Curriculum Vitae

# Tim Hagen Fütterer

Eberhard Karls University of Tübingen
Hector Research Institute of Education Sciences and Psychology
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Web | Google Scholar | Researchgate | OSF | LinkedIn

## PERSONAL DATA

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|---|---|
| Date / -Place of birth | 11/28/1985, Neumünster |
| Nationality | German |

## PROFESSIONAL APPOINTMENTS

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| 2025 | Finalist (ranked 3rd) for the W2 professorship in Professionalisierungsforschung im Bildungsbereich [Research on professionalization in education], University of Hildesheim |
| 2018 - present | **Postdoctoral Scholar**<br>University of Tübingen,<br>Hector Research Institute of Education Sciences and Psychology<br>Mentor: Prof. Kathleen Stürmer, Prof. Ulrich Trautwein |
| 12/2012 – 03/2018 | **Research Assistant** with a Doctorate in Education Science<br>Kiel University<br>Institute for Pedagogy |
| 04/2012 – 03/2018 | **Research Assistant** with Predominant Teaching Part in Education Science<br>Kiel University<br>Institute for Pedagogy |

## ACADEMIC EDUCATION

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|---|---|
| | **University of Oslo, Norway** |
| 04/2023 | Lab Visit at the Centre for Educational Measurement at University of Oslo (CEMO) |
| 01/2022 – 05/2022 | Visiting Student Researcher at the Centre for Educational Measurement at University of Oslo (CEMO)<br>Mentor: Prof. Ronny Scherer, Prof. Sigrid Blömeke |
| | **Stanford University, CA, United States of America** |
| 01/2018 – 03/2018 | Visiting Student Researcher at the Graduate School of Education<br>Mentor: Prof. Maria Ruiz-Primo |
| | **Kiel University, Germany** |
| 11/2017 | **Ph.D. Doctor of Philosophy in Educational Studies**<br>Program Area: Professional Development of Teachers<br>Concentration: Professional Development Portfolios in Preparatory Service [summa cum laude] |

Mentor: Prof. Birgit Brouër
Reviewer: Prof. Birgit Brouër, Prof. Nicole Welter, Prof. Michaela Gläser-Zikuda

2006 - 2012

**Erste Staatsprüfung für das Lehramt an Gymnasien und Gesamtschulen**
Teaching certificate for teaching in German college track secondary schools [Equivalent to Bachelor and Master]
Subjects: Mathematics, Economics and Politics

## PUBLICATIONS AND PRESENTATIONS

### Five Representative Publications

**Fütterer, T.**, Bardach, L., Kuhn, J., Keller, S. D., & Gerjets, P. (2026). Enhancing school students' self-regulated learning through generative AI support: A randomized controlled trial. *Educational Psychology Review*, 38(42). https://doi.org/10.1007/s10648-026-10133-8

**Fütterer, T.**, Scherer, R., Scheiter, K., Stürmer, K., & Lachner, A. (2023). Will, skills or conscientiousness: What predicts teachers' intention to participate in technology-related professional development? *Computers and Education,* 198, 104756. https://doi.org/10.1016/j.compedu.2023.104756

**Fütterer, T.**, Scheiter, K., Cheng, X., & Stürmer, K. (2022). Quality beats frequency? Investigating students' effort in learning when introducing technology in classrooms. *Contemporary Educational Psychology*, 69, 102042. https://doi.org/10.1016/j.cedpsych.2022.102042

**Fütterer, T.**, Hou, R., Bühler, B., Bozkir, E., Bell, C., Kasneci, E., Gerjets, P., & Trautwein, U. (2026). Validating automated assessments of teaching effectiveness using multimodal data. *Learning and Instruction*, *101*, 102264. https://doi.org/10.1016/j.learninstruc.2025.102264

**Fütterer, T.**, Richter, E., & Richter, D. (2024). Teachers' engagement in online professional development—The interplay of online professional development quality and teacher motivation. *Zeitschrift für Erziehungswissenschaft.* https://doi.org/10.1007/s11618-024-01241-8

### Manuscripts Submitted for Publication

Frenkel, J., Petković, U., **Fütterer, T.**, Bühler, B., & Lazarides, R. (2026). From human observation to automated visual assessment: Student engagement dynamics and their associations with learning prerequisites and knowledge-test performance. *Manuscript submitted for publication* (under review).

Fabian, A., Hartmann, J., Kleinschmidt, A., Udvardi-Lakos, N., & **Fütterer, T.** (2026). How do pre-service teachers engage in adaptive online interventions when given choices? The role of individual prerequisites. *Manuscript submitted for publication* (under review).

**Fütterer, T.**, Peltzer, N., Gerjets, P., Meurers, D., Tate, T., Warschauer, M., Hattie, J., Sailer, M., & Kuhn, J. (2026). A Critical Epistemological Audit of Early Evidence Syntheses in Generative AI Educational Research. *Manuscript submitted for publication* (under review).

Kuhn, J., Gerjets, P., Trautwein, U., Greene, J. A., Malone, S., Vogt, P., & **Fütterer, T.** (2026). AI-Augmented Inquiry and Regulation in Hybrid Systems: A Control Allocation Architecture for Preserving Epistemic Agency in Hybrid Human-AI Cognition. *Manuscript submitted for publication* (under review).

Ren, S., Nguyen, H., **Fütterer, T.**, & Stürmer, K. (2026). Teachers' engagement with AI-generated feedback towards professional vision: Evidence from adoption behavior and within-teacher trajectories. *Manuscript submitted for publication* (under review).

Vinokic, K., **Fütterer, T.**, Gerjets, P., Nagengast, P., & Trautwein, U. (2026). GenAI-based video stimuli in classroom research: Research poportunities, ethical questions, and validity considerations. *Manuscript submitted for publication* (under review).

Bauer, N., **Fütterer, T.**, Bruckner, B., Warschauer, M., Tate, T., & Gerjets, P. (2026). ChatGPT can improve students' academic text-writing skills: The effects of large language models on students' performance, subjective writing experience, and perceived ownership. *Manuscript submitted for publication* (under review).

**Fütterer, T.**, Scheiter, K., Lachner, A.., Hübner, N., & Stürmer, K. (2026). How to promote high-quality technology-enhanced teaching? A randomized trial on integrative versus transformative online professional development. *Manuscript submitted for publication* (under review).

Röhl, S., Rzejak, D., Udvarki-Lakos, N., **Fütterer, T.**, & Cramer, C. (2026). Erklären Facetten der Fortbildungsmotivation die Fortbildungswahl? Ergebnisse einer landesweiten Befragung. *Manuscript submitted for publication* (under review).

Hoch, E., Brouër, B., van Loon, M., & **Fütterer, T.** (2026). The relation of self-concept and metacognitive judgements: A longitudinal study with secondary school students. *Manuscript submitted for publication* (revise and resubmit).

Udvardi-Lakos, N., Fabian, A., Hoch E., Meurers, D., Lindner, M., & **Fütterer, T.** (2026). Attractive tendering: how pre-service teachers' motivation can be increased to participate in online professional development courses. *Manuscript submitted for publication* (revise and resubmit).

Kremer, F., **Fütterer, T.**, Newcombe, N. S., Stark, L., Nagengast, B., Golle, J., & Trautwein, U. (2026). Promoting spatial thinking skills in primary school children: A randomized effectiveness trial. *Manuscript submitted for publication* (revise and resubmit).

**Fütterer*, T.**, Fahrbach*, T., Hoch, E., Nagengast, B., Lachner, A., Stürmer, K., & Scheiter, K. (2025). Effects of tablet computers on student achievement: Analyzing the role of teaching quality in a randomized trial. *Manuscript submitted for publication* (revise and resubmit).

**Fütterer, T.**, Hoch, E., & Dumont, H. (2025). Uncovering the relationship of technology-enhanced, adaptive teaching and situational interest in mathematics in a randomized controlled trial. *Manuscript submitted for publication* (revise and resubmit).

Schiefer, J., Wagner, W., **Fütterer, T.** (2024). Does the teacher make a difference? The relevance of teachers' characteristics in an extracurricular science enrichment program. *Manuscript submitted for publication* (revise and resubmit).

Jung*, A., **Fütterer*, T.**, Nagengast, B., Frenzel, A., Göllner, R., Jaekel, A., & Murayama, K. (2024). Who inspires whom? Reciprocal relationships between teacher enthusiasm and students' interest and enjoyment. *Manuscript submitted for publication* (revise and resubmit).

Brück-Hübner, A., **Fütterer, T.**, & Keller, S. D. (2025). Portfolios in teacher education: Bridging assessment and learning through feedback. *Manuscript submitted for publication* (revise and resubmit).

Tan, T. C. A., **Fütterer, T.**, Nilsen, T., & Zitzmann, S. (2024). An imputation approach to estimating grade inflation. *Manuscript submitted for publication* (revise and resubmit).

Bareis, A., **Fütterer, T.**, Spengler, M., Trautwein, U., Nagengast, B., Krammer, G., Boxhofer, E., Nausner, E., Pflanzl, B., & Mayr, J. (2024). Interest is a stronger predictor than conscientiousness for teachers' intensity in engaging in professional development. *Manuscript submitted for publication* (under review).

### Journal Articles With Peer-Review

Wekerle, C., Sailer, M., Kollar, I., & **Fütterer, T.** (2027). The effects of ICAP learning activities on learning outcomes. *Learning and Instruction*, *107*, 102482. https://doi.org/10.1016/j.learninstruc.2026.102482

Flegr, S., Fabian, A., & **Fütterer, T.** (2026). The impact of students' individual differences on conceptual understanding when combining real and virtual experiments in science education – A meta-analysis. *Learning and Individual Differences*, 131, 102955. https://doi.org/10.1016/j.lindif.2026.102955

Gazar, F., **Fütterer, T.**, Franke, U., Stürmer, K., Santagata, R., & Lachner, A. (2026). Enhancing professional vision with annotation tools. *Learning and Instruction*, 105, 102424. https://doi.org/10.1016/j.learninstruc.2026.102424

**Fütterer, T.**, Gerjets, P., Steinhäuser, R., Fabian, A., Udvardi-Lakos, N., Greene, J. A., Bernacki, M. L., Brod, G., & Trautwein, U. (2026). Why using AI as a learning coach can improve education. *Nature Human Behaviour*. https://doi.org/10.1038/s41562-026-02524-2

Jaggy*, A.-K., Jansen*, T., **Fütterer, T.**, & Trautwein, U. (2026). Almighty ChatGPT? Development of gifted secondary school students' AI (mis)conceptions. *Journal of Educational Psychology*. https://doi.org/10.1037/edu0001063

Morina, F., **Fütterer, T.**, Carpenter, J., Rosenberg, J. M., & Fischer, C. (2026). Unlocking the potential of resources: An examination of sharing and uptake signs in educational online communities. *Computers & Education*, 105703. https://doi.org/10.1016/j.compedu.2026.105703

Röhl, S., **Fütterer, T.**, & Cramer, C. (2026). Teachers' intention to obtain feedback from students and peers. *Teaching and Teacher Education*, *177*, 105552. https://doi.org/10.1016/j.tate.2026.105552

Bauer, N., **Fütterer, T.**, Brucker, B., & Gerjets, P. (2026). Leveraging ChatGPT in academic writing: ChatGPT enhances students' writing quality, writing experience, and ownership. *Computers and Education Open*, 100351. https://doi.org/10.1016/j.caeo.2026.100351

**Fütterer*, T.**, König*, L., Campos, D. G., Scherer, R., Zitzmann, S., & Hecht, M. (2026). Fast-track your abstract screening: Mastering ASReview for accelerating abstract screening and evaluating decisions from automatic-screening methods. *Advances in Methods and Practices in Psychological Science*, 9(2). https://doi.org/10.1177/25152459261442150

**Fütterer, T.**, Bardach, L., Kuhn, J., Keller, S. D., & Gerjets, P. (2026). Enhancing school students' self-regulated learning through generative AI support: A randomized controlled trial. *Educational Psychology Review*, 38(42). https://doi.org/10.1007/s10648-026-10133-8

**Fütterer, T.**, Pardi, G., Ziegs, T., Flegr, S., Ring, M., Fabian, A., Pawlak, F., Steinmetz, T., Becker, S., Bertram, C., Hellberg, F., Schreiber, W., Meurers, D., Brahm, T., Führer, C., Kuhn, J., Schwarzer, S., Paravicini, W., Burde, J.-P., Nuxoll, F., Fürstenberg, M., Matz, D., Krey, K., Hochstetter, G., Brucker, B., & Gerjets, P. (2026). Zwischen Praxisrelevanz und technologischer Dynamik: Forschungsmethodische Perspektiven auf GenAI im Unterricht am Beispiel niveaudifferenzierter Lernaufgaben [Between practical relevance and technological dynamism: Methodological perspectives on GenAI in teaching illustrated by level-differentiated learning tasks]. In K. Böhme, R. Lazarides, O. Köller, & K. Scheiter (Eds.), *Bildung der Zukunft gestalten. Künstliche Intelligenz in Schule und Unterricht [Shaping the future of education: Artificial intelligence in schools and the classroom]*. Springer VS.

