates' approaches to mathematics modeling on a social justice issue. Research in Mathematical Education (Journal of the Korean Society of Mathematical Education Series D), 27(1), 25–47.* https://doi.org/10.7468/jksmed.2024.27.1.25 (*equal contribution)

1.16 Hwang, S., **Flavin, E.**, & Lee, J. (2023). Exploring research trends of technology use in mathematics education: A scoping review using topic modeling. *Education and Information Technologies*, 1–28. https://doi.org/10.1007/s10639-023-11603-0

1.17 Oliveira, G., **Flavin, E**., & Hubacz, H. (2023). Teachers and parents at odds: Results from a survey on a dual language program implementation. *Education and Urban Society*. 00131245221141071. https://doi.org/10.1177/00131245221141071

1.18 Hwang, S., **Flavin, E**., Lee, J. (2023). The use of technology in Korean mathematics education: A systemic review. *Research in Mathematical Education (Journal of the Korean Society of Mathematical Education Series D), 33(3), 537–557.* https://doi.org/10.29275/jerm.2023.33.3.537

1.19 Hwang, S. & **Flavin, E**. (2023). Understanding a mathematics teacher community through a computational text analysis: Review of *change in mathematics pedagogical lexicons* by Lee & Kim (2022). *Research in Mathematical Education (Journal of the Korean Society of Mathematical Education Series D), 26 (1), 31–38.* https://doi.org/10.7468/jksmed.2023.26.1.31

1.20 **Flavin, E**., & Hwang, S. (2022). Examining multicultural education research in Korean mathematics education. *Research in Mathematical Education (Journal of the Korean Society of Mathematical Education Series D), 25* (1), 45–63. https://doi.org/10.7468/jksmed.2022.25.1.45

1.21 Hwang, S., & **Cho, E**. (2021). Exploring latent topics and research trends in mathematics teachers' knowledge using topic modeling: A systematic review. *Mathematics*, 9, 2956. https://doi.org/10.3390/math9222956

1.22 Oliveira, G., **Cho, E**., & Barbieri, O. (2021). Latino family engagement in a network of Catholic bilingual schools. *Journal of Catholic Education, 24*(1), 183–203. http://dx.doi.org/10.15365/joce.2401102021

1.23 **Cho, E**., Albert., L, & Hwang, S. (2021). Exploring white preservice mathematic teachers' racial identity and culturally relevant teaching practices. *Research in Mathematical Education (Journal of the Korean Society of Mathematical Education Series D)*, 24(1). 29–47. http://doi.org/10.7468/jksmed.2021.24.1.29

1.24 Hwang, S., **Cho, E.**, & Albert, L. (2020). Examining mathematics teachers' perception toward multicultural education: Teachers' noticing of multicultural contents in mathematics textbooks. *Research in Mathematical Education (Journal of the Korean Society of Mathematical Education Series D), 23* (2), 93–111. https://doi.org/10.7468/jksmed.2020.23.2.93

1.25 Oliveira, G., Chang-Bacon, C. K., **Cho, E.**, & Baez-Cruz, M. (2020). Parent and teacher perceptions of a Brazilian Portuguese two-way immersion program. *Bilingual Research Journal, 43*(2), 212–231. https://doi.org/10.1080/15235882.2020.1773961

1.26 Kim, D., **Cho, E.**, Stephanie, C., & Barnett, M. (2019). Culturally relevant science: Incorporating visualizations and home culture in an invention-oriented middle school science curriculum. *Technology & Innovation, 20*, 251–266. https://doi.org/10.21300/20.3.2019.251

1.27 **Cho, E.** & Hwang, S. (2019). Exploring changes in multi-ethnic students' mathematics achievement motivation: A longitudinal study using expectancy-value theory. *The Mathematical Education* (*Journal of the Korean Society of Mathematical Education Series A), 58*(1), 101–120. https://doi.org/10.7468/mathedu.2019.58.1.101

1.28 Seo, D. & **Cho, E.** (2017). An exploratory research on career dispositions of immigrant youths and their ecological conditions. *Journal of Education and Culture, 23*(1), 217–247. https://doi.org/ 10.24159/joec.2017.23.1.217

2. Conference Presentations with Proceedings (refereed)

2.1 **Flavin, E.**, Mohindra, K., & Lee, J. (2026, in press), CoDialogue Space: Design of AI-supported collaborative learning platform. The International Society of the Learning Sciences Conference, June 15-19, CA, USA.

