Amanda Barany

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EDUCATION

2020	**Ph.D. Educational leadership and learning technologies** – STEM focus Drexel University School of Education Thesis Title: *Examining Identity Exploration in Digital Game Affinity Spaces* Dissertation Committee: Aroutis Foster, Avi Kaplan, Emmanuel Koku, Brian Smith
2015	**M.S.W. Masters in Social Work** – Mental health concentration University of Wisconsin – Madison
2013	**B.S.W. Bachelors in Social Work** – Social justice concentration Certificate in criminal justice University of Wisconsin – Madison

APPOINTMENTS

2023 - present	**Assistant Director**, Penn Center for Learning Analytics University of Pennsylvania Graduate School of Education, Philadelphia PA
2020 - 2023	**Postdoctoral Fellow**, Louis Stokes Alliance for Minority Participation Drexel University School of Education, Philadelphia PA
2015 - 2020	**Graduate Research Assistant**, Games and Learning in Interactive Digital Environments (GLIDE) Lab Drexel University School of Education, Philadelphia PA
2014 - 2015	**Graduate Research Assistant**, Fair Play Game research team Wisconsin Center for Education Research University of Wisconsin – Madison
2011 - 2015	**Graduate Researcher**, Harackiewicz Interest and Motivation Research Lab Department of Educational Psychology University of Wisconsin – Madison
2012 - 2014	**Graduate Research Assistant**, ***Citizen Science*** **Game Project Lead**, Games+Learning+Society Center Department of Curriculum and Instruction University of Wisconsin – Madison

GRANTS AND AWARDS

Sponsored Research

University of Pennsylvania; University of Denver

IES Grant # R305N240049: *Studying how Patterns in Self-Regulated Learning Differ Across Groups of Students in Multiple OpenStax Courses.*
Principal Investigator: Ryan S. Baker (University of Pennsylvania).
Co-Principal Investigator: Amanda Barany (University of Pennsylvania) and Stephen Hutt (University of Denver)
Amount (2024-2026): $893,435

- Conducting secondary analysis on OpenStax digital textbook data to build and validate detectors of self-regulated learning (SRL) behaviors using educational data mining and natural language processing.
- Using epistemic network analysis (ENA) to examine associations between learner characteristics, SRL behaviors, and learning outcomes, exploring how SRL behaviors mediate the relationship between interactive tool use, comprehension, and knowledge retention.

- Organizing co-design sessions with students and teachers to develop SRL scaffolds aimed at improving comprehension and knowledge retention in digital textbooks.

Drexel University School of Education; University of Texas at El Paso College of Education
NSF Grant #2137708: *BPC-DP Coding Like a Data Miner (CLDM): A Culturally Relevant Data Analytics Intervention for High School Students.*
Principal Investigator: Justice T. Walker (University of Texas at El Paso).
Co-Principal Investigator: Amanda Barany (University of Pennsylvania; Drexel University) and Omar Badreddinn (University of Texas at El Paso)
Amount (2021-2024): $299,949.

- Ran co-design sessions with youth and teachers toward the design of a culturally relevant computer science curriculum that leverages open-source social media datasets to support individualized student inquiry projects.
- Designed and piloted virtual and in-person iterations of the Coding Like a Data Miner curriculum.
- Led data collection, organization, and dissemination of findings with a team of graduate researchers on "sandbox" data science, epistemic agency, and creative problem-solving in students using CLDM.

Awards

Research Collaboration Award, *International Conference on Quantitative Ethnography* (2023)
Student Research Excellence Award, *School of Education, Drexel University* (2020)
Dissertation Excellence Award, *School of Education, Drexel University* (2020)

BOOKS

Baker, R. S., & Barany, A. (forthcoming). Artificial intelligence in qualitative research: New possibilities. Vassant Press. Draft chapters available at https://learninganalytics.upenn.edu/book/ai-qualitative-research.html

JOURNAL PUBLICATIONS

Baker, R. S., Mills, C., Lan, A., Lehman, B., & **Barany, A.** (in press). A Taylorizable process for textual detector development for research-practice partnerships. Journal of Learning Engineering.

Karimov, A., Liu, X., Wei, Z., Zambrano, A. F., **Barany, A.,** Baker, R. S., Ocumpaugh, J., Mammadova, S., Saarela, M., Kärkkäinen, T., & Põldoja, H. (2026). Cross-country differences in teachers' use of learning analytics: Insights from Finland, Estonia, and Azerbaijan. Journal of Learning Analytics, 13(2), 125–146. https://doi.org/10.18608/jla.2026.9175

Zambrano, A. F., Wei, Z., Zhang, J., Baker, R. S., Ocumpaugh, J., **Barany, A.,** Liu, X., Zhou, Y., Paquette, L., Ginger, J., & Borchers, C. (2026). Data plus theory equals codebook: Leveraging LLMs for human-AI codebook development. Journal of Educational Data Mining, 18(1), 25–65.

Zambrano, A. F., Wei, Z., Ocumpaugh, J., **Barany, A.,** Baker, R. S., Liu, X., Zhou, Y., Paquette, L., & Ginger, J. (2026). How gameplay shapes learning: Exploring player archetypes in a Minecraft-based learning environment. International Journal of Serious Games, 19–40. https://doi.org/10.17083/yj7g5p07

Zhou, Y., Liu, X., Zambrano, A. F., Paquette, L., **Barany, A.,** Ocumpaugh, J., Baker, R. S., & Ginger, J. (2026). Leveraging multimodal large language models to analyse student exploration behaviours in educational game environments. Journal of Computer Assisted Learning, 42(4), e70269. https://doi.org/10.1002/jcal.70269

Zambrano, A. F., **Barany, A.,** Ocumpaugh, J., Nasiar, N., Vandenberg, J., Goslen, A., Esiason, J., Rowe, J., & Hutt, S. (2025). Unlocking gameplay insights with epistemic (ordered) network analysis: Understanding the potential of video games to foster authentic scientific practices in STEM education. *Journal of Science Education and Technology*. Springer.

Liu, X., Zambrano, A. F., Baker, R. S., **Barany, A.,** Ocumpaugh, J., Zhang, J., Pankiewicz, M., Nasiar, N., & Wei, Z. (2025). Qualitative coding with GPT-4: Where it works better. *Journal of Learning Analytics, 12*(1), 169–185. Society for Learning Analytics Research.

Barany, A., Scarola, A. D., Acquah, A., Reza, S. M., Johnson, M. A., & Walker, J. T. (2024). Learning designs that empower: Navigating sandbox data science at the intersection of computing, big data and social media. *Information and Learning Sciences*. Emerald Publishing Limited.

Fan, Y., **Barany, A.,** & Foster, A. (2023). Possible future selves in STEM: An epistemic network analysis of identity exploration in minoritized students and alumni. *The International Journal of Science Education (IJSE).*

Barany, A., & Foster, A. (2022). Context, community, and the individual: modeling identity in a game affinity space. *The Journal of Experimental Education*, *89*(3), 523-540.

Galoyan, T., **Barany, A.,** Donaldson, J. P., Ward, N., and Hammrich, P. L. (2022). Connecting science, design thinking, and computational thinking through sports. *International Journal of Instruction, 15*(1).

Petrovich Jr., M. E., **Barany, A.,** Shah, M., & Foster, A. (2022). Identity exploration for maker educators: constructing meaning in after-school environmental science. *Journal of Research on Technology in Education*, 1-18, DOI: 10.1080/15391523.2021.1885530

Shah, M., Foster, A., Talafian, H., **Barany, A.,** & Petrovich Jr, M. E. (2021). Facilitating and interpreting high school students' identity exploration trajectories in STEM. *The Journal of Experimental Education*, *89*(3), 541-559.

