

**Curriculum Vitae**  
**Nuodi Zhang**  
Oct 1, 2025

**General Information**

University Address: Educational Psychology and Learning Systems  
Anne's College  
Florida State University  
Tallahassee, Florida 32306-4453

Email: [nzhang4@fsu.edu](mailto:nzhang4@fsu.edu)

**EDUCATION**

- 2021 – Present    PhD (ABD), Florida State University, Tallahassee, FL, USA. Major: Instructional Systems and Learning Technologies.  
Dissertation: *Supporting preservice teachers' interpretations of student resources and responsive teaching in AI-supported teaching simulation.*
- 2018                MA, Beijing University of Posts and Communications, Beijing, China. Major: Foreign Language and Literature, Focus: Applied Linguistics.  
Thesis: *An empirical study of the effects of flipped class on engineering students' English academic writing skills.*
- 2014                BS, Jilin Agricultural University, Jilin, China. Major: Business Administration.

**RESEARCH INTERESTS**

- AI-enhanced learning systems
- Virtual reality and simulation-based learning
- STEM education
- Teacher education
- Learning analytics
- Neurodiversity and special education

**PUBLICATIONS**

**Refereed Journal Publications**

- Zhang, N.**, Ke, F., Barrett, A., Kim, C., & Xu, J. (in press). Assessing rural care ecosystems for individuals with neurodiversity: A systematic literature review. *Review of Educational Research*. <https://doi.org/10.3102/00346543251375458>
- Barrett, A., Ke, F., **Zhang, N.**, Dai, C.-P., Bhowmik, S., Yuan, X., & Southerland, S. (2025). Preservice teachers' dialogic interactions with AI-powered student agents: Patterns and perceptions. *Journal of Technology and Teacher Education*, 33(3), 499-527. Retrieved October 1, 2025 from <https://www.learntechlib.org/primary/p/226420/>.

- Zhang, N.**, Ke, F., Dai, C-P., Barrett, A., Bhowmik, S., Southerland, S., West, L., & Yuan, X. (2025). Enhancing responsive teaching through in-the-moment interpretations of student resources: A study in AI-supported virtual simulation. *Computers & Education*. Article 105449. <https://doi.org/10.1016/j.compedu.2025.105449>
- Barrett, A., Ke, F., **Zhang, N.**, & Sokolikj, Z. (2025). Implementation fidelity of an evidence-centered computational thinking intervention in a virtual world for neurodiverse adolescents. *Computer and Education: X Reality*, 7, Article 100106. <https://doi.org/10.1016/j.cexr.2025.100106>
- Shi, H., **Zhang, N.**, Na, H., & Caskurlu, S. (2025). Applications of machine learning for at-risk student prediction in online education: A 10-year systematic review of literature. *Journal of Computer Assisted Learning*, 41(4), Article e70058. <https://doi.org/10.1111/jcal.70058>
- Zhang, N.**, Ke, F., Dai, C-P., Southerland, S. A., & Yuan, X. (2025). Seeking to support preservice teachers' responsive teaching: Leveraging artificial intelligence-supported virtual simulation. *British Journal of Educational Technology*, 56, 1148–1169. <https://doi.org/10.1111/bjet.13522>
- Zhang, N.**, Dennen, V.P., Wang, Z., & Xu, J. (2025). Integrating AI into higher education: College students' positions in ChatGPT-supported learning. *International Journal for Educational Media and Technology*, 18(2). <https://www.ijemt.org/index.php/journal/article/view/339>
- Barrett, A., **Zhang, N.**, & Wei, S. (2025). The virtual reality in your head: How immersion and mental imagery are connected to knowledge retention. *Educational Psychology Review*, 37, 9. <https://doi.org/10.1007/s10648-025-09984-4>
- Shi, H., Caskurlu, S., **Zhang, N.**, & Na, H. (2024). To what extent has machine learning achieved in predicting online at-risk students? Evidence from quantitative meta-analysis. *Journal of Research on Technology in Education*, 1-20. <https://doi.org/10.1080/15391523.2024.2437741>
- Kim, C., Na, H., **Zhang, N.**, & Bai, C. (2024). Escape rooms for education: A meta-analysis. *International Journal of Instruction*, 17(4), 219-234. <https://doi.org/10.29333/iji.2024.17413a>

