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ACADEMIC POSITIONS

2026–2029 ARC DECRA Fellow (Senior Research Fellow), Faculty of Information Technology, Monash University

2024–2025 Senior Lecturer (continuing appointment; resumes in 2029 on completion of the DECRA), Faculty of Information Technology, Monash University

2020–2024 Lecturer, Faculty of Information Technology, Monash University

EDUCATION

2020 Ph.D. Educational Psychology, University of Wisconsin—Madison

2016 M.S. Educational Psychology, University of Wisconsin—Madison

2013 B.S., *summa cum laude*, Physics & Mathematics, University of Alabama

GRANTS & FUNDED PROJECTS

INVESTIGATOR, MONASH UNIVERSITY

2026–2029 *Authentic Assessments for the Age of Generative Artificial Intelligence*. Australian Research Council, Discovery Early Career Researcher Award (DECRA). Primary Chief Investigator (PI equivalent). AUD \$720,677 (≈US\$514K).

- 2024–2027 *Assessments for Writing with Generative Artificial Intelligence*. Australian Research Council, Discovery Projects. Primary Chief Investigator (PI equivalent) of a multi-institutional investigator team. AUD \$742,212 (≈US\$529K).
- 2022–2025 *Large-Scale Multimodal Knowledge Management: From Organization and User Modeling to Fast Contextual Presentation*. Defense Advanced Research Projects Agency (DARPA), Knowledge Management at Scale and Speed program. Chief Investigator (co-PI equivalent), first-named after the lead. AUD \$5,556,372 (≈US\$3.96M).
- 2021–2026 *CELLA 2 CERES: Connecting the Center for Learning and Living with Artificial Intelligence to CERES*. Jacobs Foundation. Associate Investigator. AUD \$435,609 (≈US\$311K).
- 2020–2023 *Leading Virtual Learning Teacher Course*. Department of Education (Victoria). Chief Investigator. AUD \$450,391 (≈US\$321K).

U.S. dollar amounts are approximate, converted at AUD 1 = USD 0.71 (September 2026).

GRADUATE RESEARCH, EPISTEMIC ANALYTICS LAB, UW—MADISON (PI: DAVID WILLIAMSON SHAFFER)

- 2018–2020 *Assessment of the Readiness of Teams*. Army Research Laboratory.
- 2017–2020 *Epistemic Network Analysis*. National Science Foundation.
- 2014–2017 *Virtual Internship Authoring*. National Science Foundation.
- 2013–2015 *Virtual Internships*. National Science Foundation.

PUBLICATIONS

† *Doctoral student under my main supervision.* ‡ *Undergraduate student under my supervision.*

PEER-REVIEWED JOURNAL ARTICLES

1. Sha, L., Liang, Z., Zhao, L., Li, Y., Fernandez-Nieto, G. M., Tsai, Y., **Swiecki, Z.**, Chen, G., & Gašević, D. (in press). How do critical evaluations of generative AI outputs shape teacher agency? A mixed-methods comparative analysis. *International Journal of Human–Computer Interaction*.
2. Fernandez-Nieto, G. M., Echeverria, V., Li, Y., Tsai, Y., Sha, L., Chen, G., Gašević, D., & **Swiecki, Z.** (2026). Capturing and sharing know-how through visual process representations: A human-centred approach to teacher workflows. *Behaviour & Information Technology*. Advance online publication. <https://doi.org/10.1080/0144929X.2026.2636694>
3. Yang, K., Cheng, Y.†, Zhao, L., Raković, M., **Swiecki, Z.**, Gašević, D., & Chen, G. (2026). Ink and algorithm: Exploring temporal dynamics in generative AI-assisted writing. *British Journal of Educational Technology*, 57(2), 508–534.
4. Ba, S., **Swiecki, Z.**, Tan, Y., Lu, G., Shaffer, D. W., & Gašević, D. (2026). Community of inquiry in motion: Modeling inquiry dynamics with movement analysis (MOVA). *Computers & Education*, 242, 105513.

5. Qian, K., Liu, S., Li, T., Raković, M., Li, X., Guan, R., Molenaar, I., Nawaz, S., **Swiecki, Z.**, Yan, L., & Gašević, D. (2026). Towards reliable generative AI-driven scaffolding: Reducing hallucinations and enhancing quality in self-regulated learning support. *Computers & Education*, 240, 105448.
6. Cheng, Y.[†], Fan, Y., Li, X., Chen, G., Gašević, D., & **Swiecki, Z.** (2025). Asking generative artificial intelligence the right questions improves writing performance. *Computers and Education: Artificial Intelligence*, 8, 100374.
7. Li, T., Yan, L., Iqbal, S., Srivastava, N., Singh, S., Raković, M., **Swiecki, Z.**, Tsai, Y., Gašević, D., Fan, Y., & Li, X. (2025). Analytics of self-regulated learning strategies and scaffolding: Associations with learning performance. *Computers and Education: Artificial Intelligence*, 8, 100410.
8. Yan, L., Martinez-Maldonado, R., **Swiecki, Z.**, Zhao, L., Li, X., & Gašević, D. (2025). Dissecting the temporal dynamics of embodied collaborative learning using multimodal learning analytics. *Journal of Educational Psychology*, 117(1), 106–133.
9. Pozdniakov, S., Martinez-Maldonado, R., Tsai, Y., Echeverria, V., **Swiecki, Z.**, & Gašević, D. (2025). Investigating the effect of visualization literacy and guidance on teachers' dashboard interpretation. *Journal of Learning Analytics*, 12(1), 367–390.
10. Yang, Y., Dwyer, T., **Swiecki, Z.**, Lee, B., Wybrow, M., Cordeil, M., Wulandari, T., Thomas, B. H., & Billingham, M. (2025). Desktop versus VR for collaborative sensemaking. *Frontiers in Virtual Reality*, 6, 1570383.
11. Yan, L., Echeverria, V., Jin, Y., Fernandez-Nieto, G., Zhao, L., Li, X., Alfredo, R., **Swiecki, Z.**, Gašević, D., & Martinez-Maldonado, R. (2024). Evidence-based multimodal learning analytics for feedback and reflection in collaborative learning. *British Journal of Educational Technology*, 55, 1900–1925.
12. Zhao, L., Gašević, D., **Swiecki, Z.**, Li, Y., Lin, J., Sha, L., Yan, L., Alfredo, R., Li, X., & Martinez-Maldonado, R. (2024). Towards automated transcribing and coding of embodied teamwork communication through multimodal learning analytics. *British Journal of Educational Technology*, 55, 1673–1702.
13. Alfredo, R., Echeverria, V., Jin, Y., Yan, L., **Swiecki, Z.**, Gašević, D., & Martinez-Maldonado, R. (2024). Human-centred learning analytics and AI in education: A systematic literature review. *Computers and Education: Artificial Intelligence*, 6, 100215.
14. Alfredo, R., Echeverria, V., Zhao, L., Lawrence, L., Fan, J. X., Yan, L., Li, X., **Swiecki, Z.**, Gašević, D., & Martinez-Maldonado, R. (2024). Designing a human-centred learning analytics dashboard in-use. *Journal of Learning Analytics*, 11(3), 62–81.
15. Li, T., Fan, Y., Tan, Y., Wang, Y., Singh, S., Li, X., Raković, M., van der Graaf, J., Lim, L., Yang, B., Molenaar, I., Bannert, M., Moore, J., **Swiecki, Z.**, Tsai, Y. S., Shaffer, D. W., & Gašević, D. (2023). Analytics of self-regulated learning scaffolding: Effects on learning processes. *Frontiers in Psychology*, 14, 1206696.
16. **Swiecki, Z.**, Khosravi, H., Chen, G., Martinez-Maldonado, R., Lodge, J. M., Milligan, S., Selwyn, N., & Gašević, D. (2022). Assessment in the age of artificial intelligence. *Computers and Education: Artificial Intelligence*, 3, 100075.
17. **Swiecki, Z.** (2021). Measuring the impact of interdependence on individuals during collaborative problem-solving. *Journal of Learning Analytics*, 8(1), 75–94.