Foster, A., Shah, M., **Barany, A.,** & Talafian, H. (2019). High school students' role-playing for identity exploration: findings from virtual city planning. *Information and Learning Sciences*, *120*(9/10), 640–662. doi: 10.1108/ils-03-2019-0026.

BOOK CHAPTERS

Peer Reviewed

Walker, J. T., **Barany, A.,** Acquah, A., Reza, S. M., Guzman, K., & Johnson, M., & Badreldin, O., Barrera, A. (2024). Sandbox Data Science: Culturally Relevant K-12 Computing. ACM. In EngageCSEdu. 2024. https://doi.org/10.1145/3631986

Walker, J. T., **Barany, A.,** Barrera, A., Johnson, M. A., & Reza, S. M. (2024). Perspectives on Research and Practice in and Around Cultural Relevance for Pre-College Data Science in Computing. In *Improving Equity in Data Science* (pp. 12-36). Routledge.

Barany, A. & Foster, A. (2020). Mapping Identity Exploration of Science Careers Using Epistemic Networks. In D. Gibson & M. Ochoa (Eds.) *Research Highlights in Technology and Teacher Education 2020*. Association for the Advancement of Computing in Education (AACE).

Petrovich Jr., M. E., Fornaro, C., **Barany, A.** & Foster, A. (2020). Game Design Features for Facilitating Identity Exploration: An Exploration of Minecraft EE Chemistry Lab. In D. Gibson & M. Ochoa (Eds.) *Research Highlights in Technology and Teacher Education 2020*. Association for the Advancement of Computing in Education (AACE).

Barany, A., Talafian, H., Petrovich, M. E., Shah, M. & Foster, A. (2019). *Tracking identity exploration trajectories in game-based learning*. In D. Gibson & M. Ochoa (Eds.) *Research Highlights in Technology and Teacher Education 2019*. Association for the Advancement of Computing in Education (AACE).

Donaldson, J. P., **Barany, A.,** & Smith, B. K. (2019). Situated learning through situating learners as designers. In M. J. Bishop, E. Boling, J. Elen, & V. Svihla (Eds.) *Handbook of Research in Educational Communications and Technology, 5th Edition*. AECT-Springer.

Talafian, H., **Barany, A.**, Petrovich, M. E., Shah, M. & Foster, A. (2019). *Facilitating and tracking identity change in augmented virtual learning environments.* In D. Gibson & M. Ochoa (Eds.) *Research Highlights in Technology and Teacher Education 2019*. Association for the Advancement of Computing in Education (AACE).

Foster, A., Shah, M. & **Barany, A**. (2017). Facilitating learning as identity change through game-based learning. In Y. Baek (Ed). *Game-Based Learning: Theory, Strategies and Performance Outcomes.* New York, NY. Nova Publishers.

Non-Peer Reviewed

Barany, A. & Foster, A. (2018). *Exploring identities and patterns of participation in virtual environments.* In Drexel University School of Education Doctoral Student Research Briefs (Vol. 2, pp. 43-46). Drexel University, Philadelphia, PA, March 2, 2018.

Barany, A. & Foster, A. (2016, November). *Negotiating identities through peripheral participation.* In P. Hammrich, R. Ghosh, K. Geller, M. Duvall & T. Galoyan (Eds.) Drexel University School of Education Doctoral Student Research Briefs (Vol. 1, pp. 8-11). Drexel University, Philadelphia, PA, November 4, 2016.

TECHNICAL REPORTS AND PREPRINTS

Ocumpaugh, J., Wei, Z., **Barany, A.**, Liu, X., Zambrano, A. F., Baker, R. S., & Giordano, C. (2025). What do you say? A pilot study investigating student responses in data driven classroom interviews [Preprint]. *arXiv*. https://arxiv.org/abs/2512.22747

Ocumpaugh, J., Paquette, L., Baker, R. S., **Barany, A.**, Ginger, J., Casano, N., Zambrano, A. F., Liu, X., Wei, Z., Zhou, Y., Liu, S., Hutt, S., Andres, A., Nasiar, N., Giordano, C., van Velsen, M., & Mogessie, M. (2025). *The Quick Red Fox gets the best data driven classroom interviews: A manual for an interview app and its associated methodology, Version 1.0* [Technical report]. University of Houston, University of Illinois Urbana-Champaign, & University of Pennsylvania. https://arxiv.org/abs/2511.13466

Wei, Z., Liu, X., **Barany, A.**, Ocumpaugh, J., Mehta, S., Nasiar, N., Baker, R. S., Zambrano, A. F., Vanacore, K., & Giordano, C. (2025). Cultural alignment and biases in qualitative coding: Comparing GPT and human coders [Preprint]. *EdArXiv*. https://doi.org/10.35542/osf.io/h8u4f_v1

CONFERENCE PARTICIPATION

Conference Papers

Liu, X., Liang, Y., Wei, Z., Xu, Z., Chen, B., Baker, R. S., Lee, Y., & **Barany, A.** (in press). How does social annotation develop over time? Examining temporal changes in discourse moves during online reading activities. *Proceedings of the International Conference on Quantitative Ethnography.*

Wei, Z., Zhang, J., Baker, R. S., Borchers, C., **Barany, A.**, & Liu, X. (in press). Scaffolding human-LLM qualitative coding through inference evaluation and construct boundaries. *Proceedings of the International Conference on Quantitative Ethnography.*

Cho, Y., & **Barany, A.** (in press). K-12 teachers' perspective on the current newcomer EL student support in the United States. *Proceedings of the International Conference on Quantitative Ethnography.*

Kim, H., Paquette, L., Zhou, Y., Liu, Q., Ocumpaugh, J., Zambrano, A. F., & **Barany, A.** (2026). Do interviews change participants' behaviors?: Using log data to investigate student reactivity during data-driven classroom interviews. *Proceedings of the 19th International Conference on Educational Data Mining (EDM 2026)*, 79–89. https://doi.org/10.5281/zenodo.21039909 **Winner: Best Paper 2026**

Mehta, S., Baker, R. S., **Barany, A.**, Vanacore, K., Andres, J. M. A. L., Butt, S., & Chi, J. (2026). Seductive details in MOOCs: Distraction or engagement? American Educational Research Association (AERA) Annual Meeting.

Zambrano, A. F., Ocumpaugh, J., Baker, R. S., Wei, Z., Liu, X., Kim, H., Liu, Q., Ginger, J., Paquette, L., & **Barany, A.** (2026). No single metric tells the whole story: Interpreting multiple pattern mining metrics.

Proceedings of the 19th International Conference on Educational Data Mining (EDM 2026), 205–216. https://doi.org/10.5281/zenodo.21039719

Liu, X., Zhou, Y., Ocumpaugh, J., **Barany, A.,** Zambrano, A.F., Wei, Z., Baker, R.S., Giordano, C. (2025) Not All Who Wander Are Lost: Trailblazing Trajectories in a Minecraft-Based Learning Environment. *Proceedings of the International Conference on Quantitative Ethnography.* **Winner: Best Student Paper 2025**

Liu, X., Scianna, J., Metcalf, S.J., Wei, Z., Baker, R.S., **Barany, A.,** Swanson, L., Gagnon, D.J. (2025) Modeling Player Progression in an Educational Game Using Ordered Networks. *Proceedings of the International Conference on Quantitative Ethnography*.

