Call for Papers: Special Issue for Educational Technology Research & Development (ETR&D)

Methodologies for Research on Educational Technology: Emerging Approaches

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Important Dates

- March 15, 2022 —outlines of proposed papers due to the editors. Submit in this form.
- May 1, 2022 – Papers due in the Editorial Management system (https://www.editorialmanager.com/etrd);
- July 1, 2022 — Reviews completed & authors notified of decisions
- September 1, 2022 — Revised manuscripts due to the Editorial Management system (https://www.editorialmanager.com/etrd);
- November 1, 2022 — feedback on revised manuscripts
- December 1, 2022 — final manuscripts due by authors to the Editorial Management system (https://www.editorialmanager.com/etrd);
- January 15, 2023 – final manuscripts sent to the publishers
- Early 2023 publication

Submission procedure

Authors should submit a 3-page outline proposal including a tentative title, information about contributing author(s), abstract, keywords and key references by March 15, 2022. Early submissions are encouraged. All proposals will undergo a rigorous review of the special issue review board who will recommend full submissions from among the proposals. All full manuscript submissions will undergo rigorous double-blind peer review by at least three reviewers of the special issue review board and regular ETR&D reviewers who will recommend revisions or acceptance. Instructions for submission of full papers are sent after proposal acceptance. Submissions and Questions regarding the special issue should be directed to:
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Background

This Special Issue aims at fostering the discussion on research methodology in research on educational technology. Reeves & Oh (2017) have analyzed research methods of papers published in Educational Technology Research and Development (ETR&D). Most of the studies reported rely on traditional, mostly quantitative research methods, and the authors strongly recommend that the range of methods needs to be broadened. And within the quantitative realm of research methods, Bulfin et al. (2014) have criticized serious shortcomings in the methods applied in Ed Tech research papers: "Data from the survey highlight a preference for relatively basic forms of descriptive research, coupled with a lack of capacity in advanced quantitative data collection and analysis."

Often, studies on educational technology are based on the assumption that a certain technology could improve learning as such – without considering the individual and contextual conditions of learning and the instructional decisions for using an educational technology. Interventions often rely on a comparison of the use of educational technology with a control group of "traditional education" reproducing a paradigm of media comparison studies on a higher level. In a summary on statements from journal editors in the field, they clearly encourage authors to abandon these approaches (Hartsthor, Ferdig, & Bull, 2021, Johnson et al, 2021).

More recently, Honebein & Reigeluth (2021) even report a striking increase of such comparative research studies published between 2010 and 2019 in ETR&D. They deliberately urge for research that overcomes these formats that have been criticized by seminal researchers for many years but, obviously, with not much success. The authors argue for research questions that rely on a general framework of instructional theory that take into account the complexity of instructional conditions and decisions and focus on the improvement of educational measures instead of remaining in a comparative paradigm which sets of contexts of learning or modality differences. Reeves & Lin (2021) conclude that "the research we have is not the research we need." and demand to shift the focus from things (e.g. technologies) to problems to be solved in education (with technology).

The question remains, how these alternative research designs look like. When Kimmons & Johnson (2019) argue for pluralism in Ed Tech research the visibility of innovative approaches in scholarly journals seems sparse. For several years, design-based research (DBR) has been advocated as a new paradigm for educational research. Although often citied, a methodology of DBR (relying on iterations of improvements) still seems to be in need of thorough improvements. Anderson & Shattuck (2012, 16) "conclude that interest in DBR is increasing and that results provide limited evidence for guarded optimism that the methodology is meeting its promised benefits." The systematic review from Zheng (2015) hints at many shortcomings of DBR studies which mostly rely on a single cycle of optimization (cf. McKenney & Reeves, 2013).

Furthermore, current developments in Ed Tech raise the question if approaches for data acquisition and analyses are still suitable for studying emerging technologies and the new research problems related to the digitalization in the various fields of education. Traditionally, Ed Tech research most often relates technology to learning outcome measures neglecting the broad variety of indicators of human action and performance. Also, they focus on the individual's learning neglecting the social and cultural dimensions

of (institutionalized) learning. In the meanwhile, several perspectives in Ed Tech can tentatively be foreseen (Huan, Spector & Yang, 2019). The discussion about post-digital culture (Cramer & Jandric, 2021) informs us that the boundary between digital and analog worlds becomes blurred and seems misleading in our thinking about education. Comparisons of Ed Tech vs. No Tech will not be helpful in future research. Research shifts to the conditions, processes and the implications of technology relating to learning and education. Beyond quantitative research methods, a large variety of qualitative approaches developed in the social sciences still needs to be exploited for Ed Tech research (Willis, 2008). Emergent technologies for learning deliver a broad range of data, providing insights based on objective data, either direct measurement of biological indicators or of observational data (e.g. log files, eye tracking, motion tracking, cf. Gibson & Iffenthaler, 2017). Learning outcomes in technological environments, like maker spaces, relate to digital artifacts that need to be analyzed qualitatively. With the increasing proliferation of Ed Tech in all educational sectors, research is shifting from a (mainly) psychological perspective to a view of digital learning relating to social interactions, learning in and of organizations, institutions, and policy-making. With this, stakeholders and their role in the research process change: They participate as subjects – not objects – of research and reveal practices of sense making in education. Multi-level analyses in education emerge as the use of Ed Tech is understood as part of the society's adaption to the more comprehensive trend of digitalization. To summarize, we might foresee a shift from subjective to behavioral (objective) data, from learning outcomes to processes and from micro to macro perspectives.

