

Analysing the Use of Hands-on Tasks to Develop Student Talk and Collaboration

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In this short communication we will share our analysis of the use of tasks with young (6-to 7-year-old children) as part of our larger Australian Research Council funded project on developing talk in mathematics classrooms. The project involved four teachers across one year through a participatory design (Hennessy, 2014) to engage low attaining students in key mathematical ideas through collaboration and talk. A key focus of discussion in the research workshops was how to develop effective tasks that would support collaboration with lower attaining students who often had limited language and confidence to share their thinking.

Based on previous research (Murphy, 2011), we encouraged teachers to introduce tasks that would provide hands on experiences and limited recording. In the example presented here, two of the teachers explored multiplicative thinking based on the text *The Doorbell Rang* (Hutchins, 1989). The teachers used models of cookies and plates and phased the students' exploration in relation to the storyline.

Our analysis focuses on both the mathematical thinking that arose and also on how the task enabled students to collaborate and share thinking. The concrete models allowed students to share their thinking without needing to rely on language. As such the concrete models became tools for dialogue and thinking was often shared through gestures and actions.

References

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