Wei, Z., **Barany, A.,** Ocumpaugh, J., Liu, X., Zambrano, A.F., Baker, R.S., Giordano, C. (2025) Let Me Explain: Linking Situational Interest to Student Response in Interviews. *Proceedings of the International Conference on Quantitative Ethnography.*

Liu, X., Wei, Z., **Barany, A.,** Ocumpaugh, J., Baker, R.S., Zambrano, A.F., Zhou, Y., Giordano, C. (2025) Exploring Differences Between Hybrid GPT-Human and Human-Created Qualitative Codebooks in an Educational Game. *Proceedings of the International Conference on Quantitative Ethnography.*

Karimov, A., Saarela, M., Liu, X., Wei, Z., Zambrano, A.F., **Barany, A.,** Baker, R.S., Ocumpaugh, J., Mammadova, S., Karkkainen, T. (2025) ChatGPT-Assisted Codebook Design for Learning Analytics Datasets in Multiple Languages: A Case Study. *Proceedings of the International Conference on Quantitative Ethnography.*

Cheng, J., Gao, Y., Liu, X., **Barany, A.**, & Chen, B. (2025). Educators' AI journey: Developing AI competencies in a professional development program. *International Conference on Quantitative Ethnography*, 21–36. Springer Nature Switzerland.

Knowles, M. A., & **Barany, A.** (2025). Nothing left untouched: Design case extending code-wise ENA to model effect of memo-medium on coding. *International Conference on Quantitative Ethnography*, 258–273. Springer Nature Switzerland.

Zetlin, A., Eisman, J. I., & **Barany, A.** (2025). The dynamics of empathy: A quantitative ethnography of student discursive moves in social studies discussions. *International Conference on Quantitative Ethnography*, 588–600. Springer Nature Switzerland.

Wei, Z., Liu, X., **Barany, A.,** Vanacore, K., Baker, R. S., Slater, S., Pratt, J., & Mogessie, M. (2025). MORF ENA–A tool for making MOOC discussion forum data more accessible for Epistemic Network Analysis. In *Proceedings of the 19th International Conference of the Learning Sciences* (ICLS 2025) (pp. 1569–1573). International Society of the Learning Sciences.

Wei, Z., Nasiar, N., Zambrano, A. F., Liu, X., Ocumpaugh, J., **Barany, A.,** Baker, R. S., & Giordano, C. (2025). Exploring students' interest-driven patterns of scientific observation in Minecraft. In *Proceedings of the 19th International Conference of the Learning Sciences* (ICLS 2025). International Society of the Learning Sciences.

Walker, J. T., Rahimi, S., **Barany, A.,** & Lin-Lipsmeyer, L. (2025). Generative inquiry: Creativity assessments of youth epistemic agency in a computational data science workshop. In *Proceedings of the 19th International Conference of the Learning Sciences* (ICLS 2025) (pp. 538–546). International Society of the Learning Sciences.

Vanacore, K., **Barany, A.,** Mehta, S., Ocumpaugh, J., Baker, R. S., Ch, N. A. N., Kuvar, V., Mills, C., & Henkel, O. (2025). Downshifting: The nuanced antecedents of seeking easier content. In *Proceedings of the 19th International Conference of the Learning Sciences* (ICLS 2025) (pp. 637–645). International Society of the Learning Sciences.

Rodrigues, L., Zambrano, A. F., Pankiewicz, M., **Barany, A.,** & Baker, R. S. (2025). Usage patterns and performance gains in gamified online judges: A data-driven analysis informed by cognitive psychology in CS1. *International Conference on Artificial Intelligence in Education*, 99–106. Springer.

Liu, X., Wei, Z., Baker, R. S., Metcalf, S. J., Zhang, J., **Barany, A.,** Slater, S., Swanson, L., & Gagnon, D. J. (2025). Integrating large language models and machine learning to detect struggle in educational games. *International Conference on Artificial Intelligence in Education*, 398–405. Springer.

Lin, J., Rao, J., Zhao, S. Y., Wang, Y., Gurung, A., **Barany, A.,** Ocumpaugh, J., Baker, R. S., & Koedinger, K. R. (2025). Automatic large language models creation of interactive learning lessons. *European Conference on Technology Enhanced Learning*, 259–274. Springer Nature Switzerland.

Acquah, A., **Barany, A.**, Scarola, A., Johnson, M. A., Reza, S. M., Rivera, C., & Walker, J. T. (2024). Cultural relevance for epistemic practice in high school computational data mining. In: *2024 IEEE Frontiers in Education Conference (FIE)* (pp. 1–9). IEEE.

Reza, S. M., Garg, A., Johnson, M. A., **Barany, A.**, Acquah, A., & Walker, J. T. (2024). Empowering K-12 students through open inquiry on open government data: A data-driven approach in CS education. In: *2024 IEEE Frontiers in Education Conference (FIE)* (pp. 1–7). IEEE.

Liu, X., Gurung, A., Baker, R. S., & **Barany, A.** (2024). Understanding the impact of observer effects on student affect. *International Conference on Quantitative Ethnography*, 79–94. Springer Nature Switzerland.

Liu, X., Zambrano, A., **Barany, A.,** Ocumpaugh, J., Ginger, J., Gadbury, M., Lane, H. C., & Baker, R. S. (2024). Investigating learner interest and observation patterns in a Minecraft virtual astronomy environment. *International Conference on Quantitative Ethnography*, 19–34. Springer Nature Switzerland.

Liu, X., Zhang, J., **Barany, A.,** Pankiewicz, M., & Baker, R. S. (2024). Assessing the potential and limits of large language models in qualitative coding. *International Conference on Quantitative Ethnography*, 89–103. Springer Nature Switzerland.

Pankiewicz, M., Zambrano, A. F., **Barany, A.,** & Baker, R. S. (2024). How we code code: Leveraging GPT and ordered networks for understanding introductory programming education. *International Conference on Quantitative Ethnography*, 225–240. Springer Nature Switzerland. **Nominee: Best Paper 2024**

Sayuj, R., **Barany, A.,** & Remillard, J. (2024). Exploring teacher positioning through curriculum materials: A Quantitative Ethnographic study comparing two educational systems. *International Conference on Quantitative Ethnography*, 129–143. Springer Nature Switzerland.

Zambrano, A. F., Baker, R. S., Mehta, S., & **Barany, A.** (2024). Epistemic association rule networks: Incorporating association rule mining into the Quantitative Ethnography toolbox. *International Conference on Quantitative Ethnography*, 17–23. Springer Nature Switzerland.

Zhang, J., Borchers, C., & **Barany, A.** (2024). Studying the interplay of self-regulated learning cycles and scaffolding through ordered network analysis across three tutoring systems. *International Conference on Quantitative Ethnography*, 231–246. Springer Nature Switzerland. **Winner: Best Student Paper 2024**

Barany, A., Nasiar, N., Porter, C., Zambrano, A. F., Andres, A. L., Bright, D., Shah, M., Liu, X., Gao, S., & Zhang, J. (2024). ChatGPT for education research: Exploring the potential of large language models for qualitative codebook development. In: *Proceedings of the International Conference on Artificial Intelligence in Education* (pp. 134-149). Springer Nature Switzerland Cham.

