

Collective Working-Memory Effect

Theory

The collective working-memory effect was suggested based on cognitive load theory suggesting that group learning could be more effective than individual learning if the complexity of the material to be learned was high. Sharing the load of processing complex material among the group participants and their working-memories enables more effective processing and easier comprehension of the material to be learned. This assumption was experimentally confirmed, suggesting that

- *"... for high-complexity tasks, group members would learn in a more efficient way than individual learners, while for low-complexity tasks, individual learning would be more efficient."*¹⁾

Still,

- *"it is not clear to what extent the results can be generalized to real classroom settings. It can be assumed that the complex pattern of interactions between cognitive, motivational, and social factors that characterize a real life context would add 'noise' to the data and cause the effects to be less pronounced than in this study."*²⁾

Practice

Research results

¹⁾ , ²⁾

Kirschner, Femke, Fred Paas, and Paul A Kirschner. Task complexity as a driver for collaborative learning efficiency: The collective working-memory effect. *Applied Cognitive Psychology* 25, no. 4: 615-624, 2011.

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