

WOONHEE SUNG

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EDUCATIONAL BACKGROUND

2011/09 -2017/05	Doctor of Education (Ed.D) in Instructional Technology and Media Teachers College, Columbia University Department of Mathematics, Science and Technology/Communication, Media and Learning Technologies Design
2015/07 -2016/05	Master of Science (M.S) in Applied Statistics Teachers College, Columbia University Department of Human Development/Measurement, Evaluations, & Statistics
2009/08 -2011/08	Master of Arts (M.A) in Instructional Technology University of Texas at Austin Department of Curriculum and Instruction
2003/03 - 2008/08	Bachelor of Arts (B.A) in Educational Technology and English Education Ewha Womans University, South Korea Major: Educational Technology Second Major: English Education Secondary school teaching certification for English

RESEARCH INTERESTS

- AI-Driven Learning Sciences and Human–AI Pedagogical Design
- Pedagogical Models for Making AI and Machine Learning Concepts Visible and Explainable
- AI Literacy, AI Awareness, and Critical AI Integration in K–16 Education
- Generative AI in Education: Experiential Learning, Transformative Learning, and Strategic Use
- Achievement Goals, Self-Efficacy, and AI Help-Seeking as Motivational Mediation Mechanisms
- Computational Thinking, Robotics, and Embodied Learning Design
- Design-Based Development of AI-Integrated K–16 Curriculum
- Teacher Beliefs, Technology Integration Models (e.g., PICRAT, TPACK Extensions)
- Learning Analytics and Data-Informed AI-Supported Instructional Systems

PROFESSIONAL EXPERIENCES

2019.1-present	Assistant Professor of Instructional Technology at School of Education The University of Texas at Tyler
2018.1-2018.3	Lecturer, Introduction to Statistics The School of Social Work, Columbia University
2017.8-2017.11	Lecturer, Introduction to Statistics The School of Social Work, Columbia University
2013-2017	Research Assistant, Institute for Learning Technologies Teachers College, Columbia University
2009-2019	Research Assistant, <i>FunWritr: Online Language and Literacy Playground</i> Language Learning & Technology Research and Design Group
2016-2017	Research Associate, <i>COBRIX: A Physical Computing Interface for Blind And Visually Impaired Students to Learn Programming</i> Teachers College, Columbia University
2011-2016	Research Assistant, <i>Greenify Lab: A Real-World Action Game for Climate Change Education</i> Teachers College, Columbia University
2009-2011	Research Assistant, <i>Alien Rescue: A Problem-Based Hypermedia Learning Environment for Middle School Science</i> The University of Texas at Austin

RESEARCH: PUBLICATIONS

Peer Reviewed Journal Papers

(* indicates the corresponding author)

1. **Sung, W***, & Gunpinar, Y. (2026). Bringing artificial intelligence literacy into online education: Machine-learning integration through geometry in K–12 teacher professional development. *The International Review of Research in Open and Distributed Learning*. 27(2). <https://doi.org/10.19173/irrodl.v27i2.9140> [SSCI]
2. Thomas, C. L., & **Sung, W.** (2026). Expectancy–value beliefs, achievement goals, and academic help-seeking outcomes in university students. *Learning and Motivation*, 95. <https://doi.org/10.1016/j.lmot.2026.102317> [SSCI]
3. Delello, J. A., **Sung, W.**, & Morris, M. (In press, 2026). Transforming lesson planning with ChatGPT: A multi-case study of pre-service and in-service educators. *TxEP: Texas Educator Preparation Journal*, 10(1).
4. Ahn, J., & **Sung, W.** (2026). Fostering computational thinking skills through unplugged debugging activities using gestures and embodiment. *Educational technology research and development*. <https://doi.org/10.1007/s11423-026-10688-x> [SSCI]