18. Martinez-Maldonado, R., Fernandez-Nieto, G., Echeverria, V., **Swiecki, Z.**, Buckingham Shum, S., & Gašević, D. (2021). What do you mean by collaboration analytics? A conceptual model. *Journal of Learning Analytics*, 8(1), 126–153.
19. **Swiecki, Z.**, Ruis, A. R., Farrell, C., & Shaffer, D. W. (2020). Assessing individual contributions to collaborative problem solving: A network analysis approach. *Computers in Human Behavior*, 104, 105876. <https://doi.org/10.1016/j.chb.2019.01.009>
20. **Swiecki, Z.**, Ruis, A. R., Gautam, D., Ruis, V., & Shaffer, D. W. (2019). Understanding when students are active-in-thinking through modeling-in-context. *British Journal of Educational Technology*, 50(5), 2346–2364.
21. Markovetz, M. R., Sullivan, S., Clark, R. M., **Swiecki, Z.**, Arastoopour Irgens, G., Shaffer, D. W., Chesler, N. C., & Bodnar, C. A. (2017). A grounded qualitative analysis of the effect of a focus group on design process in a virtual internship. *International Journal of Engineering Education*, 33(6), 1834–1841.
22. Siebert-Evenstone, A. L., Arastoopour Irgens, G., Collier, W., **Swiecki, Z.**, Ruis, A. R., & Shaffer, D. W. (2017). In search of conversational grain size: Modeling semantic structure using moving stanza windows. *Journal of Learning Analytics*, 4(3), 123–139.
23. Markovetz, M.R., Clark, R.M., **Swiecki, Z.**, Arastoopour, G., Chesler, N.C., Shaffer, D.W., & Bodnar, C.A. (2016). Influence of end customer exposure on product design within an epistemic game environment. *Advances in Engineering Education*, 6(2), 1–22.
24. Arastoopour, G., Shaffer, D.W., **Swiecki, Z.**, Ruis, A.R., & Chesler, N.C. (2016). Teaching and assessing engineering design thinking with virtual internships and epistemic network analysis. *International Journal of Engineering Education*, 32(3B), 1492–1501.
25. Chesler, N.C., Ruis, A.R., Collier, W., **Swiecki, Z.**, Arastoopour, G., & Shaffer, D.W. (2015). A novel paradigm for engineering education: Virtual internships with individualized mentoring and assessment of engineering thinking. *Journal of Biomechanical Engineering*, 137(2), 024701.

PEER-REVIEWED BOOK CHAPTERS

1. **Swiecki, Z.** (in press). Open tools for the authentic assessment of GenAI-assisted practices. In *Designing University Assessment for a World with Artificial Intelligence*. Routledge.
2. **Swiecki, Z.**, Baker, R., Järvelä, S., & Shaffer, D. W. (2024). In Conversation: Baker, Järvelä, & Williamson Shaffer–The relationship between computational methods and theory in learning analytics. In: Bartimote, K., Howard, S. K., & Gašević, D. (Eds.) *Theory Informing and Arising from Learning Analytics* (pp. 175–186). Springer.
3. Tan, Y., **Swiecki, Z.**, Ruis, A. R., & Shaffer, D. W. (2024). Epistemic network analysis and ordered network analysis in learning analytics. In: Saqr, M., & López-Pernas, S. (Eds.) *Learning Analytics Methods and Tutorials: A Practical Guide Using R* (pp. 569–634). Springer.
4. Martinez-Maldonado, R., van Leeuwen, A., & **Swiecki, Z.** (2023). Artificial intelligence techniques for supporting face-to-face and online collaborative learning. In B. du Boulay, A. Mitrovic, & K. Yacef (Eds.), *Handbook of Artificial Intelligence in Education* (pp. 422–439). Cheltenham, UK: Edward Elgar Publishing.
5. Stoddard, J., **Swiecki, Z.**, & Shaffer, D.W. (2018). Behind the curtain: an epistemic design process for democratic media education simulations. In C. Wright-Maley (Ed.) *More like life*

itself: Simulations as powerful and purposeful social studies (pp. 21–39). Charlotte, NC: Information Age Publishing.

