Enhancing collaborative learning through dynamic forms of support: the impact of an adaptive domain-specific support strategy.


Summary: Research on computer-supported collaborative learning (CSCL) has strongly emphasized the value of providing student support of either fixed (e.g. collaboration scripts) or dynamic form (e.g. adaptive supportive interventions). Currently, however, there is not sufficient evidence corroborating the potential of adaptive support methods to improve domain-knowledge acquisition in collaborative activities. Furthermore, available adaptive CSCL systems are difficult to integrate in everyday instruction because most of them are research prototypes. This study investigates the capacity of an adaptive support strategy [implemented in the open source Learning Activity Management System (LAMS) environment] to further improve learning outcomes in the context of a scripted collaborative activity. Thirty-six students collaborated remotely in dyads on a task structured by a collaboration script. Control group dyads worked without any additional support. Treatment dyads were supported by a domain-specific adaptive intervention in the form of reminding prompts. Treatment students outperformed those in the control group in domain knowledge acquisition. Overall, this study provides evidence that (1) adaptive forms of domain-specific support can substantially improve learning in the context of a scripted collaborative activity; and (2) implementing simple forms of adaptive support is feasible and can be easily implemented by instructors in a freely available collaboration support system (such as LAMS).

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