5. Delello, J. A., **Sung, W.**, De Giuseppe, T., Mokhtari, K., Hebert, J., & Bronson, A. (2026). Can a machine care? Exploring emotional intelligence and well-being in human artificial intelligence interactions. *Behaviour & Information Technology*, 1–19.
<https://doi.org/10.1080/0144929X.2026.2654494> [SSCI]
6. **Sung, W***, & An, H. (2026). From surface to substance: Experiential learning to promote understanding of ChatGPT for K-12 lesson planning. *Teaching and Teacher Education*, 172, 105375. <https://doi.org/10.1016/j.tate.2025.105375> [SSCI]
7. **Sung, W.**, & Thomas, C. L. (2025). The mediating role of academic help-seeking in the relationship between achievement goals and help-seeking from ChatGPT. *Social Psychology of Education*, 28, 155 (2025). <https://doi.org/10.1007/s11218-025-10108-7> [SSCI]
8. Gunpinar, Y*., & **Sung, W***. (2025). Exploring 2D geometric shape classification using AI-driven feature tables in mathematics. *School Science and Mathematics*. 1–14. <https://doi.org/10.1111/ssm.70003> [Scopus, ESCI]
9. An, H., Samaras, T., & **Sung, W.** (2025). Biomimicry and human design: Observing bird structures and functions to create flying machines with artificial intelligence. *Journal of Technology-Integrated Lessons and Teaching*, 4(2), 39-50.
<https://doi.org/10.13001/jtilt.v4i2.9417>
10. Delello, J. A., **Sung, W.**, Mokhtari, K., Hebert, J., Bronson, A., & De Giuseppe, T. (2025). AI in the classroom: Insights from educators on usage, challenges, and mental health. *Education Sciences*, 15(2), 113. <https://doi.org/10.3390/educsci15020113> [SCOPUS]
11. **Sung, W***, An, H., & Thomas, C.L. (2024). PICRAT analysis of technology-integration activities in U.S. K-12 public schools. *Computers in the Schools*. 1-24.
<http://doi.org/10.1080/07380569.2024.2338243> [SCOPUS]
12. Hull, D. M., & **Sung, W***. (2024). The use of a multimedia-enabled, serialized worked-example artifact in an online environment for secondary education. *Computers in the Schools*, 1–19. <https://doi.org/10.1080/07380569.2024.2390396> [SCOPUS]
13. **Sung, W***, An, H. & Thomas, C.L. (2024). What predicts K-12 teachers' technology integration practices in U.S public schools?: The relationship between teachers' beliefs and support. *Journal of Online Learning Research*, 10(1), 49-74. Waynesville, NC USA: Association for the Advancement of Computing in Education (AACE).
<https://www.learntechlib.org/primary/p/222763/>
14. Delello, J., **Sung, W.**, Mokhtari, K., & De Giuseppe, T. (2024). Are K-16 educators prepared to address the educational and ethical ramifications of artificial intelligence software?.

- In: Arai, K. (eds) *Advances in Information and Communication. FICC 2024. Lecture Notes in Networks and Systems, vol 921*. Springer, Cham. https://doi.org/10.1007/978-3-031-54053-0_28 [SCOPUS-published after presenting at the conference]
15. Thomas, C.L., Allen, K. & **Sung, W.** (2024). Emotional intelligence and academic buoyancy in university students: The mediating influence of self-compassion and achievement goals. *Trends in Psychol.* <https://doi.org/10.1007/s43076-024-00363-6> [SCOPUS]
 16. Delello, J. A., **Sung, W.**, Mokhtari, K., & De Giuseppe, T. (2024). Exploring college students' awareness of AI and ChatGPT: Unveiling perceived benefits and risks. *Journal of Inclusive Methodology and Technology in Learning and Teaching*, 3(4). <https://inclusiveteaching.it/index.php/inclusiveteaching/article/view/132>
 17. Thomas, C. L., **Sung, W.**, & Bretl, B. L. (2023). Emotional intelligence and anxiety in university students: evidence of a curvilinear relationship. *Journal of Further and Higher Education*, 47(6), 797–809. <https://doi.org/10.1080/0309877X.2023.2185773> [SCOPUS]
 18. An, H., **Sung, W***, & Yoon, S. Y. (2022a). Implementation of learning by design in a synchronized online environment to teach educational robotics to inservice teachers. *Educational Technology Research and Development*, 70(4), 1473-1496. <https://doi.org/10.1007/s11423-022-10134-8> [SSCI]
 19. An, H., **Sung, W***, & Yoon, S. Y. (2022b). Hands-On, Minds-On, Hearts-On, Social-On: A collaborative maker project integrating arts in a synchronous online environment for teachers. *TechTrends: Linking Research and Practice to Improve Learning*, 66(4), 590-606. <https://doi.org/10.1007/s11528-022-00740-x> [SCOPUS]
 20. **Sung, W***, Ahn, J., & Black, J.B. (2022). Elementary students' performance and perceptions of robot coding and debugging: Embodied approach in practice. *Journal of Research in Childhood Education*. 36(4), 681–696. <https://doi.org/10.1080/02568543.2022.2045399> [SCOPUS]
 21. An, H., Mongillo, G., **Sung, W.**, & Fuentes, D. (2022). Factors affecting online learning during the covid-19 pandemic: the lived experiences of parents, teachers, and administrators in US high-needs K-12 schools. *Journal of Online Learning Research*, 8(2), 203-234. <https://www.learntechlib.org/primary/p/220404/>
 22. Ahn, J., **Sung, W***, & Black, J. B. (2021). Unplugged debugging activities for developing young learners' debugging skills. *Journal of Research in Childhood Education*, 36(3), 421–437. <https://doi.org/10.1080/02568543.2021.1981503> [SCOPUS]
 23. **Sung, W***, & Black, J. B. (2020). Factors to consider when designing effective learning: Infusing computational thinking in mathematics to support thinking-doing. *Journal of*

