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Effects of isolated versus combined learning enactments in an online course

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Abstract: In a controlled experiment on the effects of frequent and local digital annotations, 137 volunteers covered an online course under three possible conditions: no/free/question-based digital annotations. Results show no difference in performance between groups when annotation behaviour is considered in isolation. However, analyses conducted within treatments provide indications of a positive impact on performance when annotation rates are taken into consideration, and coupled with other enactments tracked in the course. Combined in engagement profiles (Learning DNAs), these enactments suggest that what makes active learning efficient might be an ongoing crisscrossing between a firstorder learning activity (the study of the course) and a series of second order activities, such as making notes. Students who manage to coordinate these activities at a higher rate perform better. This observation opens a line of reasoning about what determines the quality of a mental engagement in a learning task, in terms of balance and rotation of cognitive and metacognitive operations.

Keywords: annotations; reflection amplifiers; students set the test; widgets; split screen learning.