

Publications Nikol Rummel

Journal Articles with Strict Peer Review (by year)

2002-2008

Meier, A., Spada, H., & Rummel, N. (2007). A rating scheme for assessing the quality of computer-supported collaboration processes. *International Journal of Computer-Supported Collaborative Learning*, 2, 63-86.

Rummel, N., Ertl, B., Härder, J., & Spada, H. (2002). Supporting collaborative learning and problem-solving in desktop videoconference settings. *International Journal of Educational Policy, Research, and Practice*, 3(2), 83-115.

Rummel, N., Levin, J. R., & Woodward, M. M. (2003). Do pictorial mnemonic text-learning aids give students something worth writing about? *Journal of Educational Psychology*, 95(2), 327-334.

Rummel, N., & Spada, H. (2005). Learning to collaborate: An instructional approach to promoting collaborative problem-solving in computer-mediated settings. *Journal of the Learning Sciences*, 14(2), 201-241.

Spitulnik, M., Bouillion, L. M., Rummel, N., Clark, D., & Fischer, F. (2003). Collaborative online environments for lifelong learning: Design issues from a situated learning perspective. *International Journal of Educational Policy, Research, and Practice*, 4(1), 17-53.

2009

Rummel, N., Spada, H., & Hauser, S. (2009). Learning to collaborate from being scripted or from observing a model. *International Journal of Computer-Supported Collaborative Learning*, 4(1), 69-92.

Walker, E., Rummel, N., & Koedinger, K. (2009a). CTRL: A research framework for providing adaptive collaborative learning support. *User Modeling and User-Adapted Interaction: The Journal of Personalization Research (UMUAI)*, 19(5), 387-431.

Walker, E., Rummel, N., & Koedinger, K. (2009b). Integrating collaboration and intelligent tutoring data in evaluation of a reciprocal peer tutoring environment. *Research and Practice in Technology Enhanced Learning*, 4(3), 221-251.

2010

Braun, I. & Rummel, N. (2010). Facilitating learning from computer-supported inquiry: The challenge of directing learners' interactions to useful ends. *Research and Practice in Technology Enhanced Learning*, 5(3), 205-244.

Diziol, D., Walker, E., Rummel, N., & Koedinger, K. (2010). Using intelligent tutor technology to implement adaptive support for student collaboration. *Educational Psychology Review*, 22(1), 89-102.

Rummel, N., & Krämer, N. (2010). Computer-supported instructional communication. A multidisciplinary account of relevant factors. Introduction to the special issue. *Educational Psychology Review*, 22(1), 1-7.

Tsovaltzi, D., Rummel, N., McLaren, B., Pinkwart, N., Scheuer, O., Harrer, A., & Braun, I. (2010). Extending a virtual chemistry laboratory with a collaboration script to promote conceptual learning. *International Journal of Technology Enhanced Learning*, 2(1-2), 91-110.

Van Gog, T., & Rummel, N. (2010) Example-based learning: Integrating cognitive and social-cognitive research perspectives. *Educational Psychology Review*, 22(2), 155-174.

2011

Mullins, D., Rummel, N. & Spada, H. (2011). Are two heads always better than one? Differential effects of collaboration on students' computer-supported learning in mathematics. *International Journal of Computer Supported Collaborative Learning*, 6(3), 421-443. doi: 10.1007/s11412-011-9122-z

Walker, E., Rummel, N. & Koedinger, K. (2011). Designing automated adaptive support to improve student helping behaviors in a peer tutoring activity. *International Journal of Computer Supported Collaborative Learning*, 6(2), 279-306. doi: 10.1007/s11412-011-9111-2

2012

Kapur, M., & Rummel, N. (2012). Productive failure in learning from generation and invention activities [Editorial]. *Instructional Science*, 40(4), 645–650. <https://doi.org/10.1007/s11251-012-9235-4>

Rummel, N., Mullins, D. & Spada, H. (2012). Scripted collaborative learning with the Cognitive Tutor Algebra. *International Journal of Computer Supported Collaborative Learning*, 7(2), 307-339. doi:10.1007/s11412-012-9146-z

Westermann, K., & Rummel, N. (2012). Delaying instruction – Evidence from a study in a university relearning setting. *Instructional Science*, 40(4), 673-689. doi: 10.1007/s11251-012-9207-8