Research on Technology in Education, 53 (4), pp. 404-426.

<https://doi.org/10.1080/15391523.2020.1784066> [SSCI]

24. **Sung, W***, Ahn, J., & Black, J. B. (2017). Introducing computational thinking to young learners: Practicing computational perspectives through embodiment in mathematics education. *Technology, Knowledge and Learning*, 22(3), 443-463.
<https://doi.org/10.1007/s10758-017-9328-x> [SCOPUS]
25. Lee, J. J., Ceyhan, P., Jordan–Cooley, W., & **Sung, W.** (2013). GREENIFY: A real-world action game for climate change education. *Simulation & Gaming*, 44(2–3), 349–365.
<https://doi.org/10.1177/104687811247053> [SCOPUS]

Peer Reviewed Book Chapters and Magazine

1. An, H., & **Sung, W.** (Eds). (2026). *Designing online continuing professional development for STEM education teachers: Models, strategies, and practice*, Routledge.
<https://doi.org/10.4324/9781003530343>
2. **Sung, W.** (2026). Extended TPACK for online professional development: Addressing the dual-layer challenge of teacher educators in STEM. In H. An & W. Sung (Eds.), *Designing online continuing professional development for STEM teacher education: Models, strategies, and practices*. Routledge.
<https://www.taylorfrancis.com/chapters/edit/10.4324/9781003530343-12/extended-tpack-online-professional-development-woonhee-sung>
3. **Sung, W.**, & An, H. (2026). The TMSR and 4-ONS model: Design-based learning in online continuing professional development integrating arts in STEM. In H. An & W. Sung (Eds.), *Designing online continuing professional development for STEM teacher education: Models, strategies, and practices*. Routledge.
<https://www.taylorfrancis.com/chapters/edit/10.4324/9781003530343-4/tmsr-4-ons-model-woonhee-sung-heejung>
4. An, H., Seplocha, H., & **Sung, W.** (2024, December) *Considering a Generative AI Tool for Translation: Using a Chatbot for Communication in Families' Home Languages*. NAEYC.
<https://www.naeyc.org/resources/blog/considering-ai-for-translation>
5. An, H., & **Sung, W.** (2024, February). The Thinkering, Making, Sharing, and Reflecting (TMSR) model: An instructional design model for online collaborative project-based learning. *Educause*. <https://er.educause.edu/articles/2024/2/thinkering-making-sharing-and-reflecting-a-model-for-online-collaborative-project-based-learning>
6. Bretl, B. L. & **Sung, W.** (2024). Advocating for media literacy in the curriculum. In Wright, C. L., Ey, L-A., Hopper, K. M., & Warburton, W. (Eds.), *The Importance Of Media Literacy: Getting The Most From The Digital World* (pp.79-87). Cambridge Scholars Publishing.

