MINJI JEON

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269 Carolyn Pope Edwards Hall 840 N 14th St, Lincoln, NE 68588

2023

Bloomington, IN

PROFESSIONAL EXPERIENCE

PI: Dr. Kwon

Assistant Professor (Tenure-Track)

Assistant i folessor (i chure-i rack)	2023
Innovative Learning Technologies Program, Elementary Education (K-6) Program Department of Teaching, Learning, and Teacher Education	Lincoln, NE
College of Education and Human Sciences, University of Nebraska-Lincoln	
EDUCATION	
Ph.D. in Instructional Systems Technology	2023
Indiana University	Bloomington, IN
Dissertation Title: Developing Middle Schoolers' Artificial Intelligence Literacy Through Learning: Investigating Cognitive & Affective Dimensions of Learning	ing About AI
Committee: Drs. Kyungbin Kwon (Chair), Anne Ottenbreit-Leftwich, Krista Glazewski,	
M.S. in Applied Statistics	2023
M.S. in Instructional Systems Technology	2023
Indiana University	Bloomington, IN
B.Ed. in Elementary Education – Magna Cum Laude	2013
B.Ed. in Secondary English Education	2013
Korea National University of Education	South Kored
Research Experience	
Research Assistant	
AI Goes Rural	2021 – Present
PIs: Drs. Kwon, Leftwich, Glazewski, Acharya, & Mehmet (Dept of Defense, \$ 1,399,000)	Bloomington, IN
• Led the design of instruction to help students learn about AI concepts in middle school	l classrooms
• Developed assessment instruments for both cognitive and affective learning outcomes	
 Video analysis of students' inquiry process for AI-infused problem solving 	
Primary AI	2020 – Present
 PIs: Drs. Glazewski, Leftwich, Hmelo-Silver, Lester, & Mott (NSF#1934128, \$ 670,000) Developed scenarios for an AI-infused, problem-based learning game in elementary li Assisted in the development of lesson plans and assessment 	Bloomington, IN fe science contexts
• Participated in the writing of research articles about how teachers and students perceiv	e AI
Expanding Computer Education Pathways (ECEP) & CS4IN	2020 – Present
PIs: Drs. Fletcher, Richardson, Leftwich et al. (NSF#1822011, \$3,273,470)	Bloomington, IN
• Document analysis of the ECEP's longitudinal data to create a database of CS education	on across states
Content analysis of in-depth interviews with state leaders	
Exploratory data analysis for the computer science enrollment data in Indiana	
Embodied Learning for Computational Thinking	2020 - Present

· Developed instruments to measure spatial reasoning, computational thinking, and attitudes

· Conducted multilevel analysis, surveys, interviews, and video analysis

• Developed an embodied learning module for enhancing computational thinking for 1st and 2nd graders

Google Computer Science Education Research Group

2018 - 2020

PIs: Drs. Leftwich, Kwon, & Brush (Funded by Google Inc., \$ 101,065)

Bloomington, IN

- Co-developed instructional materials for inquiry-based CS curriculum for 5th and 6th graders
- · Developed assessment tools for measuring understanding of computational thinking concepts
- Developed a rubric to assess computational thinking practice and evaluate student-authored programs

Computer-Supported Collaborative Learning (CSCL) Group

2018 - 2020

PI: Dr. Kwon

Bloomington, IN

- Built case-based learning modules with graphic organizers for online discussions
- · Conducted quantified content analysis, surveys, and interviews

East Asian Collection Specialist

2018 - 2019

Department of East Asian Studies, Wells Library, Indiana University

Bloomington, IN

- Recommended books for the library's collection for East Asian Studies
- · Identified available resources from books and journal databases to support scholarship

Evaluating ODA Education Programs

2017 - 2018

PI: Dr. Soo-Young Lee, Seoul Natl' Univ. of Ed. (Funded by the Korean Government)

Seoul, Korea

- Developed strategies for ASEAN+3 Center for the Gifted in Science
- · Evaluated educational official development assistance programs for southeast Asian countries