6. **Swiecki, Z.**, Misfeldt, M., Stoddard, J., & Shaffer, D.W. (2017). Dependency-centered design as an approach to pedagogical authoring. In Y. Baek (Ed.), *Game-Based Learning: Theory, Strategies and Performance Outcomes*. Hauppauge, NY: NOVA.

PEER-REVIEWED CONFERENCE PROCEEDINGS

1. Khatri, V., Cusimano, A., **Swiecki, Z.**, Xu, Z., Liu, X., & Yu, R. (2026). From diagnosis to redesign: Using quantitative ethnography to improve multi-agent LLM reasoning. Accepted as a full paper at the Eighth International Conference on Quantitative Ethnography (ICQE26), Hiroshima, Japan.
2. Cheng, Y.[†], & **Swiecki, Z.** (2026). Toward an affordance-based taxonomy of GenAI-assisted writing tools. Accepted as a full paper at the Eighth International Conference on Quantitative Ethnography (ICQE26), Hiroshima, Japan.
3. Cheng, Y.[†], & **Swiecki, Z.** (2025). More than words: Evidencing qualitative findings through multimodal narratives. In: Carmona, G., Lima, C., Santos, M. J., Benítez, H., Montero-Moguel, L., & Galarza-Tohen, B. (Eds.) *Advances in Quantitative Ethnography: 7th International Conference, ICQE 2025, Mexico City, Mexico, October 11–16, 2025, Proceedings* (pp. 242–257). Communications in Computer and Information Science, vol. 2677. Springer Cham.

☞ *Winner of the Best Student Paper Award*

4. Han, J., Iveson, S. D., & **Swiecki, Z.** (2025). Demands-resources in doctoral education: Mapping pathways to dropout intention and careers in further research. In: Carmona, G., Lima, C., Santos, M. J., Benítez, H., Montero-Moguel, L., & Galarza-Tohen, B. (Eds.) *Advances in Quantitative Ethnography: 7th International Conference, ICQE 2025, Mexico City, Mexico, October 11–16, 2025, Proceedings*. Communications in Computer and Information Science, vol. 2677. Springer Cham.

☞ *Finalist for the Best Student Paper Award*

5. Sha, L., Fernandez-Nieto, G., Li, Y., Tsai, Y., Chen, G., Wen, J., Singh, S., Feraud, I. S., Gašević, D., & **Swiecki, Z.** (2025). ShareFlow: Seamless knowledge capture and proactive push for efficient teacher workflows in higher education. In *Proceedings of the 30th International Conference on Intelligent User Interfaces* (pp. 1242–1255). Association for Computing Machinery.
6. Fang, Z.[†], Wang, W., Chen, G., & **Swiecki, Z.** (2025). The company you keep: Refining neural epistemic network analysis. In *Proceedings of the 15th Learning Analytics and Knowledge Conference* (pp. 216–226). Association for Computing Machinery.

☞ *Finalist for Best Paper Award*

7. Wang, Y., Carpenter, Z., **Swiecki, Z.**, & Shaffer, D. W. (2025). Qualitative parameter triangulation: A conceptual and methodological framework for event-based temporal models. In *Proceedings of the 15th Learning Analytics and Knowledge Conference* (pp. 537–546). Association for Computing Machinery.
8. Alfredo, R., Mejia-Domenzain, P., Echeverria, V., Rahayu, D., Zhao, L., Alajilan, H., **Swiecki, Z.**, Kaser, T., Gašević, D., & Martinez-Maldonado, R. (2025). TeamTeachingViz: Benefits, challenges, and ethical considerations of using a multimodal dashboard to support team teaching reflection. In *Proceedings of the 15th Learning Analytics and Knowledge Conference* (pp. 58–69). Association for Computing Machinery.

9. Cheng, Y.[†], Guan, R., Li, T., Raković, M., Li, X., Fan, Y., Jin, F., Tsai, Y., Gašević, D., & **Swiecki, Z.** (2025). Self-regulated learning processes in secondary education: A network analysis of trace-based measures. In *Proceedings of the 15th Learning Analytics and Knowledge Conference* (pp. 260–271). Association for Computing Machinery.
10. Li, T., Nath, D., Cheng, Y.[†], Fan, Y., Li, X., Raković, M., Khosravi, H., **Swiecki, Z.**, Tsai, Y., & Gašević, D. (2025). Turning real-time analytics into adaptive scaffolds for self-regulated learning using generative artificial intelligence. In *Proceedings of the 15th Learning Analytics and Knowledge Conference* (pp. 667–679). Association for Computing Machinery.
11. Yang, Y., Dwyer, T., **Swiecki, Z.**, Lee, B., Wybrow, M., Cordeil, M., Wulandari, T., Thomas, B. H., & Billinghamurst, M. (2024). Putting our minds together: Iterative exploration for collaborative mind mapping. In *Proceedings of the Augmented Humans International Conference 2024* (pp. 255–258).
12. Fernandez-Nieto, G., **Swiecki, Z.**, Tsai, Y., Sha, L., Wei, Y., Wen, J., Li, Y., Jin, Y., Silva Feraud, I., Li, Y., Wang, W., Chen, G., & Gašević, D. (2024). Co-designing a knowledge management tool for educator communities of practice. In *Designing Interactive Systems Conference (DIS '24), July 01–05, 2024, IT University of Copenhagen, Denmark* (pp. 1970–1990). ACM.
13. Li, T., Fan, Y., Srivastava, N., Zeng, Z., Li, X., Khosravi, H., Tsai, Y., **Swiecki, Z.**, & Gašević, D. (2024). Analytics of planning behaviours in self-regulated learning: Links with strategy use and prior knowledge. *LAK '24: Proceedings of the 14th Learning Analytics and Knowledge Conference* (pp. 438–449). Association for Computing Machinery.
14. Fang, Z.[†], Wang, W., Chen, G., & **Swiecki, Z.** (2024). Neural epistemic network analysis: Combining graph neural networks and epistemic network analysis to model collaborative processes. *LAK '24: Proceedings of the 14th Learning Analytics and Knowledge Conference* (pp. 157–166). Association for Computing Machinery.
15. Raković, M., Li, Y., Foumani, N., Salehi, M., Kuhlmann, L., Mackellar, G., Martinez-Maldonado, R., Haffari, G., **Swiecki, Z.**, Li, X., Chen, G., & Gašević, D. (2024). Measuring affective and motivational states as conditions for cognitive and metacognitive processing in self-regulated learning. *LAK '24: Proceedings of the 14th Learning Analytics and Knowledge Conference* (pp. 701–712). Association for Computing Machinery.
16. Garg, G.[‡], Han, J., Cheng, Y.[†], Fang, Z.[†], & **Swiecki, Z.** (2024). Automated discourse analysis via generative artificial intelligence. *LAK '24: Proceedings of the 14th Learning Analytics and Knowledge Conference* (pp. 814–820). Association for Computing Machinery.
17. Cheng, Y.[†], Lyons, K., Chen, G., Gašević, D., & **Swiecki, Z.** (2024). Evidence-centered assessment for writing with generative AI. *LAK '24: Proceedings of the 14th Learning Analytics and Knowledge Conference* (pp. 178–188). Association for Computing Machinery.
18. Zhao, L., Echeverria, V., **Swiecki, Z.**, Yan, L., Alfredo, R., Li, X., Gašević, D., & Martinez-Maldonado, R. (2024). Epistemic network analysis for end-users: Closing the loop in the context of multimodal analytics for collaborative team learning. *LAK '24: Proceedings of the 14th Learning Analytics and Knowledge Conference* (pp. 90–100). Association for Computing Machinery.
19. Alfredo, R., Echeverria, V., Jin, Y., **Swiecki, Z.**, Gašević, D., & Martinez-Maldonado, R. (2024). SLADE: A method for designing human-centred learning analytics systems. *LAK '24: Proceedings of the 14th Learning Analytics and Knowledge Conference* (pp. 24–34). Association for Computing Machinery.

