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Adaptive Learning Technology based on Working Memory Capacity

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Abstract

Learning processes are impacted by individuals' capabilities (e.g., working memory capacity). Nowadays, the technological improvements like those promised by deep learning methods open new opportunities to adapt learning environments. However, studies using the abilities of these models to individualize learning remain currently rare. The current research project aims to tackle one of the major constraints imposed by video learning related to the transitory aspect of delivered information. The purpose is to individualize the learning, based on learners working memory capacity (WMC). To this end, several elements need to be taken into account: (1) How to automatically and efficiently evaluate WMC without impacting learning; (2) Analyze in details the actual effect of WMC on video learning; (3) Get the most efficient and acceptable solutions to reduce the effects of WMC.