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**The Impact of the Mathematical Identity of
School Leaders on Professional Development
in Mathematics Education in NZ primary
schools**

**A CASE STUDY OF TWO NEW ZEALAND
PRIMARY SECTOR SCHOOLS**

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

Master of Education

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ABSTRACT

This study draws on psychoanalytical theory and research data to explore the experiences and impacts of different educational leadership approaches to improving teacher practice in primary sector mathematics education. Under consideration are the behaviours exhibited by Principals in response to their personal relationship with mathematics. Specifically, it examines how the mathematical identity of a Principal may influence their educational leadership of mathematics, how that may affect the provision of professional development for teachers who teach mathematics, and how that, in turn, affects the mathematical identity of those teachers.

A review of the research literature reveals the importance of considering both the social and intrapersonal nature of mathematical identity and the interpersonal relationships of leadership and has led to this study being placed in the constructive philosophical approach from a Lacanian psychoanalytic context. The study also acknowledges the indeterminate nature of what the future holds, including the aim of school achievement, and defines this study as embedded in the postmodern system of ideas as a means of viewing social and cultural phenomena. The study is a comparison between two contrasting school environments. Consistent with an interpretive approach, data collection and analysis have complementary roles with each activity informing the other. Data collection instruments used for this study were the questionnaire, personal interviews, focus group interviews, and the researcher.

The investigation revealed that a Principal who consistently addresses their mathematical identity, through direct participation in professional development, is more likely to correctly identify strategic development needs and to provide appropriate professional development in mathematics. This provision addresses the mathematical identity of teachers by improving mathematical content and pedagogical knowledge. The study found that many Principals were educated through a behaviourist pedagogy and that participation in current professional development allowed them to better understand the constructivist approach of contemporary mathematics education and best practice in classroom practice. The Principal's personal participation also builds relational trust with the teaching team, enabling the conditions for a learning culture within their school. From these findings, recommendations are made for Principals to reflect upon the effective provision of professional development in mathematics whilst considering how psychological influences might affect their educational leadership of mathematics and teacher practice.

CANDIDATE'S STATEMENT

I certify that the research project entitled:

**The Impact of the Mathematical Identity of School Leaders on
Professional Development in Mathematics Education in NZ primary
schools**

A Case Study of Two New Zealand Primary Schools

and submitted as part of the Master of Education, is the result of my own work except where otherwise acknowledged and that this research project (or any part of the same) has not been submitted for any other degree to any other university or institution.

Signed: _____

Stephen Kendall-Jones

Date: _____

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