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The psychology of starting with questions in psychology lectures - Pre-testing before video lectures supports learning

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Introduction: In addition to supporting critical thinking within a lecture unit, activating relevant concepts and motivation in students can already begin before the lecture starts. Automated pre-tests in form of quizzes can be administered flexibly and efficiently. This field study explores whether pre-testing can support learning from lecture videos in a BSc. psychology module.

Methods: Data of N=1175 psychology students studying towards an exam in an asynchronous online learning environment were analyzed. The course structure consisted of a chain of lecture videos and accompanying quizzes (statement that needed to be categorized as true vs. false). There was a quiz (12 items with feedback) after each video lecture and a quiz (individually randomly drawn 6 of the 12 items, without feedback) before 50% of the lecture units. There were pre-tests in the odd-numbered lecture units in the first, and before the even-numbered units in the second summer term. This counterbalancing scheme allowed to assess general effects of pre-testing (in addition to item-specific effects).

Results: The analyses showed that students performed better on those quiz items in the post-test that they had already seen (without feedback) in the quiz before the lecture unit. Importantly, there was also a general beneficial effect of pre-testing: Even the quiz items not shown in the pre-test profited from that the specific lecture unit came with a pre-test.

Discussion: The results suggest that pre-testing can have beneficial effects beyond the specific items pre-tested. Presumably, students profit in terms of motivation and in terms of orientation concerning how questions in the lecture unit can look like (i.e., level of elaboration).

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Please indicate up to five keywords regarding the content of your contribution

test-based learning, pre-testing, online-learning

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