Wiedmann, M., Leach, R. C., Rummel, N., & Wiley, J. (2012). Does group composition affect learning by invention? *Instructional Science*, 40 (4) 711-730. doi: 10.1007/s11251-012-9204-y

2013

Deiglmayr, A., Paus, L., McCade, C., Mullins, D., Berthold, K., Wittwer, J., Krämer, N. & Rummel, N. (2013). Towards an integration of the learning perspective and the communication perspective in computer-supported instructional communication. *Journal of Media Psychology*, 25 (4), 180-189. doi: 10.1027/1864-1105/a000101

Plesch, Ch., Kaendler, C., Rummel, N., Wiedmann, M. & Spada, H. (2013). Identifying areas of tension in the field of technology-enhanced learning: Results of an international delphi study. *Computers & Education*, 65, 92-105. <http://dx.doi.org/10.1016/j.compedu.2013.01.018>

Rau, M. A., Aleven, V., & Rummel, N. (2013). Interleaved practice in multi-dimensional learning tasks: which dimension should we interleave? *Learning and Instruction*, 23, 98-114. doi: dx.doi.org/10.1016/j.learninstruc.2012.07.003

Wichmann, A. & Rummel, N. (2013). Improving revision in wiki-based writing: Coordination pays off. *Computers & Education*, 62, 262-270. doi: [10.1016/j.compedu.2012.10.017](http://dx.doi.org/10.1016/j.compedu.2012.10.017)

2014

Loibl, K. & Rummel, N. (2014a). Knowing what you don't know makes failure productive. *Learning and Instruction*, 34, 74-85. <https://doi.org/10.1016/j.learninstruc.2014.08.004>

Loibl, K. & Rummel, N. (2014b). The impact of guidance during problem-solving prior to instruction on students' inventions and learning outcomes. *Instructional Science*, 42(3), 305-236. doi: [10.1007/s11251-013-9282-5](http://dx.doi.org/10.1007/s11251-013-9282-5)

Rau, M. A., Aleven, V., Rummel, N. & Pardos, Z. (2014). How should intelligent tutoring systems sequence multiple graphical representations of fractions? A multi-methods study. *International Journal of Artificial Intelligence in Education*, 24(2), 125-161. doi: [10.1007/s40593-013-0011-7](http://dx.doi.org/10.1007/s40593-013-0011-7)

Walker, E., Rummel, N. & Koedinger, K. (2014). Adaptive intelligent support to improve peer tutoring in Algebra. *International Journal of Artificial Intelligence in Education*, 24(1), 33-61. doi: [10.1007/s40593-013-0001-9](http://dx.doi.org/10.1007/s40593-013-0001-9)

2015

Kaendler, C., Wiedmann, M., Rummel, N., & Spada, H. (2015). Teacher competencies for the implementation of collaborative learning in the classroom: A framework and research review. *Educational Psychology Review*, 27(3), 505-536. doi: [10.1007/s10648-014-9288-9](http://dx.doi.org/10.1007/s10648-014-9288-9)

Loibl, K. & Rummel, N. (2015). Productive failure as a strategy against the double curse of incompetence. *Learning: Research and Practice*, 1(2), 113-121. doi: [10.1080/23735082.2015.1071231](http://dx.doi.org/10.1080/23735082.2015.1071231)

Rau, M. A., Aleven, V., Rummel, N. (2015). Successful learning with multiple graphical representations and self-explanation prompts. *Journal of Educational Psychology*, 107(1), 30-46. doi: <http://dx.doi.org/10.1037/a0037211>

2016

Kaendler, C., Wiedmann, M., Leuders, T., Rummel, N., & Spada, H. (2016). Monitoring student interaction during collaborative learning: Design and evaluation of a training program for pre-service teachers. *Psychology: Learning & Teaching*, 5(1) 44–64. doi: [10.1177/1475725716638010](http://dx.doi.org/10.1177/1475725716638010)

Rummel, N., Walker, E. & Aleven, V. (2016). Different futures of adaptive collaborative learning support. *Journal of Artificial Intelligence in Education*, 26(2), 784-795. doi: 10.1007/s40593-016-0102-3