Petrovich, M., **Barany, A.,** Foster, A. (2024). Identity Exploration Within STEM Pathway Programs: An Ordered Network Analysis. In: *Understanding Identities Along STEM Educational Pathways*: *American Educational Research Association (AERA) Meeting.*

Zambrano, A. F., Pankiewicz, M., **Barany, A.,** & Baker, R. S. (2024). Ordered network analysis in CS education: Unveiling patterns of success and struggle in automated programming assessment. In: *Proceedings of the 2024 on Innovation and Technology in Computer Science Education, vol. 1* (pp. 443-449).

Andres-Bray, T. C., **Barany, A.,** & Gonder, M. K. (2023). Using Epistemic Network Analysis to Explore Flexibility and Development of Termite Fishing Techniques in Nigeria-Cameroon

Chimpanzees (Pan troglodytes ellioti). In: *International Conference on Quantitative Ethnography* (pp. 155–169). Springer Nature Switzerland. **Winner: Research Innovation Award 2023**

Barany, A., Reza, S., Johnson, M., Barrera, A., Badreddin, O., Fuentes, C., & Walker, J. T. (2023). Towards the Design of a Culturally Relevant Curriculum for Equitable, Data Mining-Based CS Education. In: *Proceedings of the 17th International Conference of the Learning Sciences-ICLS 2023* (pp. 1498-1501).

Barrera, A., Johnson, M., **Barany, A.,** Reza, S., Badreddin, O., Walker, J.T. (2023). Navigator to Producer: Data Science as an Access Point for Equitable Pre-College Computer Science Education. In: Strawhacker, A. et. al. (Chairs), *Practice and Positionality: Critical Instantiations of STEAM Education and Research. American Educational Research Association (AERA) Meeting.*

Fan, Y., **Barany, A.,** & Foster, A. (2023). Epistemic Network Analysis of How Minoritized Students Make Major and Career Choices in STEM. In: *Society for Information Technology & Teacher Education International Conference* (pp. 337–347).

Fan, Y., **Barany, A.** & Foster, A. (2023). How Underrepresented Students Choose STEM Majors and Careers. *The 34th Annual Conference of the Society for Information Technology and Teacher Education (SITE).*

Johnson, M., **Barany, A.,** Barrera, A., Acquah, A. Walker, J.T. (2023). Lessons Learned from Online Co-design: Exploring Reflections of Connected Participatory Strategies for Computing-based Data Science Curricular Design. *Connected Learning Summit.*

Kim, J., **Barany, A.,** Liu, X., & Zambrano, A. F. (2023). The Stories We Tell: Uncovering Hidden Narratives in History Textbooks Through Epistemic Network Analysis. In: *International Conference on Quantitative Ethnography* (pp. 261–274). Springer Nature Switzerland.

Liu, X., Hussein, B., **Barany, A.,** Baker, R. S., & Chen, B. (2023). Decoding Player Behavior: Analyzing Reasons for Player Quitting Using Log Data from Puzzle Game Baba Is You. In: *International Conference on Quantitative Ethnography* (pp. 34–48). Springer Nature Switzerland.

Petrovich, M., **Barany, A.,** & Foster, A. (2023). COVID-19 and STEM Pathway Programs: Examining the Impacts Through Identity Exploration. In: *Society for Information Technology & Teacher Education International Conference* (pp. 417–424).

Rivera-Kumar, S., Zambrano, A., & **Barany, A.** (2023). Envisioning Latinx Narratives: Exploring Mexican and Honduran Immigrant Perspectives Using Epistemic Networks by Geospatial Location. In: *International Conference on Quantitative Ethnography* (pp. 304–315). Springer Nature Switzerland.

Walker, J. T., **Barany, A.,** Acquah, A., Reza, S. M., Barrera, A., Guzman, K. D. R., & Johnson, M. A. (2023). Coding Like a Data Miner: A Sandbox Approach to Computing-Based Data Science for High School Student Learning. In: *Frontiers in Education Conference (FIE) 2023* (pp. 1-5).

Walker, J.T., **Barany, A.,** Barrera, A., Reza, S., Del Rio, K., Acquah, A., Badreddin, O., Johnson, M. (2023). Sandbox Data Science: Culturally Relevant K-12 Computing. *Frontiers in Education (FIE) 2023.*

Walker, J.T., **Barany, A.,** Barrera, A., Slater, S., Badreddin, O., Reza, S., Johnson, M. (2023). Social Media Discourse Instruments as Tools Socioscientific Argumentation. *American Educational Research Association (AERA) Meeting.*

Walker, J., Barrera, A., Reza, S., **Barany, A.,** Badreddin, O. & Johnson, M. (2023). Coding Like a Data Miner: Stakeholder Reflections about Approaches to High School Data Science Computing Curriculum Codesign. *The Third Annual Meeting of the International Society of the Learning Sciences (ISLS).*

Zambrano, A. F., **Barany, A.,** Ocumpaugh, J., Nasiar, N., Hutt, S., Goslen, A., Rowe, J., Lester, J., Wiebe, E., & Mott, B. (2023). Cracking the Code of Learning Gains: Using Ordered Network Analysis to Understand the Influence of Prior Knowledge. In: *International Conference on Quantitative Ethnography* (pp. 18–33). Springer Nature Switzerland.

Zambrano, A. F., Liu, X., **Barany, A.,** Baker, R. S., Kim, J., & Nasiar, N. (2023). From nCoder to ChatGPT: From Automated Coding to Refining Human Coding. In: *International Conference on Quantitative Ethnography* (pp. 470–485). Springer Nature Switzerland.

Bright, D. & **Barany, A.** (2022). An Examination of Student Loan Borrowers' Attitudes toward Debt before and during COVID-19. In: C. Damşa and **A. Barany** (Eds.) *Advances in Quantitative Ethnography 4th International Conference Proceedings. Communications in Computer and Information Science* (pp. 185-200). Springer, Cham.

Condon, L., **Barany, A.**, Remillard, J. T., Ebby, C. B., & Goldsmith-Markey, L. T. (2022). Learning through feedback: Understanding early-career teachers' learning using online video platforms. In: C. Damşa and A. Barany (Eds.) *Advances in Quantitative Ethnography 4th International Conference Proceedings*. Communications in Computer and Information Science (pp. 201-213). Springer, Cham.

Fan., Y., **Barany, A.** & Foster, A. (2022). Future Selves in STEM: An Epistemic Network Analysis of Past and Present STEM Minority Program Participants. In: C. Chinn, E. Tan, C. Chan & Y. Kali (Eds.) *Proceedings of the 16th International Conference of the Learning Sciences - ICLS2022*.

Knowles, M., **Barany, A.**, Cai, Z. & Shaffer, D. W. (2022). Multiclass Rotations in Epistemic Network Analysis. In: C. Damşa and **A. Barany** (Eds.) *Advances in Quantitative Ethnography 4th International Conference Proceedings. Communications in Computer and Information Science* (pp. 58-70). Springer, Cham.

Morales-Navarro, L. & **Barany, A.** (2022). What makes a good answer? Analyzing the Content Structure of Stack Overflow Answers. In: C. Damşa and **A. Barany** (Eds.) *Advances in Quantitative Ethnography 4th International Conference Proceedings. Communications in Computer and Information Science* (pp. 374-387). Springer, Cham. **Nominee: Best Student Paper ICQE 2023**

Wu, M., Zhang, J. & **Barany, A.** (2022). Understanding Detectors for SMART Model Cognitive Operation in Mathematical Problem-Solving Process: An Epistemic Network Analysis. In: C. Damsa and **A. Barany** (Eds.) *Advances in Quantitative Ethnography 4th International Conference Proceedings. Communications in Computer and Information Science* (pp. 314-327). Springer, Cham.

