Curriculum Vitae

Dr. Jewoong Moon August 1, 2024

CONTACT INFORMATION

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ResearchGate:	https://www.researchgate.net/profile/Jewoong-Moon		
Lab Website:	https://adielab.ua.edu		
University address:		Department of Educational Leadership, Policy, and Technology Studies	
		Autherine Lucy Hall 307A	
		The University of Alabama	

Tuscaloosa, Alabama

RESEARCH EXPERTISE

Digital Game-Based Learning, Inclusive and Immersive Learning Design (Extended Reality), Learning Analytics, and Educational Data Mining.

EDUCATION

2021	Ph.D., Florida State University, Tallahassee, FL. Major: Instructional Systems & Learning Technologies.
2014	M.A., Chonnam National University, Gwangju, South Korea. Major: Education (Educational Technology).
2012	B.Ed., Chonnam National University, Gwangju, South Korea. Major: Educational Foundations.

PROFESSIONAL EXPERIENCES

2021 August	Assistant Professor, Instructional Technology,
	The University of Alabama, Tuscaloosa, AL.

PROFESSIONAL AFFILIATIONS

American Educational Research Association (AERA)

Association for Education Communications and Technology (AECT)

International Society of Learning Sciences (ISLS)

Immersive Learning Research Network (ILRN)

TEACHING & MENTORING

University of Alabama

Instructor

AIL 690 Seminar in Instructional Technology (Graduate, Fall 2024)

- AIL 605 Interactive Multimedia Processes (Graduate, Spring 2024)
- INTE534 Issues and Trends of Instructional Technology (Graduate, Fall 2021-2024)

INTE535 Analysis, Implementation, and Evaluation of Assistive Technology (Graduate, Spring 2022-2024)

CAT100 Computer Concepts & Application (Undergraduate, Summer 2022)

CAT250 Computer Education & Curriculum Development

(Undergraduate, Summer 2022)

Course Redesign

AIL 690 Seminar in Instructional Technology (Graduate, Fall 2024)

AIL 605 Interactive Multimedia Process (Graduate, Spring 2025)

AIL 606 Software Technology (Graduate, Summer 2025)

INTE534 Issues and Trends of Instructional Technology (Graduate, Fall 2022)

INTE535 Analysis, Implementation, and Evaluation of Assistive Technology (Graduate, Spring 2022)

Florida State University

Assistant Instructor

EME6507 Development of Multimedia Instruction (Graduate Level, Spring 2020)

Teaching Assistant

EME6665 Synthesis, Analysis, and Argumentation in Instructional Systems Research (Graduate Level, Fall 2020)

EME6507 Development of Multimedia Instruction (Graduate Level, Spring 2017-2018)

Guest Lectures

CLP 6169 - Adult Development and Psychopathology, Dr. Yoon Eunhui (Florida State University)

LSC 6001 - Learning Science, Dr. Suhkyung Shin (Hanyang University, South Korea)

STUDENT ADVISING

Dissertation & Thesis Committee

Doctoral Dissertation Committee, Empress Searight (ELPTS, College of Education) Doctoral Dissertation Committee, Kimberly Galho (ELPTS, College of Education) Master Thesis Committee, Raissa Marchiori (Civil Engineering, College of Engineering)

Course Advising

Idowu David Awoyemi (Doctoral Student, ELPTS, College of Education) Derrick Vanover (Doctoral Student, ELPTS, College of Education) Alexcis Cymone Keenan (Doctoral Student, ELPTS, College of Education)

Research Projects

2024-Current, Doctoral Candidate, Empress Searight (ELPTS, College of Education)
2024-Current, Doctoral Student, Mohammad Mohi Uddin (College of Education)
2024-Current, Doctoral Student, Stephen Abu (College of Education)
2024-Current, Doctoral Student, Arezoo Ghooreian (College of Education)
2022-Current, Doctoral Student, Idowu David Awoyemi (ELPTS, College of Education)
2022-2024, Doctoral Student, Raissa Marchiori (Civil Engineering)
2022-2023, Doctoral Student, Sepher Khorshid (Civil Engineering)
2021-2022, Undergraduate Student, Melissa Murph
(Finance, The Culverhouse College of Business)
2021-2022, Undergraduate Student, Kaylin Robinson
(History, College of Arts and Sciences)

CONTRACTS AND GRANTS

- Moon, J. (Lead PI), Bannerman, J. (PI), O'Harra, K. (PI), Schoger, K. (PI), Donoban C. (PI), & Coleman, J. (PI) (Jan 2022 Dec 2024). *Examining Preservice Teachers' Digital Literacy Development and Learning Engagement via Art Integrated Technology-Enhanced Learning*. the Collaborative Arts Research Initiative, Total award \$15,000, FUNDED
- Liu, J. (Lead PI), Dalal, R. (PI), Myers, L. (PI), Moon, J. (PI), Shi, Y. (PI), Wang, H. (PI), Ni, S. (PI), Trouvé, A. (PI), Stoliarov, S. (PI) Co-DEMP: <u>Co-Designed Multi-Phase Training</u> for Electric Vehicle Emergency Responses. Department of Energy, U.S Government. SUBMITTED.
- McNeill, L. (Lead PI), **Moon, J. (PI)**, Edmonds, C. (PI) (July 2024 June 2027). *HOPE: Harnessing Opportunities for Promoting Heterophily and Engagement in Business Education through Gamification*. Spencer Foundation, Total award \$500,000, **PENDING**
- Shi, Y. (Lead PI), Du, J. (Lead PI), Moon, J. (Lead PI), Myers, L. (PI) (August 2024 July 2027). Collaborative Research: RITEL: Preparing First Responders for Future Robotic Technologies through Distributed and Embodied Virtual Learning Environment. National Science Foundation, Total award \$200,000, PENDING
- Suh, J. (Lead PI), Moon, J. (PI), & Worsley, M. (PI) (July 2024 June 2028). Toward Data-Driven Adaptive Teaching: Developing Adaptive Teaching Expertise through a Technology-Empowered Decision-making (TED) System. National Science Foundation, Total award \$1,100,318, <u>PENDING</u>
- Newbutt, N. (Lead PI), Obeid, R. (PI), **Moon, J.** (PI) (January 2025 December 2027). Virtual Sandbox Teaching Computational Thinking, **UNDER DEVELOPMENT (NSF iTEST Program)**
- Moon, J. (Lead PI) & Suh, J. (PI) (Sep 2022 Aug 2024). *Developing a Teaching Analytic System for Middle School Science Teachers*. ORED Internal Funding, Total award \$12,000, <u>NOT FUNDED</u>
- Moon, J. (Lead PI) & Shi, Y. (PI) (Jan 2022 Dec 2025). Design and Development of Adaptive Game-based Training to Enhance Computational Thinking of Rural Adolescents with Autism via Minecraft Gameplay. National Science Foundation, Total award \$298,279, <u>NOT FUNDED</u>
- Moon, J. (Lead PI), Liu, Z. (PI), & Ke, F. (PI) (July 2023 June 2027). Developing Adaptive Game-based Learning to Promote Computational Thinking in Rural Youths with Autism in Integrated STEM Education. Spencer Foundation, Total award \$50,000, <u>NOT</u> <u>FUNDED</u>
- Moon, J. (Lead PI). (August 2021 July 2022). Creating Accessible Game-based Learning to Promote Computational Thinking of Rural Youths with Autism. Wallace Foundation (International Society of the Learning Sciences), Total award \$10,000, <u>NOT FUNDED</u>