2017

Grawemeyer, B, Mavrikis, M, Holmes, W, Gutiérrez-Santos, S, Wiedmann, M, Rummel, N (2017) Affective learning: improving engagement and enhancing learning with affect-aware feedback. *User Modeling and User-Adapted Interaction*, 27(1), 119–158. doi: 10.1007/s11257-017-9188-z

Olsen, J.K., Aleven, V., & Rummel, N. (2017). Statistically modeling individual students' learning over successive collaborative practice opportunities. *Journal of Educational Measurement*, 54 (1), 123–138. doi: 10.1111/jedm.12137

Loibl, K., Roll, I. & Rummel, N. (2017). Towards a theory of when and how problem solving followed by instruction supports learning. *Educational Psychology Review*, 29(4), 693-715. doi: 10.1007/s10648-016-9379-x

Rau, M. A., Aleven, V., & Rummel, N. (2017a). Making connections between multiple graphical representations of fractions: Conceptual understanding facilitates perceptual fluency, but not vice versa. *Instructional Science*, 45(3), 331-357. doi: 10.1007/s11251-017-9403-7

Rau, M. A., Aleven, V., & Rummel, N. (2017b). Supporting students in making sense of connections and in becoming perceptually fluent in making connections among multiple graphical representations. *Journal of Educational Psychology*, 109(3), 355-373. doi: 10.1037/edu0000145

Van Leeuwen, A., Van Wermeskerken, M., Erkens, G., & Rummel, N. (2017). Measuring teacher sense making strategies of learning analytics: a case study. *Learning: Research and Practice*, 3(1), 42-58. doi:10.1080/23735082.2017.1284252

2018

Nachtigall, V., Rummel, N., & Serova, K. (2018): Authentisch ist nicht gleich authentisch – Wie Schülerinnen und Schüler die Authentizität von Lernaktivitäten im Schülerlabor einschätzen. *Unterrichtswissenschaft* 46(3), 299-319. DOI: 10.1007/s42010-018-0020-1

Rummel, N. (2018). One framework to rule them all? Carrying forward the conversation started by Wise and Schwarz. *International Journal of Computer-Supported Collaborative Learning*, 13(1), 123-129. doi: 10.1007/s11412-018-9273-2

Sommer, K., Wirth, J. & Rummel, N. (2018). Authentizität der Wissenschaftsvermittlung im Schülerlabor – Einführung in den Thementeil. *Unterrichtswissenschaft*, 46, 253–260.

Wichmann, A., Funk, A., Rummel, N. (2018). Leveraging the potential of peer feedback in an academic writing activity through sense-making support. *European Journal of Psychology of Education*, 33(1), 165-184. doi: 10.1007/s10212-017-0348-7

2019

Mazziotti, C., Rummel, N., Deiglmayr, A. & Loibl, K. (2019). Probing boundary conditions of Productive Failure and analyzing the role of young students' collaboration. *npj Science of Learning*, 4(2), 1-9. doi: 10.1038/s41539-019-0041-5

Olsen, J.K., Rummel, N. & Aleven, V. (2019). It is not either or: An initial investigation into combining collaborative and individual learning using an ITS. *International Journal of Computer-Supported Collaborative Learning*, 14, 353–381. doi:10.1007/s11412-019-09307-0

Wiedmann, M., Kaendler, C., Leuders, T. , Spada, H., Rummel, N. (2029). Measuring teachers' competence to monitor student interaction in collaborative learning settings. *Unterrichtswissenschaft*, 47, 177–199. doi: 10.1007/s42010-019-00047-6

Van Leeuwen, A., & Rummel, N. (2019). Kooperative Unterrichtsettings: Technologische Tools zur Unterstützung von Lehrkräften. *Unterrichtswissenschaft*, 47(2), 137–141. doi:10.1007/s42010-019-00051-w

Van Leeuwen, A., & Rummel, N. (2019). Orchestration tools to support the teacher during student collaboration: a review. *Unterrichtswissenschaft*, 47(2), 143-158. doi:10.1007/s42010-019-00052-9