Barany, A., Philips, M., Kawakubo, A.J.T., Oshima, J. (2021). Choosing Units of Analysis in Temporal Discourse. In: Wasson, B., Zörgő, S. (Eds.) *Advances in Quantitative Ethnography. ICQE 2021. Communications in Computer and Information Science*, *vol. 1522*. Springer, Cham.

Barany, A., Shah, M. & Foster, A. (2021). Connecting curricular design and student identity change: An epistemic network analysis. In: A. R. Ruis and S. B. Lee (Eds.) *Proceedings of the 2nd International Conference on Quantitative Ethnography* (pp. 155-169). Springer.

Barany, A., Shah, M. & Foster, A. (2021). Connecting curricular design to student exploration of environmental science roles using epistemic network analysis. *American Educational Research Association (AERA) Meeting.*

Barany, A., Wang, Y., Shaffer, D. W. & Foster, A. (2021). Who I am, what I know, and what I want: An epistemic network analysis of student identity exploration. In: Hmelo-Silver, C. E., De Wever, B., & Oshima, J. (Eds.). (2021). *Proceedings of the 14th International Conference on Computer-Supported Collaborative Learning - CSCL 2021*.

Petrovich Jr., M. E., **Barany, A.,** Foster, A., & Shah, M. (2021). Identity exploration processes in maker activities: Constructing meaning in environmental education. *American Educational Research Association (AERA) Meeting.*

Petrovich Jr., M., **Barany, A.,** Shah, M. & Foster, A. (2021). Crafting the maker educator identity: Examining teacher identity exploration using epistemic networks. *Society for Information Technology & Teacher Education International Conference.*

Shah, M., **Barany, A.** & Siebert-Evenstone, A. (2021). What would happen if humans disappeared from Earth? Tracing and visualizing change in a pre-school child's domain-related curiosities. In: A. R. Ruis and S. B. Lee (Eds.) *Proceedings of the 2nd International Conference on Quantitative Ethnography* (pp.

232-247). Springer.

Woodard, M., **Barany, A.** & Foster, A. (2021). Designing a virtual camp to support Black middle school students' creative processes. *American Educational Research Association (AERA) Meeting.*

Barany, A. & Foster, A. (2020). Identity exploration in a Kerbal Space Program community forum. In: M. Gresalfi & I. S. Horn (Eds.) *Proceedings of the 14th International Conference on Learning Sciences (ICLS) 2020, vol. 1.* (pp. 325-332).

Barany, A. & Foster, A. (2020). Mapping identity exploration of science careers using epistemic networks. In: D. Schmidt-Crawford (Ed.) *Society for Information Technology & Teacher Education International Conference 2020* (pp. 1610-1619).

Barany, A., Foster, A. & Shah, M. (2020). Design-based research iterations of a virtual learning environment for identity exploration. In: D. Economou, A. Klippel, H. Dodds, A. Peña-Rios, M. J. W. Lee, D. Beck, … J. Richter (Eds.) *Immersive Learning Research Network. Proceedings of 6th International Conference.*

Barany, A., Talafian, H. & Foster, A. (2020). An epistemic network analysis of STEM identity exploration in virtual learning environments. In: M. Gresalfi & I. S. Horn (Eds.) *Proceedings of the 14th International Conference on Learning Sciences (ICLS) 2020, vol. 1.* (pp. 191-198).

Petrovich, M., Fornaro, C., **Barany, A.** & Foster, A. (2020). Game design features for facilitating identity exploration: An exploration of Minecraft EE Chemistry Lab. In: D. Schmidt-Crawford (Ed.) *Society for Information Technology & Teacher Education International Conference 2020* (pp. 1822-1830).

Barany, A. & Foster, A. (2019). Examining identity exploration in a video game participatory culture. In: B. Eagan, M. Misfeldt & A. Siebert-Evenstone (Eds.) *Advances in Quantitative Ethnography: First International Conference on Quantitative Ethnography (ICQE) Proceedings* (pp. 3-13).

Barany, A. & Foster, A. (2019). Modeling the exploration of science identities in an online participatory culture. *13th International Conference on Computer Supported Collaborative Learning (CSCL).*

Barany, A., Talafian, H., Petrovich, M. E., Shah, M. & Foster, A. (2019). Tracking identity exploration trajectories in game-based learning. In: K. Graziano (Ed.) *Proceedings of the 30th International Conference for the Society for Information Technology and Teacher Education (SITE)* (pp. 700-709).

Barany, A., Talafian, H., Shah, M. & Foster, A. (2019). Learning as identity change in augmented virtual learning environments. *18th Conference for the European Association for Research on Learning and Instruction (EARLI).*

Barany, A., Talafian, H., Shah, M. & Foster, A. (2019). Supporting learning as identity change through augmented virtual environments (AVE): Case study findings. *American Educational Research Association (AERA) Meeting.*

Donaldson, J. & **Barany, A**. (2019). Designerly ways of learning. In: P. Blikstein & N. Holbert (Eds.) *Proceedings of the 8th annual FabLearn Conference on Maker Education* (pp. 50-56).

Foster, A., Shah. M., **Barany, A.** & Talafian, H. (2019). Tracing identity exploration trajectories with quantitative ethnographic techniques: A case study. In: B. Eagan, M. Misfeldt & A. Siebert-Evenstone (Eds.) *Advances in Quantitative Ethnography: First International Conference on Quantitative Ethnography (ICQE) Proceedings* (pp. 77-88).

Foster, A. Shah, M. Petrovich, M. E., **Barany, A.,** & Talafian, H. (2019). Leveraging theoretical and methodological innovations for supporting learners to explore and reconstruct their identities. *18th Conference for the European Association for Research on Learning and Instruction (EARLI).*

Karumbaiah, S., Baker, R. S., **Barany, A.**, & Shute, V. (2019). Using epistemic networks with automated codes to understand why players quit levels in a learning game. In: B. Eagan, M. Misfeldt & A. Siebert-Evenstone (Eds.) *Advances in Quantitative Ethnography: First International Conference on Quantitative Ethnography (ICQE) Proceedings* (pp. 106-116).

Shah, M., Foster, A., Talafian, H. & **Barany, A.** (2019). Examining the impact of Virtual City Planning on high school students' identity exploration. In: B. Eagan, M. Misfeldt & A. Siebert-Evenstone (Eds.) *Advances in Quantitative Ethnography: First International Conference on Quantitative Ethnography (ICQE) Proceedings* (pp. 199-210).

Talafian, H., **Barany, A**., Petrovich, M. E., Shah, M. & Foster, A. (2019). Facilitating and tracing identity change in augmented virtual learning environments. In: K. Graziano (Ed.) *Proceedings of the 30th International Conference for the Society for Information Technology and Teacher Education (SITE)* (pp. 2062-2069)

Talafian, H., Shah. M., **Barany, A.** & Foster, A. (2019). Promoting and tracing high school students' identity change in an augmented virtual learning environment. In: K. Lund, G. Niccolai, E. Lavoué, C. Hmelo-Silver, G. Gweon & M. Baker (Eds.) *13th International Conference on Computer Supported Collaborative Learning (CSCL) Conference Proceedings, vol. 1* (pp. 216-223).