7. An, H., & **Sung, W.** (2023). Strategies to Help Administrators, Teachers, and Parents to Achieve Equitable Digital Learning in US High-Needs School Communities. In *Digital Learning in High-Needs Schools* (pp. 28-39). Routledge.
<https://www.taylorfrancis.com/chapters/edit/10.4324/9781003274537-4/strategies-help-administrators-teachers-parents-achieve-equitable-digital-learning-high-needs-school-communities-heejung-woonhee-sung>
8. Streim, N., Lowes, S., Herbert-Wasson, E., Colon-Leon, Yan, Vasudevan, L., Ahn, J-H., & **Sung, W.** (2019) "Developing Elementary Students' Problem Solving, Critical Thinking, Creativity, and Collaboration Through a University-school Partnership," Chapter in Reardon, R.M. & Leonard, J., eds., *Integrating Digital Technology in Education*. Charlotte, NC: Information Age Publishing.
9. **Sung, W***, Ahn, J., Kai, S. M., Choi, A., & Black, J. B. (2016). Incorporating touch-based tablets into classroom activities: Fostering children's computational thinking through iPad-integrated instruction. In D. Mentor & IGI Global (Eds.), *Handbook of research on mobile learning in contemporary classrooms* (pp. 378–406). Hershey, PA: IGI Global.
<https://doi.org/10.4018/978-1-5225-0251-7.ch019> [SCOPUS]

Peer Reviewed Conference Proceedings

1. **Sung, W.** & An, H. (2025). Teachers' perceptions and views about ChatGPT: Using Chatgpt as an assistant, not a problem-solver. In R. Jake Cohen (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 887-891). Orlando, FL, USA: Association for the Advancement of Computing in Education (AACE). <https://www.learntechlib.org/primary/p/225613/>
2. Delello, J., **Sung, W.**, Mokhtari, K., & De Giuseppe, T. (2024, March). Are K-16 educators prepared to address the educational and ethical ramifications of artificial intelligence software?. In *Future of Information and Communication Conference* (pp. 406-432). Cham: Springer Nature Switzerland. [published after conference presentation]
3. **Sung, W.**, An, H., & Thomas, C.L. (2022, October). A comparison between primary and secondary teachers' online teaching experiences in U.S K-12 schools. In *SITE Interactive Conference* (pp. 112-116). Association for the Advancement of Computing in Education (AACE). <https://www.learntechlib.org/primary/p/221578/>
4. An, H. & **Sung, W.** (2022). Playing in a virtual orchestra: A collaborative online maker project integrating arts for inservice teachers. *Proceedings of Society for Information Technology & Teacher Education International Conference* <https://www.learntechlib.org/primary/p/220781>

5. An, H., Mongillo, N., **Sung, W.**, & Fuentes, D. (2022). Factors facilitating and impeding online learning in U.S high-needs k-12 schools during the covid-19 pandemic: Experiences of teachers, administrators, and parents. In E. Langran (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 2320-2326). San Diego, CA, United States: Association for the Advancement of Computing in Education (AACE). <https://www.learntechlib.org/primary/p/221030/>.

6. An, H. & **Sung, W.** (2021). Project-based learning in an online STEM course: Teaching physical science with technology and the arts to inservice teachers. In E. Langran & D. Rutledge (Eds.), *Proceedings of SITE Interactive Conference* (pp. 347-351). Online, United States: Association for the Advancement of Computing in Education (AACE). <https://www.learntechlib.org/primary/p/220217/>.

7. An, H. & **Sung, W.** (2021). Design of an online robotics course using the learning by design Approach. In E. Langran & L. Archambault (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 568-576). Online, United States: Association for the Advancement of Computing in Education (AACE). <https://www.learntechlib.org/primary/p/219186/>.
[AACE Outstanding Paper Award Received]

8. **Sung, W.**, Ahn, J., Kai, S., & Black, J. B. (2017). Effective planning strategy in robotics education: An embodied approach. In P. Resta & S. Smith (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2017* (pp. 754-760). Chesapeake, VA: Association for the Advancement of Computing in Education (AACE).

9. Ahn, J., Mao, Y., **Sung, W.**, & Black, J. B. (2017). Supporting debugging skills: Using embodied instructions in children's programming education. In P. Resta & S. Smith (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2017* (pp. 9-16). Chesapeake, VA: Association for the Advancement of Computing in Education (AACE).

10. **Sung, W.**, & Ahn, J. (2012). Design of computer assisted tools for bridging the gap between receptive vocabulary and expressive vocabulary for ESL learners. In Teachers College Educational Technology Conference (Ed.), *Proceedings of the Fourth Annual TCETC* (pp. 74–77). New York, NY: Teachers College, Columbia University.