2.2 Minter, E., & **Flavin, E.** (2026, in press), Mathematical modeling for community well-beings in an informal learning setting. *The 2025 STEAM Leadership Conferenc*e. February 27-28, 2026, GA, USA.

2.3 Mauntel, M., Witt, N., Suh, J., Cudd, M., **Flavin, E**., (2026, in press). Teaching the teachers: What AI student agents reveal about preservice teachers' noticing in statistics. *28th Annual Conference on Research in Undergraduate Mathematics Education* (February 26-28, 2026). VA, United States.

2.4 **Flavin, E.**, & *Castaneda, C. (2026, in press). When and how students engage with augmented generative AI during mathematical modeling tasks. *2026 Annual Meeting of the American Educational Research Association* (April 8-12, 2026). CA, United States. [***Selected as one of the 10 highest ranked AERA SIG-Instructional Technology proposals***]

2.5 Hwang, S., **Flavin E.**, Chung, M. (2025). Application AR to improve volume measurement competency (넓이 측정 함양을 위한 AR 활용). The 2025 International Conference of the Korean Society of Mathematical Education, "Bridging Research and Classroom Practice for the Future of Mathematics Education" (pp. 82-83), November 14-16, 2025, Daegu, South Korea.

2.6 **Flavin, E.**, Witt, N., Suh, J., Panorkou, N., Chandler, K., Joseph, M., Mauntel, M., Jegede, K., & Shojaei, L. (2025. Year 3 of TechQuity Working Group. *Proceedings of the 47th Annual Meeting of the North American Chapter of the*

International Group for the Psychology of Mathematics Education (pp. 1804-1806). Pennsylvania State University (October 26-29, 2025), PA, United States. https://www.pmena.org/pmenaproceedings/PMENA%2047%202025%20Proceedings.pdf

2.7 Witt, N., Jogede, K., **Flavin, E.**, Panorkou, N., Chandler, K., McCulloch, A., Suh, J., Joseph, M., & Mauntel, M. (2025). Report from year 2 of the TechQuity Working Group. *Proceedings of the 47th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (1807-1813). Pennsylvania State University (October 26-29, 2025), PA, United States. https://www.pmena.org/pmenaproceedings/PMENA%2047%202025%20Proceedings.pdf

2.8 **Flavin, E.**, & Flavin, M. (2024). Developing an augmented reality system for embodied mathematics learning. 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. 1985–1989). Kent State University. https://www.pmena.org/pmenaproceedings/PMENA%2046%202024%20Proceedings.pdf

2.9 Witt, N., Chandler, K., **Flavin, E.**, Suh, J., Panorkou, N., McCulloch, A., Hollebrands, K., & Joseph, M. Working group proposal (Year 2): Conceptualizing the role of technology in equitable mathematics classrooms (Math TechQuity). 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. 1985–1989). Kent State University. https://www.pmena.org/pmenaproceedings/PMENA%2046%202024%20Proceedings.pdf

2.10 Chandler, K., Witt, N., Suh, J., Hollebrands, K., McCulloch, A., **Flavin, E.,** Panorkou, N., Joseph, M., Yao, X. Working group report (Year 1): Conceptualizing the role of technology in equitable mathematics classrooms (Math TechQuity). 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. 2126–2135). Kent State University. https://www.pmena.org/pmenaproceedings/PMENA%2046%202024%20Proceedings.pdf

2.11 **Flavin, E.** (2024). The role of artificial intelligence for equitable mathematics teaching. *Proceedings of the Korean Society of Educational Studies in Mathematics* (pp. 2195–2197). Incheon, South Korea.

2.12 Hwang, S. & **Flavin, E.** (2024). The impact of augmented reality on mathematics performance: A meta-analysis. *Proceedings of the Korean Society of Educational Studies in Mathematics* (pp. 180–182). Incheon, South Korea.

2.13 Hwang, S., Lee, J., & **Flavin, E.** (2024). Analysis of preservice teachers' perception of open mathematical tasks (개방형 수학 과제에 대한 예비교사들의 인식 분석). Proceedings of the Korean Society of Elementary Mathematics Education 2024 Annual Conference. (pp. 75–78). Seoul, South Korea.