Wheeler, P., Trausan-Matu, S, **Barany, A.** & Donaldson, J. (2019). Experiencing and analyzing embodied design thinking in CSCL. In: K. Lund, G. Niccolai, E. Lavoué, C. Hmelo-Silver, G. Gweon & M. Baker (Eds.) *13th International Conference on Computer Supported Collaborative Learning (CSCL) Conference Proceedings, vol. 1* (pp. 216-223).

Barany, A., Likely, R., Shah, M., Talafian, H., Evenstone, A., Quigley, P., Shaffer, D. W., & Foster, A. (2018). Using Projective Reflection to inform design-based research on virtual environments that support identity exploration. *American Educational Research Association (AERA) Meeting.*

Foster, A., **Barany, A.**, Shah, M., Galoyan, T., Moeung, H., Im, S., Brown, D. & Watanabe, M. (2018). Developing science identities through games: An analysis of game design features that support identity exploration. In: E. Langran & J. Borup (Eds.) *Proceedings of the 29th International Conference for the Society for Information Technology and Teacher Education (SITE)* (pp. 416-425).

Foster, A., Shah, M., **Barany, A.**, Petrovich Jr., M.E., Cellitti, J., Duka, M., Swiecki, Z., Evenstone, A., Kinley, H., Quigley, P., & Shaffer, D.W. (2018). Virtual learning environments for promoting self-transformation: Iterative design of Philadelphia Land Science. In: D. Beck, C. Allison, L. Morgado, J. Pirker, A. Peña-Rios, T. Ogle, … C. Gütl (Eds.) *Proceedings of the 4th International Conference for the Immersive Learning Research Network (iLRN)* (pp. 3-22).

Shah, M., Foster, A., **Barany, A.**, Cellitti, J., Duka, M., Swiecki, Z., Evenstone, A., Kinley, H., Quigley, P., & Shaffer, D.W. (2018). Learning and identity in virtual learning environments: Iterative design and implementation of Philadelphia Land Science. In: J. Kalir (Ed.) *Proceedings of the 2018 Connected Learning Summit (CLS)* (pp. 254-264).

Barany, A., Shah, M., Cellitti, J., Duka, M., Swiecki, Z., Evenstone, A., Kinley, H., Quigley, P., Shaffer, D. W., & Foster, A. (2017). Designing Philadelphia Land Science as a game to promote identity exploration. In: D. Sampson, J. M. Spector, D. Ifenthaler & P. Isaias (Eds.) *Proceedings of the 14th International Conference on the Cognition and Exploratory Learning in Digital Age (CELDA)* (pp. 291-296).

Barany, A., Shah, M., & Foster, A. (2017). Exploring teacher use of an online forum to develop game-based learning literacy. In: D. Sampson, J. M. Spector, D. Ifenthaler & P. Isaias (Eds.) *Proceedings of the 14th International Conference on the Cognition and Exploratory Learning in Digital Age (CELDA).*

Foster, A., **Barany, A.**, & Shah, M. (2017). Using Projective Reflection as an analytical lens for exploring identity change in science games. *American Educational Research Association (AERA) Meeting.*

Barany, A., Shah, M., & Foster, A. (2016). Analysis of a game-based learning resource for teachers and by teachers. In: T. Connolly & L. Boyle (Eds.) *Proceedings of the 10th European Conference on Games Based Learning (ECGBL)* (208-216).

Foster, A., Shah, M. & **Barany, A.** (2016). Game-based learning for identity change. In: **A. Barany** & S. Slater (Eds.) *Proceedings of the 12th annual Games + Learning + Society (GLS) Conference.*

Foster, A., Shah, M., & **Barany, A.** (2016). Reconstructing one's self through game-based learning. In: T. Connolly & L. Boyle (Eds.) *Proceedings of the 10th European Conference on Games Based Learning (ECGBL)* (pp.

208-216).

Barany, A., Schmieder, C., Squire, K. (2014). Citizen Science in the classroom: An analysis of teacher-student discourse. In: A. Ochsner, J. Dietmeier, C. Williams & C. Steinkuehler (Eds.) *Proceedings of the 10th annual Games + Learning + Society (GLS) Conference.*

Savio-Ramos, C., Perkins, K. K., Moore, E. B., Lindgren, R., Clark, D., Brady, C., Sengupta, P., Martinez-Garza, M., Adams, D., Killingsworth, S., Van Eaton, G., Gaydos, M., **Barany, A.**, Squire, K., & Holbert, N. (2014). Science sims and games: Best design practices and fave flops. In: J. Polman, E. A. Kyza, D. K. O'Neill, I. Tabak, T. Lee & L D'Amico (Eds.) *Learning and Becoming in Practice: The International Conference of the Learning Sciences (ICLS) 2014* (p. 1199-1208).

Barany, A., Gaydos, M. & Squire, K. (2013). Interest in Citizen Science. In: C. Martin, A. Ochsner & K. Squire (Eds.) *Proceedings of the 9th Annual Games + Learning + Society (GLS) Conference.*

Rothschild, M., **Barany, A.** & Squire, K. (2013). Citizen Science: Civic engagement that's more than a game. *Early Education and Technology for Children Conference.*

Barany, A., Gaydos, M., Squire, K. (2012). Interest in Citizen Science. In: *Meaningful Play 2012 Conference Proceedings.*

Posters and Short Papers

Nasiar, N., Sun, J., Shah, M., **Barany, A.,** & Foster, A. (in press). Tracing identity research in the QE community: A meta-synthesis of ICQE research. *International Conference on Quantitative Ethnography.*

Acquah, A., **Barany, A.,** Johnson, M. A., Scarola, A. D., Rivera, C., & Walker, J. T. (2024). Sandboxing in data science: An exploration of youth learning using open-inquiry approaches for computing-based data mining. In: *Proceedings of the 18th International Conference of the Learning Sciences (ICLS)* (pp. 2433-2434).

Ichaba, M., **Barany, A.,** Foster, A. (2024). Mapping the STEM Identity Journey: Insights From Alumni and Faculty in STEM Pathway Programs. In: *Perspectives on Learning and Development: Exploring Motivations, Cognition, and Contextual Factors*: *American Educational Research Association (AERA) Meeting.*

Johnson, M., **Barany, A.,** Barrera, A., Acquah, A., Reza, S., Walker, J.T. (2024). Coding Like a Data Miner: Reflections on Epistemic Plurality in Sandbox Data Science with Youth. In: Searle, K. (Chair), *Exploring Critical Data Literacy in K-12 Social Studies*: *American Educational Research Association (AERA) Meeting.*

Shah, M., **Barany, A.,** & Eagan, B. (2024). Cultivating collaborative wisdom: A community of practice approach to quantitative ethnography. In: *Proceedings of the 18th International Conference of the Learning Sciences (ICLS 2024)* (pp. 2143-2144).

Ichaba, M., **Barany, A.,** Petrovich, M., Woodard, M., Wu, M., Lynch, W., & Foster, A. (2023). Exploring STEM Pathway Programs: Perspectives of Alumni and Faculty on Identity Exploration. In: *Fifth International Conference on Quantitative Ethnography: Conference Proceedings*, *vol. 8*. **Winner: Best Poster ICQE 2023**

Pratt, J., & **Barany, A.** (2023). Pandemic Recovery: Economic and Medical Outcomes from Initial COVID-19 Media Responses. In: *Fifth International Conference on Quantitative Ethnography: Conference Proceedings*, *vol. 8*.