SELECTED JOURNAL ARTICLES [n = 40]

Note 1. IF is Impact Factor in 2023 and IF5 indicates 5-Year Impact Factor. Note 2. * indicates the work with a mentoring student

International and Peer-reviewed (n = 37)

- [37] Bae, H., Hur, J., Park, J., Choi, G. W., & Moon, J. (Accepted, 2024). Pre-service teachers' dual perspectives on generative AI: Benefits, challenges, and integrating into teaching and learning. *Online Learning* [ESCI-indexed; IF = 2.8, IF5 = 4.4]
- [36] Moon, J., Lee, U., Koh, J., Jeong, Y., Byun, G., Lee, Y., & Lim, J. (2024). Generative artificial intelligence in educational game design: Nuanced challenges, design implications, and future research. *Technology, Knowledge, and Learning* https://doi.org/10.1007/s10758-024-09756-z [ESCI-indexed, IF = 3.0, IF5 = 3.5]
- [35] Moon, J., McNeill, L., Edmonds, C., Banihashem, K., & Noroozi, O. (2024). Using learning analytics to explore peer learning patterns in asynchronous gamified environments. *International Journal of Educational Technology in Higher Education* <u>https://doi.org/10.1186/s41239-024-00476-z</u> [SSCI-indexed, IF = 8.6, IF5 = 9.9]
- [34] Moon, J., Yeo, S., Banihashem, K., & Noroozi, O. (2024). Using multimodal learning analytics as a formative assessment tool: Exploring collaborative dynamics in mathematics teacher education. *Journal of Computer Assisted Learning* <u>https://doi.org/10.1111/jcal.13028</u> [SSCI-indexed, IF = 5.1, IF5 = 5.4]
- [33] Yeo, S., Moon, J., & Kim, D. J. (2024). Transforming mathematics education with AI: Innovations, implementations, and insights. *The Mathematical Education* <u>https://doi.org/10.7468/mathedu.2024.63.2.387</u> [KCI-indexed, IF5 =1.28]
- [32] * Awoyemi, I. D., Mercado, F., & Moon, J. (2024). A narrative review of immersive virtual reality to enhance high school students' mathematics competence. *The Mathematical Education* <u>https://doi.org/10.7468/mathedu.2024.63.2.1</u> [KCI-indexed, IF5 = 1.28]
- [31] Choi, G. W., Lim, J., Kim, S., Moon, J., & Jung, Y. (2024). A case study of South Korean elementary school teachers' emergence remote teaching. *Knowledge Management & elearning: International Journal.* 16(2). 259-285. https://doi.org/10.34105/j.kmel.2024.16.013 [ESCI-indexed, IF = 2.5, IF5 = 2.5]
- [30] Choi, G. W., Lee, D., Kim, S. H, & Moon, J. (2024). Utilizing generative artificial intelligence for instructional design: Exploring strengths, weakness, opportunities, and threats. *TechTrends* <u>https://doi.org/10.1007/s11528-024-00967-w</u> [ESCI-indexed, IF = 2.2, IF5 = 2.8]
- [29] * Moon, J., Yeo, S., Si, Q., & Ljeluola, A. S. (2024). A scoping review of game-based learning on mathematics teacher education. *International Journal of Mathematics Education in Science and Technology* <u>https://doi.org/10.1080/0020739X.2024.2337934</u> [ESCI-indexed, IF = 0.7, IF5 = 0.9]
- [28] Moon, J., Ke, F., Sokolikj, Z., & Chakraborty, S. (2024). Applying multimodal data fusion to track autistic adolescents' representational flexibility development during virtual reality-based training. *Computers & Education: X Reality, 4,* 100063. <u>https://doi.org/10.1016/j.cexr.2024.100063</u>
- [27] Banihashem, K., Kerman, N. T., Noroozi, O., Moon, J., & Drachsler, H. (2024). Peergenerated or AI-generated feedback? An empirical study in the context of essay writing. *International Journal of Educational Technology in Higher Education, 21, 23.* <u>https://doi.org/10.1186/s41239-024-00455-4</u> [SSCI-indexed, IF = 8.6, IF5 = 9.9]