TEACHING EXPERIENCE

Instructor of Record

TEAC259A Instructional Technology in Elementary Schools

Fall 2023, University of Nebraska-Lincoln

Teaching strategies for using technology to support K-12 classroom instruction

TEAC859 Designing Learning Experiences

Fall 2023, University of Nebraska-Lincoln

• Teaching approaches to creating learning experiences, drawing on behavior science, cognitive modeling, constructivism, sociocultural, problem-based, and social justice perspectives on learning

Teaching Assistant

R521 Instructional Design & Development

Fall 2020, Indiana University

- · Designed tasks for collaborative argumentation and facilitated online discussions and provided feedback
- Developed video tutorials for case-based learning using graphic organizer authoring tools

W220 Computer Science (CS) & Programming in K-12 Classrooms

Spring 2019, Indiana University

- Assisted in student assignment evaluation
- Mentored students on Python & Scratch program development

Associate Instructor (Instructor of Record)

W210 Introduction to K-12 Computing, CS, & Technology Integration

Fall 2019, Indiana University

- Designed a technology integration course curriculum
- Taught basic programming skills with HTML, CSS, & Scratch
- Taught how to incorporate computational thinking in diverse disciplines (e.g., English, Science, Math)

K-12 Teacher (Elementary)

2013 - 2018

Yatap Elementary School

South Korea

- Created and implemented problem-based modules for interdisciplinary learning
- Authored 3rd-grade social studies textbooks, Our Village, Seong-nam (2017, 2018)
- Led a professional development community for teachers and mentored newly appointed teachers

Program Manager & Instructor at the Department of STEM

2014 - 2018

Institute for Gifted Education

South Korea

- · Launched a multidisciplinary approach for the gifted education program
- · Utilized coding, 3D modeling and printing, augmented reality, and drones in teaching computing and STEM

Journal Articles Published

- 8. Kwon, K., **Jeon, M.**, Zhou, C., Kim, K., & Brush, T. (2022). Embodied learning for computational thinking in early primary education. *Journal of Research on Technology in Education*. https://doi.org/10.1080/15391523.2022.2158146
- 7. **Jeon, M.**, Kwon, K., & Bae, H. (2022). Effects of different types of graphic organizers in asynchronous online discussions. *Educational Technology Research & Development*. https://doi.org/10.1007/s11423-022-10175-z
- Ottenbreit-Leftwich, A. T., Dunton, S., Fletcher, C., Childs, J., Jeon, M., Biggers, M., DeLyser, L. A., Goodhue, J., Richardson, D., Peterfreund, A., Guzdial, M., Adrion, R., Ericson, B., Fall, R., Abramenka, V. (2022). How to change a state: Broadening participation in K-12 computer science education. *Policy Futures in Education*. https://doi.org/10.1177/14782103221123363
- 5. Koressel, J., Ottenbreit-Leftwich, A. T., Jantaraweragul, K., **Jeon, M.**, Warner, J., & Brown, M. (2022). Investigating CS teacher licensure in Indiana [Special Issue]. *TechTrends*, *66*, 412–422. https://doi.org/10.1007/s11528-022-00726-9
- Ottenbreit-Leftwich, A. T., Glazewski, K., Jeon, M., Jantaraweragul, K., Hmelo-Silver, C., Scribner, A., Lee, S., Mott, B., & Lester, J. (2022). Lessons learned for AI education with elementary students and teachers [Special issue]. *International Journal of Artificial Intelligence in Education*. https://doi.org/10.1007/s40593-022-00304-3
- 3. Kwon, K., **Jeon, M.**, Guo, M., Yan, G., Kim, J., Ottenbreit-Leftwich, A. T., & Brush, T. A. (2021). Computational Thinking practices: Lessons learned from a problem-based curriculum in primary education. *Journal of Research on Technology in Education*, 1–18. https://doi.org/10.1080/15391523.2021.2014372
- 2. Kwon, K., Ottenbreit-Leftwich, A. T., Brush, T., **Jeon, M.**, & Yan, G. (2021). Integration of problem-based learning in elementary computer science education: Effects on computational thinking and attitudes. *Educational Technology Research & Development*, 69 (5), 2761–2787. https://doi.org/10.1007/s11423-021-10034-3
- 1. Ottenbreit-Leftwich, A. T., Kwon, K., Brush, T., Karlin, M., **Jeon, M.**, Jantaraweragul, K., Guo, M., Nadir, H., Gok, F., & Bhattacharya, F. (2021). The impact of an issue-centered problem-based learning curriculum on 6th grade girls' understanding of and interest in computer science. *Computers & Education Open, 2*, 100057. https://doi.org/10.1016/j.caeo.2021.100057