### **Refereed Conference Proceedings**

- Kim, C., Ke, F., Barrett, A., & **Zhang, N.** (2025). From code to insight: How LLMs help and hinder qualitative research. In A. I. Cristea, E. Walker, Y. Lu, O. C. Santos, & S. Isotani (Eds.), *Artificial Intelligence in Education: Posters and Late Breaking Results, Workshops and Tutorials, Industry and Innovation Tracks, Practitioners, Doctoral Consortium, Blue Sky, and WideAIED (AIED 2025)*, (pp 28-35). [https://doi.org/10.1007/978-3-031-99264-3\\_4](https://doi.org/10.1007/978-3-031-99264-3_4)
- Kim, C., Ke, F., **Zhang, N.**, & Barrett, A. (2025). LLM-supported thematic analysis: Evaluating GATOS workflow on complex qualitative data. In C. Mills, G. Alexandron, D. Taibi, G. Lo Bosco, & L. Paquette (Eds.), *Proceedings of the 18th International Conference on*

*Educational Data Mining (EDM 2025)*, (pp. 604-607).  
<https://doi.org/10.5281/zenodo.15870242>

- Dai, C-P., Ke, F., **Zhang, N.**, & Barrett, A. (2025). Experiencing teaching in artificial intelligence-supported virtual reality simulations: Unpacking engagement. In A. Rajala, A. Cortez, H. Hofmann, A. Jornet, H. Lotz-Sisitka, & L. Markauskaite (Eds.), *Proceedings of the 19th International Conference of the Learning Sciences (ICLS 2025)*, (pp. 1414-1418). <https://doi.org/10.22318/icls2025.794934>
- Zhang, N.**, Ke, F., Dai, C-P., & Barrett, A. (2025). Examining how in-the-moment interpretations of student disciplinary thinking and emotions support responsive teaching: A study in AI-supported simulation. In A. Rajala, A. Cortez, H. Hofmann, A. Jornet, H. Lotz-Sisitka, & L. Markauskaite (Eds.), *Proceedings of the 19th International Conference of the Learning Sciences (ICLS 2025)*, (pp. 1334-1338). <https://doi.org/10.22318/icls2025.106412>
- Barrett, A., Ke, F., **Zhang, N.**, & Dai, C-P., Bhowmik, S. & Yuan, X. (2025). Pattern analysis of ambitious science talk between preservice teachers and AI-powered student agents. In *Proceedings of the 15th International Learning Analytics and Knowledge Conference* (pp. 761-770). <https://doi.org/10.1145/3706468.3706570>
- Bhowmik, S., West, L., Barrett, A., **Zhang, N.**, Dai, C-P., Sokolikj, Z., Yuan, X., Southerland, S., & Ke, F. (2024). Evelyn AI — A large language model-powered virtual student agent for pre-service teacher training in virtual environments. In R. F. Mello, N. Rummel, I. Jivet, G. Pishtari & J. A. Ruipérez Valiente (Eds.), *Proceedings of the Technology enhanced learning for inclusive and equitable quality education (EC-TEL 2024)*, (pp. 68-74). [https://doi.org/10.1007/978-3-031-72312-4\\_7](https://doi.org/10.1007/978-3-031-72312-4_7)
- Zhang, N.**, Ke, F., Barrett, A., & Sokolikj, Z. (2024). Work-in-progress—Improving computational thinking for learners with autism in the virtual world: A longitudinal study. In *2024 10th International Conference of the Immersive Learning Research Network (iLRN 2024)*, (pp. 164-169). IEEE. <https://doi.org/10.56198/U6C0WYZ8W>
- Barrett, A., **Zhang, N.**, Ke, F., & Dai, C-P. (2024). Comparing the science talk of AI and human students. In *Proceedings of the 18th International Conference of the Learning Sciences (ICLS)*, (pp. 2073-2074). <https://doi.org/10.22318/icls2024.963739>
- Dai, C-P., Ke, F., **Zhang, N.**, Barrett, A., Bhowmik, S., West, L., & Yuan, X. Preservice teacher learning in virtual reality simulation with artificial intelligence-powered virtual students: Emotions and teacher talks patterns. In *Proceedings of the 18th International Conference of the Learning Sciences-ICLS 2024*, (pp. 1051-1054). International Society of the Learning Sciences. <https://doi.org/10.22318/icls2024.778856>
- Zhang, N.**, Ke, F., Barrett, A., & Sokolikj, Z. An evidence-centered and process-oriented assessment of computational thinking for learners with autism. In *Proceedings of the 18th International Conference of the Learning Sciences (ICLS 2024)*, (pp. 2167-2168). <https://doi.org/10.22318/icls2024.721396>
- Zhang, N.**, Ke, F., Dai, C-P., Southerland, S., Barrett, A., Bhowmik, S., West, L., & Yuan,