11. Olmanson, J., Huang, C.K., **Sung, W.**, & Chen, Y. H. (2012). Writing to learn: L2 writing as a gateway to effective implicit vocabulary learning and language acquisition via CALL. In J. Colpaert, A. Aerts, W. C. Wu, & Y. C. Chao (Eds.), *The medium matters: Proceedings of the 15 International Computer Assisted Language Learning Research Conference (CALL 2012)* (Vol. 1, pp. 510–514). Taichung, Taiwan: Providence University; University of Antwerp.

12. Huang, C. K., Olmanson, J., **Sung, W.**, & Chen, Y. H. (2012). FunWritr: An open-ended language exploration playground based on a sextet of design parameters for CALL. In J. Colpaert, A. Aerts, W. C. Wu, & Y. C. Chao (Eds.), *The medium matters: Proceedings of the 15 International Computer Assisted Language Learning Research Conference (CALL 2012)* (Vol. 1, pp. 277–283). Taichung, Taiwan: Providence University; University of Antwerp.
13. **Sung, W.** (2010). Analysis of underlying features allowing educational uses for collaborative learning in social networking sites, Cyworld. In J. Sanchez & K. Zhang (Eds.), *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2010* (pp. 1230–1235). Chesapeake, VA: AACE.
14. Huang, C. K., Chen, Y. H., Olmanson, J., **Sung, W. H.**, & Kim, Y. S. (2010). On initiating, maintaining, and growing an affinity-based student-led research and design group. In *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2010* (pp. 3747–3752). Chesapeake, VA: AACE.
15. Olmanson, J., Kim, Y. S., **Sung, W. H.**, Huang, C. K., & Chen, Y. H. (2010). Technology in the creative and participatory literacy practices of a second-grade classroom. In *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2010* (pp. 2115–2120). Chesapeake, VA: AACE.
16. Liu, M., Horton, L., Kimmons, R., Anderson, M., Lee, J., Rosenblum, J., Toprac, P., Li, Y., & **Sung, W.** (2010). The design and development of a media-rich learning environment: A learners-as-designers model. In *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2010* (pp. 213–222). Chesapeake, VA: AACE.

Manuscripts and Works in Progress

1. **Sung, W.** (Grant proposal in preparation, 2027). AI Literacy Education for K–16: Designing a Learning Progression from Unplugged Classification to Explainable and Bias-Aware AI Systems through Plugged and Reflective Scaffolding. *NSF proposal in preparation*.
2. **Sung, W***, & Gunpinar, Y. (Under Review). Fostering AI literacy through mathematics-integrated, TPACK-grounded hands-on intervention. *Interactive Learning Environments*, Manuscript ID: 268862152
3. Ahn, J*. & **Sung, W.** (Revision under review). Fostering computational thinking skills through unplugged debugging activities with gesture and embodiment. *Educational Technology Research and Development*, Manuscript ID: ETRD-D-24-00354

4. Gunpinar, Y. & **Sung, W.** (Under Review). Comparing the utilization of online resources and ChatGPT in redoing authentic mathematical problems. *Ohio Journal of School Mathematics*.
6. **Sung, W***, & Gunpinar, Y. (2027, in preparation). Examining the relationships among achievement goal structure, AI perception, and AI-TAM in non-routine mathematics problem-solving tasks.