Scherer, R., Campos, D. G., **Fütterer, T.**, & Siddiq, F. (2026). Unraveling gender disparities in teachers' technological pedagogical and content knowledge: A large-scale meta-analytic review. *Educational Research Review*, 100765. https://doi.org/10.1016/j.edurev.2026.100765

**Fütterer, T.**, Campos, D. G., Gfrörer, T., Lavelle-Hill, R., Murayama, K., & Scherer, R. (2026). AI tools for systematic literature reviews and meta-analyses in educational psychology: An overview and a practical guide. *Learning and Individual Differences*, *126*, 102849. https://doi.org/10.1016/j.lindif.2025.102849

**Fütterer, T.**, Hou, R., Bühler, B., Bozkir, E., Bell, C., Kasneci, E., Gerjets, P., & Trautwein, U. (2026). Validating automated assessments of teaching effectiveness using multimodal data. *Learning and Instruction*, *101*, 102264. https://doi.org/10.1016/j.learninstruc.2025.102264

**Fütterer, T.**, Goldberg, P., Bühler, B., Sikimić, V., Trautwein, U., Gerjets, P., Stürmer, K., & Kasneci, E. (2025). Artificial intelligence in classroom management: A systematic review on educational purposes, technical implementations, and ethical considerations. *Computers and Education: Artificial Intelligence*, 9, 100483. https://doi.org/10.1016/j.caeai.2025.100483

Jaggy, A.-K., Wagner, W., **Fütterer, T.**, Göllner, R., & Trautwein, U. (2025). Teaching quality in STEM education: Differences between in- and out-of-school contexts from the perspective of gifted students. *International Journal of STEM Education*, *12*(53). https://doi.org/10.1186/s40594-025-00576-w

Bühler*, B**., Fütterer*, T.**, Von Keyserlingk, L., Bozkir, E., Kasneci, E., Gerjets, P., & Trautwein, U. (2025). Mapping mind wandering to the "Self-Regulated Learning Process, Multimodal Data, and Analysis Grid": A systematic review. *Educational Psychology Review*, 37(76). https://doi.org/10.1007/s10648-025-10041-3

**Fütterer, T.**, Wurst, C., & Goeze, A. (2025). Rethinking professional development: Development and evaluation of an evidence-based online PD course on the effective use of technology in the classroom. *Education Sciences*, 15(2), 205. https://doi.org/10.3390/educsci15020205

Morina, F., **Fütterer, T.**, Hübner, N., Zitzmann, S., & Fischer, C. (2025). Effects of online teacher professional development on teacher, classroom, and student level outcomes: A meta-analysis. *Computers & Education*, *228*, 105247. https://doi.org/10.1016/j.compedu.2025.105247

König, L., Zitzmann, S., **Fütterer, T.**, Campos, D. G., Scherer, R., & Hecht, M. (2024). An evaluation of the performance of stopping rules in AI -aided screening for psychological meta-analytical research. *Research Synthesis Methods*, *15*(6), 1120–1146. https://doi.org/10.1002/jrsm.1762

Tschönhens, F., Backfisch, I., **Fütterer, T.**, & Lachner, A. (2024). TPACK in action: Contextual effects of pre-service and in-service teachers' knowledge structures for technology integration. *Computers and Education Open*, *7*, 100219. https://doi.org/10.1016/j.caeo.2024.100219

Bardach, L., Bostwick, K. C. P., **Fütterer, T.**, Kopatz, M., Hobbi, D. M., Klassen, R. M., & Pietschnig, J. (2024). A meta-analysis on teachers' growth mindset. *Educational Psychology Review*, *36*(84). https://doi.org/10.1007/s10648-024-09925-7

**Fütterer, T.**, Hübner, N., Fischer, C., & Stürmer, K. (2024). Heading for new shores? Longitudinal participation patterns in teacher professional development. *European Journal of Teacher Education*, 1–21. https://doi.org/10.1080/02619768.2024.2370891

**Fütterer, T.**, Backfisch, I., & Lachner, A. (2024). Teachers' trajectories of technology integration during participation in an online professional development program. *Zeitschrift Für Erziehungswissenschaft*, 27(3), 769-801. https://doi.org/10.1007/s11618-024-01251-6

**Fütterer, T.**, Omarchevska, Y., Rosenberg, J. M., & Fischer, C. (2024). How do teachers collaborate in informal professional learning activities? An epistemic network analysis. *Journal of Science Education and Technology*, *33*(5), 796–810. https://doi.org/10.1007/s10956-024-10122-y

Stürmer, K., **Fütterer, T.**, Kron, S., Sommerhoff, D., & Ufer, S. (2024). What makes a simulation-based learning environment for preservice teachers authentic? The role of individual learning characteristics

and context-related features. *European Journal of Psychology of Education*, 39(4), 3277–3299. https://doi.org/10.1007/s10212-024-00837-2

**Fütterer, T.**, Richter, E., & Richter, D. (2024). Teachers' engagement in online professional development—The interplay of online professional development quality and teacher motivation. *Zeitschrift Für Erziehungswissenschaft*, 27(3), 739-768. https://doi.org/10.1007/s11618-024-01241-8

Richter, E., **Fütterer, T.**, Eisenkraft, A., & Fischer, C. (2025). Profiling teachers' motivation for professional development: A nationwide study. *Journal of Teacher Education*, *76*(1), 90–103. https://doi.org/10.1177/00224871241247777

Fabian, A., **Fütterer, T.**, Backfisch, I., Lunowa, E., Paravicini, W., Hübner, N., & Lachner, A. (2024). Unraveling TPACK: Investigating the inherent structure of TPACK from a subject-specific angle using test-based instruments. *Computers & Education*, 105040. https://doi.org/10.1016/j.compedu.2024.105040

Campos, D. G., **Fütterer, T.**, Gfrörer, T., Lavelle-Hill, R., Murayama, K., König, L., Hecht, M., Zitzmann, S., & Scherer, R. (2024). Screening smarter, not harder: A comparative analysis of machine learning screening algorithms and heuristic stopping criteria for systematic reviews in educational research. *Educational Psychology Review*, 36(19). https://doi.org/10.1007/s10648-024-09862-5

**Fütterer, T.**, Steinhauser, R., Zitzmann, S., Scheiter, K., Lachner, A., & Stürmer, K. (2023). Development and validation of a test to assess teachers' knowledge about how to operate technology. *Computers and Education Open*, 100152. https://doi.org/10.1016/j.caeo.2023.100152

**Fütterer, T.**, Fischer, C., Alekseeva, A., Chen, X., Tate, T., Warschauer, M., & Gerjets, P. (2023). ChatGPT in education: Global reactions to AI innovations. *Scientific Reports*, *13*(1), 15310. https://doi.org/10.1038/s41598-023-42227-6

Jaekel, A.-K., **Fütterer, T.**, & Göllner, R. (2023). Teaching characteristics in distance education—Associations with teaching quality and students' learning experiences. *Teaching and Teacher Education*, *132*, 104174. https://doi.org/10.1016/j.tate.2023.104174

**Fütterer*, T.**, Hoch*, E., Lachner, A., Scheiter, K., & Stürmer, K. (2023). High-quality digital distance teaching during COVID-19 school closures: Does familiarity with technology matter? *Computers & Education*, 199, 104788. https://doi.org/10.1016/j.compedu.2023.104788

**Fütterer, T.**, Scherer, R., Scheiter, K., Stürmer, K., & Lachner, A. (2023). Will, skills or conscientiousness: What predicts teachers' intention to participate in technology-related professional development? *Computers and Education,* 198, 104756*.* https://doi.org/10.1016/j.compedu.2023.104756

**Fütterer, T.**, van Waveren, L., Hübner, N., Fischer, C., & Sälzer, C. (2023). I can't get no (job) satisfaction? Differences in teachers' job satisfaction from a career pathways perspective. *Teaching and Teacher Education*, 121, 103942. https://doi.org/10.1016/j.tate.2022.103942

**Fütterer, T.**, Feder, L., & Cramer, C. (2023). Ein neues Instrument zur Erfassung der Einstellungen zu Portfolioarbeit in der Lehrerinnen- und Lehrerbildung (EPP-L) [A new questionnaire to assess the attitudes towards portfolio work in teacher education (EPP-L)]. *Unterrichtswissenschaft*, *51*(3), 361–393. https://doi.org/10.1007/s42010-022-00161-y

Richter, E., **Fütterer, T.**, Meier, A., Eisenkraft, A., & Fischer, C. (2022). Teacher collaboration and professional learning. Examining professional development during a national education reform. *Zeitschrift Für Pädagogik*, 6, 798–819. https://doi.org/10.3262/ZP2206798

**Fütterer, T.**, Scheiter, K., Cheng, X., & Stürmer, K. (2022). Quality beats frequency? Investigating students' effort in learning when introducing technology in classrooms. *Contemporary Educational Psychology*, 69, 102042. https://doi.org/10.1016/j.cedpsych.2022.102042

Aguilar, S. J., Rosenberg, J. M., Greenhalgh, S. P., **Fütterer, T.**, Lishinski, A., & Fischer, C. (2021). A different experience in a different moment? Teachers' social media use before and during the COVID-19 pandemic. *AERA Open*, 7(1), 17. https://doi.org/10.1177/23328584211063898

**Fütterer, T.**, Hoch, E., Stürmer, K., Lachner, A., Fischer, C., & Scheiter, K. (2021). Was bewegt Lehrpersonen während der Schulschließungen?–Eine Analyse der Kommunikation im Twitter-Lehrerzimmer über Chancen und Herausforderungen digitalen Unterrichts [Concerns of teachers during school closings: analyzing communication in the Twitter-Lehrerzimmer regarding opportunities and challenges of digital teaching]. *Zeitschrift für Erziehungswissenschaft*. 24, 443-477. https://doi.org/10.1007/s11618-021-01013-8

* shared first authorship

**Conference Proceedings**

Bueno, I., Hartmann, J., Maharjan, P., Yıldız, C., **Fütterer, T.**, Bühler, B., & Kasneci, E. (2026). Rationale-aware hierarchical modeling for automated teaching-quality assessment. *Artificial Intelligence for Social Impact (AISI) 2026*

