ABSTRACTS 17-18 NOVEMBER 2021

Keynotes

Teresa Cerratto Pargman: Be careful what you wish for. Emerging data-driven practices in higher education.

Abstract

With the pervasive use of learning management systems (LMSs) facilitating access to and storage of large-scale datasets, higher education institutions (HEIs) have started to pay attention to the promises entrenched in big data and data mining techniques to support learning, teaching, and administrative activities in more efficient ways. In this context, HEIs, particularly in the USA, the UK, and Australia, are deploying learning analytics systems to understand better and support student learning. Even elsewhere, we see vast investments in learning management systems that enable learning behavior analysis by capturing student data on their academic interactions. However, embracing learning analytics practices in higher education raises a series of ethical considerations regarding how data is collected and by whom, how it is used, and for what purpose. This talk introduces the research and development field of learning analytics, provides examples of how learning analytics systems are deployed, and critically discusses the opportunities and concerns that arise when unprecedented measuring tools mediate teacher-student interactions in higher education.

Readings:

Cerratto Pargman, T. C., & McGrath, C. (2019). Be Careful What You Wish For! Learning Analytics and the Emergence of Data-Driven Practices in Higher Education. Digital Human Sciences, Stockholm University Press. 50(6), 2839-2854.

Cerratto Pargman, T. C., & McGrath, C. (2021). Mapping the terrain of ethics in learning analytics: A systematic literature review of empirical research. Journal of Learning Analytics.

Cerratto Pargman, T. (2020). Practice as a concept in educational technology. In: Encyclopedia of Educational Innovation / [ed] Michael A. Peters, Richard Heraud, Springer Nature , 2020, p. 1-5.

Isa Jahnke: Digital Learning From the Lens of Learning Experience Design and Research

- "During Covid19, educators and learners experienced how to navigate in CrossActionSpaces. The presentation introduces the conceptual framework of CrossActionSpaces and active learning in digital settings. Using the novel research field of "Learning Experience Design (LXD)", the design of learning experiences is needed for usable and effective learning with digital technologies. Projects, results and implications for "Research to improve" versus "Research to prove" will be discussed.

Gerhard Fischer: Co-Evolution: Beyond “Gift-Wrapping” — Envisioning the Future of Learning in the Digital Age

The core assumption and argument behind my presentation is: learning in the digital age should not be envisioned as “learning as it is understood and practiced today enriched by digital technologies” but as “fundamentally rethinking what education and learning should be about in the digital age.”

Most current uses of technology supporting learning are restricted to “gift wrapping” approaches: they are used as add-ons to existing practices rather than a catalyst for fundamentally rethinking what education and learning should be in the digital age. “Old” frameworks, such as instructionism, fixed curricula, memorization, decontextualized learning, etc., are not changed by technology itself. This is true whether we use computer-based training, intelligent tutoring systems, multimedia presentations, or other approaches (e.g.: supported by Artificial Intelligence).

“Co-evolution” approaches explore learning themes and objectives facilitated and supported by digital technologies including constructionism, interest-driven learning, distributed cognition, learning-on-demand, etc. leading to fundamentally new conceptualizations and practices in education for the digital age.

Readings

Fischer, G. (2021): “End-User Development: Empowering Stakeholders with Artificial Intelligence, Meta-Design, and Cultures of Participation”, in D. Fogli et al. (Eds.): IS-EUD 2021 Proceedings, Springer, LNCS 12724, pp. 3–16, https://doi.org/10.1007/978-3-030-79840-6_1

https://l3d.cs.colorado.edu/wordpress/wp-content/uploads/2021/07/Final-ISEUD-2021.pdf

Fischer, G., Lundin, J., and Lindberg, J.O. (2020), “Rethinking and reinventing learning, education, and collaboration in the digital age — from creating technologies to transforming cultures”, International Journal of Information and Learning Technology, https://doi.org/10.1108/IJILT-04-2020-0051

http://l3d.cs.colorado.edu/~gerhard/papers/2020/FINAL-IJILT-2020.pdf

Fischer, G. and K. D. Wolf (2015): „What can Residential, Research-Based Universities learn about their core competencies from MOOCs (Massive Open Online Course)”, in H. Schelhowe, M. Schaumburg, and J. Jasper (eds): “Teaching is Touching the Future — Academic Teaching within and across Disciplines“, Universitätsverlag Webler, Bielefeld, pp. 65-75

http://l3d.cs.colorado.edu/~gerhard/papers/2015/Bremen-Wolf-MOOCS.pdf

Fischer, G. (2014) “Supporting Self-Directed Learning with Cultures of Participation in Collaborative Learning Environments” in E. Christiansen, L. Kuure, A. Mørch, & B. Lindström (Eds.), Problem-Based Learning for the 21st Century – New Practices and Learning Environments, Aalborg University Press,, pp. 15-50.

http://l3d.cs.colorado.edu/~gerhard/papers/2014/Scandinavia-PBL.pdf

Fischer, G. (1998) “Making Learning a Part of Life—Beyond the ‘Gift-Wrapping’ Approach of Technology” in P. Alheit, & E. Kammler (Eds.), Lifelong Learning and Its Impact on Social and Regional Development, Donat Verlag, Bremen, pp. 435-462.

http://l3d.cs.colorado.edu/~gerhard/papers/giftwrapping-98.pdf.

