How Can Automated Feedback Engage Middle School Students in Developing Models?

This study explores how automated feedback engaged middle school students in developing models of complex scientific phenomena by analyzing data from 16 video cases collected from a larger NSF-funded project. The analysis of 16 pairs’ discourse and action patterns showed that pairs who effectively used the feedback had more productive discourse and developed a more coherent understanding of the target concepts, compared to those who failed to apply feedback to improve their models. The findings of the study suggest the potential value of automated feedback as a way to engage students in discourse-rich modeling practices.