- [26] * Na, C., Lee, D., Moon, J., & Shin, Y. (2024). Modeling undergraduate students' learning dynamics between self-regulated learning patterns and community of inquiry. *Education* and Information Technologies <u>https://doi.org/10.1007/s10639-024-12527-z</u> [SSCIindexed, IF = 5.5]
- [25] Dai, C., Ke, F., Pan, Y., Moon, J., & Liu, Z. (2024). Effects of artificial intelligencepowered virtual agents on learning outcomes in simulation-based learning: A metaanalysis. *Educational Psychology Review*, 36, 31. <u>https://doi.org/10.1007/s10648-024-</u> 09855-4 [SSCI-indexed, IF = 10.1, IF5 = 12.5]
- [24] Moon, J. (2024). Learning experience design of a verbal prompt in virtual reality-based training for children with autism. *Research in Learning Technology*, 32. <u>https://dx.doi.org/10.25304/rlt.v32.3129</u> [ESCI-indexed, IF = 1.9, IF5 = 2.6]
- [23] Glaser, N., Schmidt, M., Thull, C., Tennant, A., Moon, J., & Ousley, C. (2023). Learner experience design and unpacking sociocultural, technological, and pedagogical design considerations of spherical video-based virtual reality systems for autistic learners: A systematic literature review. *Journal of Autism and Developmental Disorders* https://doi.org/10.1007/s10803-023-06168-3 [SSCI-indexed, IF = 3.2, IF5 = 4.2]
- [22] * Lee, U., Jung, H., Jeon, Y., Soh, Y., Hwang, W., Moon, J., Kim, H. (2023). Few-shot is enough: Exploring ChatGPT prompt engineering method for automatic question generation in English education. *Education and Information Technologies* <u>https://doi.org/10.1007/s10639-023-12249-8</u> [SSCI-indexed, IF = 4.8, IF5 = 4.8]
- [21] Moon, J., Choi, G. W., & Seo, J. (2023). Revisiting multimedia learning design principles in virtual reality-based learning environments for autistic individuals. *Virtual Reality*, 27, 3101-3113. <u>https://doi.org/10.1007/s10055-023-00856-2</u> [SCIE-indexed, IF = 4.4, IF5 = 5.4]
- [20] Moon, J., & Ke, F. (2023). Effects of adaptive prompts in virtual reality-based social skills training for children with autism. *Journal of Autism and Developmental Disorders*, https://doi.org/10.1007/s10803-023-06021-7 [SSCI-indexed, IF = 3.2, IF5 = 4.2]
- [19] Liu, Z., & Moon, J. (2023). A framework for applying sequential data analytics to design personalized digital game-based learning for computing education. *Journal of Educational Technology & Society, 26*(2), 181-197.
 https://doi.org/10.30191/ETS.202304_26(2).0013 [SSCI-indexed, IF = 4.6, IF5 = 4.7]
- [18] Moon, J., Lee, D., Choi, G.W., Seo, J., Do, J., & Lim, T. (2023). Learning analytics in seamless learning environments: A systematic review. *Interactive Learning Environments*. <u>https://doi.org/10.1080/10494820.2023.2170422</u> [SSCI-indexed, IF = 3.7, IF5 = 4.5]
- [17] Ke, F., Moon, J., & Sokolikj, Z. (2022). Designing and deploying a virtual social sandbox for children with autism. *Disability and Rehabilitation: Assistive Technology*, 19(4), 1178-1209. <u>https://doi.org/10.1080/17483107.2022.2156630</u> [SSCI-indexed, IF = 1.9, IF5 = 2.4]
- [16] * Yu, J., Ma, W., Moon, J., & Denham, A. (2022). Developing a stealth assessment system using a continuous conjunctive model. *Journal of Learning Analytics*, 9(3), 11-31. <u>https://doi.org/10.18608/jla.2022.7639</u> [ESCI-indexed, IF = 2.9, IF5 = 3.7]

- [15] Moon, J., Ke, F., Sokolikj, Z., & Dahlstrom-Hakki, I. (2022). Multimodal data fusion to track students' distress during educational gameplay. *Journal of Learning Analytics*, 9(3), 75-87. https://doi.org/10.18608/jla.2022.7631 [ESCI-indexed, IF = 2.9, IF5 = 3.7]
- [14] Seo, J., Moon, J., Choi, G.W., & Do, J. (2022). A scoping review of three computational approaches to ethnographic research in digital learning environments. *TechTrends*. 66, 102–111. <u>https://doi.org/10.1007/s11528-021-00689-3</u> [ESCI-indexed, IF = 2.2, IF5 = 2.8]
- [13] Ke, F., Moon, J., & Sokolikj, Z. (2022). Virtual reality-based social skills training for children with autism spectrum disorder. *Journal of Special Education Technology*, 37(1), 49-62. https://doi.org/10.1177/0162643420945603 [SSCI-indexed, IF = 1.2, IF5 = 2.0]
- [12] Moon, J., Lee, S., & Xu, X. (2022). Exploring pre-service teachers' technology-integration belief and scientific inquiry in a teacher-development course. *International Journal of Technology and Design Education*, 32, 1777–1798. <u>https://doi.org/10.1007/s10798-021-09672-8</u> [SCIE- and SSCI-indexed, IF = 2.0, IF5 = 2.3]
- [11] Moon, J., & Park, Y. (2021). A scoping review on open educational resources to support interactions of learners with disabilities. *The International Review of Research in Open and Distributed Learning* <u>https://doi.org/10.19173/irrodl.v22i1.5110</u> [SSCI-indexed, IF = 2.5, IF5 = 3.4]
- [10] Tlili, A., Chang, M., Moon, J., Liu, Z., Burgos, D., Chen, N. S., & Kinshuk (2021). A systematic literature review of empirical studies on learning analytics in educational games. *International Journal of Interactive Multimedia and Artificial Intelligence*, 7(2). http://dx.doi.org/10.9781/ijimai.2021.03.003 [SCIE-indexed, IF = 3.4, IF5 = 2.8]
- [9] Moon, J., Ke, F., & Sokolikj, Z. (2020). Automatic assessment of cognitive and emotional states in virtual reality-based flexibility training for adolescents with autism. *British Journal of Educational Technology*, 51(5), 1766-1784. <u>https://dx.doi.org/10.1111/bjet.13005</u> [SSCI-indexed, IF = 6.6, IF5 = 7.2]
- [8] Liu, Z., Moon, J., Kim, B., & Dai, C. (2020). Integrating adaptivity to educational games: A combination of bibliometric and meta-analytic review. *Educational Technology Research and Development*. 68, 1931-1959. <u>https://doi.org/10.1007/s11423-020-09791-4</u> [SSCI-indexed, IF = 3.3, IF5 = 4.8]
- [7] Moon, J., & Ryu, J. (2020). The effects of social and cognitive cues on learning comprehension, eye-gaze pattern, and cognitive load in video instruction. *Journal of Computing in Higher Education*, 33, 39–63. <u>https://doi.org/10.1007/s12528-020-09255-x</u>
 [SSCI-indexed, IF = 4.5, IF5 = 5.2]
- [6] Moon, J., & Ke, F. (2020). Exploring the relationships among middle school students' peer interactions, task efficiency, and learning engagement in game-based learning. *Simulation* & Gaming, 51(3), 310-335. <u>https://doi.org/10.1177/1046878120907940</u> [ESCI-indexed, IF = 1.5, IF5 = 2.4]
- [5] Moon, J., Do, J., Lee, D., & Choi, G. (2020). A conceptual framework for teaching computational thinking in personalized OERs. *Smart Learning Environments*, 7(6). <u>https://doi.org/10.1186/s40561-019-0108-z</u> [ESCI-indexed, IF = 6.7]
- [4] Moon, J., & Ke, F. (2019). In-game actions to promote game-based math learning engagement. *Journal of Educational Computing Research*, 58(4), 863-885.
 <u>https://doi.org/10.1177/0735633119878611</u> [SSCI-indexed, IF = 4.0, IF5 = 5.0]
- [3] Moon, J., & Ke, F. (2019). Exploring the treatment integrity of virtual reality-based social

skills training for children with high-functioning autism. *Interactive Learning Environment, 29*(6), 939-953. <u>http://dx.doi.org/10.1080/10494820.2019.1613665</u> [*SSCI-indexed, IF = 3.7, IF5 = 4.5*]

