

"Come together": Bridging Education Research and Cognitive Neuroscience by Investigating Motor Metacognition in Music Learning

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We can often accurately monitor our own mental states: I can report what I am thinking about, predict whether I will remember a number, or determine whether I have understood a concept. This ability to monitor diverse cognitive functions is called metacognition. Different research fields have studied different aspects of metacognition. Cognitive neuroscientists, for example, aim to understand how the brain can monitor itself: They try to identify the neuronal and computational mechanisms of metacognition. Education researchers, on the other hand, have largely focussed on the effects of metacognition, and asked instead, for example, whether children with good metacognitive skills learn better. While these research fields have studied the same processes, they have remained largely separate, and have produced often conflicting findings. This "embubblement" prevents the disciplines from learning from each other. In this project, we will aim to answer a series of open questions, central to both disciplines, by combining the strengths and methods from both fields. This will set the foundation for a truly interdisciplinary approach to the understanding of metacognition, the brain's fascinating ability to "know itself". Understanding this ability, how to measure it, and how to improve it may have a profound impact on educational outcomes.

Projektbeteiligte

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