Maharjan, P., Bühler, B., **Fütterer, T.**, & Yıldız, C. (2026). Can AI Hear the Classroom? Evaluating an end-to-end pipeline for automated teacher feedback. *Artificial Intelligence for Social Impact (AISI) 2026*

Mehner, L., Bühler, B., Rudzewitz, B., Acevedo, P. F., Nixon, N., Santagata, R., Trautwein, U., Kasneci, E., Daltoe, T., Stürmer, K., & **Fütterer, T.** (2026). Effects of gender and group composition on higher education students' application of collaborative problem-solving skills. 3233–3235. https://doi.org/10.22318/icls2026.600749

Ding, M., Bühler, B., **Fütterer, T.**, Trautwein, U., & Kasneci, E. (2026). *PRIMA: Pose refined inductive motion adapter for zero shot social bodily behavior recognition* (Version 1). arXiv. https://doi.org/10.48550/ARXIV.2610.25482

Bueno, I., Bühler, B., Stark, P., **Fütterer, T.**, Trautwein, U., Demszky, D., Hill, H., & Kasneci, E. (2026). From scoring to explanations: Evaluating SHAP and LLM rationales for rubric-based teaching quality assessment. *Findings of the Association for Computational Linguistics: ACL 2026*, 7590–7606. https://doi.org/10.18653/v1/2026.findings-acl.375

Holz, H., Beuttler, B., **Fütterer, T.**, Seibold, M., Küplüce, C., Gaißert, A., Sadaf, A., & Leifheit, L. (2026). A german version of the Intelligent-TPACK. In H. Degen & S. Ntoa (Eds.), *Artificial Intelligence in HCI* (Vol. 16746, pp. 455–480). Springer Nature Switzerland. https://doi.org/10.1007/978-3-032-31048-4_28

Ren, S., Nguyen, H., Stürmer, K., Hopp, M., Göllner, R., & **Fütterer, T.** (2026). Evaluating large language model feedback to support teacher professional vision: Prompting strategies and pre-service teacher engagement. *Proceedings of the LAK26: 16th International Learning Analytics and Knowledge Conference*, 786–792. https://doi.org/10.1145/3785022.3785055

Bueno, I., Hou, R., Bühler, B., **Fütterer, T.**, Drimalla, J., Foster, J. K., Youngs, P., Gerjets, P., Trautwein, U., & Kasneci, E. (2026). Exploring automated recognition of instructional activity and discourse from multimodal classroom data. *2026 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, 6806–6817. https://doi.org/10.1109/WACV61042.2026.00658

Hou, R., **Fütterer, T.**, Bühler, B., Schreyer, P., Gerjets, P., Trautwein, U., & Kasneci, E. (2025). LLM-Human Alignment in Evaluating Teacher Questioning Practices: Beyond Ratings to Explanation. In J. Wilson, C. Ormerod, & M. Beiting Parrish (Eds.), *Proceedings of the Artificial Intelligence in Measurement and Education Conference (AIME-Con)*: Full Papers (pp. 239–249). National Council on Measurement in Education (NCME). https://aclanthology.org/2025.aimecon-main.26/

Hou, R., Bühler, B., **Fütterer, T.**, Bozkir, E., Gerjets, P., Trautwein, U., & Kasneci, E. (2025). Multimodal assessment of classroom discourse quality: A text-centered attention-based multi-task learning approach. In C. Mills, G. Alexandron, D. Taibi, G. Lo Bosco, L. Paquette, International Educational Data Mining Society, & Università degli studi di Palermo (Eds.), *Proceedings of the 18th International Conference on Educational Data Mining: July 20-23, 2025, University of Palermo, Palermo, Italy* (pp. 241–253). International Educational Data Mining Society (IEDMS). International Conference on Educational Data Mining. https://doi.org/10.5281/ZENODO.15870159

Hou, R., **Fütterer, T.**, Bühler, B., Bozkir, E., Gerjets, P., Trautwein, U., & Kasneci, E. (2024). Automated assessment of encouragement and warmth in classrooms leveraging multimodal emotional features and ChatGPT. In A. M. Olney, I.-A. Chounta, Z. Liu, O. C. Santos, & I. I. Bittencourt (Eds.), *Artificial Intelligence in Education* (Vol. 14829, pp. 60–74). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-64302-6_5

### Books

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## Conference Presentations

Fabian, A., Berens, F., Brendel, W., Braun, A., Clement, B., Deininger, H., Fabian, A., **Fütterer, T.**, Murayama, K., Nagengast, B., Paravicini, W., Schulte, R., Sießegger, P., & Trautwein, U. (2026, August). Embedding an AI-based tutor into a mathematics learning platform to support self-regulated learning. Poster at the 2026 11th biennial EARLI SIG 6/7, Zurich, Switzerland

**Fütterer, T.**, Peltzer, N., Gerjets, P., Meurers, D., Tate, T., Warschauer, M., Hattie, J., Sailer, M., Emslander, V., Bardach, L., & Kuhn, J. (2026, August). A critical epistemological audit of early evidence syntheses in generative AI educational research. Paper at the 2026 11th biennial EARLI SIG 6/7, Zurich, Switzerland

Leng, F., Gazar, F., **Fütterer, T.**, Stürmer, K., & Göllner, R**.** (2026, August). Audience matters: The effect of addressees on pre-service teachers' professional vision. Paper at the 2026 11th biennial EARLI SIG 6/7, Zurich, Switzerland

Narr, M., Hoch, E., Chen, X., Trautwein, U., Gerjets, P., & **Fütterer, T.** (2026, August). Learning from human vs. AI-generated instructors: No differences in learning engagement and outcomes. Paper at the 2026 11th biennial EARLI SIG 6/7, Zurich, Switzerland

Hartmann, J., Bueno, I., Maharjan, P., Hou., R., Bühler, B., Yildiz, C., Trautwein, U., Gerjets, P., Kasneci, E., Bethge, M., & **Fütterer, T.** (2026, August). Enhancing teaching quality with artificial intelligence: The Teaching Copilot app. Poster at the 2026 11th biennial EARLI SIG 6/7, Zurich, Switzerland

Ocampo, J. O., Quixal, M., Liu, T.-Y., Lachner, A., **Fütterer, T.**, & Gerjets, P. (2026, August). Why did teachers not use a GDPR-compliant chatbot in schools? Findings from a statewide pilot. Paper at the 2026 11th biennial EARLI SIG 6/7, Zurich, Switzerland

Udvardi-Lakos, N., Schwerter, J., Wang, H., Gfrörer, T., Klassen, R., & **Fütterer, T.** (2026, June). Motivational trajectories for career choices in young adulthood. Paper at the 2026 19th biennial EARLI SIG 8 (International Conference on Motivation [ICM]), Lisbon, Portugal

Ren, S., Nguyen, H., Stürmer, K., Hopp, M., Göllner, R., & **Fütterer, T.** (2026). Evaluating large language model feedback to support teacher professional vision: Prompting strategies and pre-service teacher engagement. Paper at the 2026 annual meeting of the LAK conference, Bergen, Norway

**Fütterer, T.** (2026, April). *AI-supported research syntheses in practice: Increasing efficiency and ensuring quality*. Discussion at the 2026 annual meeting of the AERA conference, Los Angeles, CA

**Fütterer, T.**, Hou, R., Bühler, B., Bozkir, E., Bell, C., Kasneci, E., Gerjets, P., & Trautwein, U. (2026, April). *Validate automated teaching effectiveness with multimodal data*. Paper at the 2026 annual meeting of the AERA conference, Los Angeles, CA

Mehner, L., Bühler, B., Trautwein, U., Kasneci, E., Acevedo, P.F., Santagata, R., Dowell, N., Rudzewitz, B., Daltoe, T., Stürmer, K., & **Fütterer, T.** (2026). *Effects of gender and group composition on higher education students' application of collaborative problem-solving skills.* Poster at the 2026 annual meeting of the GEBF conference, Munich, Germany

Bueno, I., Bühler, B., Stark, P., **Fütterer, T.**, Trautwein, U., Demszky, D., Hill, H., & Kasneci, E. (2026, March). *From scoring to teacher feedback: NLP-based teaching quality score interpretability with SHAP values.* Paper at the 2026 annual meeting of the GEBF conference, Munich, Germany

Fabian, A., Gazar, F., Scherer, R., & **Fütterer, T**. (2026, March). *Technologiebezogene Motivation und Professionswissen von Lehrkräften in Onlinefortbildungen: Eine längsschnittliche Analyse reziproker Effekte* [*A study on the reciprocal relations of teachers' technology-related motivation and knowledge]*. Paper at the 2026 annual meeting of the GEBF conference, Munich, Germany

Jaggy, A.-K., Jansen, T., **Fütterer, T.**, & Trautwein, U. (2026, March). Almighty ChatGPT? – Entwicklung von Fehlvorstellungen über KI und interindividuelle Unterschiede bei hochbegabten Jugendlichen [Almighty ChatGPT? – The Development of Misconceptions About AI and Interindividual Differences Among Gifted Adolescents]. Paper at the 2026 annual meeting of the GEBF conference, Munich, Germany

**Fütterer, T.**, Hou, R., Bühler, B., Bozkir, E., Bell, C., Kasneci, E., Gerjets, P., & Trautwein, U. (2026, March). Automatisierte Bewertung von Unterrichtsqualität mit multimodalen Daten [Validating automated

assessment of teaching effectiveness using multimodal data]. Paper at the 2026 annual meeting of the GEBF conference, Munich, Germany

Fabian, A., Udvardi-Lakos, N., & **Fütterer, T.** (2025, November). *Auf dem Weg zu adaptiven Onlinefortbildungen: Einsichten in das Projekt ALIFE [On the way to adaptive online professional development: Insights into the ALIFE project].* Paper at the conference "Wie viel Wissenschaft braucht die Lehrpersonenfortbildung?" Pädagogische Hochschule St. Gallen, Switzerland

Udvardi-Lakos, N., Fabian, A., Zhang, s. Z., Berens, F., Murayama, K., & **Fütterer, T.** (2025, November). *Können Spiel-Design-Elemente die Entwicklung intrinsischer Motivation von Lehrkräften zur Teilnahme an Onlinefortbildungen fördern? [Can game design elements promote the development of intrinsic motivation of teachers to participate in online training?].* Paper at the conference "Wie viel Wissenschaft braucht die Lehrpersonenfortbildung?" Pädagogische Hochschule St. Gallen, Switzerland

Udvardi-Lakos, N., Fabian, A., Morina, F., Trautwein, U., & **Fütterer, T.** (2025, August). *Development and design of effective adaptive online professional development courses for teachers*. Roundtable at the 2025 biennial EARLI conference, Graz, Austria

**Fütterer, T.** (2025, August). *Invited Symposium: AI-Based Assessment of Teaching and Learning: Advances and Challenges Using Multimodal Data*. Chair at the 2025 biennial EARLI conference, Graz, Austria

**Fütterer, T.**, Hou, R., Bühler, B., Bozkir, E., Bell, C., Kasneci, E., Gerjets, P., Trautwein, U. (2025, August). *Validating Automated Assessment of Teaching Effectiveness Using Multimodal Data*. Paper at the 2025 biennial EARLI conference, Graz, Austria

Fabian, A., Tschönhens, F., Scherer, R., & **Fütterer, T**. (2025, August). *A study on the reciprocal relations of teachers' technology-related motivation and knowledge*. Paper at the 2025 biennial EARLI conference, Graz, Austria

**Fütterer, T.** (2025, August). *AI in Teacher Training – Concepts, Potentials, and Challenges of Prompts and Feedback*. Discussion at the 2025 biennial EARLI conference, Graz, Austria