Van Leeuwen, A., Rummel, N., & Van Gog, T. (2019). What information should CSCL teacher dashboards provide to help teachers interpret CSCL situations? *International Journal of Computer-Supported Collaborative Learning*, 14, 261–289. doi:10.1007/s11412-019-09299-x

2020

Hartmann, C., Van Gog, T., & Rummel, N. (2020). Do examples of failure effectively prepare students for learning from subsequent instruction? *Applied Cognitive Psychology*, 34(4), 879-889. <https://doi.org/10.1002/acp.3651>

Loibl, K., Tillema, M., Rummel, N. & van Gog, T. (2020). The effect of contrasting cases during problem solving prior to and after instruction. *Instructional Science*, 48, 115-136. doi: 10.1007/s11251-020-09504-7

Nachtigall, V., Serova, K., & Rummel, N. (2020). When failure fails to be productive: probing the effectiveness of productive failure for learning beyond STEM domains. *Instructional Science*, 48(6), 651-697. <https://doi.org/10.1007/s11251-020-09525-2>

Olsen, J.K., Sharma, K., Rummel, N., & Aleven, V. (2020). Temporal analysis of multimodal data to predict collaborative learning outcomes. *British Journal of Educational Technology*, 51(5), 1527-1547. <http://dx.doi.org/10.1111/bjet.12982>

Sharma, K., Olsen, J. K., Aleven, V., & Rummel, N. (2020). Measuring causality between collaborative and individual gaze metrics for collaborative problem solving with intelligent

tutoring systems. *Journal of Computer Assisted Learning*, 37, 51– 68.
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Strauß, S. and Rummel, N. (2020). Promoting interaction in online distance education: Designing, implementing and supporting collaborative learning. *Information and Learning Sciences*, 121 (5/6), pp. 251-260. <https://doi.org/10.1108/ILS-04-2020-0090>

2021

Hagenkötter, R., Nachtigall, V., Rolka, K., & Rummel, N. (2021). „Meistens sind Forscher älter, meist tragen die eine Brille“ – Schülervorstellungen über Wissenschaftler*innen. *Unterrichtswissenschaft*, 49, 603–626. <https://doi.org/10.1007/s42010-021-00110-1>

Hartmann, C., van Gog, T., & Rummel, N. (2021). Preparatory effects of problem solving versus studying examples prior to instruction. *Instructional Science*, 49, 1-21.
<https://doi.org/10.1007/s11251-020-09528-z>

Olsen, J.K., Rummel, N., & Aleven, V. (2021). Designing for the co-orchestration of social transitions between individual, small-group and whole-class learning in the classroom. *International Journal of Artificial Intelligence in Education*, 31, 24-56.

Nachtigall, V. & Rummel, N. (2021). Investigating students' perceived authenticity of learning activities in an out-of-school lab for social sciences: a replication study. *Instructional Science*, 49, 779-810. <https://doi.org/10.1007/s11251-021-09556-3>

Strauß, S., Rummel, N. (2021). Promoting regulation of equal participation in online collaboration by combining a group awareness tool and adaptive prompts. But does it even matter? *International Journal of Computer-Supported Collaborative Learning*, 16, 67–104.
<https://doi.org/10.1007/s11412-021-09340-y>

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Nachtigall, V., Shaffer, D.W., & Rummel, N. (2022). Stirring a Secret Sauce: A Literature Review on the Conditions and Effects of Authentic Learning. *Educational Psychology Review*. 34, 1479–1516. <https://doi.org/10.1007/s10648-022-09676-3>

Nachtigall V.*, Yek, S.*, Lewers, E., Bunnenberg, C., & Rummel, N. (2022). Fostering cognitive strategies for learning with 360° videos in history education contexts. *Unterrichtswissenschaft*. 50, 615 – 638. <https://doi.org/10.1007/s42010-022-00154-x> (*shared first-authorship)

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2023

Brand, C., Hartmann, C., Loibl, K. & Rummel, N. (2023). Do students learn more from failing alone or in groups? Insights into the effects of collaborative versus individual problem solving in productive failure. *Instructional Science*. <https://doi.org/10.1007/s11251-023-09619-7>

