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Emergent Explicit Regulation in Science Classrooms

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Small-group activities have been adopted widely in science and engineering classrooms. Research on collaborative learning has showed that some groups are more productive (in terms of meeting the learning goals of the program) than others, even if all the groups are taught by the same instructor, and are engaging in the same tasks. To be productive, groups must be regulated. Group regulation is defined as groups adaptively responding to challenges in order to optimize group learning.

In the video data we use for our work, first year students are engaged in small group scientific inquiry. The activities are also developed to promote students'group collaboration and reflective thinking. Activities of different types —such as reading and discussing scientific articles, designing and conducting experiments, model building—were analyzed. First we broadly explored the videos, and noticed self-initiated group regulations emerging in different kinds of activities across different groups. We then conducted thematic coding identifying typical examples of the group regulation phenomena and examining them more closely.

From this we have identified a set of contextual and behavioural features of the observed group regulation and named the phenomena emergent explicit group regulation (EER). We understand EER as an "in the moment,"or emergent, regulatory response to a challenge faced by the group. We have also categorized the EER identified based on their target areas of regulation.

In this talk, I will discuss how to analyze video data generally using EER as a specific example. I will then discuss our current results on the types of EER and their distribution found in our data.

Keyword-1

Small Group Dynamics

Keyword-2

Analyzing video data

Keyword-3

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