Focus & Scope

Ed Tech research can be understood as an interdisciplinary research endeavor relating to many disciplines. The focus of ETR&D can be located in the learning and educational sciences, which in itself are considered as interdisciplinary fields of studies. In the context of this discussion, the Special Issue will showcase new approaches for research on educational technologies and present methodological approaches that have the potential to provide a fresh perspective and ignite a new discourse for the advancement of Ed Tech research.

Authors are invited to present their view on the future of research methodologies and methods in Ed Tech research. Submissions that successfully present the research in 5,000 words are particularly welcome but should not exceed 8.000 words. We particularly welcome submission like the following (list not extensive):

- a *conceptual paper* explaining an innovative research method in Ed Tech which provides examples from studies published before (at least one of the examples should be originated by the authors).
- a *systematic review* analyzing the state of research methods in the field of Ed Tech providing new insights into trends and perspectives
- a *theoretical paper* outlining emerging methodologies and methods for research on Ed Tech with a positioning into different research paradigms.
- a *current study* that focuses on emerging research methods or incorporates multiple research methods.

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Literature

Bulfin, S., Henderson, M., Johnson, N. F., & Selwyn, N. (2014). Methodological capacity within the field of "educational technology" research: An initial investigation. *British Journal of Educational Technology*, 45(3), 403–414.

Cramer, F., & Jandrić, P. (2021). Postdigital: A Term That Sucks but Is Useful. *Postdigital Science and Education*. https://doi.org/10.1007/s42438-021-00225-9

Gibson, D. C., & Ifenthaler, D. (2017). Preparing the Next Generation of Education Researchers for Big Data in Higher Education. In B. Kei Daniel (Hrsg.), *Big Data and Learning Analytics in Higher Education: Current Theory and Practice* (S. 29–42). Springer International Publishing. https://doi.org/10.1007/978-3-319-06520-5_4

Hartshorne, R., Ferdig, R. E., & Bull, G. (2021). *What Journal Editors Wish Authors Knew About Academic Publishing* (S. 1–117). Association for the Advancement of Computing in Education (AACE). https://www.learntechlib.org/primary/p/219093/

Honebein, P. C., & Reigeluth, C. M. (2021). To prove or improve, that is the question: The resurgence of comparative, confounded research between 2010 and 2019. *Educational Technology Research and Development*, 69(2), 465–496. https://link.springer.com/article/10.1007%2Fs11423-021-09988-1

Huang, R., Spector, J. M., & Yang, J. (2019). *Emerging Issues in Educational Technology*. In R. Huang, J. M. Spector, & J. Yang (Hrsg.), Educational Technology: A Primer for the 21st Century (S. 231–241). Springer. https://doi.org/10.1007/978-981-13-6643-7_13

Johnson, T. E., Lin, L., Young, P. A., Ilgaz, H., Morel, G., & Spector, J. M. (2021). *Thinking from Different Perspectives: Academic Publishing Strategies and Management in the Field of Educational Technology*. In R. Hartshorne, R. E. Ferdig, & G. Bull (Hrsg.), What Journal Editors Wish Authors Knew About Academic Publishing (S. 37–48). AACE-Association for the Advancement of Computing in Education. https://www.learntechlib.org/primary/p/219093/

Kimmons, R., & Johnstun, K. (2019). Navigating Paradigms in Educational Technology. *TechTrends*, 63(5), 631–641.

McKenney, S., & Reeves, T. C. (2013). Systematic Review of Design-Based Research Progress: Is a Little Knowledge a Dangerous Thing? *Educational Researcher*, 42(2), 97–100. https://doi.org/10.3102/0013189X12463781

Reeves, T. C., & Oh, E. G. (2017). The goals and methods of educational technology research over a quarter century (1989–2014). *Educational Technology Research and Development*, 65(2), 325–339. https://doi.org/10.1007/s11423-016-9474-1

Reeves, T. C., & Lin, L. (2020). The research we have is not the research we need. *Educational Technology Research and Development*, 68(4), 1991–2001. https://doi.org/10.1007/s11423-020-09811-3

Willis, J. W. (2008). *Qualitative Research Methods in Education and Educational Technology*. IAP.

Zheng, L. (2015). A systematic literature review of design-based research from 2004 to 2013. *Journal of Computers in Education*, 2(4), 399–420. https://doi.org/10.1007/s40692-015-0036-z