- X. Exploring preservice teachers' perceptions and experiences of teaching AI students in virtual simulations. In *Proceedings of the 18th International Conference of the Learning Sciences (ICLS 2024)*, (pp. 2417-2418). <https://doi.org/10.22318/icls2024.484241>
- Zhang, N.**, Ke, F., Dai, C. P., & Barrett, A. (2024). Supporting preservice teachers' responsive teaching in artificial intelligence-integrated simulations. In *Proceedings of the 18th International Conference of the Learning Sciences (ICLS 2024)*, (pp. 2051-2052). <https://doi.org/10.22318/icls2024.502726>
- Zhang, N.**, Xu, J., Wang, Z., & Dennen, V.P. (2024). Exploring college students' positions in interaction with ChatGPT. *29th Annual Teaching, Colleges, & Community Worldwide Online Conference (TCC 2024)*.
- Dai, C. P., Ke, F., **Zhang, N.**, Barrett, A., West, L., Bhowmik, S., Southerland, S.A., & Yuan, X. (2024). Designing conversational agents to support student teacher learning in virtual reality simulation: A case study. In *Proceedings of The ACM CHI Conference on Human Factors in Computing Systems*. <https://doi.org/10.1145/3613905.3637145>
- Barrett, A., Ke, F., Dai, C. P., West, L., Bhowmik, S., & **Zhang, N.** (2023). AI-integrated virtual students for teacher training: Comparing simulation-based classroom dialogue with the real thing. In *Proceedings of the 17th International Conference of the Learning Sciences (ICLS 2023)*, (pp. 1797-1798). <https://doi.org/10.22318/icls2023.112492>
- Barrett, A., **Zhang, N.**, Ke, F., Moon, J., & Sokolikj, Z. (2022, May). Work-in-progress—Developing an evidence-centered model for computational thinking in virtual worlds with children with autism. In *2022 8th International Conference of the Immersive Learning Research Network (iLRN 2022)*, (pp. 1-3). IEEE. <http://doi.org/10.23919/iLRN55037.2022.9815999>

### **Refereed Papers Presented at Conferences**

- Zhang, N.**, Dennen, V.P., Wang, Z., & Xu, J. (2025). An Exploration of College Students' Comparative Experience with Generative and Traditional Artificial Intelligence. Concurrent session accepted at the Association for Educational Communications and Technology (AECT).
- Dai, C-P., Ke, F., **Zhang, N.**, Barrett, A. (2025). Revisiting Engagement: Teacher Learning in AI-Enhanced Virtual Reality Simulations. Concurrent session accepted at the Association for Educational Communications and Technology (AECT).
- Hur, J., Kim, I., Wei, S., Shi, H., **Zhang, N.**, Dennen, V. (2025). Co-Creating with Generative AI: Pre-service Teachers' AI Use in Lesson Planning. Concurrent session accepted at the Association for Educational Communications and Technology (AECT).
- Zhang, N.**, Barrett, A., & Shi, H. (2025). A Systematic Review of Computational Thinking Disposition in PreK-12 Education: Definitions, Assessments, Roles, and Instructional Approaches. Concurrent session accepted at the Association for Educational

Communications and Technology (AECT).

**Zhang, N.**, Ke, F., Dai, C-P., Barrett, A. (2025). Examining how in-the-moment interpretations of student disciplinary thinking and emotions support responsive teaching: A study in AI-supported simulation. Concurrent session accepted at Association for Educational Communications and Technology (AECT).

Shi, H., Caskurlu, S., **Zhang, N.**, Na, H. To What Extent Has Machine Learning Achieved in Predicting At-Risk Students? Evidence From Quantitative Meta-analysis. Concurrent paper session accepted at American Educational Research Association (AERA), Denver, CO, United States.