Reza, S., Barrera, A., Johnson, M., **Barany, A.,** Badreddin, O., Walker, J.T. (2023). Social and Cultural Relevance: A Design Principle for Data Science-based Computer Science Education. *American Educational Research Association (AERA) Meeting.*

Fan, Y., **Barany, A.** & Foster, A. (2022). Choosing STEM: How Underrepresented Students Make Major and Career Decisions. In: C. Damşa and **A. Barany** (Eds.) *Advances in Quantitative Ethnography Proceedings Supplement. ICQE 2022. Communications in Computer and Information Science* (pp. 25-29). Springer, Cham.

Knowles, M., Meixi, Famaye, T., **Barany, A.,** & Shah, M (2022). Code-wise ENA: A Sequential Representation of Discourse. In: C. Damşa and **A. Barany** (Eds.) *Advances in Quantitative Ethnography Proceedings Supplement. ICQE 2022. Communications in Computer and Information Science* (pp. 55-59). Springer, Cham.

Lee, S. **Barany, A.** (2022). To Affinity and Beyond: Tensions to Tackle to Legitimize Participation by Aspiring Programmers. In: C. Damşa and **A. Barany** (Eds.) *Advances in Quantitative Ethnography Proceedings Supplement. ICQE 2022. Communications in Computer and Information Science* (pp. 60-64). Springer, Cham.

Meehan, S. & **Barany, A.** (2022). Examining Teachers Discourse Around the Components of High-Quality, Effective Professional Development. In: C. Damşa and **A. Barany** (Eds.) *Advances in Quantitative Ethnography Proceedings Supplement. ICQE 2022. Communications in Computer and Information Science* (pp. 75-79). Springer, Cham.

Sun, J. & **Barany, A.** (2022). Epistemic Network Analysis on Asian American College Access Literature. In: C. Damşa and **A. Barany** (Eds.) *Advances in Quantitative Ethnography Proceedings Supplement. ICQE 2022. Communications in Computer and Information Science* (pp. 133-136). Springer, Cham.

Barany, A. (2021). Understanding identity change in game affinity spaces. In: A. R. Ruis & S. B. Lee (Eds.) *Second International Conference on Quantitative Ethnography: Conference Proceedings Supplement* (pp. 81-83).

Barany, A., Siebert-Evenstone, A. & Shah, M. (2021). Early childhood cross-topic interest development in STEM. In: de Vries, E., Hod, Y., & Ahn J. (Eds.). *Proceedings of the 15th International Conference of the Learning Sciences - ICLS 2021*.

Barany, A., Woodard, M., Petrovich, M., Fan, Y., & Foster, A. (2021). Top Tier Talk: How Leaders Conceptualize STEM Diversity Programs in Higher Education. In: Wasson, B., Zörgő, S. (Eds.) *Advances in Quantitative Ethnography Proceedings Supplement. ICQE 2021. Communications in Computer and Information Science* (pp. 93-96). Springer, Cham.

Petrovich Jr., M., **Barany, A.,** Shah, M. & Foster, A. (2021). Tracking identity exploration in maker-based learning: A quantitative ethnographic approach. In: A. R. Ruis & S. B. Lee (Eds.) *Second International Conference on Quantitative Ethnography: Conference Proceedings Supplement* (pp. 60-64).

Talafian, H., **Barany, A.** & Foster, A. (2020). *Patterns of identity exploration among high school students in a STEM course augmented by a virtual learning environment.* In M. Gresalfi & I. S. Horn (Eds.) Proceedings of the 14th International Conference on Learning Sciences (ICLS) 2020, Vol 2. (pp. 793-794). Nashville, TN: International Society of the Learning Sciences.

Barany, A., Shah, M., Talafian, H. & Foster, A. (2019). A Longitudinal Case Study of Learning as Identity Change. *American Educational Research Association (AERA) Meeting.*

Foster, A., Shah, M., **Barany, A.**, Katz-Buonincontro, J., Rangan, P., Gross, K. & Speck, R. (2017). Bridging art education and museum experiences through game-based learning. In: P. Resta & S. Smith (Eds.) *Proceedings of the 28th International Conference of the Society for Information Technology & Teacher Education (SITE)* (p. 2324-2326).

Shah, M., Philips, M., Kessler, A., Rosenberg, J., Poitras, E., Fazeli, N., **Barany, A**. & Foster, A. (2017). The development of Technological Pedagogical Content Knowledge (TPACK). In: P. Resta & S. Smith (Eds.) *Proceedings of the 28th International Conference of the Society for Information Technology & Teacher Education (SITE)* (p. 2452-2456).

Donaldson, J. P. & **Barany, A.** (2016). Design thinking for conceptual shift. *Learning Sciences Graduate Student Conference (LSGS).*

Gaydos, M., **Barany, A.,** Squire, K. (2014). Video games and learning: What counts?. *American Educational Research Association (AERA) Meeting.*

Gaydos, M., **Barany, A.** & Squire, K. (2013). Interest in the game Citizen Science. *American Education Research Association (AERA) Meeting.*

Symposia

Walker, J.T., **Barany, A.,** Acquah, A., Scarola, A., Reza, S. (2024). Coding like a data miner: Computational data mining as a tool for exercising sociopolitical inquiry in teaching and learning. In Data and Social Worlds: How Data Science Education Supports Civic Participation and Social Discourse. In: *Proceedings of the 18th International Conference of the Learning Sciences (ICLS 2024) (pp. 1863-1870).*

Walker, J.T., Reza, S., Acquah, A., Scarola, A., **Barany, A.** (2024). Sandboxing Data Science: Tensions in Peer Critique to Support Epistemic Agency in Computing-based Teaching and Learning. In Perspectives From the Field: Scaffolding Peer Critique and Feedback. In: *Proceedings of the 17th International Conference on Computer-Supported Collaborative Learning (CSCL).*

Barany, A., Condon, L., Espino, D., Hamilton, E., Lee, S., Lux, K., Vega, H., & Foster, A. (2023). Identifying Identity: A Symposium Discussion on Identity Theory and Practice in QE. In: *Fifth International Conference on Quantitative Ethnography: Conference Proceedings*, *vol. 8*.

Barany, A., Shah, M., & Foster, A. (2017). Developing teachers' game literacy through an online game-based learning resource. In: M. Shah (Chair), *Bridging the divide between knowledge and action to advance game-based learning. American Educational Research Association (AERA) Meeting.*

Workshops

Arastoopour Irgens, G., **Barany, A.**, Paquette, L., Ruis, A. R., Tan, Y., & Cai, Z. (2026). DIY QE: Demonstrating, building, and sustaining community-developed tools for quantitative ethnography [Workshop]. International Conference on Quantitative Ethnography (ICQE 2026), Hiroshima, Japan.

Ohsaki, A., Eagan, B., Liu, Z., Daché, A., Cho, Y., & **Barany, A.** (2026). Introduction to teaching quantitative ethnography [Workshop]. International Conference on Quantitative Ethnography (ICQE 2026), Hiroshima, Japan.

Ohsaki, A., Daché, A., Rivera-Kumar, S., Shaffer, D. W., Williamson, M., & **Barany, A.** (2025). Introduction to teaching Quantitative Ethnography [Workshop]. Teaching (with) Quantitative Ethnography SIG.

Ocumpaugh, J., Paquette, L., **Barany, A.,** & Baker, R. S. (2025). Full-day tutorial: Conducting in-the-moment data-driven classroom interviews (DDCI) during digital learning using Quick Red Fox (QRF). *International Conference on Artificial Intelligence in Education*, 278–283. Springer Nature Switzerland.