20. Yan, L., Echeverria, V., Fernandez-Nieto, G. M., Jin, Y., **Swiecki, Z.**, Zhao, L., Gašević, D., & Martinez-Maldonado, R. (2024). Human-AI collaboration in thematic analysis using ChatGPT: A user study and design recommendations. In *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems* (Article 191, pp. 1–7). Association for Computing Machinery. <https://doi.org/10.1145/3613905.3650732>
21. Li, T., Lin, J., Iqbal, S., **Swiecki, Z.**, Tsai, Y., Fan, Y., & Gašević, D. (2023). Do learners appreciate adaptivity? An epistemic network analysis of how learners perceive adaptive scaffolding. In: Arastoopour Irgens, G., & Knight, S. (eds.) *Advances in Quantitative Ethnography: Fifth International Conference, ICQE 2023, Melbourne, VIC, Australia, October 8–12, 2023, Proceedings* (pp. 3–17). Springer Cham.
22. Fang, Z.[†], Yang, Y., & **Swiecki, Z.** (2023). Automated code discovery via graph neural networks and generative AI. In: Arastoopour Irgens, G., & Knight, S. (eds.) *Advances in Quantitative Ethnography: Fifth International Conference, ICQE 2023, Melbourne, VIC, Australia, October 8–12, 2023, Proceedings* (pp. 438–454). Springer Cham.
23. Yan, L., Tan, Y., **Swiecki, Z.**, Gašević, D., Shaffer, D. W., Zhao, L., Li, X., & Martinez-Maldonado, R. (2023). Characterising individual-level collaborative learning behaviours using ordered network analysis and wearable sensors. In: Arastoopour Irgens, G., & Knight, S. (eds.) *Advances in Quantitative Ethnography: Fifth International Conference, ICQE 2023, Melbourne, VIC, Australia, October 8–12, 2023, Proceedings* (pp. 66–80). Springer Cham.
24. Alfredo, R. D., Nie, L., Kennedy, P., Power, T., Hayes, C., Chen, H., McGregor, C., **Swiecki, Z.**, Gašević, D., & Martinez-Maldonado, R. (2023). “That student should be a lion tamer!” StressViz: Designing a stress analytics dashboard for teachers. In *Proceedings of the 13th International Learning Analytics and Knowledge Conference* (pp. 57–67). Association for Computing Machinery.
25. Zhao, L., **Swiecki, Z.**, Gašević, D., Yan, L., Dix, S., Jaggard, H., Wotherspoon, R., Osborne, A., Li, X., Alfredo, R. D., & Martinez-Maldonado, R. (2023). METS: Multimodal learning analytics of embodied teamwork learning. In *Proceedings of the 13th International Learning Analytics and Knowledge Conference* (pp. 186–196). Association for Computing Machinery.
26. **Swiecki, Z.**, & Eagan, B. (2022). The role of data simulation in quantitative ethnography. In: Damşa, C., & Barany, A. (Eds.) *Advances in Quantitative Ethnography: 4th International Conference, ICQE 2022, Copenhagen, Denmark, October 15–19, 2022, Proceedings* (pp. 87–100). Springer Cham.
🏆 Finalist for Best Paper Award
27. Li, L., **Swiecki, Z.**, Gašević, D., & Chen, G. (2022). Popularity prediction in MOOCs: A case study on Udemy. In M. M. Rodrigo, N. Matsuda, A. I. Cristea, & V. Dimitrova (Eds.), *Artificial Intelligence in Education (AIED 2022)* (pp. 607–613). Lecture Notes in Computer Science, vol. 13355. Springer Cham.
28. **Swiecki, Z.**, Marquart, C., & Eagan, B. (2022). Simulating collaborative discourse data. In A. Weinberger, W. Chen, D. Hernández-Leo, & B. Chen (Eds.), *Proceedings of the 15th International Conference on Computer-Supported Collaborative Learning – CSCL 2022* (pp. 83–90). Hiroshima, Japan: International Society of the Learning Sciences.
29. Iqbal, S., **Swiecki, Z.**, Joksimovic, S., Mello, R. F., Aljohani, N. R., Hassan, S.-U., & Gašević, D. (2022). Uncovering associations between cognitive presence and speech acts: A network-based approach. In *Proceedings of the 12th International Learning Analytics and Knowledge Conference* (pp. 315–325). Association for Computing Machinery.