- [2] Ke, F., & Moon, J. (2018). Virtual collaborative gaming as social skills training for high-functioning autistic children. *British Journal of Educational Technology*, 49(4), 728-741. <u>https://doi.org/10.1111/bjet.12626</u> [SSCI-indexed, IF = 6.6, IF5 = 7.2]
- [1] Moon, J. (2018). Reviews of social embodiment for design of Non-player characters in virtual reality-based social skill training for autistic children. *Multimodal Technologies and Interaction*, 2(3), 53-62. <u>https://doi.org/10.3390/mti2030053</u> [ESCI-indexed, IF = 2.4]

Korean-written and Peer-reviewed (n = 3)

- [3] Do, J., Kim. S., & Moon, J. (2020). Exploring synchronous online course cases on secondary schools via semantic network analysis. *Journal of Qualitative Inquiry*. 6(3), 637-681. <u>http://www.riss.kr/link?id=A107079753</u>
- [2] Ryu, J., & Moon, J. (2013). The effects of line length and information seeking in e-book for learning on eye-fixation time, cognitive load, and comprehension. *The Korea Educational Review*, 19(3), 293-313. <u>http://uci.or.kr/G704-001273.2013.19.3.007</u>
- [1] Ryu, J., Jung, H., & Moon, J. (2013). Needs analysis of distance education students for using e-textbooks on smart pads. *The Journal of the Korea Content*, 13(10), 594-603. <u>http://doi.org/10.5392/JKCA.2013.13.10.594</u>

EDITORIAL BOOK [n = 1]

[1] Moon, J., G.W., Choi, Bae, H., Byun, J. (2023). Instructional Technology and Learning Sciences: Korean Open Access Guide. Korean Edutech/LearningSciences Researcher Network (KELS). EdtechBooks. <u>https://edtechbooks.org/edutechlearningscienceskorean</u>

SELECTED BOOK CHAPTERS [n = 4]

- [4] Kim, B. J., Ke, F., Moon, J., and West, L. (2021). Designing Dynamic Learning Supports for Game and Simulation-Based Learning in STEM Education, Aprea C. and Ifenthaler, D.(eds.) in *Game-based Learning Across the Disciplines*. Advances in Game-Based Learning, Springer, Cham. <u>https://doi.org/10.1007/978-3-030-75142-5_8</u>
- [3] Choi, G., Moon, J., Do, J., & Lee, D. (2020). Open Educational Resources in Korea. Huang, R., Liu, D., Tlili, A., Gao, Y., & Koper, R. (eds.) Open Education Resources in "Belt and Road" Countries, Lecture Note Series in Educational Technology. Springer, Singapore. <u>https://doi.org/10.1007/978-981-15-3040-1_5</u>
- [2] Moon, J. & Liu, Z. (2019). Rich Representations for Analyzing Learning Trajectories: Systematic Review on Sequential-Data Analytics in Game-based Learning Research. Tlili, A., & Maiga (eds.) Data Analytics Approaches in Educational Games and Gamification Systems, Smart Computing, and Intelligence, Springer, Singapore. <u>http://doi.org/10.1007/978-981-32-9335-9_2</u>
- [1] Kang, J., Moon, J., & Diederich, M. (2019). Educational Games and Gamification: From Foundations to Applications of Data Analytics. Tlili, A., & Maiga (eds.) Data Analytics Approaches in Educational Games and Gamification Systems, Smart Computing, and Intelligence, Springer, Singapore. <u>http://doi.org/10.1007/978-981-32-9335-9_1</u>.

REFEREED CONFERENCE PROFEEDINGS (n = 19)

- Note. * indicates the work with a mentoring student
- [19] * Jeong, Y., Lee, Y., Byun, G., & Moon, J. (2024). Navigating the Creation of Immersive Learning Environments in Roblox: Integrating Generative AI for Enhanced Simulationbased Learning. *Immersive Learning Research - Practitioner*, 1(1), 16–19. https://doi.org/10.56198/5M1RHT9ZJ
- [18] Byun, G., Moon, J., & Sun, C. (2024). Enhancing Computational Thinking through Constructionist Gaming in a Roblox-supported Virtual Makerspace. *Immersive Learning Research - Practitioner*, 1(1), 32–35. <u>https://doi.org/10.56198/5M1RHNGTM</u>
- [17] * Moon, J., Song, S., Awoyemi, I., Marchiori, R., & Khorshid, S. (2023). Immersive Technology-Enhanced Learning System Design in Civil Engineering Education. *Immersive Learning Research - Practitioner*, 1(1), 109–111. Retrieved from <u>https://publications.immersivelrn.org/index.php/practitioner/article/view/66</u>
- [16] Moon, J., McNeill, L., Edmonds, C. (2023). Gamification System Design for Promoting Heterophily in Accounting Education. *Immersive Learning Research - Practitioner*, 1(1), 112–113. Retrieved from https://publications.immersivelrn.org/index.php/practitioner/article/view/67
- [15] * Awoyemi, I. D., & Moon, J. (2023). Teachers' Integration of Immersive Virtual Reality in Enhancing High school students' Mathematics Competence in an Online Learning Environment: A Narrative Review. *Immersive Learning Research - Practitioner*, 1(1), 21–25. Retrieved from https://www.integrationary.com/article/view/100

https://publications.immersivelrn.org/index.php/practitioner/article/view/100

[14] Sokolikj, Z., Ke, F., Chakraborty, S., & Moon, J. (2023). Using deep learning to track representational flexibility development of students with autism in a nurturing virtual reality environment. *ICIET 2023*, Fujisawa, Japan. https://doi.org/10.1109/ICIET56899.2023.10111218