Chan, R., Dardashti, R., Osinski, M., Rottmann, M., Brüggemann, D., Rücker, C., Schlicht, P., Hüger, F., Rummel, N. & Gottschalk, H. (2023). What should AI see? Using the public's opinion to determine the perception of an AI. *AI Ethics*, 3, 1381–1405. <https://doi.org/10.1007/s43681-022-00248-3>

Echeverria, V., Yang, K., Lawrence, L., Rummel, N. & Aleven, V. (2023). Designing hybrid human-AI orchestration tools for individual and collaborative activities: A Technology probe study. *IEEE Transactions on Learning Technologies*, 16(2), 191–205. <https://doi.org/10.1109/tlt.2023.3248155>

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<https://dl.acm.org/doi/abs/10.1145/3577198>

2024

Eberle, J., Strauß, S., Nachtigall, V., & Rummel, N. (2024). Analyse prozessbezogener Verhaltensdaten mittels Learning Analytics: Aktuelle und zukünftige Bedeutung für die Unterrichtswissenschaft. *Unterrichtswissenschaft*, 52(2), 213–225.
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<https://doi.org/10.1007/s10212-024-00843-4>

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<https://doi.org/10.18608/jla.2024.8399>

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<https://doi.org/10.1007/s11251-024-09665-9>

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Nachtigall, V., Yek, S., & Rummel, N. (2024). Improving students' processing of history-related 360° videos through collaboration and emotion regulation. *Journal of Computer Assisted Learning*, 3338-3359. <https://doi.org/10.1111/jcal.13076>

Strauß, S., Tunnigkeit, I., Eberle, J., Avdullahu, A., & Rummel, N. (2024). Comparing the effects of a collaboration script and collaborative reflection on promoting knowledge about

good collaboration and effective interaction. *International Journal of Computer-Supported Collaborative Learning*. <https://doi.org/10.1007/s11412-024-09430-7>

Teich, K., Looock, V. & Rummel, N. (2024). Meeting the challenges of continuing education online courses: Can we promote self-regulated learning strategies with adaptive support? *British Journal of Educational Technology*. 55(4), 1437-1455. <https://doi.org/10.18608/jla.2024.8399>

2025

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Brand, C., Hartmann, C., Loibl, K. & Rummel, N. (2025). Investigating learner characteristics and processes in productive failure and vicarious failure to design adaptive guidance. *Learning and Instruction*, 95. <https://doi.org/10.1016/j.learninstruc.2024.102052>

Brand, C., Loibl, K., & Rummel, N. (2025). Prior knowledge activation as preparation prior to instruction: Does the coverage of relevant prior knowledge affect learning? *Instructional Science*. Advance online publication. <https://doi.org/10.1007/s11251-025-09727-6>

Domenichini, D., Strauß, S., Gombert, S., Rummel, N., Drachsler, H., Neumann, K., Chiarello, F., Fantoni, G., & Kubsch, M. (2025). Leveraging AI and network analysis to uncover learning trajectories of energy to Foster knowledge-in-use in science education. *Disciplinary and Interdisciplinary Science Education Research*, 7(1), Article 28. <https://doi.org/10.1186/s43031-025-00150-y>

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Nachtigall, V., & Rummel, N. (2025). Comparing learners' conceptions of natural and educational scientists: relations to study interest and self-image. *International Journal of Science Education*, 1-31. <https://doi.org/10.1080/09500693.2025.2589305>

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Schermeier, S., Deiglmayr, A., & Rummel, N. (2025). Small group collaboration in hybrid university learning: Comparing learners' perceived socio-affective state in hybrid, face-to-face and remote collaboration. *Computers in human behavior reports*, 8, Article 100656. <https://doi.org/10.1016/j.chbr.2025.100656>

Strauß, S., Tunnigkeit, I., Eberle, J., Avdullahu, A., Block, M. König, M., & Rummel, N. (2025). Promoting collaborative reflection to foster interprofessional collaboration skills: Putting laboratory findings to the test in the field. *International Journal of Educational Technology in Higher Education*, 22, Article 54. <https://doi.org/10.1186/s41239-025-00553-x>

2026 and in press

Avdullahu, A., Strauß, S., Herrmann, T., & Rummel, N. (2026). Promoting online participation in hybrid learning settings: Exploring combinations of a collaboration script and collaborative reflection. *Learning and Instruction*, 102, Article 102275. <https://doi.org/10.1016/j.learninstruc.2025.102275>