**Fütterer, T.**, Hopp, M., Stürmer, K., & Göllner, R. (2025, August). *Automated Assessment of Teachers' Professional Vision in Written Classroom Reflections*. Paper at the 2025 biennial EARLI conference, Graz, Austria

Tschönhens, F., Backfisch, I., **Fütterer, T**., & Lachner, A. (2025, January). TPACK in Aktion: Kontextabhängige Auswirkungen auf die Wissensintegration von Lehrkräften und Lehramtsstudierenden *[TPACK in Action: Contextual effects of pre-service and in-service teachers' knowledge structures for technology integration].* Paper at the 2025 annual meeting of the GEBF conference, Mannheim, Germany

**Fütterer, T.** & Dreher, A. (2025, January). Auf dem Weg zu adaptiven Online-Fortbildungen? Voraussetzungen von Lehrkräften und ihr Nutzungsverhalten *[Hit the road towards adaptive online professional development? Prerequisites of teachers and their usage behavior].* Symposium at the 2025 annual meeting of the GEBF conference, Mannheim, Germany

**Fütterer, T.** & Chernikova, O.. (2025, January). Chancen und Risiken Kl-gestützter Literaturüberblicke und Metaanalysen *[Chances and risks of AI-based literature reviews and meta-analyses].* Symposium at the 2025 annual meeting of the GEBF conference, Mannheim, Germany

Hoch, E., Brouër. B., & **Fütterer, T**. (2025, January). Metakognitive Einschätzungen und Selbstkonzept: Eine Längsschnittuntersuchung bei Schüler*innen der Sekundarstufe *[Metacognitive and self-concept: A longitudinal study of secondary education students].* Paper at the 2025 annual meeting of the GEBF conference, Mannheim, Germany

Morina, F., Udvardi-Lakos, N., Fabian, A., Trautwein, U., & **Fütterer, T**. (2025, January). ALIFE: Strategies for designing effective adaptive online professional development courses for teachers*.* Poster at the 2025 annual meeting of the GEBF conference, Mannheim, Germany

**Fütterer, T.**, Campos, D. G., Gfrörer, T., Lavelle-Hill, R., Murayama, K., & Scherer, R. (2025, January). Wie kann man künstliche Intelligenz für systematische Literaturübersichten und Meta-Analysen nutzen? Ein systematischer Überblick über Tools und ein Leitfaden für Forscher:innen *[How can AI be used for systematic literature reviews and meta-analyses? A systematic overview of tools and a guide for scientists].* Paper at the 2025 annual meeting of the GEBF conference, Mannheim, Germany

Jaggy, A., **Fütterer, T.**, Jansen, T., & Trautwein, U. (2024, September). *Almighty ChatGPT? – Interindividual Differences in Gifted Students' Attitudes Towards the Omniscience of Artificial Intelligence*. Paper at the 53rd DGPs congress / 15th. ÖGP conference 2024, Vienna, Austria

Hoch, E., Brouer, B., & **Fütterer, T.** (2024, September). *The Relation of Self-Concept and Metacognitive Judgments in a Sample of Secondary School Students*. Paper at the 2024 11th biennial EARLI SIG 16, Heidelberg, Germany

Röhl, S., **Fütterer, T.**, & Cramer, C. (2024, August). *Use and Perceived Usefulness of Teaching-Related Student and Peer Feedback of Teachers in Germany*. Paper at the 2024 9th biennial EARLI SIG 18, Nicosia, Cyprus

Göllner, R., **Fütterer, T.**, Leng, F., & Stürmer, K. (2024, August). *Hit the Road Towards an Automated Assessment of Written Reflections of Pre-Service Teachers*. Paper at the 2024 11th biennial EARLI SIG 11, Oxford, UK

Hou, R., **Fütterer, T.**, Bühler, B., Bozkir, Efe, Gerjets, P., Trautwein, U., K., & Kasneci, K. (2024, July). *Automated assessment of encouragement and warmth in classrooms leveraging multi-modal emotional features and ChatGPT*. Paper at the 2024 annual meeting (25th) of the International Conference on Artificial Intelligence in Education (AIED), Recife – Pernambuco, Brazil

**Fütterer, T.**, Bühler, B., Hou, R., Goldberg, P., Kasneci, E., Gerjets, P., Stürmer, K., & Trautwein, U. (2024, June). *Automated Assessment of Multimodal Data to Predict Teaching Quality*. Paper at the 2024 annual meeting of the QUINT conference, Oslo, Norway

**Fütterer, T.**, Hoch, E., & Dumont, H. (2024, May). *Uncovering the relationship of technology-enhanced, adaptive teaching and situational interest in mathematics in a randomized trial*. Poster at the E-ADAPT conference, Potsdam, Germany

Omarchevska, Y., **Fütterer, T.**, Dumont, H., Bernacki, M., Greene, J., & Scheiter, K. (2024, May). *Adaptive teaching and learning: A systematic review and meta-analysis*. Poster at the E-ADAPT conference, Potsdam, Germany

**Fütterer, T.**, Udvardi-Lakos, N., Fabian, A., Morina, F., & Trautwein, U. (2024, May). *Adaptive learning integrated framework for educators*. Poster at the E-ADAPT conference, Potsdam, Germany

**Fütterer, T.**, Fischer, C., Alekseeva, A., Chen, X., Tate, T., Warschauer, M., & Gerjets, P. (2024, April). *AI in Education: Examining the Global Reception of ChatGPT on Twitter*. Poster at the 2024 annual meeting of the AERA conference, Philadelphia, PA

Morina, F., **Fütterer, T.**, Fischer, C. (2024, April). *Investigating Associations of Teacher Characteristics with Open Educational Resource Usage in Social Media Communities*. Roundtable at the 2024 annual meeting of the AERA conference, Philadelphia, PA

Fabian, A., **Fütterer, T.**, Backfisch, I., Hübner, N., Paravicini, W., & Lachner, A. (2024, March). *What is TPACK? Investigating the internal structure of TPACK from a subject-specific angle using test-based instruments.* Paper at the 2024 35th international conference, Society for Information Technology and Teacher Education, Las Vegas, NV

Fabian, A., **Fütterer, T.**, Backfisch, I., Hübner, N., Paravicini, W., & Lachner, A. (2024, March). *Was ist TPACK? Eine Studie zur Untersuchung des empirischen Zusammenhangs verschiedener Wissensfacetten zum Einsatz digitaler Medien [What is TPACK? Investigating the internal structure of TPACK from a subject-specific angle using test-based instruments].* Paper at the 2024 annual meeting of the GEBF conference, Potsdam, Germany

**Fütterer, T**., Scheiter, K., Lachner, A., Hübner, N., & Stürmer, K. (2024, March). *Wie können Lehrpersonen für einen qualitativ hochwertigen, technologiegestützten Unterricht durch Fortbildungen vorbereitet werden? [How to promote high-quality technology-enhanced teaching through teacher professional development?].* Paper at the 2024 annual meeting of the GEBF conference, Potsdam, Germany

Jung., A., **Fütterer, T.**, Frenzel, A., Nagengast, B., & Murayama, K. (2024, March). *Wer inspiriert wen? Wechselseitige Beziehungen zwischen dem Enthusiasmus von Lehrpersonen und dem Interesse der Schüler:innen [Who Inspires Whom? Reciprocal Relationships Between Teacher Enthusiasm and Students' Interest].* Paper at the 2024 annual meeting of the GEBF conference, Potsdam, Germany

**Fütterer, T.** (2023; November). *Tübinger Initiativen zum verantwortungsvollen und effektiven Einsatz von KI beim Lehren und Lernen [Tübingen initiatives for the responsible and effective use of AI in teaching and learning]*. Talk at the conference organized by the Joachim Herz Foundation „Adaptives Lernen und KI in der schulischen und beruflichen Bildung: Potenziale und Herausforderungen technologiegestützten Lehrens und Lernens“ [Adaptive learning and AI in school and vocational education: potentials and challenges of technology-supported teaching and learning], Hamburg, Germany

Wurst, C., **Fütterer, T.**, & Goeze, A. (2023, September). *Digitale Medien im Fachunterricht einsetzen – Gelingensbedingungen einer Online-Fortbildung für Gymnasiallehrkräfte [Using digital media in the classroom - Conditions for the success of an online professional development program for secondary teachers].* Talk at the annual Bundeskongress der Zentren für Lehrer*innenbildung und Professional Schools of Education (BuKo), Münster, Germany

**Fütterer, T**., Scheiter, K., Lachner, A., Hübner, N., & Stürmer, K. (2023, August). *How to promote high-quality technology-enhanced teaching through teacher professional development?.* Paper at the 2023 biennial EARLI conference, Thessaloniki, Greece

Morina, F., **Fütterer, T.**, Rosenberg, J.M., Carpenter, J., & Fischer, C. (2023, August). *How do teachers in German Twitter communities share, perceive, and use materials?*. Paper at the 2023 biennial EARLI conference, Thessaloniki, Greece

Tschönhens, F., **Fütterer, T.**, Franke, U., & Lachner, A. (2023, August). *Video annotations to support pre-service teachers' professional vision for technology integration.* Paper at the 2023 biennial EARLI conference, Thessaloniki, Greece

Rehm, M., Klein, L., **Fütterer, T.**, Fischer, C., Lockton, M., Caduff, A., & Daly, A. J. (2023, August). *The social side of digitization: Knowledge mobilization among educational professionals.* Paper at the 2023 biennial EARLI conference, Thessaloniki, Greece

**Fütterer, T**., Tan, T., Olsen, R. V., Sandsør, A. M. J., & Blömeke, S. (2023, August). *Differential effects of COVID-19 school closures on students' achievement.* Paper at the 2023 biennial EARLI conference, Thessaloniki, Greece

Rzejak, D. & **Fütterer, T.** (2023, June). *Wege und Qualitäten des beruflichen Lernens von Lehrpersonen [Pathways and qualities of teacher professional learning]*. Symposium at the 2023 annual „Wie viel Wissenschaft braucht die Lehrer*innenfortbildung" conference, Feldkirch, Austria

**Fütterer, T.**, Rzejak, D., Mayr, J., & Lipowsky, F. (2023, June). *Interesse und Kompetenz: Verstärkende oder kompensierende Faktoren für die Teilnahme von Lehrer:innen an beruflichen Fort- und Weiterbildungen? [Interest and competence: Reinforcing or compensating factors for teachers' participation in professional development?]*. Paper at the 2023 annual „Wie viel Wissenschaft braucht die Lehrer*innenfortbildung" conference, Feldkirch, Austria

Tschönhens, F., **Fütterer, T.**, Franke, U., Stürmer, K., & Lachner, A. (2023, May/June). *Video annotations to support pre-service teachers' professional vision for technology integration*. Paper at the 2023 annual meeting of the QUINT conference, Helsinki, Finland.