Chee Kit Looi: Research Findings on ICT in Education: What We Learn about Digitalization of Teacher Education from Singapore and beyond

In this talk, I will first discuss a meta-review of a number of research projects which have been conducted during the past over decade on technology-enabled learning in Singapore. The underlying intention is that Information and Communications Technology (ICT) can be an enabler to improve learning and teaching in Singapore classrooms and beyond. School-based research have sought to design, evaluate and understand the techno-pedagogical practices that have been enacted to transform learning and teaching. Research also includes finding out how did teachers transform their teaching practices while learning and using ICT to develop techno-pedagogical practices. In this talk, we review and reflect on these findings on what we have learned about the digitalization of teacher education in Singapore and beyond. I will then draw on some of my past research on teacher education and learning trajectory in enacting technology-enabled learning to provide a discussion on the learning sciences approaches and methodologies in the area of studying digitalization of teacher education.

Readings
(I have provided several readings, but you don't have to read all. My suggestion is to download and read the first reading, and browse 2 and 3; if interested, feel free to look at the other readings)

Local Evidence Syntheses | National Institute of Education (NIE), Singapore

Looi, C-K., Sun, D., Kim, M. S., & Wen, Y. (2018). The Impact of a Professional Development Model for a Mobilized Science Curriculum: A Case Study of Teacher Changes. Research in Science & Technological Education, Volume 36, 2018 - Issue 1, Pages 86-110.

Looi, C.K., Chen, W. & Chen, F-H. (2014). Integrating Technology in the Classroom: Factors that Account for Teachers' Regressive Developmental Trajectories. International Journal of Web-Based Learning and Teaching Technologies, 9(3), 1-17, July-September 2014.

Sun, D., Looi, C.K., & Xie, W.T. (2014). Collaborative Inquiry with a Web-based Science Learning Environment: When Teachers Enact it Differently. Journal of Educational Technology & Society, Volume 17, Number 4, pp. 390-403.

Looi, C.K., Sun, D., Seow, P. & Chia, G. (2014), Enacting a Technology-based Science Curriculum across a Grade Level: The Journey of Teachers' Appropriation, 71, 222-236. http://dx.doi.org/10.1016/j.compedu.2013.10.006

Looi, C.K. & Song, Y. (2013). Orchestration in a Networked Classroom: Where the Teacher's Real-Time Enactment Matters. Computers & Education, 65(2), 510-513.

Song, Y. & Looi, C.K. (2012), Linking Teacher Beliefs, Practices and Student Inquiry Learning in a CSCL Environment: A Tale of Two Teachers, International Journal of CSCL, Volume 7, Number 1, March 2012.

Joke Voogt: Technology for teaching and learning: It takes two to tango!

Given the rapid technological developments in our society, technology is not only seen as a means to improve education, but also as a necessary goal for education, to prepare every citizen for living and working in a digital society. In this presentation I will first consider different roles for technology in the curriculum. Then I discuss how humans and technology are shaping their mutual relationship and what this means for the design of technology-rich education: It takes two to tango! I underpin my talk with research on factors that influence the use of technology in educational practice and look in particular at the role and competencies (TPACK) of the teacher in shaping technology-rich education.

Readings

Jonker, H., Mårz, V. & Voogt, J. (2018). Teacher educators' professional identity under construction: The transition from teaching face-to-face to a blended curriculum. Teaching and Teacher Education, 71, 120-133.

Pareja Roblin, N., Tondeur, J., Voogt, J., Bruggeman, B., Mathieu, G. van Braak, J. (2018). Practical considerations informing teachers' technology integration decisions: the case of tablet PCs. Technology Pedagogy and Education, 27 (2), 165-181. doi/full/10.1080/1475939X.2017.1414714

Voogt, J., Fisser, P., Tondeur, J. & van Braak, J. (2016). Using theoretical perspectives in developing an understanding of TPACK. In M. Herring, M.J. Koehler & P.Mishra (Eds.). Handbook of Technological Pedagogical Content Knowledge (TPACK) for Educators (2nd ed.) (pp. 33- 51). New York: Routledge.