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ATTITUDES AND BELIEFS IN MATHEMATICS EDUCATION:

A COMPARATIVE STUDY

BETWEEN NEW ZEALAND AND INDONESIA

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fulfilment of the requirements for the degree
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ABSTRACT

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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