Campos, D. G., **Fütterer, T.**, Gfrörer, T., Lavelle-Hill, R., König, L., Zitzmann, S., Hecht, M., Murayama, K., & Scherer, R. (2023, May). *Assessing the performance of machine learning algorithms for systematic review and meta-analysis in education: A benchmarking and evaluation project.* Paper at the 2023 annual Research Synthesis & Big Data Conference, Frankfurt/Main, Germany

Fischer, C., Omarchevska, Y., **Fütterer, T.**, & Rosenberg, J. (2023, April). *Teacher collaboration and professional development on Twitter: An epistemic network analysis*. Paper at the 2023 annual meeting of the American Educational Research Association, Chicago, IL

Richter, E., **Fütterer, T.**, Eisenkraft, A., & Fischer, C. (2023, April). *Examining motivational profiles of teachers participating in professional development activities during a nationwide science reform*. Paper at the 2023 annual meeting of the AERA conference, Chicago, IL

Rehm, M., **Fütterer, T.**, Fischer, C., Lockton, M., Caduff, A., & Daly, A. J. (2023, April). *Digitization in international contexts: Comparing knowledge mobilization in Germany and the United States*. Paper at the 2023 annual meeting of the AERA conference, Chicago, IL

Stoll, G. & **Fütterer, T.** (2023, March). *The roles of work values and personality traits in explaining vocational preferences.* Paper at the 2023 annual International Convention of Psychological Science, Brussels, Belgium

Tschönhens, F., **Fütterer, T.**, Franke, U., Stürmer, K., & Lachner, A. (2023, February/March). *Einsatz von Videoannotationen zur Förderung der professionellen Wahrnehmung von technologie-gestützten Unterrichtssituationen [Use of video annotation to promote professional vision of technology-enhanced teaching situations]*. Paper at the 2023 annual meeting of the GEBF conference, Duisburg-Essen, Germany

Leng, F., **Fütterer, T.**, Stürmer, K., & Göllner, R. (2023, February/March). *The role of the recipient determines how one reflects.* Paper at the 2023 annual meeting of the GEBF conference, Duisburg-Essen, Germany

**Fütterer, T.**, Stürmer, K., & Göllner, R. (2023, February/March). *Hit the road towards an automated assessment of written reflections of pre-service teachers*. Paper at the 2023 annual meeting of the GEBF conference, Duisburg-Essen, Germany

**Fütterer, T.** (2023, February/March). *A multi-faceted perspective on current approaches to reflect on teacher reflections*. Symposium at the 2023 annual meeting of the GEBF conference, Duisburg-Essen, Germany

Morina, F., **Fütterer, T.**, Rosenberg, J., Carpenter, J. P. & Fischer, C. (2023, February/March). *Investigating how teachers share and use materials in German Twitter communities*. Paper at the 2023 annual meeting of the GEBF conference, Duisburg-Essen, Germany

Schiefer, J., **Fütterer, T.**, & Wagner, W. (2023, February/March). *Machen die Lehrkräfte einen Unterschied? Die Relevanz individueller Charakteristika Lehrender in einem außerunterrichtlichen Lernsetting für Grundschulkinder [Do teachers make a difference? The Relevance of Individual Characteristics of Teachers in an Extracurricular Learning Setting for Elementary School Children.]*. Paper at the 2023 annual meeting of the GEBF conference, Duisburg-Essen, Germany

**Fütterer, T.** & Becker-Genschow, S. (2022, September). CC-TPACK-P - Cross-Phase Cooperation to Promote Teachers' TPACK in Physics. Project at the 1. fellow-meeting 5. cohort Kolleg Didaktik:digital, Ludwigsburg, Germany

Hoch, E., **Fütterer, T.**, Lachner, A., Scheiter, K., & Stürmer, K. (2022, September). *Kann digitaler Unterricht auf Distanz lernwirksam sein? Eine Studie zur kognitiven Aktivierung während der Schulschließungen [Can digital distance education be effective for learning? A study of cognitive activation during school closures*]. Paper at the 2022 annual meeting of the DGPs conference, Hildesheim, Germany

**Fütterer, T.**, Hoch, E., Lachner, A., Scheiter, K., & Stürmer, K. (2022, August). *How cognitively activating was digitized instruction during school closures and how can teachers be supported?*. Paper at the 2022 9th biennial EARLI SIG 6/7, Zollikofen, Switzerland

**Fütterer, T.**, Stürmer, K., & Göllner, R. (2022, June). *Hit the road towards an automated assessment of reflection practices of pre-service teachers*. Project at the 2022 annual meeting of the QUINT conference, Hveragerði, Iceland.

**Fütterer, T.**, Hübner, N., Fishman, B., Eisenkraft, A., & Fischer, C. (2022, April). *Teacher professional development and self-efficacy during the AP science reform: A longitudinal perspective*. Paper at the 2022 annual meeting of the AERA conference, San Diego, CA

Morina, F., **Fütterer, T.**, Hübner, N., Zitzmann, S., Trautwein, U., &Fischer, C. (2022, April). *Effectiveness of online professional development for teachers: A meta-analysis*. Paper at the 2022 annual meeting of the AERA conference, San Diego, CA

**Fütterer, T.** (2022, April). *A multi-faceted perspective on current approaches for high-quality teacher professional development*. Symposium at the 2022 annual meeting of the AERA conference, San Diego, CA

Stürmer, K., **Fütterer, T.**, Hoch, E., Lachner, A., & Scheiter, K. (2022, March). *Kann digitaler Unterricht auf Distanz lernwirksam sein? Eine Studie zur kognitiven Aktivierung während der Schulschließungen [Can digital distance education be effective for learning? A study of cognitive activation during school closures*]. Paper at the 2022 annual meeting of the LERN conference, Frankfurt, Germany

Stürmer, K., **Fütterer, T.**, Hoch, E., Lachner, A., & Scheiter, K. (2022, March). *Kann digitaler Unterricht auf Distanz lernwirksam sein? Eine Studie zur kognitiven Aktivierung während der Schulschließungen [Can digital distance education be effective for learning? A study of cognitive activation during school closures*]. Paper at the 2022 annual meeting of the GEBF conference, Bamberg, Germany

Morina, F., **Fütterer, T.**, Hübner, N., Zitzmann, S., Trautwein, U., & Fischer, C. (2022, March). *A meta-analysis on the effectiveness of online professional development for teachers*. Paper at the 2022 annual meeting of the GEBF conference, Bamberg, Germany

**Fütterer, T.**, Hübner, N., Fishman, B., Eisenkraft, A., & Fischer, C. (2022, March). *Wechselwirkungen zwischen der Selbstwirksamkeit von Lehrpersonen und Fortbildungsmerkmalen: Eine Längsschnittperspektive [Interactions between teacher self-efficacy and professional development characteristics: A longitudinal perspective]*. Paper at the 2022 annual meeting of the GEBF conference, Bamberg, Germany

van Waveren, L., **Fütterer, T.**, Hübner, N., Fischer, C. & Sälzer, C. (2022, March). *Spiegelt sich die Art des Zugangs zum Lehramt in der beruflichen Zufriedenheit in PISA 2015 und 2018 wider? [Is the nature of access to the teaching profession reflected in professional satisfaction in PISA 2015 and 2018?].* Paper at the 2022 annual meeting of the GEBF conference, Bamberg, Germany

Bareis, A., **Fütterer, T.**, Spengler, M., Boxhofer, E., Krammer, G., Mayr, J., Nausner, E., Pflanzl, B., Nagengast, B., & Trautwein, U. (2022, March). *Sagen Gewissenhaftigkeit, Interesse und deren Interaktion die Fortbildungsintensität von Lehrkräften vorher? [Do conscientiousness, interest, and their interaction predict teacher professional development intensity?]*. Paper at the 2022 annual meeting of the GEBF conference, Bamberg, Germany

Tschönhens, F., **Fütterer, T.**, Lachner, A., & Stürmer, K. (2022, March). *Selbstbeurteilungsfähigkeit von Lehrpersonen bezüglich ihres technologischen und technologisch-pädagogischen Wissens [Self-assessment ability of teachers regarding their technological and technological-pedagogical knowledge]*. Paper at the 2022 annual meeting of the GEBF conference, Bamberg, Germany

**Fütterer, T.** & Bardach, L. (2021, October). *Artificial intelligence and feedback in education -A systematic literature review*. Poster at the 2021 semiannual meeting of the LEAD Graduate School & Research Network

van Waveren, L., **Fütterer, T.,** Hübner, N., Fischer, C., & Sälzer, C. (2021, April). *Is teachers' job satisfaction contingent on formal teacher training? Insights from PISA 2015.* Paper at the 2021 annual meeting of the AERA conference (online conference)

Hoch, E., **Fütterer, T.** (2020, December). *Welche Kompetenzen sind nötig, um in einer digitalen Welt zu lernen? [What competencies are needed to learn in a digitalized world?].* Paper at the ZfE-Forum 2020 „ZfE-Forum Bildung für eine digitale Zukunft". (online conference)

**Fütterer, T.**, Hübner, N., Fischer, C., & Stürmer, K. (2020, December). *Heading for new Shores: Moving from Traditional to Modern Paradigm of Professional Development.* Poster at the 5th annual International NEPS Conference, Bamberg, Germany. [NEPS Poster Award 2020]

Stürmer, K, Scheiter, K., Lachner, A., **Fütterer, T.**, & Hoch. E. (2020, December). Gelingensbedingungen für das Unterrichten mit digitalen Medien –Zugänge aus dem tabletBW-Projekt *[Conditions for successful teaching with digital media - Approaches from the tabletBW project]*. Poster at the 5th CeLeB-Conference, Hildesheim, Germany

**Fütterer, T**., Cheng, X., Scheiter, K., & Stürmer, K. (2020, August). *Quality beats quantity: Investigating learning related effort in computer-based learning environments*. Paper at the 2020 8th biennial EARLI SIG 6/7, Tübingen, Germany.

**Fütterer, T.**, Hübner, N., Fischer, C., & Stürmer, K. (2020, June). *Heading for new shores: Moving from traditional to modern professional development*. Paper at the 2020 8th biennial EARLI SIG 11, Oldenburg, Germany (conference canceled)

Cheng, X., **Fütterer, T.,** Scheiter, K., & Stürmer, K. (2020, April). *ICT in classrooms. Effects of tablet-based instruction on students leaning activities*. Poster at the 2020 annual meeting of the AERA conference, San Francisco, CA (conference cancelled)

Cheng, X., **Fütterer, T.**, Scheiter, K. & Stürmer, K. (2020, March). *Does one-to-one tablet used in the classroom have an impact on student learning processes?.* Paper at the 8th annual GEBF conference, Potsdam, Germany (conference canceled)

**Fütterer, T.**, Hübner, N., Fischer, C., & Stürmer, K. (2020, March). *Muster der Fortbildungsaktivität von Lehrpersonen im Längsschnitt [Longitudinal analysis of teacher professional development patterns]*. Paper at the 8th annual GEBF conference, Potsdam, Germany (conference canceled)

**Fütterer, T.** (2020, March). *Internationale und nationale Perspektiven auf Fortbildungen von Lehrkräften: Zentrale Akteure im Fokus [International and national perspectives on teacher training: Central actors in focus]*. Symposium at the 8th annual GEBF conference, Potsdam, Germany. (conference canceled)

**Fütterer, T.** & Stürmer, K. (2019, March). *Do the right teachers get teaching quality profession development?*. Poster at the Teaching Quality Conference, Tübingen, Germany

**Fütterer, T.** & Brouër, B. (2018, September). *Der Einsatz von professional development portfolios in der zweiten Phase der Lehrkräfteausbildung [The use of professional development portfolios in the second phase of teacher training]*. Paper at the 83rd annual AEPF conference, Lüneburg, Germany

**Fütterer, T.** & Brouër, B. (2015, September). *Der Einsatz von Portfolios im Vorbereitungsdienst. Ergebnisse einer Bestandsanalyse in Schleswig-Holstein mit Ausblick auf eine experimentelle Interventionsstudie [The use of professional development portfolios in the second phase of teacher training. Results of a stock analysis in Schleswig-Holstein with an outlook for an experimental intervention study]*. Paper at the 80th annual AEPF conference, Göttingen, Germany

**Fütterer, T.** & Brouër, B. (2014, March). *Der Einsatz von Portfolios in der zweiten Phase der Lehramtsausbildung in Schleswig-Holstein [The use of professional development portfolios in the second phase of teacher training in Schleswig-Holstein]*. Poster at the 24th biennial DGfE congress, Berlin, Germany

## Invited Talks

**Fütterer, T.** (2026, October). Wer lernt eigentlich – der Mensch oder die Maschine? Drei Szenarien zwischen KI-Abhängigkeit und Handlungsfähigkeit [Who is actually learning—humans or machines? Three scenarios ranging from AI dependence to autonomy]. Invited talk presented at the learning breakfast at the Vodafone Fundation in Berlin.

