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March 2024

Request for special issue at The European Educational Researcher (*EUER*)" on

Adapting Education: Exploring Technological Advances in Teacher Training and beyond

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1. Focus of the special issue

Technological progress and the digital transformation have fundamentally changed research and teaching at universities in recent years, but also present them with new challenges. Educational technology is currently establishing itself as a buzzword in higher education research in Europe. However, this not only refers to the use of technology in the context of educational processes, instead, we're looking at a whole discipline that delves into understanding and teaching various ways to set up learning environments, aid in acquiring knowledge and skills, impact motivations and emotions, and explore how media can enhance learning and educational activities (Edelstein and Hopf, 1973).

The digital transformation affects all facets of higher education research. The planned special issue aims to focus on an important aspect of this transformation: the digitalization and technologization of university teaching in teacher training in Europe. To what extent can technology-supported learning enrich educational processes? In view of high acquisition costs and short innovation cycles, it is important to investigate

the effectiveness of technologically-based research and teaching approaches at universities and at the same time to explore their limits.

The special issue would like to offer researchers a platform to scientifically present innovative teaching/learning concepts in connection with educational technology innovations in higher education in teacher training. We are looking for theory-based empirical studies that examine the effectiveness of educational technologies based on empirical evidence. Four different learning-relevant contexts and components that come into play in technology-based learning scenarios can be considered. Tergan & Schenkel (2004) distinguish between individual learning context (learners), application context (content), pedagogical context (concepts and methods) and technology context (technology & media). These can be examined in order to research the corresponding learning activities and learning processes in the interaction of the four components and to determine the effectiveness of an electronic learning environment. Within the framework of the planned Special Issue, submissions that can be assigned to one of the following categories are welcome:

- **Instructional approaches and didactic mediation concepts that structure learning processes in teacher training.** Modifications of traditional university teaching, such as in the flipped classroom or inquiry learning, are designed to activate students cognitively. Here, the acquisition of knowledge is increasingly shifted to the self-study phase, while it is tested and consolidated in the attendance phase. Furthermore, interactive tasks and feedback structures can be integrated, for example, in order to examine this form of blended learning with regard to non-cognitive factors such as emotional and motivational aspects.
- **Scenarios and formats that support learning processes in teacher training**. A variety of interactive, adaptive instructional designs are being tested as part of the above-mentioned instructional approaches. These include the use of game elements in learning contexts (gamification) and learning games, virtual/augmented reality, audience response systems, open educational resources, mobile learning and other innovative, technology-supported learning formats.

- **Systems and methods that formatively control and evaluate learning processes in teacher training.** In addition to data-based methods such as learning analytics and educational data mining, artificial intelligence (AI) systems or deep learning are increasingly being used. One example of this is intelligent tutorial systems (ITS). These enable personalized, knowledge-based recommendations to learners by evaluating learning activities. However, AI-related applications such as facial expression recognition software are also used in this area. This can be used to measure learner engagement or influencing factors on the part of lecturers. Furthermore, cognitive group awareness tools can capture both stable (prior knowledge, interests) and situational (performance, engagement) characteristics of learners and thus improve learning processes on an individual or social level (Niegemann and Weinberger, 2020).

2. Time table Special Issue

Adapting Education: Exploring Technological Advances in Teacher Training and beyond

If you are interested in publishing in the special issue, please send a 2-page outline (approx. 5,500 characters with spaces) of your planned article to the guest editor responsible for the special issue, Maximilian Sailer (maximilian.sailer@uni-passau.de), by June 1, 2024. The outline should include the title, the objective/question, the theoretical framework, the method, if available (not mandatory) the results and a brief conclusion. After reviewing the submitted outlines, the contributions for the thematic issue will be determined by July 1, 2024. If your outline is selected, you will have **six** months to write your contribution. This will then be reviewed in a double-blind peer review process.

01.04.2024 Start Call

01.06.2024 – Deadline for submission of the drafts

01.07.2024 – Feedback on the submitted drafts

05.01.2025 – Deadline for submission of the finished manuscript

01.04.2025 – Feedback on the submitted manuscripts: submitted contributions are reviewed in a double-blind process

01.06.2025 – Deadline revision: Manuscripts can be revised according to the recommendations from the reviews

Planned publication: **July 2025**

3. Guest Editors – Biography

Academic CV

Prof. Dr. Maximilian Sailer / University of Passau
Dean of the Faculty of Social and Educational Sciences
Innstr 25, 94032 Passau

Main Research Fields

Teacher Education, Higher Education, Technology-Enhanced Learning, Scientific Reasoning and Argumentation