- [13] Moon, J., Ke, F., Sokolikj, Z., & Chakraborty, S. (2022). Multimodal data fusion to track representational flexibility of adolescents with autism spectrum disorder during virtual reality-based training. In Chinn, C., Tan, E., Chan, C., & Kali, Y. (Eds.), Proceedings of *the 16th International Conference of the Learning Sciences - ICLS 2022* (pp. 889-892). International Society of the Learning Sciences. https://dx.doi.org/10.22318/icls2022.889
- [12] Moon, J., Ke, F., Sokolikj, Z., & Chakraborty, S. (2021). Using sequence mining to explore the representational flexibility development of adolescents with autism spectrum disorder in virtual reality-based flexibility training. In de Vries, E., Hod, Y., & Ahn, J. (Eds.), Proceedings of *the 15th International Conference of the Learning Sciences - ICLS 2021*. (pp. 919-920). Bochum, Germany: International Society of the Learning Sciences. https://doi.dx.org/10.22318/icls2021.919
- [11] Liu, Z. & Moon, J. (2021). Investigating children's problem-solving patterns in digital game-based learning for computational thinking development. In de Vries, E., Hod, Y., & Ahn, J. (Eds.), Proceedings of *the 15th International Conference of the Learning Sciences* - *ICLS 2021*. (pp. 949-950). Bochum, Germany: International Society of the Learning Sciences. <u>https://doi.dx.org/10.22318/icls2021.949</u>
- [10] Israel, M., Liu, T., Moon, J., Ke, F., & Dahlstrom-Hakki, I. (2021). Methodological considerations for understanding students' problem solving processes and affective trajectories during game-based learning: A data fusion approach. In: Fang X. (eds) HCI in Games: Serious and Immersive Games. HCI 2021. Lecture Notes in Computer Science, vol 12790. Springer, Cham. https://doi.org/10.1007/978-3-030-77414-1 15
- [9] Ke, F., Moon, J., & Sokolikj, Z. (2020). Tracking Representational Flexibility Development through Speech Data Mining. In 2020 IEEE Frontiers in Education Conference (FIE) (pp. 1-4). IEEE. <u>https://doi.org/10.1109/FIE44824.2020.9273818</u>
- [8] Moon, J. & Ke, F. (2020). Understanding epistemic networks in virtual reality-based collaborative gameplay for social-skills training with children with autism. In Melissa Gresalfi, & Ilana Seidel Horn (Eds.), *the International Conference of the Learning Sciences* (pp. 779-780). International Society of the Learning Sciences. Nashville, TN. <u>https://doi.dx.org/10.22318/icls2020.779</u>
- [7] Moon, J. & Ke, F. (2020). Exploring learning supports in virtual reality-based flexibility training for adolescents with autism. In Melissa Gresalfi, & Ilana Seidel Horn (Eds.), the International Conference of the Learning Sciences (pp. 1729-1730). International Society of the Learning Sciences. Nashville, TN. <u>https://doi.dx.org/10.22318/icls2020.1729</u>
- [6] Ke, F., & Moon, J. (2018). Examining virtual-reality-based learning design for children with autism via seasonal index analysis. In Judy Kay, & Rosemary Luckin (Eds.), the International Conference of the Learning Sciences (pp. 973-976). International Society of the Learning Sciences. London, United Kingdom. https://doi.dx.org/10.22318/cscl2018.973
- [5] Ke, F., & Moon, J. (2018). Exploring learning-facilitating game actions via sequential analysis. In Kristy Elizabeth Boyer, & Michael Yudelson (Eds.), *the 11th International Conference on Educational Data Mining* (pp. 490-491). Buffalo, NY.
- [4] Moon, J., & Ke, F. (2018). Exploring potential effectiveness of Jaccard index to measure treatment integrity in virtual reality-based social training program for children with highfunctioning autism. In Kristy Elizabeth Boyer, & Michael Yudelson (Eds.), *the 11th International Conference on Educational Data Mining* (pp. 486-487). Buffalo, NY.

- [3] Moon, J., Ke, F., Xu, X., Pan, Y., & Dai, Z. (2017). The effect of peer interaction on task efficiency and learning engagement in digital game-based learning. In Brian K Smith, Marcela Borge, Emma Mercier, & Kyu-Yon Lim (Eds.), *International Conference* on Computer Supported Collaborative Learning (pp. 777-778). International Society of the Learning Sciences. Philadelphia, PA.
- [2] Moon, J., & Ke., F. (2016). Categorization of embodied user interface in immersive virtual environment. Paper presented at Doctoral Consortium, 2016. Proceedings. *IEEE International Conference on Advanced Learning Technologies*. Austin, TX.
- [1] Moon, J. (2016). Classification of cognitive domains and natural user interface in immersive virtual environments. In *Proceedings of Society for Information Technology & Teacher Education International Conference 2016* (pp. 1305-1309). Chesapeake, VA: Association for the Advancement of Computing in Education (AACE). Retrieved from <u>https://www.learntechlib.org/p/171859</u>. Savanna, GA.

CONFERENCE PRESENTATIONS [n = 41]

Note. * indicates the work with a mentoring student

- [41] Byun, G., **Moon, J.,** & Chen, S. (June, 2024). Fostering Computational Thinking through Game-Making Activities via 3D Sandbox. iLRN 2024 Practitioner Stream
- [40] Jung, Y., Lee, Y., Byun, G., & Moon, J. (June, 2024). Navigating the Creation of Immersive Learning Environments in Roblox: Integrating Generative AI for Enhanced Simulation-based Learning. iLRN 2024 Practitioner Stream
- [39] Ham, E., & **Moon, J.** (2024). Effects of metaverse-based learning activity on elementary students' enjoyment and information retention. SITE 2023
- [38] Lee, U., Lee, S., Jung, Y., Kim, H., Lee, Y., Byun, G., Koh, J., Moon, J., Lee, J, & Kim, H. (2023). Generative agent for teacher training: Designing educational problem-solving simulations with large language model-based agents for pre-service teachers. Poster Presentation. NEURIPS 2023 Workshop GAIED.
- [37] Lee, G., Moon, J., & Kim, H. (2023 November). Exploring the evolution: Topic modeling in digital textbook research trends. 2023 Conference of Joint Societies for Mathematics Education: KSESM, KSME, Korea University, South Korea.
- [36] * Awoyemi, D., & Moon, J. (2023 October). Exploring the impact of immersive virtual reality on enhancing high school students' mathematics competence in an online learning environment. Poster Presentation. AECT 2023, Orlando, FL, United States
- [35] Moon, J., & Choi, G. W. (2023 October). Developing the Korean EdTech/Learning Sciences Researcher Network (KELS) as a community of practice. Poster Presentation. AECT 2023, Orlando, FL, United States
- [34] McNeill, L., Moon, J., & Edmond, C. (2023 October). Student engagement in a gamified online learning environment: A data mining approach. Oral Presentation. AECT 2023, Orlando, FL, United States

