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Research in Subject-matter Teaching and Learning

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Editorial

Volker Frederking & Martin Rothgangel

We are pleased to present the eighth edition of RISTAL. It contains both individual articles and a special issue.

Individual Articles

The individual articles address various aspects of empirical research in subject-specific didactics. Based on a principal component analysis of eleven variables related to lesson design and task preference, *Marco Rehm* and *Ekkehard A. Köhler* (Centre for Economic Education, University of Siegen) have developed a subject-specific typology of social studies teachers. *Annika Lilja*, *Anna-Maria Hipkiss*, *Miranda Rocksén*, *Christina Osbeck*, *Anne Solli*, *Jessica Rahm*, and *Maria Svensson* (Department of Pedagogical, Curricular and Professional Studies, University of Gothenburg, Sweden) examine situation-specific subject teaching to contribute to a better understanding of the details of teachers' subject-specific didactic competence. The article by *Ann-Sophie Winklmaier* and *Jan Christoph Schubert* (Department of Subject-Specific Education Research, Friedrich-Alexander-University of Erlangen-Nürnberg) focuses on how general and subject-specific constructs (in this case, geography-specific) shape prospective geography teachers' self-efficacy beliefs regarding inclusive geography teaching.

Special Issue

In the 'Special Issue' section, *Stefan Keller* (University of Teacher Education Zürich) and *Volker Frederking* (Department of Subject-specific Education Research of Friedrich-Alexander-Universität Erlangen-Nürnberg) present five articles under the title "Reading, Writing and Interpreting Texts in Digital Environments". These contributions bring together key areas in first, foreign, and second language teaching.

In their article "Judging Students' Texts in a Digital Research Tool", *Frederike Strahl*, *Jörg Kilian*, and *Jens Möller* (Leibniz Institute for Science and Mathematics Education at Kiel University) examine how teachers evaluate their students' texts when assessments occur in a digital environment. In "Accelerating Secondary Students' Learning Progression in Scientific Argumentation using Artificial Intelligence", *Thorben Jansen*, *Hannah Pünjer*, *Nils-Jonathan Schaller*, *Luca Bahr*, and *Lars Höft* (Leibniz Institute for Science and Mathematics Education at Kiel University) show how AI functionalities can be systematically aligned with evidence-based pedagogy to promote learning progress in argumentation writing. *Stefan D. Keller*, *Ruth Trüb*, *Andrea Horbach*, *Johanna Fleckenstein*, and *Thorben Jansen* (University of Teacher Education Zürich) present in their article "Mastering the genre of English emails" a linguistic analysis of semi-formal inquiry emails as a key genre of writing in English as a foreign language in an online learning environment. In their article "Virtual Reality in Language Learning and Teaching" *Claudia Finkbeiner*, *Wiebke Sophie Ost*, and *Claudia Schlaak* discuss the results of

an exploratory study on four VR applications from a student perspective. In his article “Reliability of AI in the Domain of Literary Literacy and Literary Text Interpretation” *Volker Frederking* (Department of Subject-specific Education Research, Friedrich-Alexander-University Erlangen-Nürnberg) presents the results of an experimental study, that examined the reliability of generative AI in the field of literary learning in L1 education using the examples of ChatGPT 5 and Claude Sonnet 4.5.

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Volker Frederking and Martin Rothgangel