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Parent Engagement in Mathematics Education

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Abstract

While parents can partner with schools in many ways, research in both the New Zealand and international contexts draws attention to need for schools to further consider how they can more effectively engage with parents to achieve positive outcomes on learning (Robinson, Hohepa & Lloyd, 2009). This study, grounded in a sociocultural perspective and drawing on 'funds of knowledge' ideas, seeks to better understand ways in which home-school partnerships that respect the needs and contributions of all participants—students, parents/whanau and teachers—might be developed in the area of mathematics. Of particular interest are the everyday activities in which families are involved and how improved parent awareness of the mathematical opportunities presented in these activities might increase parent confidence to participate in mathematical discussions with their children at home and in their community setting.

A review of the literature identifies; parents' beliefs regarding their role in the learning, parents' sense of personal efficacy in relation to their ability to effectively help their child, the relationship between teacher and parent, and parents' life context, all as impacting the development of effective home-school partnerships. In addition, the historical positioning of parent's is also recognised as playing a part in determining parents expectations for involvement and the way in which they relate to their children's teachers and school leadership.

This study draws on qualitative research methods and uses a Design Based Research approach. Sixteen parents along with their students ranging from year five to year eight from a New Zealand primary school participated in a series of six mathematics workshops aimed at exploring the research question:

> In what ways can parents' confidence to engage in mathematics learning be better supported? A secondary question considered is, how might the increased awareness of opportunities connected to everyday experiences/activities support parent confidence to engage in mathematical discussions at home and in their community setting?

Semi-structured interviews, were conducted both before and after the workshops to gain information as to what parents saw as being necessary supports to facilitate their engagement in mathematics learning, and what activities from the workshops had been effective in achieving these aims. A researcher reflective journal was also used to gather data and monitor the success of the workshops as they progressed.

The study revealed that shared learning opportunities—involving both parents/whanau, students and teachers—can provide an effective means for: supporting parent understanding of current

approaches to teaching and learning in mathematics, provide better understanding of the language associated with the Numeracy Development Project and facilitate positive relationships between teachers and parents. Furthermore, adopting activities which model mathematics in everyday activities, similar to those in which families are involved, can act as an effective scaffold for parents to engage more effectively in mathematical discussions with their children in their own home and everyday setting. In addition, opportunities to watch teachers interact with students was found to be a powerful mechanism for parents to develop more productive communication strategies through which they could better support their children's learning.

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