- [33] * Moon, J., Song, S., Awoyemi, D., Marchiori, R., Khorshid, S., Chen, X. (2023, June). Immersive technology-enhanced learning system design in civil engineering education. Poster Presentation. iLRN 2023 Practitioner Stream. Virtual.
- [32] Moon, J., McNeill, L., Edmonds, C. (2023, June). Gamification system design for promoting heterophily in accounting Education. Poster Presentation. iLRN 2023 Practitioner Stream. Virtual.
- [31] * Awoyemi, D., & Moon, J. (2023, June). Teachers' integration of immersive virtual reality in enhancing mathematics competence among high school students in an online learning environment: A narrative review. Poster Presentation. iLRN 2023 Practitioner Stream. Virtual.
- [30] Marchiori, R. S., Song, S., Moon, J., Khorshid, S. (2023). Crafting an approach to cultivate engineering competencies for undergraduate students in construction engineering with Minecraft. ASEE 2023. Baltimore, MD, United States.
- [29] * Na, H. & Moon, J. (2023, April). Investigating computational-thinking-related behaviors of primary school students: From a large dataset on Scratch community. AERA 2023, Chicago, IL, United States.
- [28] Dai, C., Ke, F., Pan, Y., Moon, J., Liu, Z. (2023, April). A meta-analysis on the effects of using artificial intelligence-powered virtual agents in simulation-based learning. AERA 2023, Chicago, IL, United States.
- [27] Zhang, N., Barrett, A., Ke, F., Moon, J., & Sokolikj, Z. (2023, April). An evidence-centered model for computational thinking assessment: Longitudinal observations of autistic youths in virtual worlds. AERA 2023.
- [26] * Ljeluola, S. & Moon, J. (2022, October). Developing computational thinking competencies of learners with autism through 3D block design during Minecraft gameplay. Emerging Technology Showcase, AECT 2022, Las Vegas, NV, United States.
- [25] Moon, J., & Yeo, S. (2022, October). Developing adaptive teacher training with educational gameplay to enhance elementary preservice teachers' TPACK development and learning engagement. Roundtable Presentation, AECT 2022, Las Vegas, NV, United States.
- [24] Stefaniak, J., McDonald, J., Lohman, L., Boer, P., Romero-Hall, E., Xinyu, R., Koehler, A., & Moon, J. (2022, October). *Ethnographic experiences in learning design*. Panel Session Presentation, AECT 2022, Las Vegas, NV, United States.
- [23] Smith, G., Emihovich, B., Moon, J., Liu, Z., & Xue, X. (2022, October). Digital learning games and interactive learning environments: Impacting student learning across disciplines and contexts. Panel Session Presentation, AECT 2022, Las Vegas, NV, United States.
- [22] Park, Y., Moon, J., & Na, H. (2022, October). Elementary STEM teachers' open educational resources and TPACK in a professional learning network. Poster Presentation, AECT 2022, Las Vegas, NV, United States.
- [21] Barrett, A., Zhang, N., Ke, F., Moon, J., & Sokolikj, Z. (2022, May) Developing an evidence-centered model for computational thinking in virtual worlds with children with autism. Poster Presentation, iLRN 2022, Vienne, Austria.
- [20] Moon, J., Ke, F., Sokolikj, Z., & Dahlstrom-Hakki, I. (2022, April). Multimodal data fusion to detect students' cognitive-affective states during educational game play. Poster Presentation, AERA 2022, San Diego, CA, United States.

- [19] Ke, F., Moon, J., Sokolikj, Z. (2022, April). Virtual-reality-based training of representational flexibility for adolescents with autism. Symposium Presentation, AERA 2022, San Diego, CA, United States.
- [18] Choi, G. W., Lim, J., Kim., S., Moon, J., & Jung, Y. (2021, November). A case study of post-COVID19 elementary school teachers in Korea. Concurrent Session Presentation, AECT 2021, Chicago, IL, United States.
- [17] Park, Y., & Moon, J. (2020, November). A bibliometric analysis on open educational resources (OER) and learners with disabilities. Poster presented at AECT 2020 Convention. Jacksonville, FL, United States (Virtual).
- [16] Ke, F., & Moon, J. (2020, April). Exploring representational flexibility development through speech data mining. Concurrent session presented at AERA 2020. Orlando, FL, United States.
- [15] Moon, J., Lee, S., & Xu, X. (2019, November). Exploring the effect of group-collaboration design on developing preservice teachers' technology-integration skills through scientific inquiry experiences. Roundtable presented at AECT 2019 Convention, Las Vegas, NV, United States.
- [14] Moon, J., & Ke, F. (2019, October). Exploring collaborative gameplay in virtual realitybased social-skills training for children with autism. Poster presented at APA Technology, Mind, Society Conference 2019. Washington D.C., United States.
- [13] Moon, J., & Ke, F. (2019, October). Exploring students' peer interactions and gameplay patterns via sequential analysis. Poster presented at APA Technology, Mind, Society Conference 2019. Washington D.C., United States.
- [12] Moon, J., Ke, F., & Kim, B. (2019, October). Using machine learning to predict activity types and social interaction levels of children with high-functioning autism in virtual reality-based social skills training. Poster presented at APA Technology, Mind, and Society Conference 2019. Washington D.C., United States.
- [11] Ke, F., Moon, J., & Sokolikj, Z. (2018, October). Play and design based social skills training in a virtual world for children with high-functioning autism. Paper presented at APA Technology, Mind, and Society Conference, Washington D.C., United States.
- [10] Ke, F., & Moon, J. (2018, April). Virtual-Reality based role-playing and design on social interaction skills development of children with high-functioning autism. Paper presented at AERA 2018 Annual Meeting, American Educational Research Association, New York City, NY, United States.
- [9] Moon, J. (2017, November). Exploring learning affordance from embodied interface of STEM-relevant immersive virtual reality educational games. Poster presented at AECT 2017 Convention, Jacksonville, FL, United States.
- [8] Moon, J. (2017, November). Explorations of storytelling approaches in STEM-related immersive virtual reality educational games: The findings from in-depth video observation. Poster presented at AECT 2017 Convention, Jacksonville, FL, United States.
- [7] Moon, J. (2017, November). Reorganizing action verbs and embodied activities in immersive virtual reality games: Implications for instructional design. Poster presented at AECT 2017 Convention, Jacksonville, FL, United States.
- [6] Ke, F., Xu, X., Lee, S., **Moon, J.**, Dai, Z., Pan, Y., Shute, V., Clark, K., & Erlebacher, G. (2017, April). *Math learning through game-based architectural design and building*.