Barany, A., Baker, R. S., Lin, J., & Katz, A. (2024). From data to discovery: LLMs for qualitative analysis in education (LLM-QUAL). *International Conference on Artificial Intelligence in Education*. Springer Nature. https://sites.google.com/view/lak-25-workshop-llms-for-qual/

Shaffer, D. W., & **Barany, A.** (2021-2025). Advanced ENA Interpretations [Annual Workshop]. In B. Wasson and S Zorgo (Eds.) *Third International Conference on Quantitative Ethnography: Conference Proceedings Supplement*. The International Society for Quantitative Ethnography.

Shaffer, D. W., **Barany, A.** & Wang, Y. (2020). Advanced ENA Interpretations [Workshop]. In A. R. Ruis & S. B. Lee (Eds.) *Second International Conference on Quantitative Ethnography: Conference Proceedings Supplement*. The International Society for Quantitative Ethnography.

Donaldson, J. P., **Barany, A.**, & Smith, B. K. (2017). Digitally-mediated design thinking in CSCL environments. *Making a Difference: Prioritizing Equity and Access in CSCL, 12th International Conference on Computer Supported Collaborative Learning (CSCL).*

INVITED TALKS

Barany, A., Scianna, J., & Kaliisa, R. (2025, 2026). Panel on AI in Quantitative Ethnography (A. Onyewuenyi, Moderator) [Invited panel presentation]. Quantitative Ethnography Institute, Zoom (University of Wisconsin–Madison).

Barany, A. (2025, May 30). Human–AI collaboration in qualitative research [Invited webinar]. Center for Advancing Learning and Teaching (OGEM), Middle East Technical University (METU), Online.

Barany, A., Arastoopour-Irgens, G., & Shaffer, D. W., (2022). *Teaching a QE Course: Triumphs and Tensions*. International Society for Quantitative Ethnography Webinar Series, September 6, 2022.

Shah, M., Jackowska, **M., Barany,** A., Moraes, M., Swiecki, Z. & Zörgő, S. (2020). Future of quantitative ethnography: Promises and challenges [Invited Panelist]. In A. R. Ruis & S. B. Lee (Eds.) *Second International Conference on Quantitative Ethnography: Conference Proceedings Supplement* (pp. 112). The International Society for Quantitative Ethnography.

Foster, A., **Barany, A.,** Petrovich, M., GLIDE Lab Team (2018). *GLIDE Lab: Designing virtual learning environments for identity change.* Invited presentation given at Philly New Tech Meetup #55 - Gaming, Philadelphia, PA, October 17, 2018.

Foster, A., Shah, M., **Barany, A.,** Galoyan, T. & Watanabe, M. (2016). *Game-based learning using Citizen Science.* Invited talk to the Drexel Game Developers Group. Drexel University, Philadelphia, PA.

TEACHING EXPERIENCE

University of Pennsylvania Graduate School of Education (Philadelphia, PA)

2021-present	Instructor	EDUC 5916 - Quantitative Ethnography and Epistemic Network Analysis

University of Northern Colorado (Greeley, CO)

2023	Instructor	ET527 – Social Justice in the Digital Age

Northeastern University Digital Media (Boston, MA)

2022	Instructor	DGM6400 - Game Design Fundamentals

Drexel University, Westphal College of Media Arts & Design (Philadelphia, PA)

2020-2021	Instructor	DIGM105 - Overview of Digital Media
2020	Instructor	DIGM475 - The Future of Digital Media
2019	TA	DIGM105 - Overview of Digital Media

Drexel University School of Education (Philadelphia, PA)

2022	Instructor	EDUC848 - Learning and Cognition in Education
2022	Instructor	EDLT503 - Foundation of Learning Sciences
2017	Co-instructor	EDUC525 - Multimedia in Instructional Design
2016	TA	EDUC525 - Multimedia in Instructional Design
2016	TA	EDLT543 - Play and Learning in a Participatory Culture
2016	TA	EDLT541 - Foundations in Game-based Learning

PROFESSIONAL SERVICE

Editorship

Barany, A., Nguyen, H., & Baker, R. S. (Eds.). (in press). Human–AI partnership enhancing qualitative data analysis for educational data mining [Special section]. *Journal of Educational Data Mining.*

Barany, A., Baker, R. S., Lin, J., & Katz, A. (2025). From data to discovery: LLMs for qualitative analysis in education (LLM-QUAL). In M. Hlosta, I. Moser, A. Winer, N. Geri, et al. (Eds.), Joint proceedings of LAK 2025 workshops: Co-located with the *15th International Conference on Learning Analytics and Knowledge (LAK 2025)*, Dublin, Ireland, March 3–4, 2025 (pp. 177–238). CEUR-WS. https://ceur-ws.org/Vol-3995/

Damşa, C., & **Barany, A.** (2023). Advances in Quantitative Ethnography: 4th International Conference, ICQE 2022, Copenhagen, Denmark, October 15–19, 2022, Proceedings. Springer Nature.

Damşa, C., & **Barany, A.** (2023). Advances in Quantitative Ethnography: Proceedings Supplement. Quantitative Ethnography Society (QESOC).

Barany, A. & Slater, S. (Eds.) proceedings of the 12th annual Games + Learning + Society (GLS) Conference. University of Wisconsin-Madison, Madison, WI.

Professional Leadership

2023 – present	International Society for Quantitative Ethnography *Vice President, Secretary - ISQE Board (elected 2023), Sponsorship Committee Board Representative (2024)*
2024 – 2025	Data Science Education K-12: Research to Practice Conference *Organizing Committee Member*
2022– present	International Conference on Quantitative Ethnography *Conference Co-Chair (2023-present), Conference Committee Member (2022-present), Conference Program Co-Chair (2022)*
2019 – 2024	American Educational Research Association (AERA) *Technology, Instruction, Cognition and Learning (TICL) SIG - Chair (2022-2023), Communications Officer (2021), Graduate Student Representative (2019-2020)*
2018 – 2021	Emerging Voices in Education (EViE) journal *Peer Review Committee Chair*
2018 – 2021	Society for Information Technology and Teacher Education (SITE) conference *Teaching and Learning with Emerging Technologies (TLET) SIG Chair*
2017	Computer Supported Collaborative Learning (CSCL) *Conference Organizing Committee*
2013 – 2015	Games+Learning+Society (GLS) *Volunteer Coordinator* *Student Volunteer*

Reviewer Activities

2024	Journal of the Learning Sciences (JLS)
2024 – present	Journal of Educational Data Mining (JEDM)
2019 – present	International Conference on Quantitative Ethnography (ICQE)
2015 – 2024	American Educational Research Association (AERA) *SIG Motivation in Education* *SIG Design and Technology* *SIG Technology as an Agent of Change for Teaching and Learning (TACTL)*
2018 – 2022	Society for Information Technology and Teacher Education (SITE)
2018 – 2020	Drexel Emerging Voices in Education (EViE) Journal
2017	CHI Play

2014 – 2016	Games+Learning+Society (GLS) Conference
2014 – 2015	Indiecade Conference game reviewer

Professional Memberships

2019 – present	International Society for Quantitative Ethnography (ISQE)
2015 – 2024	International Society for the Learning Sciences (ISLS)
2015 – 2024	American Educational Research Association (AERA) *SIG Technology, Instruction, Cognition and Learning (TICL)* *Division C: Learning and Instruction* *SIG Design and Technology* *SIG Technology as an Agent of Change for Teaching and Learning (TACTL)*
2015 – 2021	Association for the Advancement of Computing in Education (AACE)
2017	International Association for Development of the Information Society (IADIS)