2.14 **Flavin, E.** *(2024, December 6–7). The role of artificial intelligence for equitable mathematics teaching* [Paper presentation].*The Korean Society of Educational Studies in Mathematics 2024 62nd Annual Conference* (December 5, 2024*), Incheon, South Korea.*

2.15 **Flavin, E.***, & Flavin, M. (2024, November 7–10). Developing augmented reality system for embodied mathematics learning* [Brief report presentation]. North American Chapter of the International Group for the Psychology of Mathematics Education (PME–NA) 2024 46th Annual Conference. Cleveland, Ohio, United States.

2.16 Hwang, S., Lee, J., & **Flavin, E.** (2024, November 1–2. A study on the characteristics of open mathematical tasks developed by preservice teachers (예비교사들이 개발한 개방형 수학 과제의 특성 연구) [Paper presentation]. The Korean Society of Mathematical Education Fall Academic Conference. Suwon, South Korea.

2.17 **Flavin, E.**, Flavin, M, & Hwang, S. (2024, September 25–28). *Augmented reality: Integrating real-world into math classroom* [Paper presentation]. National Council of Teachers of Mathematics [NCTM] 2024 Annual Meeting & Exposition. Chicago, IL, United States.

2.18 Hwang, S., Lee, J., & **Flavin, E.** (2024, August 9). Analysis of preservice teachers' perception of open mathematical tasks (개방형 수학 과제에 대한 예비교사들의 인식 분석) [Paper presentation]. Korean Society of Elementary Mathematics Education 2024 Annual Conference. Seoul, South Korea.

2.19 Hwang, S. & **Flavin, E**. (2024, April 5–6). *International comparative study of mathematical modeling strategies* (수학적 모델링 전략 국제비교 연구) [Paper presentation]. 2024 Spring conference for the Korean Society of Mathematical Education. Busan, South Korea.

2.20 **Flavin, E.**, Flavin, M., Chung, M., Simeon, M., Marie, R.*, & Solari, M.* (2024, February 8–10). *Teaching mathematics at a Black immigrant church: Implications for mathematics teacher education* [Paper presentation]. Association of Mathematics Teacher Educators [AMTE] 2024 28th Annual Conference. Orlando, FL, United States.

2.21 **Flavin, E**., Lee, J., & Hwang, S. (2023, October 1–4). *Technology in mathematics education research: Analysis of the past four decades* [Poster presentation]. North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA) 2023 45th Annual Conference. Reno, NV, United States.

2.22 **Flavin, E.** & Hwang, S. (2023, April 13–16). *A systemic review on mathematics education and technology* [Paper presentation]. American Educational Research Association [AERA] Annual Meeting. Chicago, IL, United States.

2.23 **Flavin, E.** (2023, February 24–26). *Racialized identities and mathematics teacher education: White preservice teachers' teaching practices* [Paper presentation]. American Association of Colleges for Teacher Education (AACTE) 2023 75th Annual Conference. Indiana, MN, United States.

2.24 **Flavin, E.** & Hwang, S. (2022, November 17–20). *What knowledge is needed for teaching mathematics? Using topic modeling* [Poster presentation]. North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA) 2022 44th Annual Conference. Nashville, TN, United States.

2.25 **Flavin, E.** (2022, September 28–October 1). *Rich mathematical and computational tasks for grade 4-6 geometry: Using a language, Scratch* [Paper presentation]. National Councils of Teachers of Mathematics [NCTM] 2022 Annual Meeting & Exposition. Los Angeles, CA, United States.

2.26 Segel, M., **Cho, E.**, Hubacz, H., & Oliveira, G. (2022, April 21–26). *From gratitude to frustration: Two-way immersion parents' perceptions of school supports during COVID-19* [Paper presentation]. American Educational Research Association [AERA] Annual Meeting. San Diego, CA, United States.

2.27 **Cho, E.**, Hwang, S., & Herosian, G.* (2022, April 6–8). *Three decades of research in mathematics teacher knowledge: Using text network modeling* [Paper presentation]. New England Educational Research Organization [NEERO] Annual Meeting. Portsmouth, NH, United States.

2.28 **Cho, E**. (2022, February 10–12). *Multilevel mediation structural modeling to assess whether attending a mathematics school can predict students' intention to pursue a mathematics-related field* [Manuscript Review Group]. Association of Mathematics Teacher Educators [AMTE] Annual Meeting. Henderson, NV, United States.

2.29 **Cho, E**., Hwang, S., & Herosian, G.* (2022, January 7). *Exploratory analysis on research in mathematics teacher knowledge* [Paper presentation]. National Councils of Teachers of Mathematics [NCTM] Research Conference. Virtual Meeting.

