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**Culturally Relevant Tasks and
Påsifika Students' Participation and
Engagement in Mathematics**

A thesis presented in partial fulfilment of the requirements for the
degree of

Master of Education in
Mathematics Education

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Abstract



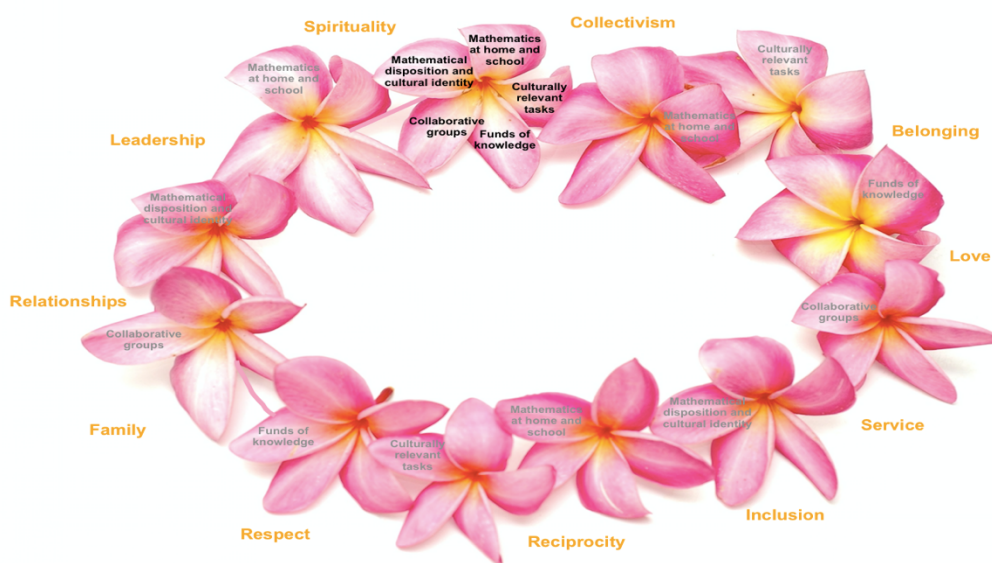
Påsifika students' academic achievement in mathematics continues to remain a priority for New Zealand education (Ministry of Education, 2013). Research in both the New Zealand and international contexts identifies the need for New Zealand classrooms to foster culturally responsive and mathematical practices that align with Påsifika students' cultural values, backgrounds, interests and experiences. As a result, Påsifika students will have increased opportunities to participate and engage in mathematics while developing a cultural identity within New Zealand classrooms.

This study utilised the Påsifika students' and their families' funds of knowledge to design culturally relevant mathematical tasks. These tasks were used within the students' mathematics classroom where the teacher was supported to implement culturally responsive and mathematical practices. It examined how the use of culturally relevant tasks while enacting the reviewed cultural and mathematical practices could foster Påsifika students' participation and engagement in mathematics.

This study used qualitative research methods with an ethnographic case study approach while drawing on Påsifika research frameworks (Lemanu, 2014; Sauni, 2011). 11 Year 5 and Year 6 students who descended from the Pacific Islands participated in this study. Semi-structured interviews were completed at the beginning and end to find out the Påsifika students' perspectives about their experiences of their culture and mathematics. Throughout the study, photo-elicitation interviews were used to identify Påsifika students' cultural funds of knowledge and mathematical experiences that they engaged in outside of school. This information was used to work with the classroom teachers to design culturally relevant mathematics tasks. Observations were made of the students' behaviour and interactions while working on these tasks within their

classroom setting. After each observation, focus group interviews were conducted to gain insight into the students' perspectives of the task and learning experience. The use of a variety of methods provided greater evidence of data that I drew on to support my findings.

The results illustrated key findings and recommendations that have been visually represented using a frangipani (kalosipani/ pua fiti/ fiti pua/ tipani)¹ ula-lei². Each petal on the frangipani flower represents the key themes that emerged. These are as follows; mathematics at home and school, culturally relevant tasks, funds of knowledge, collaborative grouping and mathematical disposition and cultural identity. These key themes are supported by a group of learners which include parents, teachers and students and are bound together by the core Pāsifika values. The key themes, community of learners and cultural values form the ula-lei. This study revealed these components as being effective practices that educators should develop to support Pāsifika learners' participation and engagement in mathematics.



¹ The frangipani plant is translated to kalosipani in Tonga, pua fiti in Samoa, fiti pua in Niue and tipani in the Cook Islands.

