COLLABORATIVE CONCEPT MAPPING – META-ANALYSIS AND EMPIRICAL STUDY

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Collaborative concept mapping (CCM) is a combination of two well-researched learning strategies: concept mapping and collaborative learning. Evidence suggests that the synergistic effects of both strategies are effective for supporting the acquisition and retention of knowledge. Despite an increase in research on collaborative concept mapping in the last decade, little is known about the instructional design or methodological characteristics that underlie the effectiveness of collaborative concept mapping. This presents a limitation as the lack of understanding of these characteristics may hinder researchers’ recommendations for learning environments that maximize the effects of collaborative concept mapping. To establish a more robust understanding of the conditions under which collaborative concept mapping is effective for learning, this dissertation comprises two studies. Study 1 is a comprehensive meta-analysis that summarizes the effect of learning with collaborative concept mapping in comparison to other collaborative, individual, or traditional activities. In addition, potential theory-driven factors that moderate the effects of collaborative concept mapping were examined. Results showed that collaborative concept mapping was beneficial for supporting learning and the effect was moderated by the structure of collaboration, group size, and publication source. Study 2 is an
empirical study that seeks to address the lack of robust comparisons between collaborative concept mapping and another similarly robust collaborative activity. In addition, study 2 seeks to foster more intentional discussions between group members through resource distribution. Specifically, study 2 uses a 2×2 factorial design to examine the effect of type of collaborative activity (concept mapping versus summary writing) and resource distribution (interdependence vs. independence) on the quality of undergraduate students’ collaboration and individual learning performance. In study 2, 428 participants were assigned to dyads, and the dyads were randomly assigned to one of four conditions in a between-subjects design. Results showed a significant main effect of resource distribution for immediate free recall. However, there were no other significant main effects or interaction effects for the other immediate and delayed learning measures. Theoretical, empirical, and practical implications of the findings are discussed in each study.

*Keywords: Concept Maps, Collaborative Learning, ICAP Framework, Collaborative Cognitive Load Theory.*