Journal Articles Submitted

- **Jeon, M.**, Koressel, J., Ottenbreit-Leftwich, A. T., & Jantaraweragul, K. (Under Review). Indiana high schools' Computer Science enrollment and disparity indices: On gender, ethnicity, locale, and economic status. *Computer Science Education*.
- **Jeon, M.**, & Kwon, K. (Under Review). Parallel instructions of text-based and block-based programming: On novice programmers' computational thinking practices. *Educational Studies*.
- Jeon, M., Jantaraweragul, K., Ottenbreit-Leftwich, A. T., Glazewski, K., Hmelo-Silver, C., Mott, B., Lester, J. (Submitted). An inquiry-based artificial intelligence curriculum for upper elementary students: A design case of PrimaryAI

Manuscripts in Preparation

- **Jeon, M.**, Kwon, K., Ottenbreit-Leftwich, A. T., & Glazewski, K. A project-based AI literacy program for middle school students: On conceptual understanding and productive dispositions.
- **Jeon, M.**, Ottenbreit-Leftwich, A. T., Koressel, J., & Brown, M. Indicators contributing to Computer Science enrollments: Based on high schools in Indiana.
- **Jeon, M.**, Kwon, K., Ottenbreit-Leftwich, A. T., & Glazewski, K. Exploring AI-infused problem-solving of middle schoolers: Using multimodal transcription.
- Kwon, K., **Jeon, M.**, Bae, H., & Rutkowski, L. Structural equation modeling to examine the effects of metacognitive instructions for self-regulated learning.
- Kwon, K., Kim, K., **Jeon**, **M.**, Zhou, C., & Brush, T. Lower elementary students' embodied strategies for spatial reasoning and computational thinking.

PRESENTATIONS

- 30. Chakraburty, S., **Jeon, M.**, Glazewski, K., Hmelo-Silver, C., Leftwich, A. T., Jantaraweragul, K., Scribner, A., Mott, B., & Lester, J. (2023, June 10-15). *An Analysis of Teacher Practices and Student Participation in Contrasting Activity Systems in an AI Educational Program* [Research Paper]. 2023 ISLS Annual Meeting, Montreal, Canada.
- 29. Bae, H., Kwon, K., Glazewski, K., Ottenbreit-Leftwich, A., Closser, F., **Jeon, M.**, & Kim, K. (2023, April 13-16). *Investigating the Process and Strategies for Teacher Empowerment in Virtual Co-design Sessions* [Paper session]. 2023 AERA Annual Meeting, Chicago, IL.
- 28. Ottenbreit-Leftwich, A., Glazewski, K., Hmelo-Silver, C., Jantaraweragul, K., Chakraburty, S., **Jeon, M.**, Scribner, A., Lee, S., Mott, B., & Lester, J. (2023, March 15-18). *Is Elementary AI Education Possible?* [Poster session]. In *Proceedings of the 54th ACM Technical Symposium on Computer Science Education* (p. XX).
- 27. **Jeon, M.**, Koressel, J., Jantaraweragul, K., & Ottenbreit-Leftwich, A. (2022, October 24-28). *Indiana High School's Computer Science Enrollment and Disparity Indices: On Gender, Ethnicity, Locale, and Economic Status* [Concurrent session]. 2022 AECT Convention, Las Vegas, NV.
- 26. Jeon, M., Kwon, K., Ottenbreit-Leftwich, A., Glazewski, K., Closser, F., Bae, H., & Kim, K. (2022, October 24-28). Developing a Student-centered AI Literacy Curriculum for Rural Middle School Students [Poster session]. 2022 AECT Convention, Las Vegas, NV.
- 25. Jantaraweragul, K., **Jeon, M.**, Lee, H., Glazewski, K., Ottenbreit-Leftwich, A., Hmelo-Silver, C., Scribner, A., Mott, B., & Lester, J. (2022, October 24-28). *PrimaryAI: A Problem-Based Learning Approach to Teaching Elementary Students Artificial Intelligence and Animal Conservation* [Showcase]. 2022 AECT Convention, Las Vegas, NV.
- 24. Kim, K., Ottenbreit-Leftwich, A., Kwon, K., Glazewski, K., Closser, F., Bae, H., & **Jeon, M.** (2022, October 24-28). *Design Considerations of Synchronous Online AI Professional Development for Middle School Teachers* [Concurrent session]. 2022 AECT Convention, Las Vegas, NV.
- 23. **Jeon, M.**, Jantaraweragul, K., Glazewski, K., Ottenbreit-Leftwich, A., Chakraburty, S., Scribner, A., Hmelo-Silver, C., Mott, B., & Lester, J. (2022, September 14-16). *PrimaryAI: Where life sciences, artificial intelligence, and computer science converge* [ICT demonstration]. The European Association