2.30 **Cho, E.**, Hubacz, H., Oliveira, G. (2021, Apr 8–12). *School community members at odds in dual language program implementation* [Paper presentation]. American Educational Research Association [AERA] Annual Meeting, Virtual Meeting.

2.31 Oliveira, G., **Cho, E.,** et al. (2021, Feb 26–27). *Im/migrant children and families' experiences in dual language education in Massachusetts* [Paper presentation]. 2021 Ethnography in Education Research Forum, Virtual meeting.

2.32 **Cho, E.** (2020, Dec 12) *Understanding the development of multi-ethnic students' mathematics achievement motivation* [Paper presentation]. 2020 International Conference of the Korean Society of Mathematical Education, Virtual meeting.

2.33 **Cho, E.**, Hwang, H., & Albert, L. (2020, Dec 12) *Understanding mathematics teachers' perception toward multicultural education* [Paper presentation]. 2020 International Conference of the Korean Society of Mathematical Education, Virtual meeting.

2.34 Chang-Bacon, C., **Cho, E.**, & Oliveira, G. (2020, Dec 2) *Community consciousness: Parallel parent and teacher perceptions of a two-way dual language immersion program* [Paper presentation]. Literacy Research Association (LRA) 70th Annual Conference, Virtual meeting.

2.35 **Cho, E**., Jeon, A. & Oliveira, G. (2020, Apr 17–21) *Promoting Latino family engagement in Catholic bilingual school* [Roundtable presentation]. AERA Annual Meeting. San Francisco, CA, United States. http://tinyurl.com/vpcyu4f

2.36 Chang–Chris, B., **Cho, E**., & Cruz, M, & Oliveira, G., (2020, Apr 17–21) *Parallel perceptions of two way immersion program implementation: How parents and teachers understand its merits* [Paper presentation]. AERA Annual Meeting San Francisco, CA, United States.

2.37 **Cho, E** & Hwang, S. (2019, April 25) *Why do multiethnic students in South Korea choose (not) to study mathematics over time?* [Paper presentation]. Lynch School of Education, Boston College, Chestnut Hill, MA, United States.

2.38 Hwang, S & **Cho, E**. (2019, April 5) *Exploring changes in multi-ethnic students' achievement motivation: A longitudinal study using expectancy-value theory* [Conference presentation]. Korean-American Educational Researchers Associations Annual Conference. Toronto, Canada.

2.39 **Cho, E**., & Hwang, S (2019, April 5) *Mathematics preservice teachers' culturally sustaining teaching strategies* [Conference presentation]. Korean-American Educational Researchers Associations Annual Conference. Toronto, Canada.

2.40 Kim, D., **Cho, E**., & Kim, S (2019, March 31–April) *Leveraging youth's diverse backgrounds to broaden participation in STEM through invention education* [Paper presentation]. NARST Annual International Conference. Baltimore, MD, United States.

2.41 Barnett, M., Kim, D., **Cho, E**., & Kim, S (2019, March 3) *Culturally relevant science: An invention program for middle school English Language Learners* [Paper presentation]. The American Association for Applied Linguistics [AAAL] Conference. Atlanta, GA, United States.

2.42 Kim, D., **Cho, E**., & Kim, S (2018, Oct 19) *Inventing the future: Leveraging cultural assets to create young STEM inventors (Culturally Relevant Science: English Language Learners' Experiences in a Modified Invention*

Science Curriculum) [Paper presentation]. Diversity Challenge (The Institute for the Study and Promotion of Race and Culture), Chestnut Hill, MA, United States.

2.43 Kim, D., **Cho, E**., Mannion, P., Long, Y., & Zhou, S. (2018, April 25) *Fostering English Language Learner's reflection through multimodal digital storytelling* [Paper presentation]. Graduate Research Symposium, Lynch School of Education, Boston College, Chestnut Hill, MA, United States. [***Awarded the 1st Best Student Presentation***]

2.44 Kim, D., Mannion, P., Long, Y., Zhou, S., & **Cho, E**. (2018, March 24). *Middle school English Language Learner's multimodal digital storytelling* [Paper presentation]. The American Association for Applied Linguistics Conference. Chicago, Illinois, United States.

Note.
Please visit flavineducationlab.com if you are interested in learning more about my research program, funded projects, teaching experience, mentoring, and professional affiliations.