30. **Swiecki, Z.** (2022). The expected value test: A new statistical warrant for theoretical saturation. In: Wasson, B., & Zörgö, S. (Eds.) *Advances in Quantitative Ethnography: Third International Conference, ICQE 2021, Virtual Event, November 6–11, 2021, Proceedings* (pp. 49–65). Communications in Computer and Information Science, vol. 1522. Springer Cham.
 ❧ *Winner of the Best Paper Award*
31. Bowman, D., **Swiecki, Z.**, Cai, Z., Wang, Y., Eagan, B., Linderöth, J., & Shaffer, D. W. (2021). The mathematical foundations of epistemic network analysis. In Ruis, A.R., & Lee, S.B. (eds.), *Advances in Quantitative Ethnography: Second International Conference, ICQE 2020, Malibu, CA, USA, February 1–3, 2021, Proceedings* (pp. 91–105). Springer.
32. Fogel, A., **Swiecki, Z.**, Marquart, C., Cai, Z., Wang, Y., Brohinsky, J., Siebert-Evenstone, A., Eagan, B., Ruis, A. R., & Shaffer, D. W. (2021). Directed epistemic network analysis. In Ruis, A.R., & Lee, S.B. (eds.), *Advances in Quantitative Ethnography: Second International Conference, ICQE 2020, Malibu, CA, USA, February 1–3, 2021, Proceedings* (pp. 122–136). Springer.
33. Wang, Y., **Swiecki, Z.**, Ruis, A. R., & Shaffer, D. W. (2021). Simplification of epistemic networks using parsimonious removal with interpretive alignment. In Ruis, A.R., & Lee, S.B. (eds.), *Advances in Quantitative Ethnography: Second International Conference, ICQE 2020, Malibu, CA, USA, February 1–3, 2021, Proceedings* (pp. 137–151). Springer.
34. Zörgö, S., **Swiecki, Z.**, & Ruis, A. R. (2021). Exploring the effects of segmentation on semi-structured interview data with epistemic network analysis. In Ruis, A.R., & Lee, S.B. (eds.), *Advances in Quantitative Ethnography: Second International Conference, ICQE 2020, Malibu, CA, USA, February 1–3, 2021, Proceedings* (pp. 78–90). Springer.
 ❧ *Winner of the Best Paper Award*
35. **Swiecki, Z.**, & Shaffer, D. W. (2020). iSENS: An integrated approach to combining epistemic and social network analyses. In V. Kovanović, M. Scheffel, N. Pinkwart, & K. Verbert (Eds.), *Proceedings of the 10th International Conference on Learning Analytics and Knowledge* (pp. 305–313). Association for Computing Machinery. <https://doi.org/10.1145/3375462.3375505>
36. **Swiecki, Z.**, Marquart, C., Sachar, A., Hinojosa, C., Ruis, A. R., & Shaffer, D. W. (2019). Designing an interface for sharing quantitative ethnographic research data. In: Eagan, B., Misfeldt, M., & Siebert-Evenstone, A. (Eds.) *Advances in Quantitative Ethnography: First International Conference, ICQE 2019* (pp. 334–341). Communications in Computer and Information Science, vol. 1112. Springer Cham.
37. Eagan, B., **Swiecki, Z.**, Farrell, C., & Shaffer, D. W. (2019). The binary replicate test: Determining the sensitivity of CSCL models to coding error. In K. Lund, G. Niccolai, E. Lavoué, C. Hmelo-Silver, G. Gweon, M. Baker (Eds.), *A Wide Lens: Combining Embodied, Enactive, Extended, and Embedded Learning in Collaborative Settings, 13th International Conference on Computer-Supported Collaborative Learning (CSCL) 2019, Volume 2* (pp. 328–336). Lyon, France: International Society of the Learning Sciences.
38. **Swiecki, Z.**, Lian, Z., Ruis, A. R., & Shaffer, D. W. (2019). Does order matter? Investigating sequential and cotemporal models of collaboration. In K. Lund, G. Niccolai, E. Lavoué, C. Hmelo-Silver, G. Gweon, M. Baker (Eds.), *A Wide Lens: Combining Embodied, Enactive, Extended, and Embedded Learning in Collaborative Settings, 13th International Conference on Computer-Supported Collaborative Learning (CSCL) 2019, Volume 1* (pp. 112–120). Lyon, France: International Society of the Learning Sciences.
 ❧ *Finalist for the Naomi Miyake Best Student Paper Award*

39. **Swiecki, Z., & Shaffer, D.W.** (2018). Toward a taxonomy of team performance visualization tools. In J. Kay & R. Luckin (Eds.), *Rethinking Learning in the Digital Age: Making the Learning Sciences Count, 13th International Conference of the Learning Sciences (ICLS) 2018, Volume 1* (pp. 144–151). London, UK: International Society of the Learning Sciences.
40. Herder, T., **Swiecki, Z.**, Fougat, S. S., Tamborg, A. L., Allsopp, B. B., Shaffer, D. W., & Misfeldt, M. (2018). Supporting teacher's intervention in student's virtual collaboration using a network based model. In A. Pardo, K. Bartimote, G. Lynch, S. Buckingham Shum, R. Ferguson, A. Merceron, & X. Ochoa (Eds.), *Companion Proceedings of the 8th International Conference on Learning Analytics and Knowledge* (pp. 21–25). Sydney, Australia: Society for Learning Analytics Research.
41. Gautam, D., **Swiecki, Z.**, Shaffer, D. W., Graesser, A.C., & Rus, V. (2017). Modeling classifiers for virtual internships without participant data. In X. Hu, T. Barnes, A. Hershkovitz, & L. Paquette (Eds.), *Proceedings of the 10th International Conference on Educational Data Mining* (pp. 278–283). Wuhan, Hubei, China: EDM Society.
42. Rus, V., Gautam, D., **Swiecki, Z.**, Shaffer, D.W., & Graesser, A. (2016). Assessing student-generated design justifications in virtual engineering internships. In T. Barnes, M. Chi, & M. Feng (Eds.), *Proceedings of the 9th International Conference on Educational Data Mining* (pp. 496–501). Raleigh, NC: EDM Society.
43. Siebert-Evenstone, A. L., Arastoopour, G., Collier, W., **Swiecki, Z.**, Ruis, A. R., & Shaffer, D.W. (2016). In search of conversational grain size: Modeling semantic structure using moving stanza windows. In C. K. Looi, J. Polman, U. Cress, & P. Reimann (Eds.), *Transforming Learning, Empowering Learners: The International Conference of the Learning Sciences (ICLS) 2016, Volume 2* (pp. 631–638). Singapore: International Society of the Learning Sciences.