Scientific Degrees

2009	Post-doctoral degree (Habilitation), University of Eichstaett
2002	Dr. phil., University of Eichstaett
1998	Graduate pedagogue, University of Eichstaett

Current Position

Since 2023 Since 2019	Dean of the Faculty of Social and Educational Sciences Full Professor of Educational Sciences at the University of Passau

Scholarships, Awards and Honors

2022	Top Cited Article 2020-2021 in British Journal of Educational Technology
2006	Award winner: European Conference on Educational Research (ECER) "Transforming Knowledge" "Transforming Knowledge" in Geneva for excellent research paper "What Qualification Patterns do Graduates Need and What Does the Academic Labor Market Demand? A Comparative Content Analysis of Job Advertisements From 1950 to 2005" by the Swiss Society for Educational Research.

Service to the Community

Since 2013	Editorial Board Member for the Journal “The European Educational Researcher” Reviewer for the journal Zeitschrift für Empirische Hochschulforschung (ZeHf) Expert reviewer for the coordination office of the accompanying research for the Quality Pact for Teaching Reviewer for the journal "European Educational Research Journal (EERJ)" Reviewer for the journal "Frontline Learning Research (FLR)" Reviewer for the journal "Computers in Human Behavior (CHB)" among others

Five Selected Publications	Citations
Berndt, M., Schmidt, F. M., Sailer, M., Fischer, F., Fischer, M. R., & Zottmann, J. M. (2021). Investigating statistical literacy and scientific reasoning & argumentation in medical-, social sciences-, and economics students. *Learning and Individual Differences*, *86*, Article 101963. https://doi.org/10.1016/j.lindif.2020.101963	32
Schmidt, F. M., Zottmann, J. M., Sailer, M., Fischer, M. R., & Berndt, M. (2021). Statistical Literacy and Scientific Reasoning & Argumentation in physicians. *GMS Journal for Medical Education*, *38*(4), Article Doc77. https://doi.org/10.3205/zma001473	8
Sailer, M. & Sailer, M. (2021). Gamification of in-class activities in flipped classroom lectures. *British Journal of Educational Technology*. 52(1). https://doi.org/10.1111/bjet.12948	183
Lohr, A.; Stadler, M.; Schultz-Pernice,F.; Chernikova, O.; Sailer, M.; Fischer, F. & Sailer, M. (2021). On powerpointers, clickerers, and digital pros: Investigating the initiation of digital learning activities by teachers in higher education, Computers in Human Behavior, 119 (4). https://doi.org/10.1016/j.chb.2021.106715	101
Hackl V., Müller A.E., Granitzer M. and Sailer M. (2023) Is GPT-4 a reliable rater? Evaluating consistency in GPT-4's text ratings. Frontiers in Education. 8:1272229. https://www.frontiersin.org/articles/10.3389/feduc.2023.1272229/full	4
Weidenbusch, M., Lenzer, B., Sailer, M., Strobel, C., Kunisch, R., Kiesewetter, J., Fischer, M. R., & Zottmann, J. M. (2019). Can clinical case discussions foster clinical reasoning skills in undergraduate medical education? A randomised controlled trial. *BMJ Open*, *9*(9), Article e025973. https://doi.org/10.1136/bmjopen-2018-025973	32

Academic CV

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Main Research Fields

Medical Education, Clinical Reasoning, Scientific Reasoning and Argumentation, Case-based Learning, Instructional Support for Simulation-based Learning, Computer-supported Collaborative Learning

Scientific Degrees

2013	Dr. phil., LMU Munich
2005	Magister Artium, LMU Munich

Professional Background Since Graduation

Since 2016	Research Coordinator at the Institute of Medical Education at the University Hospital of LMU Munich
2013-today	Postdoctoral Research Fellow at the Institute of Medical Education, University Hospital of LMU Munich
2009-2013	Doctoral Research Fellow at the Chair of Education and Educational Psychology, LMU Munich
2007-2010	Doctoral Research Fellow at the Institute of Education (Unit: Adult Education / Further Education), University of Tuebingen
2005-2006	Research Associate at the Leibniz-Institut für Wissensmedien (IWM), Tuebingen

Scholarships, Awards and Honors

2020	Short Communications Merit Award at the Asia Pacific Medical Education Conference (APMEC), Singapore, Singapore
2010	Best Paper Award at the EARLI SIG 6 & 7 Conference, Ulm, Germany

Service to the Community

Since 2013	Reviewer for numerous journals (incl. Computers & Education, Computers in Human Behavior, Educational Studies, European Journal of Psychology of Education, GMS Journal for Medical Education, Instructional Science, Journal of the Learning Sciences, Journal of Computer Assisted Learning, Journal of Universal Computer Science, Learning and Instruction, Reflective Practice, Teaching and Learning in Medicine, Teaching and Teacher Education)