Selected Conference Presentations

1. Ahn, J. & **Sung, W.** (2024). Beyond Code: How Embodied Debugging Enhances Persistence in K-12 Computational Thinking Education. In T. Bastiaens (Ed.), *Proceedings of EdMedia + Innovate Learning* (pp. 577-583). Brussels, Belgium: Association for the Advancement of Computing in Education (AACE). Retrieved November 20, 2024 from <https://www.learntechlib.org/primary/p/224566/>
2. An, H., & **Sung, W.** (2021, October). Project-Based Learning in an Online STEM Course: Teaching Physical Science With Technology and the Arts to Inservice Teachers. In *SITE Interactive Conference* (pp. 347-351). Association for the Advancement of Computing in Education (AACE).
2. **Sung, W.**, Ahn, H., & Ahram, C. (2020, April) *Introducing robotics planning strategies to scaffold students to think not just finish*. Paper presented at Society for Information Technology and Teacher Education International Conference 2020, Chesapeake, VA
3. Ahn, H., **Sung, W.**, & Black, J. B. (2018, April) *Using Embodied Instruction and Programming Language Formats in Young Children's Debugging Activities*. Paper session at the annual conference of the American Educational Research Association
4. **Sung, W.**, Ahn, J., & Black, J. B. (2017, April). *The design of unplugged activities promoting computational thinking and mathematics learning in early-childhood education*. Paper session at the annual conference of the American Educational Research Association, Washington, DC.
5. Ahn, J., **Sung, W.**, Lee, S. W., & I, J. H. (2017, April). COBRIX: A Physical Computing Interface for Blind and Visually Impaired Students to Learn Programming. *Paper presented at the Society for Information Technology & Teacher Education International Conference 2017*, Austin, TX, United States. <https://www.learntechlib.org/p/177876>
6. Ahn, J., Mao, Y., **Sung, W.**, & Black, J. B. (2017, April). *The impact of embodied approaches on debugging practice in children's programming education*. Paper session at the annual conference of the American Educational Research Association, Washington, DC.

7. Ahn, J., **Sung, W.**, & I, J. H. (2017, April). *COBRIX: A physical computing interface for visually impaired/blind students to learn programming*. Poster session at Society for Information Technology and Teacher Education International Conference 2017, Chesapeake, VA
[**Outstanding Poster Award Received**]
8. **Sung, W.**, Ahn, J., Kai, S. M., & Black, J. B. (2016, April). *The effects of embodied planning in children's robotics education*. Paper presented at the annual conference of the American Educational Research Association, Washington, DC.
9. Choi, A., **Sung, W.**, Ahn, J., Kern, R., & Lee, J. J. (2014, June). *Greenify: A mobile platform to motivate sustainability via game mechanics and self-determination*. Poster presented at the Games, Learning and Society (GLS) Conference, Madison, WI.
10. **Sung, W.**, Olmanson, J., & Huang, C. K. (2013, April). *Understanding creative and participatory literacy practices: A design ethnography*. Poster presented at the annual conference of the American Educational Research Association, San Francisco, CA.
11. Olmanson, J., Huang, C. K., Scordino, R., **Sung, W.**, & Lee, J. (2013, April). *Explicit and congruent: A case study of factors guiding the design of an online environment*. Paper presented at the annual conference of the American Educational Research Association, San Francisco, CA.
12. Lee, J. J., Ceyhan, P., Jordan-Cooley, W., & **Sung, W.** (2012). *Greenify: Real-world missions for climate change education*. Games, Learning and Society (GLS) Conference, Madison, WI.
13. Olmanson, J., & **Sung, W.** (2012, February). *Beyond critical design ethnography: Inquiring for understanding and digital possibility*. Paper presented at the annual Ethnography in Education Research Forum, Philadelphia, PA.

GRANTS

Title: Verification Centered AI Literacy in Engineering Education Through Transferable Instructional Tools

Funding Agency: NSF: Improving Undergraduate STEM Education: Directorate for STEM Education

Role: Co-Principal Investigator

Proposal submitted Date: 01/21/2026

Proposed Date: 10/01/2026

Amount: \$400,000

Proposed Duration: 36 months

Title: Hollywood Meets Learning: Using an Immersive Learning System to Enable Underrepresented Students to Develop High-Demand Computing Skills and Become Self-Regulated Learners

Funding Agency: NSF: Broadening Participation in Computing

Role: Co-Principal Investigator

Proposed Date: 01/20/2022

Amount: \$299,999 (not funded)

Proposed Duration: 24 months

Title: Collaborative Research: Synthesis: Research Syntheses of Arts in STEM+C Education for PreK-12 Students and Teachers

Funding Agency: NSF: Innovative Technology Experiences for Students and Teachers

Role: Principal Investigator

Proposed Date: 08/13/2021

Amount: \$ \$35,285 (not funded)