DOCTORAL DISSERTATION

1. **Swiecki, Z.** (2020). Modeling interdependence in collaborative problem-solving. Dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy (Educational Psychology) at the University of Wisconsin—Madison.

CONFERENCE PROCEEDINGS

1. **Swiecki, Z.**, Ruis, A. R., & Shaffer, D. W. (2019). Modeling and visualizing team performance using epistemic network analysis. In B. S. Goldberg (Ed.), *Proceedings of the 7th Annual GIFT Users Symposium (GIFTSym7)* (pp. 148–157). Orlando, Florida: U.S. Army Combat Capabilities Development Command—Soldier Center.

SOFTWARE & RESEARCH PLATFORMS

1. Arora, J., & **Swiecki, Z.** (2026). *Trace: Replay* [Visualization tool for GenAI-assisted writing sessions].
2. Wen, J., Arora, J., & **Swiecki, Z.** (2026). *Trace: Browser* [Browser extension for capturing GenAI-assisted writing; closed beta].
3. Arora, J., & **Swiecki, Z.** (2025). *Trace: Web* [Learning analytics platform for GenAI-assisted writing].

4. Marquart, C. L., Hinojosa, C., **Swiecki, Z.**, Eagan, B., & Shaffer, D. W. (2018). Epistemic Network Analysis (Version 1.7.0). Retrieved from <http://app.epistemicnetwork.org/login.html>
5. Marquart, C., **Swiecki, Z.**, Collier, W., Eagan, B., Woodward, R., & Shaffer, D. W. (2018). rENA: Epistemic Network Analysis (Version 0.1.5). Retrieved from <https://cran.rstudio.com/web/packages/rENA/index.html>
6. Marquart, C., **Swiecki, Z.**, Eagan, B., & Shaffer, D. W. (2018). ncodeR: Techniques for Automated Classifiers (Version 0.1.2). Retrieved from <https://cran.r-project.org/web/packages/ncodeR/index.html>

UNDER REVIEW

1. Fang, Z.[†], & **Swiecki, Z.** (under review). Method-facing simulation of coded collaborative discourse. *International Journal of Computer-Supported Collaborative Learning*.

PRESENTATIONS & CONFERENCES

INVITED PRESENTATIONS & TALKS

1. **Swiecki, Z.** (2025, September). *Changing University Assessment Practices for a World with AI*. Invited panel at the CRADLE International Symposium 2025. Melbourne, VIC, Australia.
2. **Swiecki, Z.** (2024, November). *AI & QE: Opportunities and Challenges*. Invited panel hosted by the Sixth International Conference on Quantitative Ethnography. Philadelphia, PA.
3. **Swiecki, Z.** (2024, April). *From Outcomes to Process: Rethinking Assessment in the Age of Generative AI*. The Inaugural Continuous Improvement Summit. Virtual.
4. **Swiecki, Z.** (2024, March). *Rethinking Assessment in the Age of Generative AI*. LAK24 Assess: The 4th Workshop on Learning Analytics and Assessment. Workshop hosted by the 14th International Learning Analytics and Knowledge Conference (LAK24). Kyoto, Japan.
5. **Swiecki, Z.** (2023, February–June). *Quantitative Ethnography Masterclass Series*. Six invited lectures, including “An Introduction to Quantitative Ethnography with ENA.” National Yang Ming Chiao Tung University (2) and National Central University, Taiwan; Seoul National University, South Korea; Osaka University and Senshu University, Japan.
6. **Swiecki, Z.** (2023, April). *Assessment in the Age of Generative Artificial Intelligence*. University of New South Wales. Virtual.
7. **Swiecki, Z.** (2022, December). *Assessment for Learning in the Age of AI*. Conference on Empowering Learners in AI 2022 [Virtual].
8. Bitá, N., McClellan, C., **Swiecki, Z.**, Kyngdon, A., & Gašević, D. (2022, August). *Panel: AI in Education*. EduTech 2022 (Microsoft). Melbourne, Australia.
9. **Swiecki, Z.** (2021, December). *Assessment in the age of artificial intelligence*. Conference on Empowering Learners in the Age of AI [Virtual].
10. **Swiecki, Z.** (2020, November). *Modelling interdependence in collaborative problem solving*. International Conference on Quantitative Ethnography Webinar Series [Virtual].

11. **Swiecki, Z.** (2019, August). *Visualizing team performance: An epistemic network analysis approach*. The Eighth Annual Generalized Intelligent Framework for Tutoring (GIFT) Expert Workshop: Data Visualization and Tutoring. Orlando, Florida.

PAPER PRESENTATIONS

1. **Swiecki, Z.** (2025, October). *More Than Words: Evidencing Qualitative Findings Through Multimodal Narratives*. Presented at the Seventh International Conference on Quantitative Ethnography (ICQE25). Mexico City, Mexico.
2. **Swiecki, Z.** (2025, March). *The Company You Keep: Refining Neural Epistemic Network Analysis*. Presented at the 15th International Learning Analytics and Knowledge Conference (LAK25). Dublin, Ireland.
3. **Swiecki, Z.** (2024, March). *Neural Epistemic Network Analysis: Combining Graph Neural Networks and Epistemic Network Analysis*. Presented at the 14th International Learning Analytics and Knowledge Conference (LAK24). Kyoto, Japan.
4. **Swiecki, Z.** (2022, October). *The Role of Data Simulation in Quantitative Ethnography*. Presented at the Fourth International Conference on Quantitative Ethnography (ICQE22). Copenhagen, Denmark.
5. **Swiecki, Z.** (2022, June). *Simulating collaborative discourse data*. Presented at the 15th International Conference on Computer-Supported Collaborative Learning. Hiroshima, Japan.
6. **Swiecki, Z.** (2021, November). *The expected value test: A new statistical warrant for theoretical saturation*. Presented at the Third International Conference on Quantitative Ethnography (ICQE21). Virtual.
7. **Swiecki, Z.** (2020, December). *Using epistemic network analysis to model individual and team performance*. Presented at the Defense Human Sciences Symposium 2020.
8. **Swiecki, Z.** (2020, March). *iSENS: An integrated approach to combining epistemic and social network analyses*. Paper presented at the 10th International Learning Analytics and Knowledge Conference (LAK20). Virtual.
9. **Swiecki, Z.** (2019, June). *Does order matter? Investigating sequential and cotermporal models of collaboration*. Paper presented at the 13th International Conference on Computer-Supported Collaborative Learning (CSCL 2019). Lyon, France.
10. **Swiecki, Z.** (2018, June). *Toward a taxonomy of team performance visualization tools*. Paper presented at the 13th International Conference of the Learning Sciences (ICLS 2018). London, UK.

