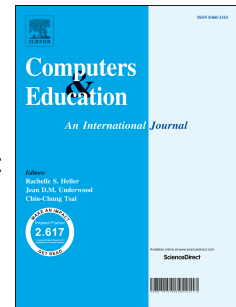


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Computer-based concept mapping combined with learning management system use: An explorative study under the self- and collaborative-mode

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Abstract

The effects of the combination of computer-based concept mapping with the Learning Management System (LMS) Moodle use for the construction the Concept Map (CM) in self- and collaborative-mode are explored here. This approach builds upon the hybrid interconnection of blended (b-) and collaborative (c-) learning perspectives to form an extended teaching/learning environment. The analysis axes are based on the structural characteristics of the constructed CMs, peers' interaction during the collaborative construction of CMs, and LMS Moodle use expressed via the user's Quality of Interaction (QoI). One hundred and twenty-eight participants were categorized in two groups, i.e., G1 and G2, of 64 students (32 pairs) each. Both groups constructed CMs in self- (1-3 weeks) and collaborative-mode (4-6 weeks), yet G2 only was instructed to additionally use LMS Moodle during the whole six-week period. The experimental results comply with the findings from previous studies regarding with the positive effect that shifting from self- to collaborative-mode has on the constructed CMs, but extends further the notion of the additional positive effect of the LMS Moodle use in the collaborative construction of the CMs, as expressed via more increased peers' turn-taking, balanced collaboration, and CM-enabled constructive, reflective and organizational interactions. It is also shown that collaboration increases LMS Moodle users' QoI. The hybrid b-/c-learning approach proposed here sets new directions towards the enhancement of LMS use and computer-based concept mapping, contributing to the enrichment of the Higher Educational Institutions services and re-examination of educational practices.

Keywords: Blended/Collaborative learning; Computer-based concept mapping; LMS Moodle; Self-/Collaborative-mode

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