

Call for Papers Learning and Instruction Special Issue on Lasting Learning

Retrieval Practice in Meaningful Learning: When and Why Does it Work?

Special Issue Proposal for *Learning and Instruction*

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**Learning and
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Ignited by the landmark study on retrieval practice by Roediger and Karpicke (2006), in which college students read brief text passages and then engaged either in re-reading or free recall (i.e., retrieval practice) and which found that retrieval was substantially more effective on a one-week delayed posttest, retrieval practice research has experienced a substantial boost in the field of learning and instruction in recent years. For instance, this boost is reflected in exponential growth of the number of scientific papers on retrieval practice since 2006 (see Karpicke, 2017) and in a wealth of meta-analyses and review articles that summarize and classify the available empirical evidence of retrieval practice as one of the most effective learning activities to enhance long-term retention of factual material (e.g., Agarwal et al., 2021; Kubik et al., 2021; Yang et al., 2021).

Surprisingly, however, to date this wave of retrieval practice research in the field of learning and instruction has scarcely covered the question of when and why retrieval practice can be beneficial in *meaningful learning* (Wittrock, 2010). In meaningful learning, as compared to fact or rote learning, comprehension and application of complex knowledge is the critical *learning outcome*, and learners are often engaged in *learning activities*, additional to or beyond retrieval practice, in authentic learning contexts. These embedded, generative learning activities, such as self-explanation or drawing, are targeted to facilitate *sense-making* and forming *coherent, enriched mental representations* of the to-be-learned content that are or are about to become well integrated with learners' prior knowledge. For instance, although the complexity of the learning content has been debated as a potential boundary condition in a special issue 10 years ago (see van Gog & Sweller, 2015), there have still been very few studies that systematically investigated complexity of materials or learning objectives as a potential moderator or even boundary condition of retrieval practice effects in the meantime (e.g., Rummer & Schweppe, 2022; see also Karpicke & Aue, 2015). The goal of this special issue is to serve as a vital resource on the topic of retrieval practice effects in meaningful learning. We aim to *lay the groundworks for a comprehensive theoretical account* that could inform on when and why retrieval practice is beneficial in meaningful learning that is targeted at learning complex content and that involves learner engagement in different (generative) learning activities. To achieve this goal, the empirical studies of this special issue explicitly test theoretical assumptions about the conditions, processes, and moderators that make retrieval practice effective in meaningful learning and that analyze how the respective learning processes can be instructionally supported. For example, to predict and explain the desirability or effectiveness of retrieval practice, the studies need to specify the required processes involved in studying the material, performing the respective learning task, and the criterial task. To this

end, we welcome studies that advance our theoretical understanding of retrieval-practice effects in meaningful learning by providing experimental evidence on the moderating role of crucial factors and/or boundary conditions pertaining to learning task, learner characteristics, learning context, the retrieval task, and potential interactions of these factors (cf. Jenkins, 1979). Note that we do not accept studies that merely address whether retrieval practice has beneficial effects in meaningful learning without attending to theoretical explanations and without experimental manipulation of the crucial factors (e.g., studies that aim at investigating whether retrieval practice is beneficial in learning complex content but do not manipulate the complexity of the content), studies that merely attend to fact learning (i.e., simple materials such as word lists), and studies that only use artificial learning material.

The special issue will begin with an Introduction by Veit Kubik, Tamara van Gog, Ralf Rummel, and Julian Roelle, who frame the topic of investigating retrieval practice effects in meaningful learning and establish its theoretical and practical importance. A preliminary, preselected set of empirical studies will populate this special issue. An additional open call for interested authors is launched (see below). All empirical contributions of the special issue will be discussed and situated by two commentaries, which will be provided by (1) Henry Roediger III (Washington University, St. Louis, USA) & Jeffrey Karpicke (Purdue University, USA) and (2) Tobias Richter (University of Würzburg, Germany).

Open Call – Submission information of Extended Abstracts for Proposed Articles

Interested authors are invited to submit an extended abstract of 1000–1500 words (excluding references, figures, and tables) to the open call. The abstract should explicitly motivate how and why the proposed study makes an important theoretical contribution to the theme of the special issue in addition to outlining the study's theoretical framework, aims, methodology, main findings, significance for educational research and practice. Authors are requested to explicitly state how their study addresses retrieval practice in meaningful learning and the moderating role of crucial factors and/or boundary conditions. Authors are also asked to provide a brief bio (max. 150 words per author).

Extended Abstracts can be submitted through: <https://forms.gle/geFBZfBre2V8faKz7>

Submitted abstracts will be reviewed and selected by the guest editors based on the following criteria:

- Alignment with the theme of the special issue
- Significant theoretical and empirical contribution
- Methodological rigor and quality of the study
- Diversity between contributions

Authors of selected abstracts will be invited to submit a full manuscript for consideration in the special issue. Full manuscripts will go through the regular peer review process of *Learning and Instruction*.

Timeline

- Call for extended abstracts of proposed articles: October 01, 2025 – October 31, 2025
- Invitations for full manuscripts: November 15, 2025
- Submission of full manuscripts: November 16, 2025 – March 31, 2026

References

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