- for Research on Learning and Instruction (EARLI) 2022 Joint SIG 20 and SIG 26 Conference, Utrecht, Netherlands.
- 22. Ottenbreit-Leftwich, A., Glazewski, K., Jeon, M., Jantaraweragul, K., Hmelo-Silver, C., Scribner, A., Lee, S., Mott, B., & Lester, J. (2022, July 8-13). Principles for AI Education for Elementary Grades Students [Poster]. Innovation and Technology in Computer Science Education (ITiCSE) 2022 Conference, Dublin, Ireland.
- 21. Glazewski, K., Ottenbreit-Leftwich, A., Jantaraweragul, K., **Jeon, M.**, Hmelo-Silver, C., Scribner, A., Lee, S., Mott, B., & Lester, J. (2022, July 8-13). *PrimaryAI: Co-Designing Immersive Problem-Based Learning for Upper Elementary Student Learning of AI Concepts and Practices* [Poster]. Innovation and Technology in Computer Science Education (ITiCSE) 2022 Conference, Dublin, Ireland.
- 20. Koressel, J., **Jeon, M.**, Jantaraweragul, K., & Ottenbreit-Leftwich, A. (2022, March 4). *Indiana High School's Computer Science Enrollment and Disparity Indices: On Gender, Ethnicity, Locale, and Economic Status* [Paper session]. 2022 IST Conference, Online.
- 19. Zhou, C., Kim, K., **Jeon, M.**, Kwon, K., & Brush, T. (2022, March 4). *Developing Computational Thinking with Programming Robots Through Collaborative Embodied Learning in Elementary School Classrooms* [Paper session]. 2022 IST Conference, Online.
- Kim, K., Bae, H., Jeon, M., Closser, F., Kwon, K., Ottenbreit-Leftwich, A., & Glazewski, K. (2022, March 4). Design Considerations of Synchronous Online AI Professional Development for Middle School Teachers [Paper session]. 2022 IST Conference, Online.
- 17. **Jeon, M.** & Kwon, K. (2022, April 21-26). *Parallel Instructions of Text-based and Block-based Programming: On Novice Programmers' Computational Thinking Practices* [Paper session]. 2022 AERA Annual Meeting, San Diego, CA.
- Closser, F., Kwon, K., Ottenbreit-Leftwich, A. T., Glazewski, K., Acharya, R., Dalkilic, M., Bae, H., Jeon, M., & Kim, K. (2022, January 13). AI Goes Rural. Indiana STEM Education Conference, West Lafayette, IN.
- 15. **Jeon, M.**, Kwon, K., & Bae, H. (2021, November 2-6). *Effects of Graphic Organizers in Asynchronous Online Discussion* [Roundtable session]. 2021 AECT Convention, Columbus, OH.
- 14. Phillips, T., **Jeon, M.**, Jantaraweragul, K., & Kwon, K. (2021, November 2-6). *An Exploration of the Relationship Between Social Media Usage and Undergraduate School Satisfaction* [Roundtable session]. 2021 AECT Convention, Chicago, IL.
- 13. Kwon, K., **Jeon, M.**, Nadir, H., Sankaranarayanan, R., Gok, S., Chavez, N., & Lee, H. (2021, November 2-6). *Embodied Learning for Computational Thinking Education* [Concurrent session]. 2021 AECT Convention, Chicago, IL.
- 12. Phillips, T., & **Jeon, M.** (2021, November 2-6). *A Gentle Introduction to Neural Networks for Natural Language Processing with R* [Workshop canceled]. 2021 AECT Convention, Chicago, IL.
- Jantaraweragul, K., Jeon, M., Glazewski, K., Ottenbreit-Leftwich, A., Hmelo-Silver, C., Lee, S., Mott, B., & Lester, J. (2021, August 17-19). *The Participatory Co-Design of a Problem-Based Learning Artificial Intelligence Elementary Curriculum* [Roundtable session]. 2021 International PBL Conference, Online.
- Jeon, M., Dunton, S., Ottenbreit-Leftwich, A., Peterfreund, A., Fletcher, C., Biggers, M., Richardson, D., Childs, J., Delyser, L. A., & Goodhue, J. (2021, July 14-16). Be An Advocate for Broadening Participation in Computing [Conference session]. 2021 CSTA Annual Conference, Online.