Schermeier, S., Deiglmayr, A., & Rummel, N. (2026). Small group collaboration in hybrid university learning: Contrasting collaboration quality in hybrid, F2F and remote settings. *Learning and Instruction*, 102, Article 102276. <https://doi.org/10.1016/j.learninstruc.2025.102276>

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Further Journal Articles

Becker, S., Wiesen, C., Paar, C., & Rummel, N. (2019). Wie arbeiten Reverse Engineers?. *Datenschutz und Datensicherheit-DuD*, 43(11), 686-690. <https://doi.org/10.1007/s11623-019-1190-7>

Rummel, N., Diziol, D. & Westermann, K. (2010). Kooperative Lernformen im Mathematikunterricht. *Praxis der Mathematik*, 35(5), 25-29.

Strauß, S. & Rummel, N. (2019). Online-gestützte Hochschullehre. Gestaltung von Maßnahmen für virtuelle Kleingruppenarbeit. *Weiterbildung*, 6, 36-39.

Westermann, K. & Rummel, N. (2010). Kooperatives Lernen in der Hochschulmathematik: Eine experimentelle Studie. *Mitteilungen der Deutschen Mathematikervereinigung*, 18(4) 240-243. <https://doi.org/10.1515/dmvm-2010-0098>

Books/ Edited Volumes

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*Best Paper Award

Further Conference Contributions

In addition to contributing to conferences with strict peer review and published proceedings, I actively and regularly present my work at relevant national and international conferences, such as: Tagung der Gesellschaft für Empirische Bildungsforschung (GEBF), Kongress der Deutschen Gesellschaft für Psychologie (DGPs); Fachgruppentagungen Pädagogische Psychologie und Medienpsychologie der DGPs; European Conference for Research on Learning and Instruction (EARLI); Conference of the American Educational Research Association (AERA). These conferences only publish the title of the accepted presentations or an abstract in their conference programme, but do not have proceedings.

Invited Talks and Keynotes

- 04/2026 Invited talk at CIDER Spring Workshop 2026 at ZEW, Mannheim.
- 03/2026 Invited talk at OECD Digital Education Conference. (Online)
- 10/2025 Invited talk at Monash University, Malbourne, Australia.
- 09/2025 Invited keynote at AEPF, University Duisburg, Essen.
- 06/2025 Invited talk at The future of feedback symposium at Marbach Castle, IPN Leibniz-Institut für die Pädagogik der Naturwissenschaften und Mathematik, Jacobs Foundation, Marbach, Germany.

- 05/2025 Invited talk at Smart Data & Digital Technology in Education project meeting, hosted by the OECD Centre for Educational Research & Innovation (CERI), Paris, France.
- 05/2025 Invited talk at CAIS Colloquium, Bochum, Germany.
- 05/2025 Invited talk at MNU-Bundeskongress 2025, Bochum, Germany.
- 04/2025 Invited talk at Lecture organised by the HEDWORK research group and the project TeamLearn - University of Oslo, Oslo, Norway.
- 09/2024 Invited talk at Fachtagung KI Bildung und Künstliche Intelligenz 2024, Zentrum für Schulqualität und Lehrerbildung Baden-Württemberg, Germany.
- 09/2024 Invited keynote at EARLI SIG 16 Conference on Metacognition and Self-Regulated Learning, Heidelberg, Germany.
- 05/2024 Invited talk at the Center of Interdisciplinary Research on Digital Education, Pädagogische Hochschule, Freiburg, Germany.
- 05/2024 Invited talk at the Akademie für Wissenschaft, Wirtschaft und Technik an der Universität Ulm, Ulm, Germany.
- 06/2023 Invited plenary keynote at ISLS 2023 Annual Meeting, Toronto, Canada.
- 05/2023 Invited speaker at 2023 Jacobs Foundation Conference, Cascais, Portugal.
- 05/2023 Invited talk at the Center of Advanced Technology for Assisted Learning and Predictive Analytics, FernUniversität Hagen, Germany.
- 05/2023 Invited talk at the "Fachtagung digital gestütztes Lehren und Lernen im Fachunterricht – Wissenschaft und Praxis im Dialog", University of Education, Freiburg, Germany.
- 05/2022 Invited keynote at GenZ Talks seminar, University of Oulu, Finland.
- 10/2021 Invited talk at the Latsis Symposium 2021 STEM: Boosting hidden potentials, Eidgenössische Technische Hochschule (ETH) Zürich, Schweiz.
- 01/2021 Invited keynote at the PULSE (Partnerships to Upscale the Learning Sciences in Europe) Symposium, University of Twente, NL – held as online event.
- 08/2019 Invited keynote at the 18th Biennial Conference of the European Association for Research on Learning and Instruction (EARLI), Aachen, Germany.
- 11/2018 Invited plenary keynote at the Teaching for Active Learning (TAL) 2018 Conference, University of Southern Denmark (Odense).
- 03/2018 Invited talk at the BrainCafé of the DFG Collaborative Research Centre 874 (Integration and Representation of Sensory Processes).
- 11/2017 Invited talk at the UCL Knowledge Lab of the University College London, UK.
- 04/2017 Invited plenary keynote at the 9th International Conference on Computer Supported Education (CSEDU 2017), Oporto, Portugal.
- 11/2016 Invited plenary keynote at the International Conference of Computers in Education, Indian Institute of Technology (IIT) Bombay, Mumbai, India.
- 09/2016 Invited talk at the Workshop Learning Analytics at the DeLFI Conference (Annual Conference of the SIG E-Learning of the German Informatics Society).
- 04/2014 Invited talk at the Learning Sciences Lab at the National Institute of Education at Nanyang Technological University, Singapore.