**Zhang, N.**, Ke, F., Dai, C-P., Barrett, A. In-the-moment interpretation of student reasoning and emotion for responsive teaching: A study on AI-supported simulation. Concurrent paper session accepted at American Educational Research Association (AERA), Denver, CO, United States.

Barrett, A., Ke, F., Bhowmik, S., West, L., **Zhang, N.**, Dai, C-P., Yuan, X. Prompt engineering techniques for consistently relevant math-science conversations with an AI-powered student. Concurrent session accepted at American Educational Research Association (AERA), Denver, CO, United States.

Dai, C-P., Ke, F., **Zhang, N.** (2025). Optimizing learning support design: predictive links to teaching knowledge and self-efficacy in AI-integrated virtual reality. Concurrent paper session accepted at American Educational Research Association (AERA), Denver, CO, United States.

**Zhang, N.**, Ke, F., Dai, C-P. (2025). Seeking to support preservice teachers' responsive teaching: leveraging artificial intelligence-supported virtual simulation. Poster session accepted at American Educational Research Association (AERA), Denver, CO, United States.

Ocak, C., Caskurlu, S., **Zhang, N.**, Jun, B. Critical perspectives towards technology integration: Insights from in-service teachers. Concurrent session presented at Association for Educational Communications and Technology (AECT).

Wang, Z., **Zhang, N.**, Xu, J., Dennen, VP. (2024). Exploring college students' use of ChatGPT and digital literacy. Concurrent session presented at Association for Educational Communications and Technology (AECT).

Barrett, A., **Zhang, N.**, Wei, S. (2024). The benefits of narrative immersion for learning: A media comparison study using structural equation modeling. Concurrent session presented at Association for Educational Communications and Technology (AECT).

Dai, C-P., Ke, F., **Zhang, N.**, Barrett, A., Bhowmik, S., West, L., Yuan, X. (2024). Teacher noticing in virtual reality simulation classrooms: From human puppeteer to ai-powered virtual student agents. Concurrent session presented at Association for Educational Communications and Technology (AECT).

**Zhang, N.,** Ke, F., Dai, C-P., Barrett, A., Southerland, S., West, L., Bhowmik, S., Yuan, X. (2024). Improving preservice teachers' culturally responsive teaching self-efficacy through artificial intelligence-supported virtual simulation. Concurrent session presented at Association for Educational Communications and Technology (AECT).

**Zhang, N.,** Ke, F., Barrett, A., Sokolikj, Z. (2024, May 11-14). Detecting neurodiverse learners' frustration during educational gameplay using sequential pattern mining. Concurrent session presented at American Educational Research Association (AERA), Philadelphia, PA, United States.

**Zhang, N.,** Ke, F., Dai, C-P., Southerland, S., Bhowmik, S., West, L., Yuan, X. (2024, April 11-14). Understanding preservice teachers' perceptions and experiences in an AI-empowered teaching simulation. Concurrent session presented at American Educational Research Association (AERA), Philadelphia, PA, United States.

Shi, H., **Zhang, N.,** Na, H., Caskurlu, S., (2024, April 11-14). Machine learning applications for at-risk students prediction in online learning environments: A systematic review and quality assessment. Roundtable session presented at American Educational Research Association (AERA), Philadelphia, PA, United States.

Dai, C-P., Ke, F., **Zhang, N.,** Barrett, A., Bhowmik, S., West, L., Yuan, X. (2024, April 11-14). Preservice teachers' emotions and ambitious teaching in virtual reality simulation with artificial intelligence-powered virtual humans. Concurrent session presented at American Educational Research Association (AERA), Philadelphia, PA, United States.

Barrett, A., Ke, F., Dai, C-P., **Zhang, N.,** Bhowmik, S., West, L., Yuan, X., Southerland, S. (2024, April 11-14). Teacher training in virtual-world simulations: Analyzing pre-service science teacher talk moves with AI-powered student agents. Concurrent session presented at American Educational Research Association (AERA), Philadelphia, PA, United States.

Barrett, A., **Zhang, N.,** Ke, F., Sokolikj, Z. (2023, Oct 15-20). A correlation analysis of evidence-centered computational thinking behaviors from two subjects over one year. Concurrent session presented at Association for Educational Communications and Technology (AECT). Orlando, FL, United States.