Paper presented at 2017 American Educational Research Association Annual Meeting, American Educational Research Association, San Antonio, TX, United States.

- [5] Moon, J., Xu, X., & Lee, S. (2016, October). Embodied pulley physics: The development of hands-on user interaction in virtual reality. Emerging Technology Showcase at AECT 2016 Convention, Las Vegas, NV, United States.
- [4] Moon, J. (2016, October). The effect of virtual hand movement in science simulation: The transient and human movement effect in multimedia. Paper presented at AECT 2016 Convention, Las Vegas, NV, United States.
- [3] Moon, J., & Ke, F (2016, July), Categorization of embodied user interface in immersive virtual environments. Doctoral consortium at the meeting of ICALT 2016, Austin, TX, United States.
- [2] **Moon, J.**, & Ryu, J. (2016, March). *The effects of visual cueing with illustration on eye fixation time in multimedia learning with animated pedagogical agents.* Roundtable presented at the meeting of SITE 2016, Savannah, GA, United States.
- Moon, J. (2016, March). Classification of cognitive domains and natural user interface in immersive virtual environment. Poster presented at the meeting of SITE 2016, Savannah, GA, United States.

WORKING PAPERS [n = 22]

Note. * indicates the work with a mentoring student

Review and Revision (n = 18)Journal Manuscript (n = 12)

- [12] Lim, J., **Moon, J.**, Kim, C., & Kang, M. (Submitted). Crafting digital narratives: A systematic review of scenario-based learning design in virtual reality. *Review of Educational Research (SSCI-indexed journal)*.
- [11] Park, J., Bae, J., Lee, U., Ahn, T., Lee, S., Kim, D., Choi, A., Moon, J., Jeong, Y., & Kim, H. (Submitted). How to align language model for teaching English? Developing large language model-based chatbot for English education in EFL, findings and limitations. *International Journal of Human-Computer Interaction (SSCI-indexed journal).*
- [10] * Lee, G., **Moon, J.**, & Kim, H. J. (In preparation). Transformation of digital textbook research: Topic modeling. *Computers and Education (SSCI-indexed journal)*.
- [9] * Jeong, Y., Lee, Y., Byun, G., & **Moon, J.** (In preparation). Exploring game design challenges and iterative refinement: A collective autoethnography from immersive learning practitioners' voices. *Simulation & Gaming (ESCI-indexed journal)*.
- [8] **Moon, J.**, Seo, J., & Awoyemi, I. (In preparation). Navigating social complexity: The synergistic use of ChatGPT-4 and epistemic network analysis for social skills assessment in autistic children. *Journal of Enabling Technology (ESCI-indexed journal)*
- [7] Sun, C., & **Moon**, J. (Submitted, 2nd revision). 20 years of twice-exceptional students with ASD: The road so far and what is ahead. *Journal for the Education of the Gifted (ESCI-indexed journal)*.
- [6] Lee, U., Jung, Y., Koh, J., Lee, Y., Byun, G., Lee, H., Eun, S., Moon, J., Lim, C., & Kim, H. (Under review). I see you: Teacher analytics with GPT-4 vision-powered observational

assessment. Smart Learning Environments (ESCI-indexed journal).

- [5] Ham, E., & **Moon**, J. (Under review). If A video is worth a Million, Is a metaverse worth a billion? Mixed effects of a metaverse-based learning activity on elementary students' engagement, curiosity, and information retention. *Journal of Computer Assisted Learning* (SSCI-indexed journal, IF = 5.0)
- [4] Raissa, M., Song, S., & **Moon**, J. (Under review, 1st revision). Enhancing workers' competencies in heat stress prevention: An assessment-based training approach. *Journal of Safety Research (ESCI-indexed journal, IF = 4.1)*.
- [3] Park, Y., Moon, J., & Na, H. (Under review). Elementary STEM teachers' open educational resources and TPACK in a professional learning network. *Online Learning Journal* (*ESCI-indexed journal*)
- [2] Moon, J., Ke, F., & Sokolikj, Z. (Under review). Game-based performance tasks for assessing representational flexibility of adolescents with autism in a virtual world. *Technology, Knowledge, and Learning (ESCI-indexed journal).*
- [1] Moon, J., Lee. D., Choi, G.W., & Ha, C. (Under review, 2nd). Predicting middle and high school students' self-regulated learning patterns and academic performance via latent profile analysis and machine learning. *Asian Pacific Education Review (SSCI-indexed journal*).