Ten Selected Publications	**Citations**
Berndt, M., Schmidt, F. M., Sailer, M., Fischer, F., Fischer, M. R., & **Zottmann, J. M.** (2021). Investigating statistical literacy and scientific reasoning & argumentation in medical-, social sciences-, and economics students. *Learning and Individual Differences*, *86*, Article 101963. https://doi.org/10.1016/j.lindif.2020.101963	32
Schmidt, F. M., **Zottmann, J. M.**, Sailer, M., Fischer, M. R., & Berndt, M. (2021). Statistical Literacy and Scientific Reasoning & Argumentation in physicians. *GMS Journal for Medical Education*, *38*(4), Article Doc77. https://doi.org/10.3205/zma001473	8
Bauer, E., Fischer, F., Kiesewetter, J., Shaffer, D. W., Fischer, M. R., **Zottmann, J. M.**, & Sailer, M. (2020). Diagnostic activities and diagnostic practices in Medical Education and Teacher Education: An interdisciplinary comparison. *Frontiers in Psychology*, *11*, Article 562665. https://doi.org/10.3389/fpsyg.2020.562665.	19
Kiesewetter, J., Sailer, M., Jung, V., Schönberger, R., Bauer, E., **Zottmann, J. M.**, Hege, I., Zimmermann, H., Fischer, F., & Fischer, M. R. (2020). Learning clinical reasoning: How virtual patient case format and prior knowledge interact. *BMC Medical Education*, *20*, Article 73. https://doi.org/10.1186/s12909-020-1987-y	43

Zottmann, J. M., Horrer, A., Chouchane, A., Huber, J., Heuser, S., Iwaki, L., Kowalski, C., Gartmeier, M., Berberat, P. O., Fischer, M. R., & Weidenbusch, M. (2020). Isn't here just there without a "t" – to what extent can digital clinical case discussions compensate for the absence of face-to-face teaching? *GMS Journal for Medical Education*, *37*(7), Article Doc99. https://doi.org/10.3205/zma001392	12
Weidenbusch, M., Lenzer, B., Sailer, M., Strobel, C., Kunisch, R., Kiesewetter, J., Fischer, M. R., & **Zottmann, J. M.** (2019). Can clinical case discussions foster clinical reasoning skills in undergraduate medical education? A randomised controlled trial. *BMJ Open*, *9*(9), Article e025973. https://doi.org/10.1136/bmjopen-2018-025973	32
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Goeze, A., **Zottmann, J. M.**, Vogel, F., Fischer, F., & Schrader, J. (2014). Getting immersed in teacher and student perspectives? Facilitating analytical competence using video cases in teacher education. *Instructional Science*, *42*(1), 91-114. https://doi.org/10.1007/s11251-013-9304-3	96
Zottmann, J. M., Stegmann, K., Strijbos, J. W., Vogel, F., Wecker, C., & Fischer, F. (2013). Computer-supported collaborative learning with digital video cases in teacher education: The impact of teaching experience on knowledge convergence. *Computers in Human Behavior*, *29*(5), 2100-2108. https://doi.org/10.1016/j.chb.2013.04.014	48

Academic CV

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Scientific Degrees

2021	Dr. phil., University of Passau
2011	Magister Artium, University of Passau

Professional Background Since Graduation

2021 - today	Postdoctoral Research Fellow at the Chair of Education, University of Passau

2014 - 2021	Doctoral Research Fellow at the Chair of Education, University of Passau

Publications

Sailer, M., Abel, J. & Schweppe, J. (2023). Bildungstechnologische Fragen in der Hochschullehre im Überblick. *ZeHf – Zeitschrift für empirische Hochschulforschung*, *7*(1), 4–12. https://doi.org/10.3224/zehf.v7i1.02

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Abel, J.; Baros, W. & Sailer, M. (2023). Zum Verhältnis von Bildung und Kompetenz – eine pädagogische Einordnung, *Erziehung & Unterricht,* 173 (1-2), S.7-15.

Abel, J. (2021). Politischer Radikalismus innerhalb des Social Web. Eine Analyse gängiger Narrative und diskursiver Strategien rechter Akteure. urn:nbn:de:bvb:739-opus4-8803

Abel, J., Köberl, J. (2018). „Nur Zäune garantieren Freiheit“ – Der Freiheitsbegriff in rechten Szenen. In: Spengler, A. (Hrsg.): *Freiheit und Verantwortung. Diskussionen, Positionen, Perspektiven*. Baden-Baden: Ergon.