Barrett, A., **Zhang, N.,** Wei, S. (2023, Oct 15-20). Transforming perceptions on the immersive learning affordances of non-interactive media. Concurrent session presented at Association for Educational Communications and Technology (AECT). Orlando, FL, United States.

Dai C-P., Ke, F., Barrett, A., **Zhang, N.,** West, L., Southerland, S., Bhowmik, S., Yuan, X. (2023, Oct 15-20). Classroom dynamics and teaching practices with artificial intelligence virtual students in virtual reality. Concurrent session presented at Association for Educational Communications and Technology (AECT). Orlando, FL, United States.

**Zhang, N.,** Barrett, A., Ke, F., Sokolikj, Z. & Moon, J. (2023, August 22-26). Improving computational thinking for children with Autism in the virtual world. Concurrent session presented at European Association for Research on Learning and Instruction (EARLI), Thessaloniki, Greece.

- Barrett, A., Dai, C.-P., West, L., Bhowmik, S., **Zhang, N.** & Ke, F. (2023, August 22-26). Preservice teacher discourse with AI-integrated virtual students: A look at sentence function. Concurrent session presented at European Association for Research on Learning and Instruction (EARLI), Thessaloniki, Greece.
- Dai, C-P., Ke, F., Southerland, S., Dai, Z., & **Zhang, N.** (2022, October). Scenario design in virtual reality with Artificial Intelligence (AI)-powered virtual agents. Concurrent session presented at Association for Educational Communications & Technology international convention (AECT), Las Vegas, NV, United States (and online).
- Zhang, N.**, Barrett, A., Ke, F., Moon, J. & Sokolikj, Z. (2023, May). An evidence-centered model for computational thinking assessment: Longitudinal observations of autistic youths in virtual worlds. Poster session presented at *American Educational Research Association (AERA) annual meeting*.

## PROFESSIONAL EXPERIENCE

### Research Experience

- |                |  |
|----------------|--|
| 2025 - present | <b>Research Assistant.</b> <i>Generative AI PD Workshops / Research</i> (PI: Dr. Vanessa Dennen). <ul style="list-style-type: none"> <li>● Develop and deliver AI workshop for in-service teachers in a local K-12 school.</li> <li>● Design and develop research protocols for Research-Practice Partnership.</li> <li>● Facilitate and support collaboration between in-service teachers and graduate students.</li> </ul> |
| 2025 - present | <b>Principal Investigator.</b> Epistemic affect in science learning in informal learning on YouTube. <ul style="list-style-type: none"> <li>● Design and develop research protocols.</li> <li>● Project management.</li> </ul>   |
| 2023 - 2025    | <b>Research Assistant.</b> <i>Integrating ChatGPT into higher education</i> (PI: Dr. Vanessa Dennen). <ul style="list-style-type: none"> <li>● Designed AI module for undergraduate students.</li> <li>● Facilitated human-AI collaboration in lesson plan development.</li> </ul>   |
| 2024 - present | <b>Research Assistant.</b> <i>Algorithmic bias in teaching and learning</i> (PIs: Drs. Secil Caskurlu and Ceren Ocak). <ul style="list-style-type: none"> <li>● Designed coding framework for algorithmic bias.</li> <li>● Data analysis of teachers' perceptions of algorithmic bias.</li> </ul>  |
| 2023 - present | <b>Principal Investigator.</b> <i>Cultivating cultural responsiveness in preservice teachers with mixed reality simulations and virtual students.</i> <ul style="list-style-type: none"> <li>● 3D avatar design and deployment in the virtual world.</li> </ul>  |
| 2023 - present | <b>Research Assistant.</b> <i>Neurodiversity Understanding and Resources for</i>   |

*Transformative Engagement* (PIs: Fengfeng Ke)

- Develop survey and interview protocol.
- Collect and analyze data from teachers, parents, and providers for individuals with neurodiversity.

2022 - present

**Research Assistant.** *Teaching Practices with Multiplayer Mixed Reality Simulations and Virtual Students* (PIs: Drs. Drs. Xin Yuan, Sherry Southerland, Fengfeng Ke).

- Design interface of the virtual simulation.
- 3D avatar design and deployment in the virtual world.
- Design intervention, including teaching scenarios, scaffolds, adaptive prompts, in the virtual simulation.
- Collect and analyze data using traditional and advanced statistical methods.