<u>Conference Proceeding (n = 10)</u>

- [10] Hong, S., Eom, T., Hwang, J., Lim, J., Lim, C., & Moon, J. (Submitted). Integrating a Generative AI-Enhanced Virtual Reality Simulation into Teacher Education: A Preliminary Design Study. AERA 2025 Poster Session.
- [9] Choi, G. W., Kim, S. H., Jung, Y., Do, J., Moon, J., Chang, Y., Paek, S. (Submitted). Exploring Multifaceted Nature of Online Learning in Diverse Learning Contexts in the Post-COVID Era. AERA 2025 Symposium.
- [8] Lim, J., Moon, J., Lee, U., Koh, J., Jeong, Y., Lee, Y., Byun, G., Jeong, H., Lee, S. (Submitted). Development and Implementation of a Generative AI-enhanced Simulation to Enhance Problem-Solving Skills for Preservice Teachers. AERA 2025 Poster Session.
- [7] Kim, C.,, Lim, J., Kang, M., & Moon, J. (Submitted). A Systematic Reivew on Design Features of Scenario-based Learning in Virtual Reality. AERA 2025 Poster Session.
- [6] Hong, S., Eom, T., & Moon, J. (Submitted). Extended Reality-Supported Teacher Simulation: A Systematic Review of Research and Practice. AERA 2025 Poster Session.
- [5] Byun, G., **Moon, J.,** Chen, S., Ghooreian, A. (Upcoming, 2024). Generative AI-Enhanced Chatbot Design for Constructionist Gaming. JSGC2024. Poster Session.
- [2] Jung, Y., Chang, Y., Moon, J., Seo, J., Bonnette, R., Lee, J.Y., Ke, F., Sokolikj, Z., Koh, K., Cox, E., Chen, S., Abbas, J., Munyano, M., DiCioccio, M., Alstad, Z. (Upcoming, 2024). Learning environments designed for and with learners with disabilities. ISLS 2024.
- [1] Sokolikj, Z., Ke, F., Chakraborty, S., & Moon, J. (Upcoming, 2024). A comparison of deep learning and supervised machine learning methods in representational tracking for neurodivergent learners. ISLS 2024.

In Preparation (n = 5)Journal Manuscript (n = 5)

- [5] * Hong, S., Eom, T., & **Moon**, J. (In preparation). A systematic literature review of teacher simulations using extended reality. *Educational Review Research (SSCI-indexed journal)*.
- [4] Lim, J., Lee, U., Koh, J., Jung, Y., Jung, H., Lee, Y., Byun, G., Lee, S., & Moon, J. (In preparation). Design-based research on generative AI-enhanced educational simulation. *Computers & Education (SSCI-indexed journal).*
- [3] * Kim, S., Kim, H., & **Moon**, J. (In preparation). A systematic literature review of digital textbook and its transformation in mathematics education: Activity theory perspective.
- [2] Lee, Y., **Moon, J.**, & Cho, M. (In preparation). A review of eye-tracking measure integration and implementation in virtual reality-based learning environments. *Educational Review Research (SSCI-indexed journal)*.

SERVICE ACTIVITIES

University Service & Affiliation

College-level (University of Alabama)

Affiliated Faculty, The Center for Innovative Research in Autism (CIRA) Affiliated Faculty, Center for Youth Development and Intervention (CYDI) Affiliated Faculty (AI and Machine Learning Researcher) Faculty Search Committee, Instructional Technology Technology Advisory Committee, College of Education Assessment Committee, College of Education

Department-level (ELPTS, University of Alabama)

Graduate Student Faculty Support Committee

Conference & Society

Conference

Conference Program Co-Chair (Educational Gamification and Game-based Learning Section), International Conference on Computers in Education (ICCE) 2022-Present

Conference Program Co-Chair (Practitioner Stream),

International Learning Research Network (iLRN) Conference 2022

Conference Program Committee, International Society of the Learning Sciences 2023 Conference Program Committee, Immersive Learning Research Network Conference

2020

KSET Convention Assistant Coordinator, AECT 2018

Reviewer, Conference Proposals, AERA, 2017

Reviewer, Conference Proposals, AECT, 2016-2022

Reviewer, International Conference of the Learning Sciences 2019-2022

Society / Association

Affiliated Faculty, ModuLabs (Appointed, 2024-present)

Communication Officer, AERA SIG Instructional Technology (Elected, 2022-2023) Chair, APSCE SIG Educational Games and Gamification (Appointed, 2023-present) Co-Chair, APSCE SIG Educational Games and Gamification (Appointed, 2022-2023) Co-Chair, Immersive Learning Research Network (iLRN) (Appointed, 2021-present) Next Generation Researcher Committee, KAEIM (Appointed, 2022-2023)

<u>Editorship</u>

Journal Special Issue Editor – *The Mathematical Education (*Korean Journal) Journal Special Issue Editor – *Journal of Applied Instructional Design*

Journal Special Issue Editor – Computers and Education: X Reality (twice)

Fostering Innovation at the Intersection of Maker Education and Extended Reality (XR)

Exploring Communication in Extended Reality: Advancements, Applications, and Challenges

- Conference Proceeding Immersive Learning Research Network 2023 (Practitioner Stream)
- Conference Proceeding Immersive Learning Research Network 2024 (Practitioner Stream)

Book Editor, Korean Open Access Guide in Edutech/Learning Sciences Research

Editorial Board, *Intelligent Information Convergence and Future Education (*Published by Intelligent Software Education Research Institute, Jeju National University, South Korea)

Editorial Board, *Educational Research (*Published by The Institute of Educational Research, Chonnam National University, South Korea)

Ad-Hoc Journal Reviewer

The Internet and Higher Education Behaviour and Information Technology Computers & Education IEEE Transactions on Learning Technologies International Journal of Design and Technology Education Journal of Learning Analytics British Journal of Educational Technology Smart Learning Environments *The International Review of Research in Open and Distributed Learning (IRRODL)* International Journal of Human-Computer Interaction Technology, Knowledge, and Learning Brain Science **TechTrends** Virtual Reality **Online Learning Journal** Education and Information Technologies Journal of Applied Instructional Design Journal of Moral Education

Journal of Educational Technology & Society Innovations in Education and Teaching International

HONOR AND AWARD

Outstanding iLEAD Paper Award (2024). Immersive Learning Research Network Conference (iLRN) 2024

Outstanding Practitioner Paper Award (2023). Immersive Learning Research Network Conference (iLRN) 2023

Grant Writing Fellow (2024-2025). College of Education at the University of Alabama

- Featured Emerging Scholar (2021). CIRCLS (The Center for Integrative Research in Computing and Learning Sciences)
- Finalist (2016-2021), Instructional Systems and Learning Technologies Program Award, Florida State University

Travel Grants at Florida State University (2015-Present)

Finalist, Student Employee of the Year Award (2020) at Florida State University

- Excellent Award (2016). DIGITECH 2016, Project Title: Virtual Ancient Asia, Florida State University
- Gagne and Briggs Scholarship (2015). Instructional Systems and Learning Technologies Program, Florida State University.

CERTIFICATES

The Pittsburgh Science of Learning Center Summer School Certificate, July 2016 (OLI Track): Designing and developing Open Learning Initiative course based on XML codes