**Fütterer, T.** (2026, September). *Rethinking teacher professional development in the age of AI*. Invited talk presented at the European School Education Platform (ESEP) and eTwinning community for schools (CSS) Professional Development Advisory Board Meeting #1

**Fütterer, T.** (2026, July). *Lernwirksamkeit von Künstlicher Intelligenz. Einsatz von KI im Bildungssektor und die langfristigen Folgen fürs Lernen* [The effectiveness of artificial intelligence in learning: The use of AI in the education sector and its long-term impact on learning]. Invited talk presented at AI Symposium in Tübingen.

**Fütterer, T.** (2026, July). *Wer lernt eigentlich – der Mensch oder die Maschine? Drei Szenarien zwischen KI-Abhängigkeit und Handlungsfähigkeit* [Who is actually learning—humans or machines? Three scenarios between AI dependence and agency]. Invited talk presented at AI Symposium in Mannheim.

**Fütterer, T.** (2026, June). *Künstliche Intelligenz in der Bildung: Entwicklungen, Herausforderungen und Perspektiven* [Artificial intelligence in education: Developments, challenges, and prospects]. Invited talk presented at Seminar-Soiree in Karlsruhe.

**Fütterer, T.** (2026, March). *Selbstreguliertes Lernen mit KI stärken: Zwei praxistaugliche Wege mit generativer KI im Unterricht* [Strengthening self-regulated learning with AI: Two practical approaches for using generative AI in the classroom]. Invited talk presented at Leopoldina Conference on Self-Regulation in Heilbronn.

**Fütterer, T.** & Gerjets, P. (2026, January). *Chancen und Risiken von KI in der Schulpraxis: Implikationen für die Selbstregulation [Opportunities and risks of AI in school practice: Implications for self-regulation]*. Invited talk presented at GMS Vernetzungstagung in Bad Wildbad

**Fütterer, T.** (2025, December). *Auf dem Weg zu adaptiven Onlinefortbildungen [Towards adaptive online professional development].* Invited talk presented at the University of Zürich.

**Fütterer, T**. & Gerjets, P. (2025, October). *Selbstreguliertes Lernen im Zeitalter von Digitalisierung und KI. Impulse und Folgerungen für die Aus- und Fortbildung [Self-regulated learning in the age of digitalization and AI. Implications and recommendations for teacher education and professional development].* Invited talk presented at annual conference of the State Institute for School Quality and Teacher Training (ZSL) in Bad Wildbad

**Fütterer, T**. (2025, September). *Bildungsmythen - Zwischen Bauchgefühl und Befund [Educational Myths – Between Gut Feeling and Evidence].* Invited talk presented at the Online-Bundesverband Nachhilfe- und Nachmittagsschulen e. V. (VNN) Academy, online

Gerjets, P., **Fütterer, T**., & Kuhn, J. (2025, July). *Selbstreguliertes Lernen im Zeitalter von Digitalisierung und KI [Self-regulated learning in the age of digitalization and AI].* Invited talk presented at the symposium 'Self-regulation – a key prerequisite for successful learning and teaching' at the AI Center School in Heilbronn

**Fütterer, T.** (2024, November). *Digitalisierung und angewandte Künstliche Intelligenz im Bildungskontext: Potenziale für Lehre und Forschung [Digitalization and applied artificial intelligence in the educational context: potential for teaching and research].* Invited talk presented at the Center for Teacher Training at University of Kaiserslautern-Landau

**Fütterer, T.** (2024, June). *Künstliche Intelligenz in der Bildung – Teil des Problems oder Teil der Lösung? [Artificial intelligence in education - part of the problem or part of the solution?].* Invited talk presented at the Studium Generale, University of Tübingen

**Fütterer, T.** (2024, January). *Auf dem Weg zu einer automatisierten Auswertung schriftlicher Reflexionstexte von Lehrer:innen [Hit the road to an automated assessment of teachers' written reflections].* Invited talk presented at the University of Mainz

**Fütterer, T.** (2023, December). *Technologie nutzen zum effizienten und effektiven Forschen und Lehren [Using technology for efficient and effective research and teaching]*. Invited talk presented at the Biology Didactics Forum of the Center for Didactics of Biology, University of Münster, Münster

**Fütterer, T.** (2023, May). *Einsatz von Technologie im Unterricht: Quantität oder Qualität? [Use of technology in the classroom: quantity or quality?]*. Invited talk presented at the School Internal Conference, Johannes-Kepler High School, Weil der Stadt

**Fütterer, T.** (2023, April). *Einsatz von Technologie im Unterricht: Quantität oder Qualität? [Use of technology in the classroom: quantity or quality?]*. Invited talk presented at the School Internal Conference, Vocational School, Crailsheim

**Fütterer, T.** (2023, February). *Einsatz von Technologie im Unterricht: Wie können Lehrer:innen in Fortbildungen darauf vorbereitet werden? [How can teachers be prepared for the use of technology in the classroom?]*. Invited talk presented at the colloquium series of the educational sciences, University of Potsdam, Potsdam

**Fütterer, T.** (2022, February). *Getting teachers ready to teach in a digitized world: Insight into different approaches*. Invited talk presented at the Brown Bag Seminar, Centre for Educational Measurement at University of Oslo (CEMO), Oslo

**Fütterer, T.** (2021, September). *Kognitive Aktivierung der Schüler*innen durch den Einsatz digitaler Medien im Unterricht [Cognitive activation of students through the use of digital media in the classroom]*. Invited talk presented at the professional development, Akademie für Lehrerfortbildungen, Esslingen

**Fütterer, T.** (2021, June). *Einsatz digitaler Medien im Unterricht. Eine pädagogisch-psychologische Perspektive [Using digital media in the classroom. A pedagogical-psychological perspective]*. Invited talk presented at the School Internal Conference, Wentzinger High School, Freiburg

**Fütterer, T.** (2019, November). *Leistungsbeurteilung in der Schule. Erkenntnisse aus der psychologischen Diagnostik für die Praxis nutzbar machen [Performance assessment in schools. Making findings from psychological diagnostics usable in practice]*. Invited talk presented at the School Internal Conference, Wieland High School, Biberach.

Feder, L. & **Fütterer, T.** (2019, May). *Portfolioarbeit aus empirischer Perspektive: Ein Forschungsüberblick mit Leerstellen [Portfolio work from an empirical perspective: A research overview with gaps]*. Invited talk presented at network conference "portfolio in teacher education", University of Konstanz, Konstanz

**Fütterer, T.** (2018, November). *Was ist guter Unterricht? Tipps aus der Empirischen Bildungsforschung [What is good teaching? Tips from empirical educational science]*. Invited talk presented at the School Internal Conference, Wieland High School, Biberach

**Fütterer, T.** (2014, Dezember). *Portfolio und Portfolioarbeit. Eine kurze Einführung [Portfolio and portfolio work. A short introduction]*. Invited talk presented at the Conference on Future Assessment of Applicants in Companies, Chambers of Commerce and Industry in Schleswig-Holstein, Kiel

## OPEN SCIENCE

### Preregistrations

Daltoè, T., **Fütterer, T.**, Göllner, R., Fauth, B., & Trautwein, U. (2025, August 19). Pre-Service Teachers' Self-Efficacy and Perceptions of Teaching Quality in a Classroom Observation Training: What Role Does the Video Format Play?. https://doi.org/10.17605/OSF.IO/Z72UK

Daltoè, T., Blank, J. L., **Fütterer, T.**, Caspari, J., Dreher, A., Friesen, M., … Fauth, B. (2025, August 19). Good-Practice vs. Contrasting Video Examples in Pre-service Teachers' Learning Experience. https://doi.org/10.17605/OSF.IO/B4T8C

Jaggy, A., Jansen, T., **Fütterer, T.**, & Trautwein, U. (2025, August 3). Almighty ChatGPT? – Development of Gifted Secondary School Students' AI Conception. https://doi.org/10.17605/OSF.IO/54ZXH

**Fütterer, T.**, Bardach, L., Kuhn, J., Keller, S. D., & Gerjets, P. (2025, April 21). Preregistration of the Study "Enhancing Self-Regulated Learning Through AI-Based Support: A Randomized Controlled Trial on Motivational and Cognitive Strategy Interventions". https://doi.org/10.17605/OSF.IO/VBSQ4

Udvardi-Lakos, N., **Fütterer, T.**, Fabian, A., Hoch, E., Meurers, D., & Lindner, M. A. (2025, March 17). Attractive Tendering: How Teachers' Motivation can be Increased to Participate in Adaptive Online Professional Development Courses. https://doi.org/10.17605/OSF.IO/5ANZ8

**Fütterer, T.**, Peltzer, N., Kuhn, J., Meurers, D., Gerjets, P., Tate, T. P., & Warschauer, M. (2025, March 10). Study - A Systematic Meta-Review of the Quality of ChatGPT Meta-Analyses. https://doi.org/10.17605/OSF.IO/RKCE4

Wekerle, C., Sailer, M., & **Fütterer, T.** (2025, January 12). The effects of different types of learning activities on learning outcomes : An ICAP follow-up study. https://doi.org/10.17605/OSF.IO/3MVCA

**Fütterer, T.**, Schreiber, F. W., & Cramer, C. (2024, July 8). Study - Reflection in Teacher Education: A Literature Review. https://doi.org/10.17605/OSF.IO/E4TAY

**Fütterer, T.**, Daltoè, T., Syring, M., Goeze, A., Franke, U., & Brahm, T. (2024, May 2). The Artistry Of Utilizing Videos To Promote Professional Competencies In Education Across Disciplines: A Systematic Literature Review. OSF Registries. https://doi.org/10.17605/OSF.IO/T98Z5

Bühler, B., **Fütterer, T.**, von Keyserlingk, L., Bozkir, E., Kasneci, E., Gerjets, P., & Trautwein, U. (2024, March 26). Mapping Mind Wandering to the 'Self-Regulated Learning Process, Multimodal Data, and Analysis Grid': A Systematic Review. https://doi.org/10.17605/OSF.IO/7SP5A

**Fütterer, T.**, Fahrbach, T., Hoch, E., Nagengast, B., Lachner, A., Stürmer, K., & Scheiter, K. (2024). The Effect of Tablet Computers on Student Achievement: Analyzing the Crucial Role of Teaching Effectiveness in a Randomized Trial. PsychArchives. https://doi.org/10.23668/psycharchives.14161

**Fütterer, T.**, Hoch, E., & Dumont, H. (2024). *Uncovering the Relationship of Technology-Enhanced, Adaptive Teaching and Situational Interest in Mathematics in a Randomized Trial*. PsychArchives. https://doi.org/10.23668/psycharchives.14090

Tschönhens, F., **Fütterer, T.**, Franke, U., & Lachner, A. (2023). Professional vision in teaching with digital media. https://aspredicted.org/2bt3j.pdf

Tschönhens, F., **Fütterer, T.**, & Lachner, A. (2023). Annotation Tool to Foster Professional Vision of Pre-Service Teachers. https://aspredicted.org/72xs3.pdf

Tschönhens, F., **Fütterer, T.**, & Lachner, A. (2023). Highlighting Prompts – Using Annotation Tools to Foster Pre-Service Teachers PV. https://aspredicted.org/BNK_WMB