2021 - present

**Research Assistant.** *Virtual-Reality-Based Social and Cognitive Skills Training for Children with High Functioning Autism* (PI: Dr. Fengfeng Ke).

- Facilitate data collections sessions with neurodiverse children.
- Collect and analyze data using traditional and advanced statistical methods.

## **Teaching Experience**

2025 Fall

**Instructor of Record.** EME2040 Introduction to Educational Technology (undergraduate, online), Florida State University. Teach undergraduate-level course on using learning technologies in lesson planning and designing technology-enhanced learning experiences.

2024 Fall - 2025 Spring

**Instructor of Record.** EME2040 Introduction to Educational Technology (undergraduate, in person), Florida State University. Teach undergraduate-level course on using learning technologies in lesson planning and designing technology-enhanced learning experiences.

2025 Summer

**Teaching Assistant.** EDG6362 Instructional Systems Research Seminar (graduate, online, w/ Dr. Vanessa Dennen), Florida State University. Assisted Dr. Dennen in course material design, grading, and course management.

2025 Summer

**Teaching Assistant.** EDF5492 Applied Research Methods in Learning Design & Performance Technology (graduate, online, w/ Dr. Bret Staudt Willet), Florida State University. Assisted Dr. Staudt Willet in course material design, grading, and course management.



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| 2021        | <b>Instructional Designer.</b> ByteDance, Beijing, China,<br>Designed online English courses for K-1 students.   |
| 2020-2021   | <b>Instructor.</b> IELTS. New Oriental. Beijing, China. Planned, designed,<br>and taught speaking, grammar, and vocabulary courses in online and in-<br>person settings.   |
| 2017 Spring | <b>Instructor.</b> English extensive reading (undergraduate, in person).<br>Beijing University of Posts and Communications, Beijing, China.<br>Planned, designed, and taught undergraduate-level English reading<br>course in two classes. |

## **AWARDS AND HONORS**

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| 2024      | Best Proposal Award, Teacher Education Division, Association for<br>Educational Communications & Technology (AECT)          |
| 2024      | Robert M. Gagné Research Competition Finalist<br>Anne's College, Florida State University.                                  |
| 2024      | Liliana Muhlman Masoner Outstanding International Student<br>ISLT, Florida State University                                 |
| 2024      | Ruby Diamond Future Professor Award<br>ISLT, Florida State University<br>Travel fund (2023).                                |
| 2024      | College of Education, Health, and Human Sciences Scholarship Fund<br>(\$500).<br>Anne's College, Florida State University.  |
| 2023-2025 | Travel fund (in total \$6,000)<br>Marvalene Hughes Research in Education Conference Committee,<br>Florida State University. |
| 2023-2025 | Travel fund (in total \$1,830)<br>Congress of Graduate Students, Florida State University.                                  |

## **SERVICES**

### **Florida State University**

|      |                                     |
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| 2023 | Program Search Committee, ISLT, FSU |
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### **Refereed Journal Reviewer**

|      |   |
|------|---|
| 2025 | International Journal of Human-Computer Interaction |
|------|---|

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|----------------|---|
| 2025           | Journal of Educational Computing Research             |
| 2025           | Teachers and Teaching: Theory and Practice            |
| 2025           | Acta Psychologica                                     |
| 2025           | Learning and Instruction                              |
| 2025           | Educational Psychology Review                         |
| 2025           | Teaching and Teacher Education                        |
| 2025           | Computers & Education                                 |
| 2025           | Computers and Education Open                          |
| 2024 - Present | The Internet and Higher Education                     |
| 2024 - Present | Technology, Pedagogy, and Education                   |
| 2024           | Journal of Technology-Integrated Lessons and Teaching |

### **Refereed Conference Reviewer**

|                |       |
|----------------|-------|
| 2022 - Present | ISLS  |
| 2024 - Present | ICCE  |
| 2023 - Present | AECT  |
| 2024           | CHI   |
| 2024           | iLRN  |
| 2023           | EARLI |

### **Service to Professional Associations**

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|-----------|---|
| 2025      | ISLS online session chair   |
| 2025-2026 | Campus Liaison for AERA Division K (Teaching and Teacher Education) |

### **Professional Membership**

American Educational Research Association  
 Association for Educational Communications and Technology  
 International Society of the Learning Sciences