- 9. Koressel, J., **Jeon, M.**, Ottenbreit-Leftwich, A., & Kwon, K. (2021, July 14-16). *Indiana CS Story* [Mini session]. 2021 CSTA Annual Conference, Online.
- 8. Guo, M., Ge, Y., Kim, J., **Jeon, M.**, Kwon, K., Ottenbreit-Leftwich, A., & Brush, T. (2021, April 8-12). *Coding Patterns and Techniques in Sixth Graders' Block-based Programming Projects* [Poster session]. 2021 AERA Annual Meeting, Online.
- Jeon, M., Koressel, J., Ottenbreit-Leftwich, A., Peterfreund, A., Dunton, S., Xavier, J., Fletcher, C., Zarch, R., Biggers, M., Richardson, D., Childs, J., DeLyser, L., A., & Goodhue, J. (2021, March 13-20). Document Analysis of ECEP Longitudinal Data: A Case Study with Indiana [Poster session]. In Proceedings of the 52nd ACM Technical Symposium on Computer Science Education (p. 1314). https://doi.org/10.1145/3408877.3439655
- Ottenbreit-Leftwich, A., Glazewski, K., Jeon, M., Hmelo-Silver, C., Mott, B., Lee, S., & Lester, J. (2021, March 13-20). How do Elementary Students Conceptualize Artificial Intelligence? [Poster session]. In Proceedings of the 52nd ACM Technical Symposium on Computer Science Education (p. 1261). https://doi.org/10.1145/3408877.3439642
- 5. **Jeon, M.**, Kwon, K., & Bae, H. (2021, March 5). *Effects of Graphic Organizers in Asynchronous Online Discussions* [Paper session]. 2021 IST Conference, Online.
- 4. **Jeon, M.**, & Kwon, K. (2020, October 29-30). Novice Programmers' Understanding and Implementations of CS Concepts: Focusing on the Problem Solving Represented in the Programming Environments with Different Modalities [Conference session]. 2020 AECT Convention, Online. [Video]
- 3. Kwon, K., Ottenbreit-Leftwich, A., Brush, T. & **Jeon, M.** (2020, April 17-21). *Effects of Problem-Based Learning Curriculum for Computer Science Education in an Elementary School* [Conference session]. 2020 AERA Annual Meeting, San Francisco, CA (Conference Canceled).
- 2. Kwon, K., Ottenbreit-Leftwich, A., Brush, T., **Jeon, M.**, Zhu, M., & Gok, F. (2019, October 21-25). *Exploring 6th-grade Students' CT Concepts and Practices* [Conference session]. 2019 AECT Convention, Las Vegas, NV.
- 1. Ottenbreit-Leftwich, A., Brush, T., Kwon, K., Karlin, M., Jeon, M., Jantaraweragul, K., Abramenka-Lachheb, V., Nadir, H., Guo, M., Zhu, M., Alghamdi, K., Yan, Y., Gates, L., Gok, F., Estell, D., Roberts, M., & Dalkilic, M. (2019, October 21-25). *Inspiring the Next Generation of Learners: Using Socially Relevant Computer Science (CS) Problem-based Learning Curriculum at the 6th Grade Level* [Conference session]. 2019 AECT Convention, Las Vegas, NV.