Röhl, S., **Fütterer, T.**, & Cramer, C. (2023, September 22). BeProf-F: Main Study. https://doi.org/10.17605/OSF.IO/VSZ42

König, L., Zitzmann, S., **Fütterer, T.**, Campos, D., Scherer, R., & Hecht, M. (2023, March 13). Evaluating the performance of different stopping rules for AI-assisted systematic screening with ASReview. https://doi.org/10.17605/OSF.IO/UCZ8D

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**Fütterer, T.**, Tan, T. C. A., Olsen, R. V., & Blömeke, S. (2022, August 11). Differential effects of COVID-19 school closures on students' learning. https://doi.org/10.17605/OSF.IO/XJ6HV

Fabian, A., **Fütterer, T.**, Paravicini, W., Hübner, N., &Lachner, A. (2022, January 13). How is TPACK related to PCK and TK? A cross-sectional survey study using test-based instruments. https://aspredicted.org/fb39n.pdf

**Fütterer, T.**, Lachner, A., Scheiter, K., Scherer, R., & Stürmer, K. (2020). Will, skill or conscientiousness: What predicts teachers' ICT-related professional development?. https://doi.org/10.23668/psycharchives.2867

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**Fütterer, T.**, Bauer, N., Brucker, B., & Gerjets, P. (2026, January 10). Project - Academic Writing with ChatGPT. https://doi.org/10.17605/OSF.IO/9CAU2

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**Fütterer, T.**, Campos, D., Gfrörer, T., Lavelle-Hill, R., Murayama, K., & Scherer, R. (2025, December 6). Study - AI Tools for Systematic Literature Reviews and Meta-Analyses in Educational Psychology: An Overview and a Practical Guide☆. https://doi.org/10.17605/OSF.IO/8YJNR

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**Fütterer, T.**, Bühler, B., von Keyserlingk, L., Bozkir, E., Kasneci, E., Gerjets, P., & Trautwein, U. (2025, May 31). Study - Mapping Mind Wandering to the 'Self-Regulated Learning Process, Multimodal Data, and Analysis Grid': A Systematic Review. https://doi.org/10.17605/OSF.IO/ECSGM

**Fütterer, T.**, Daltoé, T., Syring, M., Goeze, A., Franke, U., & Brahm, T. (2024, May 30). Study - The Artistry of Utilizing Videos to Promote Professional Competencies in Education Across Disciplines: A Systematic Literature Review. https://doi.org/10.17605/OSF.IO/BGVZW

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**Fütterer, T.**, Goldberg, P., Bühler, B., Sikimić, V., Trautwein, U., Gerjets, P., … Kasneci, E. (2024, February 1). Coding Manual - Preprint - Artificial Intelligence in Classroom Management: A Systematic Review on Educational Purposes, Technical Implementations, and Ethical Considerations. https://doi.org/10.17605/OSF.IO/RSWX5

**Fütterer, T.**, Göllner, R., & Stürmer, K. (2024, January 8). An intelligent feedback system for observing videotaped classroom situations (INFER). https://doi.org/10.17605/OSF.IO/FDCV8

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**Fütterer, T.**, Steinhauser, R., Zitzmann, S., Scheiter, K., Lachner, A., & Stürmer, K. (2024, January 4). Data and R Code Belonging to the Publication "A Test to Assess Teachers' Knowledge of How to Operate Technology." https://doi.org/10.17605/OSF.IO/G86M7

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**Fütterer, T.**, Fischer, C., Alekseeva, A., Chen, X., Tate, T., Warschauer, M., & Gerjets, P. (2023). Code belonging to the study "ChatGPT in education: Global reactions to AI innovations". https://github.com/twitter-tuebingen/ChatGPT_project

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**Fütterer, T.**, Lachner, A., Scheiter, K., Stürmer, K., Sciences, H. R. I. O. E., & Leibniz-Institut Für Wissensmedien. (2020). Dataset for: Will, skill or conscientiousness: What predicts teachers' ICT-related professional development? [Data set]. PsychArchives. https://doi.org/10.23668/PSYCHARCHIVES.2869

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## RESEARCH GRANTS

### Awarded Research Grants

**Principal Investigator.** Aufbau einer GPU-basierten Forschungsinfrastruktur für KI-generierte Unterrichtsvideos und multimodale Bildungsforschung [Establishment of a GPU-Based Research Infrastructure for AI-Generated Teaching Videos and Multimodal Educational Research]. University of Tübingen, Investment Fund 2026 [in total: €33,534.08; funding awarded: €16,767.04; institutional co-funding: €16,767.04].

**Principal Investigator.** Wissenschaftliche Evaluation „Tiefer Lernen“ [Scientific Evaluation of Deeper Learning]. BW Foundation [in total: € 1,400,000.00; University of Tübingen: € 1.204.028,09 € including project overhead allowance]

**Co-Principal Investigator.** INFER – Intelligentes Feedback System zur Beobachtung von auf Video aufgezeichneten Unterrichtssituationen [INFER – Intelligent Feedback System for Observing Video-Recorded Classroom Situations]. KI-Lehrgrants der Wirtschafts- und Sozialwissenschaftlichen Fakultät [€ 9,600.00]

**Principal Investigator.** From Dependency to Agency: AI-Empowered Self Regulated Learning in Schools. Exploration Funds 2026, University of Tübingen. Funding is provided by the Federal Ministry of Research, Technology and Space (BMFTR) and the Baden-Württemberg Ministry of Science, Research and the Arts (MWK) as part of the Excellence Strategy of the German federal and state governments (funding line: Universities of Excellence). AZ. 7410.7-04-0104-02 [€92,768.06]

**Principal Investigator.** Wissenschaftliche Begleitung des Schulmodells ULI – Unser Lernen Inspiriert [Scientific support for the ULI school model – Our Learning Inspires]. Schulwerk der Diözese Augsburg [€276,696.00]

**Principal Investigator.** Wissenschaftlichen Evaluation von Magma Mathe in Deutschland [Scientific Evaluation of Magma Math in Germany]. Magma Math via SPRIND [€50,000.00]

**Co-Principal Investigator.** Effective Learning with AI-Supported Self-Regulated Learning Strategies. KI-Lehrgrants der Wirtschafts- und Sozialwissenschaftlichen Fakultät [€ 9,600.00]

**Principal Investigator.** GEN-VET - Fostering Self-Regulated Learning in Vocational Students Through Generative AI Support. Joachim Herz Stiftung [€ 494,100.00]

**Principal Investigator.** INFER-IE - Insightful Educators. Stiftung Innovation in der Hochschullehre [€ 375,776.75]

**Co-Principal Investigator / Project Manager.** ERTA - European Robotics Teachers’ Academy – Educational Robotics for STEM Skills, Arts and Humanities, Computational Thinking, Creativity, Emotional Intelligence, and Inclusion in Preschool and Early Primary Education. European Commission. ERASMUS-EDU-2025-PEX-TEACH-ACA, 101249425 [in total: € €1,499,900.00; University of Tübingen: € 245,769.00]

**Principal Investigator.** The Power of Feedback: Harnessing AI for Scalable, Evidence-Based Mathematics Instruction. aim - Akademie für Innovative Bildung und Management Heilbronn-Franken gemeinnützige GmbH [€ 290,480.00 including project overhead allowance]

**Co-Principal Investigator.** Metacognitive and Motivational Requirements of Using Generative Artificial Intelligence to Support Self-Regulated Learning. Promotion of Junior Researchers 2025 within the framework of the Excellence Strategy, University of Tübingen [€ 27,460.00]

**Co-Principal Investigator.** Heibronner Liste - Development of Assessment Systems for Pedagogical Quality and Effectiveness of Digital Tools in Schools. aim - Akademie für Innovative Bildung und Management Heilbronn-Franken gemeinnützige GmbH [€ 121,024.00]

**Co-Principal Investigator.** Cooperation agreement with the Institute for Educational Quality Improvement (IQB) within the project StarS – Starting Strong in Primary School (German: Stark in die Grundschule starten). [€ 105,000.00]

**Principal Investigator.** AEyeCoL: Advanced Understanding of Eye Gaze in Co-Located Collaborative Learning. Deutsche Forschungsgemeinschaft (DFG) [in total: € 535,277.00; University of Tübingen: € 219,760.00]

**Principal Investigator.** Mapping AI literacy skills and self-regulation competencies. Vodafone foundation [€ 50,000.00]

**Principal Investigator.** Enhancing Teaching Quality with Artificial Intelligence. Hector Innovation Grant [€ 930,000.00]

**Principal Investigator.** AI-Enhanced Feedback System for Observing and Interpreting Classroom Practices in Teacher Education. Seed Funding for Joint Projects between the University of Tübingen and UNC-Chapel Hill 2024 [€ 20,000.00]

**Principal Investigator.** The European Association for Research on Learning and Instruction (EARLI) Emerging Field Group (EFG) -13 on Automated Assessment of Teaching Effectiveness Using Multimodal Data. https://www.earli.org/efg-13 [€ 20,000.00]

**Principal Investigator.** Attractive Tendering: How Teachers’ Motivation can be Increased to Participate in Adaptive Online Professional Development Courses. LEAD Intramural Research Grant 2024, University of Tübingen [€ 9,421.23]

**Principal Investigator.** Promoting Professional Competencies in Education: The Artistry of Utilizing Videos – A Systematic Literature Review. Tübingen School of Education, University of Tübingen [€ 5,000.00]

**Principal Investigator.** Enhanced Excellence in Online Professional Development, Learning Analytics, and Teaching Effectiveness (EXCELLATE). Hector Foundation Grant 2023, University of Tübingen [€ 64,575.00]

**Principal Investigator.** Adaptive Learning Integrated Framework for Educators (ALIFE). Hector Foundation Grant 2023, University of Tübingen [€ 147,748.00]

**Principal Investigator.** Teachers' Continuing Professional Development Using Feedback (BeProf-Feedback). LEAD Intramural Research Grant 2023, University of Tübingen [€ 10,000.00]

**Principal Investigator.** Artificial Intelligence Assisted Systematic Literature Reviews and Meta-Analyses. LEAD Intramural Research Grant 2022, University of Tübingen [€ 9,616.00]

**Principal Investigator**. CC-TPACK-P. Cross-Phase Cooperation to Promote Teachers' Technological-Pedagogical Content Knowledge in Physics. Joachim Herz Stiftung [€ 15,697.00]

**Principal Investigator**. Evaluation einer Fortbildungsinitiative für Lehrpersonen im Kontext Digitalisierung [Evaluation of a professional development initiative for teachers in the context of digitization]. Dr. Hans Riegel-Stiftung [€ 40,000.00]

**Principal Investigator**. Duration of Teacher Professional Development as a Quality Indicator - A Systematic Literature Review and Meta-Analysis. Tübingen Postdoctoral Academy for Research on Education (PACE) Intramural Research Grant 2022, University of Tübingen [€ 8,656.00]

**Principal Investigator**. A Certainty-Uncertainty Paradox. International Network Portfolio [€ 1,020.00]

**Principal Investigator**. Tests für technologisches – und technologisch-pädagogisches Wissen von Lehrer*innen [Tests for technological - and technological-pedagogical knowledge of teachers]. Dr. Hans Riegel-Stiftung, Ad Hoc Special Funding 2021 [€ 4,900.00]

**Principal Investigator.** Artificial Intelligence and Feedback in Education -A Systematic Literature Review. LEAD Intramural Research Grant 2021, University of Tübingen [€ 10,402.00]

**Principal Investigator**. Technologisch-pädagogisches Wissen von Lehrpersonen zum Einsatz digitaler Medien [Technological-pedagogical knowledge of teachers regarding the use of digital media]. Promotion of Junior Researchers 2020 within the framework of the Excellence Strategy, University of Tübingen [€ 24,031.00]

