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Infusing Cognitive Science Content in Teacher Preparation

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Abstract: Surprisingly, foundational knowledge about cognitive science (CS) is not included in all teacher preparation programs or required for certification in all states. Here, I examine the impact of infusing CS content into teacher-candidates' coursework by providing half of the pedagogy instructors with professional development on big ideas in CS (memory/attention/transfer/problem solving/practice/expertise) and encouraging them to use the materials to deliver mini-lectures on these topics and discuss their relevance to instructional practice. Control instructors did not receive PD or CS materials. In both experimental and control classes, CS knowledge was measured at the beginning and end of the semester; we also collected lesson plans where teacher-candidates explained their reasoning for each instructional decision. We saw no CS knowledge improvement, but teacher-candidates exposed to CS reduced their use of folk reasons (e.g., buzz words such as learning styles, concrete thinking, active learning, etc.) when planning lessons compared with peers in control classes.