WORKSHOPS CO-ORGANIZED

1. **Swiecki, Z.,** Shaffer, D. W., & Ruis, A. R. (2026, November). *A workshop on writing in quantitative ethnography*. Workshop hosted by the Eighth International Conference on Quantitative Ethnography (ICQE26). Hiroshima, Japan.
2. Tan, Y., **Swiecki, Z.,** & Shaffer, D. W. (2026, November). *Advanced epistemic network analysis*. Workshop hosted by the Eighth International Conference on Quantitative Ethnography (ICQE26). Hiroshima, Japan.

3. Wang, Y., & **Swiecki, Z.** (2025, October). *Advanced Epistemic Network Analysis using rENA*. Workshop hosted by the Seventh International Conference on Quantitative Ethnography (ICQE25). Mexico City, Mexico.
4. Wang, Y., Sun, J., & **Swiecki, Z.** (2024, November). *Advanced ENA and rENA*. Workshop hosted by the Sixth International Conference on Quantitative Ethnography (ICQE24). Philadelphia, PA, USA.
5. Oshima, J., Misiejuk, K., Kaliisa, R., Sciana, J., **Swiecki, Z.**, Eagan, B., & Wang, Y. (2024, March). *Integrating Quantitative Ethnography Methods to Support Learning Analytics in the Age of Artificial Intelligence*. Workshop hosted by the 14th International Learning Analytics and Knowledge Conference (LAK24). Kyoto, Japan.
6. Wang, Y., Sun, J., & **Swiecki, Z.** (2023, October). *Advanced ENA and rENA*. Workshop hosted by the Fifth International Conference on Quantitative Ethnography (ICQE23). Melbourne, Australia.
7. Spikol, D., **Swiecki, Z.**, Ochoa, X., Viberg, O., Wang, Y., Chounta, I., Martinez-Maldonado, R., Malmberg, J., Zabolotna, K., & Shaffer, D.W. (2023, June). *Techniques for Investigating Collaboration with Multimodal Approaches*. Workshop hosted by the ISLS Annual Meeting 2023. Montreal, Canada.
8. **Swiecki, Z.**, Spikol, D., & Nøhr, L. (2022, October). *Advanced ENA and rENA*. Workshop hosted by the Fourth International Conference on Quantitative Ethnography (ICQE22). Copenhagen, Denmark.
9. **Swiecki, Z.**, & Wang, Y. (2021, November). *Advanced ENA and rENA*. Workshop hosted by the Third International Conference on Quantitative Ethnography (ICQE21). Virtual.
10. **Swiecki, Z.**, Marquart, C., & Joksimović, S. (2021, January). *Advanced ENA and rENA*. Workshop hosted by the Second International Conference on Quantitative Ethnography (ICQE20). Virtual.
11. **Swiecki, Z.**, Marquart, C., & Joksimović, S. (2019, October). *Advanced epistemic network analysis workshop*. Workshop hosted by the First International Conference on Quantitative Ethnography (ICQE19). Madison, WI.
12. Siebert-Evenstone, A., Eagan, B., **Swiecki, Z.**, Lee, S., & Hamilton, E. (2019, June). *Creating, refining, and validating automated discourse codes: An introduction to nCoder and rho*. Workshop hosted by the 13th International Conference on Computer-Supported Collaborative Learning (CSCL). Lyon, France.
13. Siebert-Evenstone, A., **Swiecki, Z.**, Eagan, B., Sung, H., & Shaffer, D. W. (2018, October). *Developing and validating automated discourse codes: An introduction to nCodeR*. Workshop hosted by the Learning Sciences Graduate Student Conference (LSGS). Nashville, TN.
14. Eagan, B., Siebert-Evenstone, A., **Swiecki, Z.**, Marquart, C., & Shaffer, D. W. (2018, July). *Quantitative ethnography workshop*. Workshop hosted by the Wisconsin Center for Education Research (WCER) and the Epistemic Analytics Lab. Madison, WI.
15. Eagan, B., **Swiecki, Z.**, Mochizuki, T., Joksimović, S., Marquart, C., & Misfeldt, M. (2018, June). *Quantitative ethnography workshop: Applying the tools of quantitative ethnography to your data*. Workshop hosted by the 13th International Conference of the Learning Sciences (ICLS). London, UK.
16. Eagan, B., **Swiecki, Z.**, Siebert-Evenstone, A., Herder, T., Sung, H., & Shaffer, D. W. (2017, October). *Quantitative ethnography in R: An introduction to rhoR and R-ENA workshop*.

Workshop hosted by the Learning Sciences Graduate Students Conference (LSGS). Bloomington, Indiana.

17. Eagan, B., **Swiecki, Z.**, Arastoopour, G., & Shaffer, D. W. (2016, October). *Epistemic network analysis (ENA) workshop*. Workshop hosted by the Learning Sciences Graduate Students Conference (LSGS). Chicago, Illinois.

POSTER PRESENTATIONS

1. **Swiecki, Z.** (2019, October). *Designing an interface for sharing quantitative ethnographic research data*. Poster presented at the First International Conference on Quantitative Ethnography (ICQE19). Madison, WI.