### Research Grant Affiliations

**WoLKE-Wo bieten KI-Methoden Lösungen für fachdidaktische Herausforderungen? [Where do AI methods offer solutions to didactic challenges?]**
*Funding agency:* Ministerium für Wissenschaft, Forschung und Kunst Baden-Württemberg
*Awarded amount:* € 671.568,00
*Award number:* MWK42-7810-17/1/6
*Role on project:* Assoziierter Partner [Associated partner]
*Duration:* 01.01.2024 - 31.12.2026
Grant awarded to Jun.-Prof. Dr. Heiko Holz, Pädagogische Hochschule Ludwigsburg (PI), Prof. Dr. Detmar Meurers, Universität Tübingen, and Jun.-Prof. Dr. Luzia Leifheit, Pädagogische Hochschule Schwäbisch Gmünd

**PetraKIP-Persönliches transparentes KI-basiertes Portfolio für die Lehrerbildung [Personal transparent AI-based portfolio for teacher training]**
*Funding agency:* Bundesminsterium für Bildung und Forschung [Federal Ministry of Education and Resarch]
*Awarded amount:* € 818.382,86
*Award number: # must be entered.*
*Role on project:* Assoziierter Partner [Associated partner]
*Duration:* 01.03.2021 - 29.02.2024
Grant awarded to Prof. Dr. Ralf Romeike, Didaktik der Informatik (PI, Freie Universität Berlin), Prof. Dr. Christoph Benzmüller (PI, Dahlem Center for Machine Learning and Robotic), Prof. Dr. Tim Landgraf (PI, Dahlem Center for Machine Learning and Robotic), and Prof. Dr. Michaela Gläser-Zikuda (Friedrich-Alexander-Universität Erlangen-Nürnberg, Schulpädagogik mit dem Schwerpunkt empirische Unterrichtsforschung)

### Travel Grants

**Lab visit, Centre for Educational Measurement at University of Oslo (CEMO)**, Gustafsson & Skrondal Visiting Scholarship [€ 7.000,00]

**Lab visit, Stanford Graduate School of Education**, Tübingen Postdoctoral Academy for Research on Education (PACE) [€ 2.882,00]

## HONORS, FELLOWSHIPS, AND AWARDS

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|---|---|
| **2025** | **Second Place** (Team TUM-UT) at the Artificial Intelligence for Advancing Instruction (AIAI) Challenge 2025 (DrivenData, University of Virginia), focused on automated analysis of multimodal classroom observation data. https://drivendata.co/blog/aiai-winners |
| **2025** | **Poster Award** (shared-first) at the 109th AERA Conference (AERA Division C), Denver, United Stated of America. Poster title: *Who Inspires Whom? Reciprocal Relationships Between Teachers' Enthusiasm and Students' Interest and Enjoyment* |
| **2025** | **Paper Award** at the 12th GEBF Conference, Mannheim, Germany. Paper title: *Screening Smarter, Not Harder: A Comparative Analysis of Machine Learning Screening Algorithms and Heuristic Stopping Criteria for Systematic Reviews in Educational Research* |
| **2022** | Fellow in the Didactics:Digital Research Group [Kolleg Didaktik:digital] of the Joachim Herz Foundation |
| **2020** | **Poster Award** at the 5th International NEPS Conference, Bamberg, Germany. Poster title: *Heading for New Shores: Moving From Traditional to Modern Paradigm of Teacher Professional Development* |

## ACADEMIC LEADERSHIP

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|---|---|
| **2024-2026** | Facilitator of the European Association for Research on Learning and Instruction (EARLI) Emerging Field Group (EFG) *Automated Assessment of Teaching Effectiveness Using Multimodal Data* (https://www.earli.org/efg) |
| **2022 – 2024** | Coordinator of the European network *A European Theory-Practice Collaboration for Adaptive Teaching* (E-ADAPT; https://e-adapt.net) |

## CONSULTING

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|---|---|
| **2024** | Development of test to assess students' digital media competence (MTO: https://mto.de) |

## TEACHING EXPERIENCE

### University Teaching

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|---|---|
| **2018 - present** | **University of Tübingen, Germany** |
| From Winter 25-26 to present (each summer and winter semester) | Core topics of Educational Science and Educational Psychology (Lecture) |
| Winter 24-25, Summer 25 | Teaching Quality (Seminar) |
| From Winter 24 to present (each winter semester) | Digital Transformation (Module in the Master of Arts Schulmanagement und Leadership) |
| From Summer 20 to present | Supervision of the internship for students in the "Master of Science Empirical Educational Research and Educational Psychology (EBPP)" program |
| From Summer 20 to present (each Summer and Winter) | Introduction to Educational Psychology (Lecture) |
| Summer 18, 20 | Diagnostic, Intervention, Evaluation (Seminar) |
| Summer 18 | Quantitative Data Analysis (Seminar) |
| Winter 18-19, 19-20, 20-21 | Quantitative Data Collection (Seminar) |
| Summer 21 | Professional Vision (Seminar) |
| Winter 21-22 | Research Data Management (Seminar) |
| Summer 22 | Research Colloquium (Colloquium) |

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|---|---|
| **2012 - 2018** | **University of Kiel, Germany** |
| Each Winter | Self-Regulated Learning (Seminar) |
| Each Summer | Motivation and Performance Assessment (Seminar) |

## PROFESSIONAL DEVELOPMEMT WORKSHOPS OFFERED

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|---|---|
| September 2026 | Synthesizing research evidence: Systematic reviews and meta-analyses |
| July 2025 | Fokus KI: Unterstützende KI-Tools im Unterricht - Potenziale und Herausforderungen im Kontext Selbstregulierten Lernens [Focus on AI: Supportive AI tools in the classroom – potentials and challenges in the context of self-regulated learning] |
| July 2025 | ML-gestützte Forschungssynthesen in der Praxis: Effizienzsteigerung und Qualitätssicherung [ML-supported research syntheses in practice: Increasing efficiency and ensuring quality] |
| February 2025 | Educational myths |
| July 2024 | AI-tools for systematic reviews and meta-analyses |
| March 2024 | Digital gestützter Unterricht und Kultur der Digitalität [Technology-enhanced teaching and the culture of digitality] |
| March 2024 | Program committee member of the workshop AI in Education: Ethical and Epistemic Perspectives at the Eindhoven University of Technology |
| August 2022 / April & May 2023 | Kognitive Aktivierung im digital gestützten Unterricht [Cognitive activation in digitally supported teaching] |
| July 2021 | Eine Online-Fortbildung zum Einsatz digitaler Medien im Unterricht – Theoretische Konzeption und praktische Umsetzung im Diskurs zwischen Wissenschaft und Praxis [An online professional development course on the use of digital media in the classroom - theoretical conception and practical implementation in a discourse between science and practice] |
| April-September 2021 | Digitale Medien im Unterricht lernförderlich einsetzen [Using digital media in lessons to promote learning] |

## PROFESSIONAL DEVELOPMEMT WORKSHOPS ATTENDED

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|---|---|
| April 2024-April 2025 | Certificate Program Science Communication [48h] |
| November 2023 | Power analysis through simulation in R [13h] |
| February-March 2023 | Good scientific practice for supervisors [5h] |
| February 2023 | (Semi) automated creating codebooks: Promote reproducibility and reuse with the codebook package [2h] |
| January 2023 | Preregistration in Psychology [3h] |
| December 2022 | Data protection training [2h] |
| January-April 2022 | Certificate Program Leadership [48h] |
| April-May 2021 | Conflict Management [16h] |
| March 2020 | Media (public relation) training [8h] |
| June 2019 | GESIS Data management [16h] |
| January 2019 | Basic Knowledge of Third-Party Funding Applications [4h] |
| September 2017 | Agile Project Management and Kanban [16h] |
| May 2016 | DGfE Summer School on Quantitative Methods [40h] |
| April 2017 | Advanced Course Multivariate Statistics With R [16h] |
| April 2015 | IPN Winter School on Quantitative Methods [24h] |
| March 2015 | Basic Course R [16h] |
| March 2014 | Basic Training in University Didactics [16h] |
| May 2013 | DGfE Summer School on Quantitative Methods [40h] |

## ACADEMIC SERVICE

**Committee Work**

University of Tübingen, Germany

| | |
|---|---|
| 2024 - present | Representative of the scientific staff on the steering board of the Hector Research Institute of Education Sciences and Psychology |
| 2023 - present | Member of selection committee for the professional development Master of Arts “Schulmanagement und Leadership” |
| 2019 - present | Search Committee for Faculty Applicants, Hector Research Institute of Education Sciences and Psychology (Committee Member) |
| 2019 - 2022 | Representative of the Postdoctoral Students of the Graduate School & Research Network LEAD [Learning**,** Educational Achievement, and Life Course Development, GSC1028] |
| 2018 - 2025 | Representative of the Scientific Staff on the Advisory Board of the Hector Research Institute of Education Sciences and Psychology |

## Organizational Affiliations

- Member of the Digital Divide in Education Research Hub (DiDiRes), led by Ronny Scherer: https://www.uv.uio.no/cemo/english/research/projects/digital-divide-in-education-research-hub/index.html
- Facilitator of the EARLI Emerging Field Group (EFG) -13 on Automated Assessment of Teaching Effectiveness Using Multimodal Data. https://www.earli.org/efg-13
- Full member of the Tübingen Center for Digital Education (TueCeDE)
- Full member of the European Association for Research on Learning and Instruction (EARLI)
- Full member of the European Association for Research on Learning and Instruction (EARLI) Sepcial Interest Group 7 “Technology-Enhanced Learning and Instruction”
- Full member of the European Association for Research on Learning and Instruction (EARLI) Sepcial Interest Group 18 “Educational Effectiveness and Improvement”
- Full member of the Society for Empirical Educational Research (GEBF - Gesellschaft für Empirische Bildungsforschung)
- Full member of the Working Group for Empirical Educational Research (AEPF - Arbeitsgruppe für Empirische Pädagogische Forschung)
- Associated postdoc of the LEAD Graduate School [GSC1028], funded by the Excellence Initiative of the German federal and state governments
- Member of the Tübingen Postdoctoral Academy for Research on Education (PACE)
- Associated member of the Tübingen School of Education (TüSE)
- Founder and Member of the Research Network “portfolios in education”. https://uni-tuebingen.de/de/168549

## Ad-hoc Reviewer

- British Journal of Educational Psychology
- Contemporary Educational Psychology
- Computers & Education: Artificial Intelligence
- Computers & Education Open
- Computers & Education
- Educational Psychology Review
- Educational Research Review
- Frontiers in Psychology
- Humanities & Social Sciences Communications
- Journal of Teacher Education
- Lehrerbildung auf dem Prüfstand
- Learning and Individual Differences
- Learning and Instruction
- Personality and Social Psychology
- Research Synthesis Methods
- Review of Educational Research
- Social Psychology of Education
- Teaching and Teacher Education
- Teachers and Teaching: Theory and Practice

- The Elementary School Journal
- Unterrichtswissenschaft
- Zeitschrift für Bildungsforschung
- Zeitschrift für Erziehungswissenschaft

- EARLI (2023, 2025), biennial conference
- GEBF (2020, 2021, 2022, 2023, 2024, 2025, 2026), annual conference
- SIG 6 Instructional Design (2020, 2022) EARLI biennial conference
- SIG 7 Technology-Enhanced Learning And Instruction (2020, 2022), EARLI biennial conference

**Promoting Young Professionals**

- Mentor of Postdocs
- Daily Supervisor of PhD Students
- Supervisor of Bachelor and Master Theses
- Supervisor of Student Assistants
- Supervisor of Interns