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### **Proceedings of the Annual Meeting of the Cognitive Science Society**

#### **Title**

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#### **Permalink**

<https://escholarship.org/uc/item/5690v3jk>

#### **Journal**

Proceedings of the Annual Meeting of the Cognitive Science Society, 43(43)

#### **ISSN**

1069-7977

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#### **Publication Date**

2021

Peer reviewed

# Concept mapping produces delayed benefits in online learning.

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## Abstract

The recent pandemic has emphasized the need for developing more effective pedagogical practices in online education. While activities that require more deep connection of concepts can enhance overall learning versus mere rote rehearsal, are conceptual activities also viable options for inclusion in online coursework, given the asynchronous and flexible nature of online learning? To answer this question, students in 2 online courses either completed concept-mapping exercises, or control exercises (i.e., definitions of concepts). Results indicate that while initially concept-mapping is no better than memorization, as experience with mapping increases, a growth in learning emerges later in the course. Students also rate the educational utility and enjoyability of conceptual activities similarly to control exercises, suggesting that students do not perceive these conceptual activities more negatively. As such, concept-mapping does have a utility for online learning, but there is a necessary a warm-up period before benefits are realized.