Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.
ATTITUDES AND BELIEFS IN MATHEMATICS EDUCATION:

A COMPARATIVE STUDY

BETWEEN NEW ZEALAND AND INDONESIA

A thesis presented in partial fulfilment of the requirements for the degree of Master of Educational Studies (MEd Studs) in Mathematics Education at Massey University, New Zealand

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This comparative study investigated the differences between New Zealand and Indonesian mathematics students and teachers, in attitudinal and beliefs aspects. Attitudes and beliefs about mathematics education were used as dependent variables; countries and gender were used as independent variables.

A total of 191 Indonesian general secondary school students (92 males and 99 females) from grade II (year 11), 8 mathematics teachers (4 males and 4 females), and 47 New Zealand students (23 males and 24 females) from Form 6 and 7 (year 11 and 12) volunteered for the study. Students and teachers completed a researcher developed questionnaire which measured the attitudinal and beliefs about mathematics learning and teaching.

A t-test procedure was used to compare the means of attitudinal and beliefs aspects. Analysis of the data suggested that:

1. Significant differences between countries existed with regard to students' enjoyment of mathematics, value (perceive usefulness) of mathematics, beliefs about mathematics, mathematics learning, and beliefs about home support.

2. Differences within New Zealand students by gender were due to students' beliefs about mathematics learning and beliefs about mathematics teaching. No significant differences were found within Indonesian students by gender for attitudinal and beliefs aspects.

3. Differences among subgroups gender (males and females for New Zealand and Indonesia) were found in students' value (perceive usefulness) of mathematics, beliefs about
mathematics, beliefs about mathematics learning, and beliefs about mathematics teaching.

4. Differences in teachers' beliefs about learning and teaching mathematics were found. In Indonesian, mathematics teachers emphasized students listening to teacher explanations, note taking, reading text-books, doing written exercises from text-books, watching a teacher work through a problem, working out practical problems, and opportunities for students to practice exam/test questions. New Zealand mathematics teachers emphasized teacher led discussions, demonstrations, and explanations, as well as student discussions.

These findings are restricted to the sample population of grade II (year 11) students at general secondary school Jakarta and Form 6 and 7 (year 11 and 12) coeducational secondary school in Palmerston North. However, it is felt that these schools are representative of schools at the senior level in their respective countries. This study indicates that there are differences in some aspects of attitudinal and beliefs about mathematics, but does not relate these findings to students' performance in mathematics. The effect of attitudinal and beliefs aspects on performance in mathematics, and in relation to curriculum reforms, should be explored in the future research.
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TABLE OF CONTENTS

ABSTRACT ii

ACKNOWLEDGEMENTS iv

TABLE OF CONTENTS v

LIST OF FIGURES AND TABLES ix

CHAPTER 1 INTRODUCTION
1.1 Mathematics Education in Indonesia
   1.1.1 Background 1
   1.1.2 Mathematics Curriculum 3
   1.1.3 Teaching and Learning 5
1.2 Mathematics Education in New Zealand
   1.2.1 Background 8
   1.2.2 Mathematics Curriculum 9
   1.2.3 Teaching and Learning 11
1.3 The Rationale of Present Study
   1.3.1 The Role of Comparative Study 12
   1.3.2 Gender-related Differences 15
   1.3.3 Research in Affect 15
   1.3.4 Research Questions 16
   1.3.5 Overview of Chapters 17
CHAPTER 2 AFFECTIVE FACTORS IN MATHEMATICS EDUCATION

2.1 Introduction 19
2.2 Definition of Attitudes 20
2.3 Definition of Beliefs 20
2.4 The Interrelationship between Attitudes and Beliefs 21
2.5 The Importance of Affective Factors in Mathematics Education 23
2.6 Constructivism in Mathematics Teaching and Learning 29
2.7 Theoretical Model 31

CHAPTER 3 LITERATURE REVIEW

3.1 Introduction 33
3.2 Attitudes in Mathematics Education
   3.2.1 Formation of Attitudes 33
   3.2.2 Mathematics Anxiety 37
   3.2.3 Self-confidence 38
   3.2.4 Motivation 39
   3.2.5 Relationship between Attitudes and Mathematics Achievement 41
3.3 Beliefs in Mathematics Education
   3.3.1 Beliefs about Mathematics 44
   3.3.2 Beliefs and Problem Solving 46
   3.3.3 Beliefs about Themselves as Learners 48
   3.3.4 Teacher Beliefs 50
   3.3.5 Self-efficacy 51
   3.3.6 Influence of Parents and Home Environment 52
3.4 Gender Differences in Attitudinal and Beliefs Aspects

CHAPTER 4 RESEARCH METHOD

4.1 Introduction
4.2 Subjects and Setting
4.3 Instrument
4.4 Procedure
4.5 Data Analyses
4.6 Limitations

CHAPTER 5 RESULTS

5.1 Introduction
5.2 The Student Interview Results
5.3 The Teacher Results
  5.3.1 Indonesian Teachers Interview Results
  5.3.2 Comparison between New Zealand and Indonesian Teachers
5.4 The Statistical Results
  5.4.1 Comparison on Categories of Attitudinal and Belief Scores
  5.4.2 Comparison on Every Single Item
  5.4.3 Gender-related Differences
  5.4.4 Comparison in Attitudinal and Beliefs Scores for Subgroups Gender
5.5 The Open-ended Question Results
CHAPTER 6 CONCLUSIONS

6.1 Conclusions and Findings

6.1.1 Comparisons between New Zealand and Indonesian Students

6.1.2 Gender Comparisons within New Zealand Students and Indonesian Students

6.1.3 Comparisons among Subgroups Gender of Students

6.1.4 Comparisons between New Zealand and Indonesian Teachers

6.2 Summary: Major Outcomes

6.3 Further Research

APPENDICES

A1 Student Information Letter

A2 Student Consent Form

A3 Questionnaire

A4 Kuestioner

A5 IEA questionnaires on objectives and resources

A6 Questionnaires on practice and beliefs on learning

A7 The type of interview questions

A8 ANOVA for attitudinal and beliefs scores by gender

A9 Pairwise comparison of mean for attitudes and beliefs scores by gender

BIBLIOGRAPHY
LIST OF FIGURES AND TABLES

List of Figures

Figure 2.1 Fennema’s Generic Model for Relating Affect and Outcome 31
Figure 2.2 Schematic Presentation of Conceptual Framework Relating Attitudes, Beliefs, and Mathematics Learning 32

List of Tables

Table 2.1 The differences between attitudes and beliefs 22
Table 3.1 Attribution to success and failure 48
Table 4.1 Cronbach’s coefficient $\alpha$ 63
Table 5.1 Ratings of teacher behaviour frequency (and percentage frequency) for New Zealand and Indonesia 80
Table 5.2 Ratings of mathematics learning beliefs for New Zealand and Indonesia 83
Table 5.3 Objectives of mathematics teaching as assigned by percentage weightings for New Zealand and Indonesia 86
Table 5.4 Resources as denoted by percentage use for New Zealand and Indonesia 87
Table 5.5 Mean, standard deviation, and t-test results for all categories by country 89
Table 5.6 Mean, standard deviation, and t-test results for all categories by gender for New Zealand 91
Table 5.7 Mean, standard deviation, and t-test results for all categories by gender for Indonesia 92
Table 5.8 T-test results for all items by country 96
Table 5.9 T-test results for significant items by gender for New Zealand 101
Table 5.10 T-test results for significant items by gender for Indonesia 103
Table 6.1 Differences between Indonesian and New Zealand in Mathematics Education 119