- 02/2010 Invited talk at the National Institute of Education at Nanyang Technological University, Singapore.
- 11/2009 Invited plenary keynote at the “Alpine Rendezvous” Conference of the EU Network of Excellence (NoE) STELLAR, Garmisch-Patenkirchen, Germany.
- 03/2004 Invited talk Pennsylvania State University, USA.
- 03/2004 Invited talk Human Computer Interaction Institute, Carnegie Mellon University, Pittsburgh, USA.

Science Transfer Output (Podcasts, Blog contributions, Talks at transfer events, Policy Engagement)

Strauß, S., & Rummel, N. (2026). Fostering collaborative learning and promoting collaboration skills: What generative AI could contribute. In OECD (Ed.), *OECD Digital Education Outlook 2026* (pp. 91–116). OECD Publishing.

Vincent-Lancrin, St. (Moderator), Baker, R., Gasevic, D., Molenaar, I., & Rummel, N. (2026, March 24). *GenAI and assessment* [Panel]. OECD Digital Education Conference: GenAI in education. <https://youtu.be/2d8gUMoWHTU?list=PLqjNc44fuj5bOIU1EN-KNAIjvsm5zU-kghttps://www.oecd-events.org/e/effective-uses-of-generative-ai-in-education/session/6ef85915-1d17-f111-8332-6045bd954af1/watch-the-replay-genai-and-assessment>

Vincent-Lancrin, St. (Moderator), Beghetto, R., Demszky, D., Rummel, N., & Strauß, S. (2026, March 24). *GenAI and learning: Applying learning science with AI* [Panel]. OECD Digital Education Conference: GenAI in education. <https://www.oecd-events.org/e/effective-uses-of-generative-ai-in-education/session/e6998c34-1d17-f111-8332-6045bd954af1/watch-the-replay-genai-and-learning-applying-learning-science-with-ai>

Rummel, N. (2026, April). Mit Ministerin Ina Brandes in den USA. Prof. Nikol Rummel im Interview über Künstliche Intelligenz in der Bildung [Interview]. Center for Advanced Internet Studies (CAIS). <https://www.cais-research.de/news/prof-nikol-rummel-im-interview-ueber-kuenstliche-intelligenz-in-der-bildung/>

Rummel, N. (2026, February 02). Stellungnahme zum Thema “Von der Kreide zur KI - ein Aktionsplan für alle nordrhein-westfälischen Schulen (Antrag der Fraktion der FDP, Drucksache 18/16207)“. Landtag NRW, Düsseldorf <https://www.landtag.nrw.de/portal/WWW/dokumentenarchiv/Dokument/MMST18-3420.pdf>

