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**What do Culturally Diverse Middle School Students Value for their
Mathematics Learning?**

Thesis presented in partial fulfilment for the degree of

MASTERS OF EDUCATIONAL PSYCHOLOGY

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ABSTRACT

Mathematics education values concern what students perceive to be worthy or of importance in mathematics, and relate specifically to learning and pedagogy (Seah & Andersson, 2015). These values take place in the context of activities and decisions that are made to enhance the learning and teaching of mathematics (Seah, 2016). This study explores the types of mathematics education values espoused by diverse middle school learners in New Zealand, focusing on a cohort of Pākehā/European, Asian, Māori and Pāsifika students. This study also examines the relationship between the students' cultural values and what they value for their mathematics learning.

The methodology used in this study involved a comparative case study to investigate student perceptions of the most and the least important mathematics education values. Using a survey format, students ranked twelve mathematics education values in order of their importance, with follow up interviews to better understand the reasoning for students ranking of certain values. The use of a range of methods provided a more holistic approach and allowed for greater diversity of student perspectives.

The results demonstrated that culturally diverse middle school students shared three mathematics education values, that is *utility*, *effort/practice* and *flexibility*. The commonality of these mathematics education values reflects shared educational and societal values. However, students from different cultures (and from different mathematics learning environments) were found to endorse alternate values as most and least important for their mathematics learning. These mathematics education values were reflective of the students' cultural values as identified by earlier research and policy documents (Hofstede, Hofstede, & Minkov, 2010; Ministry of Education (MoE), 2011, 2013). The Māori and Pāsifika students identified most strongly with the mathematics education values *collaboration-group work* and *family*, reflecting the collectivist cultural values of these students. Conversely, the Pākehā/European and Asian students espoused independent mathematics education values including *teacher explanations* and *mathematical understanding/clarity*, reflecting New Zealand's individualist values, and values relating to the teacher-student power imbalances amongst many East Asian cultures. An unintended outcome of this study was the impact of classroom norms and pedagogy on students' mathematics education values, specifically, the influence of an inquiry based classroom intervention upon the Māori and Pāsifika students' collaborative mathematics education values.

The findings from this study provide insight into what is valued by culturally diverse middle school mathematics learners. It is hoped that the results from this study may assist teachers to develop culturally responsive mathematics pedagogy which aligns with the values of their students, leading to enhanced mathematics learning outcomes for diverse middle school students.

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