Proposed Duration: 24 months

TEACHING

College/University Level

2019–present	The University of Texas at Tyler BAAS 4340: Artificial Intelligence Tools in Society BAAS 4321: Introduction to Educational Technology EDUC 4321: Integrating Technology in the Classroom EDCI 5332: Instructional Design for Effective Learning Environments EDUC 5334: Learning Technologies and Disabilities EDUC 5301: Statistics and Research Methods for Learning Sciences EDUC 5302: Developing an Educational Research Proposal EDUC 5351: Assessment in Educational Settings EDUC 5316: Best Practices for Curriculum and Instruction EDSI 6161: Dissertation II EDSI 6360: Dissertation in School Improvement
2017–2018	Lecturer – Columbia University School of Social Work SOCWT 6505: Introduction to Statistics
2017	Guest Speaker Seminar – Columbia University School of Social Work Institute on Pedagogy and Technology for Online Courses
2017	Lead Teaching Associate, Columbia University School of Social Work SOCWT 6501: Research Methods in Social Work

2014–2017	Lead Teaching Associate – Columbia University School of Social Work SOCWT 6505: Introduction to Statistics
2016	Guest Lecturer – Queens College, The City University of New York Elementary and Early Childhood STEM Education
2013–2016	Teaching/Lab Assistant – Teachers College, Columbia University HUDM 4120: Basic Concepts in Statistics
2014–2016	Teaching/Lab Assistant – Teachers College, Columbia University HUDM 4122: Probability and Statistical Inference
2015	Teaching Assistant - Teachers College, Columbia University HUDM 4050: Introduction to Measurement

SERVICE and AWARD

2025, May	Invited Speaker, <i>Frameworks to Practice: Effective Design Strategies for Online courses</i> . TechCon. Center for Learning and Development, Tyler Junior College, Tyler, TX.
2024, October	Invited Panelist, <i>Using AI for Teaching. AI Showcase Faculty Panel</i> University of Texas at Tyler, Tyler, TX.
2024, March	Invited Panelist, <i>Ethics and Artificial Intelligence Panel Discussion</i> University of Texas at Tyler, Tyler, TX.
2024–present	Academic AI Committee University of Texas at Tyler

2021–present	Center for Ethics CEP representative University of Texas at Tyler
2024–2025	Technology Committee Chair School of Education, University of Texas at Tyler
2024–2025	SOE Annual Evaluation Review Committee School of Education, University of Texas at Tyler
2024– present	Reviewer, <i>Frontiers in Education</i> Journal
2022–2024	Education Director, The Tyler Sister Cities, Tyler, Texas
2022	Research Award, College of Education and Psychology, University of Texas at Tyler
2021–2022	Search Committee Chair School of Education, University of Texas at Tyler
2021–2022	Co-Liaison for the Faculty Learning Community (FLC) for Student Research College of Education and Psychology, University of Texas at Tyler
2020–2022	Research Committee, College of Education and Psychology, University of Texas at Tyler
2021	Outstanding Paper Award, Association for the Advancement of Computing in Education (AACE) hosting <i>Society for Information Technology & Teacher Education International Conference</i> . Online, United States.
2020-2021	Diversity Committee College of Education and Psychology, University of Texas at Tyler
2020 June	Reviewer, National Science Foundation, CSforAll program
2016–present	Reviewer, <i>The Society for Information Technology and Teacher Education & Journal of Online Learning Research</i>
2016–present	Reviewer, <i>Journal of Technology, Knowledge and Learning</i> , American Educational Research Association

MEMBERSHIPS

- 2009–2025 American Educational Research Association (AERA)
 Division C: Learning and Instruction
 Division E: Counseling & Human Development
 Division K: Teaching and Teacher Education
 SIGs: Learning Sciences Special Interest Group
- 2014–2019 Korean-American Educational Researchers Association (KAERA)
- 2014–present Society for Information Technology & Teacher Education (SITE)
 (selected)
 SIGs: Computational Thinking
 SIGs: Early Childhood Education
 SIGs: New Possibilities with Information Technologies
 SIGs: Teaching & Learning with Emerging Technologies

PROFESSIONAL QUALIFICATIONS

Quantitative and Qualitative Data Analysis Software (SPSS, EXCEL, MPLUS, R, Nvivo, LWIC)
 Adobe Packages and Video Editing Software (Final Cut Pro, Premiere, Captivate)
 Learning Management Systems (Canvas, Blackboard, Moodle, Adobe Conference, Second Life)

PROFESSIONAL CERTIFICATIONS

- 2008 National Technical Qualification Certificate “Information Processing Engineer” Seoul,
 South Korea
- 2008 Secondary School Teaching Certification for English, South Korea
- 2008 Secondary School Teaching Certification for Educational Philosophy, South Korea