TEACHING

MONASH UNIVERSITY

2024–2026	<i>Research Methods in Data Science (ADS4001)</i> . Lecturer. Honors undergraduate, in-person. Three offerings of 3–12 students.
2024–2025	<i>IT Professional Practice (FIT1049)</i> . Chief Examiner and Lecturer, 2024 (689 students); Co-Lecturer, 2025 (828 students). Undergraduate, in-person.
2025	<i>Statistical Data Modelling (FIT5197, ITO5197)</i> . Chief Examiner and Lecturer, Australian campus, in-person (253 students); Chief Examiner, Malaysia campus, in-person (76 students); Chief Examiner, Monash Online (33 students). Master's.
2024	<i>Modelling for Data Analysis (FIT2086)</i> . Co-Lecturer. Undergraduate, in-person (344 students).
2022–2024	<i>Educational Theories and Processes in Learning Analytics (ITO5005)</i> . Unit designer. Lecturer, 2022; Chief Examiner, 2023 and 2024. Master's, fully online (2–3 students per offering).
2023	<i>Introduction to Data Science (FIT5145)</i> . Co-Lecturer, Semester 2 (229 students); Lecturer, Summer B (94 students). Master's, in-person.
2023	<i>Data Challenges 4 (ADS2002)</i> . Lecturer. Undergraduate, in-person (37 students).
2021–2022	<i>Data Challenges 1 (ADS1001)</i> . Lecturer. Undergraduate; hybrid in 2021 (48 students), in-person in 2022 (55 students).

At Monash, a unit is a single course. The Chief Examiner is responsible for its content, assessment, and delivery (comparable to a U.S. course director or instructor of record), and Lecturers deliver its lectures and workshops. Student numbers are enrollments per offering.

UNIVERSITY OF WISCONSIN—MADISON

2019	Guest Lecturer, Research Experience in Educational Psychology
2018, 2019	Guest Lecturer, Current Topics in the Learning Sciences
2018	Instructor, Human Abilities and Learning

2016, 2017 Teaching Assistant, Human Abilities and Learning

SUPERVISION

DOCTORAL STUDENTS — MAIN SUPERVISOR

Exp. 2026 Zheng Fang, Ph.D. candidate, Faculty of Information Technology, Monash University.
Thesis: *Computational collaboration analytics*

Exp. 2027 Yixin Cheng, Ph.D. candidate, Faculty of Information Technology, Monash University.
Thesis: *Identifying key skills for writing with generative artificial intelligence*

DOCTORAL STUDENTS — ASSOCIATE SUPERVISOR

Current Luna Lu, Keyang Qian, Steven Walker (Ph.D. candidates), Monash University

Graduated Riordan Alfredo, Jae Han, Lixiang Yan (Ph.D. graduates), Monash University

Monash doctoral candidates are research-only (no required coursework) and are supervised by a committee of a main supervisor, who directs the project (the equivalent of a U.S. advisor), and associate supervisors.

MASTER’S STUDENTS — MAIN SUPERVISOR

2025 Robert Milligan, Master’s thesis, Faculty of Information Technology, Monash University. Thesis: *Extending a model for simulating collaborative discourse*

UNDERGRADUATE STUDENTS — MAIN SUPERVISOR

Current Kaii Leong, Sandira Polketiyage (undergraduate research projects), Faculty of Information Technology, Monash University

HONORS & AWARDS

2026 Discovery Early Career Researcher Award (DECRA), Australian Research Council

2022 Vice-Chancellor’s Awards for Industry and Community Education Programs (Industry)

2019 Doctoral Consortium, International Conference on Computer-Supported Collaborative Learning

2015 CADRE Fellow, CADRE Fellows Program

2012 B.B. Comer Math Prize, University of Alabama

2008 Smith Scholar, Smith Scholarship Foundation

2008 Coca-Cola Scholar, Coca-Cola Scholars Program

PAPER AWARDS

2025	Best Student Paper Award, ICQE25 (Cheng & Swiecki)
2025	Best Student Paper Award Finalist, ICQE25 (Han, Iveson, & Swiecki)
2025	Best Paper Award Finalist, LAK25 (Fang, Wang, Chen, & Swiecki)
2022	Best Paper Award Finalist, ICQE22 (Swiecki & Eagan)
2021	Best Paper Award, ICQE21 (Swiecki)
2021	Best Paper Award, ICQE20 (Zörgő, Swiecki , & Ruis)
2019	Naomi Miyake Best Student Paper Award Finalist, CSCL 2019 (Swiecki , Lian, Ruis, & Shaffer)

SERVICE

PROGRAM CO-CHAIR

The Sixth International Conference on Quantitative Ethnography (ICQE24)

The 16th International Learning Analytics & Knowledge Conference (LAK26): Poster & Demo Track

PROGRAM COMMITTEE MEMBER

International Conference on Quantitative Ethnography (ICQE21, ICQE22, ICQE23, ICQE24, ICQE25, ICQE26)

Learning Analytics and Knowledge Conference (LAK21, LAK22, LAK23, LAK24, LAK25, LAK26)

FLAIRS-33 Intelligent Learning Technologies

EDITORIAL BOARD

International Journal of Computer-Supported Collaborative Learning (2026–)

Journal of Quantitative Ethnography (2026–)

AD-HOC REVIEWER

Artificial Intelligence Review; Australasian Journal of Educational Technology; British Journal of Educational Technology; Computers & Education; Computers and Education: Artificial Intelligence; Computers in Human Behavior; Frontiers in Psychology; IEEE Transactions on Learning Technologies; International Journal of Computer-Supported Collaborative Learning; Journal of Learning Analytics; Journal of the Learning Sciences; International Conference of the Florida Artificial Intelligence Research Society; International Conference of the Learning Sciences; International Conference on Computer-Supported Collaborative Learning; International Conference on Quantitative Ethnography; Learning Analytics and Knowledge Conference; Learning Sciences Graduate Student Conference; Nova Science Publishers

OTHER

Education and Analytics Group Coordinator, Department of Human-Centred Computing, Monash University (2024–2025)

Team Lead, AI Learning Circle, Monash University (2023–2025)

Committee Member, Education Transformation Project, Faculty of Information Technology, Monash University (2022–2023)