Rummel, N. (2025, September 11). Stellungnahme zum Thema KI im Klassenzimmer zur Anhörung der Enquetekommission IV des Landtags NRW „Künstliche Intelligenz – Für einen smarten Start in der digitalen Gesellschaft“. <https://lnkd.in/ebgMXvqF>

Rummel, N. (2025, February). SAB member professor Nikol Rummel: “We need to think how to ensure that AI serves humans in a way that empowers us and increases our freedom” [Interview]. University of Oulu. <https://www.oulu.fi/en/news/sab-member-professor-nikol-rummel-we-need-think-how-ensure-ai-serves-humans-way-empowers-us-and>

Rummel, N., Falhs, A.-C., Wichmann, A., & Aleven, V. (2024). Schule in der Kultur der Digitalität – digitale Bildungstechnologie und Künstliche Intelligenz im Unterrichtsprozess und im Rahmen individueller Förderung. Forschungsgutachten zur Vorlage bei der Enquetekommission I „Chancengleichheit in der Bildung“ des Landtags Nordrhein-Westfalen.

Rummel, N. (2024, November 20). Künstliche Intelligenz in der Bildung: Möglichkeiten, Chancen und eine kritische Diskussion [Talk]. BI.teach – Tag für die Lehre 2024).

Rummel, N. (2024, September 4.). Invited Speaker at Panel "AI for Future Generations?", AI24 The Lamarr Conference (Dortmund).

Rummel, N. (2024, September 2). Invited talk "Dynamische Wechsel zwischen individuellem und kooperativen Lernen im Klassenzimmer ermöglichen: Ergebnisse aus einem drei (fünf) jährigen NSF-Projekt zur Ko-Orchestrierung durch KI und Lehrkraft", Fachtagung KI Bildung und Künstliche Intelligenz 2024 (2. September), Zentrum für Schulqualität und Lehrerbildung Baden-Württemberg (Esslingen).

Löffler, M. (Host) (2024, August 01). #2 KI im Klassenzimmer: Wie Technologie Lehrkräfte bei dynamischen Übergängen im Unterricht unterstützen kann (No. 2) [Audio podcast episode]. In CIRDE - Forschung zu digitaler Bildung - Guest: Prof. Dr. Nikol Rummel.

Stein, M. (Host) (2024, July 11), Folge 1, Staffel 5 „Bildungstechnologien und künstliche Intelligenz“ : Ein Gespräch mit Frau Prof. Dr. Rummel und Herrn Prof. Dr. Wiskott über klassische künstliche Systeme und künstliche neuronale Netze [Audio podcast episode]. In Podcast Zukunftsforum Weiterbildung, QUA-LIS NRW.

Rummel, N. (2024, February 6). Invited Speaker at OECD Online Webinar "Decoding the hype: Can AI help create accessible and inclusive student learning?".

Rummel, N. (2023, März). Supporting the regulation of groups in online settings: Typical challenges during collaboration when leveraging group awareness Information. Zukunftsforum Weiterbildung” - Panel “Bildungstechnologien & Künstliche Intelligenz, QUA-LiS NRW, held as online event.

Begenat, M. (Host) (2023, June 30) Folge 14: Was macht die KI im Klassenzimmer? Von der Forschung über Bildungstechnologien. In CAISzeit – Der Podcast – Zu Gast: Prof. Dr. Nikol Rummel und Dr. Sebastian Strauß.

Falhs, A.-C., Wichmann, A. & Rummel, N. (2023, September 27). LAMARR Institute for Machine Learning and Artificial Intelligence. Blog-Beitrag: Lernpfade (digital) begleiten: Intelligente Tutorielle Systeme.

Rummel, N. (2023, November 29). Panel: Maschinelles trifft menschliches Lernen – auf dem Weg zu einer „Intelligenten Bildung, Vortrag bei der KMK-Fachtagung “KI in Bildungsprozessen.”.

Research Group Educational Technologies and Artificial Intelligence (2022, August 31).
LAMARR Institute for Machine Learning and Artificial Intelligence. Blog-Beitrag: Wie wird KI
Schulen und Bildungseinrichtungen verändern?[Audio podcast episode].

Appearances in media outlets, including DPA, WAZ & ARD