GRANTS

1.	IST/AVC Memorial Fellowship	\$5,000	Indiana University, 2022
2.	Jerrold E. Kemp IST Fellowship	\$1,500	Indiana University, 2022
3.	Jerrold E. Kemp IST Fellowship	\$1,345	Indiana University, 2021
4.	CSEdGrad Research Projects	\$5,000	SageFox Consulting Group LLC., 2020
5.	Webb IST Fellowship	\$4,000	Indiana University, 2020
6.	Jerrold E. Kemp IST Fellowship	\$2,022	Indiana University, 2020

AWARDS & HONORS

1. Annual Women's Research Poster Competition, First Place, \$200

Center of Excellence for Women & Technology (CEWiT), Indiana University, 2022

2. Student Conference Travel Fund Award, \$650

Center for Research on Learning & Technology (CRLT), Indiana University, 2022

3. L.C. and Sharon Larson Fellowship, \$500

Department of Instructional Systems Technology, Indiana University, 2022

4. Graduate Student Travel Awards, \$245

Graduate & Professional Student Government (GPSC), Indiana University, 2021

5. L.C. Larson Award, \$525

Department of Instructional Systems Technology, Indiana University, 2019

6. L.C. and Sharon Larson Fellowship, \$550

Department of Instructional Systems Technology, Indiana University, 2019

7. Fulbright Graduate Study Award, \$50,490

U.S. Department of State, 2018 – 2019

8. Exemplary Leadership Award

Girl Scouts of Korea, 2016

9. Best Lecturer for Gifted Education

Gyeonggi-do Provincial Office of Education, 2016

10. Academic Excellence Full Scholarship

Korea National University of Education, 2009 – 2013

SERVICES

Professional Services

Editor 2023

Editorial Board Member, The Korea English Education Society

Reviewer 2020 - 2023

- Special Interest Group Computer Science Education (SIGCSE), Association for Computing Machinery (ACM)
- Division C Learning and Instruction, American Educational Research Association (AERA)
- Association for Educational Communications and Technology (AECT)

Moderator/Equipment Supporter

2018, 2020

- · Moderated in-person and virtual sessions in AECT
- · Managed technical problems

Department Services

IST Conference Tech Support Leader, Proposal Selection Team Member

- · Coordinated tech volunteers and troubleshooted AV equipment and technical problems
- Reviewed submitted proposals

Community Services

GirlsGetMath 2022

Volunteer Brown University

- · Assisted hands-on activities helping high school girls understand math concepts using computing software
- Facilitated daily computer-labs to introduce programming skills and coding

Monroe County Community Schools Corporations STEAM Night

2022

Volunteer Bloomington, IN

• Demonstrated learning tools for artificial intelligence to K-12 students, teachers, and parents

Childs Elementary School

2018 - 2020

Instructional Assistant

Bloomington, IN

- Facilitated 6th-grade class for PBL-integrated CS lessons & after-school robotics club
- Developed learning materials (e.g., planning worksheets, instructional guide)

Jackson Creek Middle School

2018 - 2019

Instructional Assistant

Bloomington, IN

- · Provided individualized scaffolding to students at the after-school coding club
- Coached students for making interactive games using a visual programming language

Girl Scouts 2015 – 2017

Executive Officer & Troop Leader

Seongnam, South Korea

· Organized summer camps and science festivals

University English Magazine

2009 - 2011

Editor in Chief

Korea National University of Education

• Edited and published University quarterly magazines

2010 G20 Seoul Summit

2010

Head of Volunteers

Seoul, South Korea

Guided visitors translating English, Korean, and French

Mentoring Multicultural Children and Youth

2010

Mentor

Korea National University of Education

• Mentored and tutored K-5 students of Philippine and Vietnamese backgrounds

CERTIFICATES

Elementary Education Licensure (K–6).

South Korea

English Education Licensure (Secondary, grade 7–12).

South Korea

TECHNICAL SKILLS

Languages: R, Python, MATLAB, HTML/CSS Research Software: Nvivo, Atlas.ti, Mplus, SPSS

Typesetting: R Markdown, LaTeX

Media Editors: Adobe Photoshop, Illustrator, InDesign, Premiere

Developer Tools: Google Cloud Platform, Visual Studio

LANGUAGE SKILLS

Fluent in English, Korean Proficient in French Literate in Japanese