² Traditional Pacific Island necklace

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Table of Contents



Abstract	ii
Acknowledgements	iv
Table of Contents	v
List of Tables and Figures	ix
Chapter One: Introduction	1
1.1 Introduction	1
1.2 Context	1
1.3 Rationale	2
1.4 A visual representation of the study	5
1.5 Aims of the study	6
1.6 Overview of chapters	7
Chapter Two: Literature Review	8
2.1 Introduction	8
2.2 Culturally responsive teaching and equity	9
2.3 Culturally responsive tasks and funds of knowledge	10
2.4 Student engagement and teacher-student relationships	12
2.5 Drawing on cultural values in the classroom	16
2.6 Mathematical tasks	18
2.7 Conclusion	20
Chapter Three: Methodology	21
3.1 Introduction	21
3.2 Qualitative Research	21
3.2.1 Case Study	22
3.2.2 Ethnography	22

3.3 Participants and setting	25
3.3.1 Project outline	26
3.3.2 Ethical considerations	27
3.4 Role of the researcher	28
3.5 Data collection methods	29
3.5.1 Interviews	29
3.5.2 Observations	33
3.6 Analysis of data	34
3.6.1 Trustworthiness: reliability, validity and triangulation	35
3.7 Summary	36
Chapter Four: Findings and Discussion	37
4.1 Introduction	37
4.2 Phase One: Students' initial experiences and perspectives of mathematics at home and school	37
4.2.1 Student interview data related to mathematics at home and school	37
4.2.2 Initial observations of students working in their mathematics classroom	40
4.3 Phase Two: Exploring students' funds of knowledge through photographs	43
4.3.1 Measurement	44
4.3.2 Number	47
4.3.3 Geometry	50
4.3.4 Algebra	51
4.4 Phase Three: Classroom implementation of culturally relevant tasks and the development of cultural and mathematical practices	53
4.4.1 Drawing on Pāsifika cultural values	53
4.4.2 Drawing on Pāsifika students' funds of knowledge and students' working on culturally relevant tasks in their mathematics classroom	57
4.5 Phase Four: Shifts in students' perspectives of mathematics at home and school	62
4.5.1 Student interview data related to mathematics at	62

home	
4.5.2 Student interview data related to shifts in their mathematics classroom	65
4.6 Summary	68
Chapter Five: Conclusion	70
5.1 Introduction	70
5.2 Summary of research questions	70
5.2.1 What are the out of school mathematical perspectives and experiences of Pāsifika students?	70
5.2.2 How do Pāsifika students describe their culture being reflected in their mathematics classroom?	71
5.2.3 What classroom experiences foster Pāsifika students' participation and engagement in mathematics?	72
5.3 Key findings, recommendations and implications	73
5.4 Limitations	75
5.5 Suggested areas for future research	75
5.6 Visual representation	76
5.6.1 A group of learners	77
5.6.2 Five petals: five themes	77
5.6.3 Formation of the ula-lei: core values	78
5.7 Conclusion	78
References	79
Appendices	87
Appendix A1 Initial interview	87
Appendix A2 Semi-structured group interview	90
Appendix A3 Final interview	91
Appendix B Culturally relevant tasks	95
Appendix C1 Student consent form	98
Appendix C2 Parent consent form	100
Appendix C3 Teacher consent form	102

Appendix C4 Board of Trustees consent form	104
Appendix C5 Student photograph consent form	106
Appendix D1 Student and parent research information sheet	108
Appendix D2 Board of Trustees research information sheet	111
Appendix D3 Teacher research information sheet	114
Appendix E Record sheet used to transcribe notes from classroom observations	116
Appendix F Thematic analysis table used to group data into themes	117

List of Tables and Figures



Summary of Tables

Table 3.1 Timeline of research activities implemented during each phase of the current study	26
Table 4.1 Contexts of photographs	44
Table 4.2 Student responses identifying different types of measurement	45
Table 4.3 Student responses identifying different types of number	48
Table 4.4 Student responses identifying different types of geometry	50
Table 4.5 Student responses identifying different types of algebra	51
Table 4.6 Mathematical contexts outside of school identified as being important	63

Summary of Figures

Figure 1.1 Frangipani ula-lei used as a visual representation of the research study and findings	5
Figure 3.1 Talanoa model (as cited in Lemanu, 2014, p. 2)	23
Figure 3.2 Ula terms of engagement model (as cited in Sauni, 2011, p. 57)	24
Figure 4.1 Pule-tasi	47
Figure 4.2 Making an ula-lole	47
Figure 4.3 Volcanic rock	47
Figure 4.4 Baking in Samoa	49
Figure 4.5 Traditional celebration	50

Figure 4.6 Tongan dance task	55
Figure 4.7 Students sharing cultural artifact	58
Figure 4.8 Tapa cloth task	58
Figure 5.1 Frangipani ula-lei: A visual representation of the research study and findings	76