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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

at Massey University, Albany, New Zealand.

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2010
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: ___________________________________
ACKNOWLEDGEMENTS

I am indebted to the many people who have helped in the completion of this thesis.

To the Principals and staff who gave their consent to and participated in this research, thank you for your enthusiasm and commitment to improving school-wide practice in mathematical pedagogy through research. I admire your commitment towards improvement for the sake of your students. Thank you also for your hospitality and use of staff time and suitable locations for this research. I hope the muffins helped!

To my research supervisors, thank you for your support, guidance, and encouragement. Doctor Roberta Hunter, thank you for the depth of questioning that made me ‘drill deeper’, for your availability and support (even when overseas and in different time zones!), and for making this an exciting learning experience. You are truly inspirational. Doctor Michael Irwin, your practical and research based knowledge, particularly in the area of leadership, helped me clarify my direction. Your comments on my drafts allowed me to pull this work into something that I hope is worth reading. You have both made invaluable contributions to my professional life from the day I walked into the teacher education program and that continues in my progression as a researcher. I thank you both with all my heart.

To my family, most of all, thank you for your love, support and patience throughout the years of study and research. The pressure was high and you not only put up with me but also drove me on to achieve my goals. I love you and thank you.
# TABLE OF CONTENTS

ABSTRACT .................................................................................................................................................. ii

ACKNOWLEDGEMENTS ............................................................................................................................ iv

TABLE OF CONTENTS ............................................................................................................................ v

LIST OF FIGURES AND TABLES ........................................................................................................ viii

CHAPTER 1: INTRODUCTION .................................................................................................................. 1
  1.1 Background to Research ...................................................................................................................... 1
  1.2 Definition of Terms ............................................................................................................................. 4
  1.3 Research Focus .................................................................................................................................... 5
  1.4 Thesis outline ....................................................................................................................................... 6

CHAPTER 2: LITERATURE REVIEW ....................................................................................................... 8
  2.1 Introduction to literature review ........................................................................................................ 8
  2.2 The role of the school leader ............................................................................................................. 8
    2.2.1 School leadership and management ............................................................................................. 9
    2.2.2 Post-transformational leadership ................................................................................................. 10
    2.2.3 Shared, distributed, and parallel leadership ................................................................................. 12
    2.2.4 The leader-middle management-teaching team relationship .................................................... 14
    2.2.5 The school leader’s role in influencing classroom practice in mathematics ......................... 16
    2.2.6 The reflective leader and the ladder of inference ...................................................................... 20
    2.2.7 Summary of leadership ............................................................................................................... 22
  2.3 Mathematical Identity ...................................................................................................................... 23
    2.3.1 Definitions of mathematical identity .......................................................................................... 23
    2.3.2 Mathematics anxiety .................................................................................................................... 25
    2.3.3 The Teacher’s Mathematical Identity ........................................................................................... 27
  2.4 Professional development in mathematics in New Zealand primary schools ............................... 29
    2.4.1 Introduction .................................................................................................................................. 29
    2.4.2 The Purpose of Professional Development .................................................................................. 29
    2.4.3 Implementation of mathematics professional development ..................................................... 31
    2.4.4 Effective professional development ............................................................................................ 33
    2.4.5 Professional Development Approaches ...................................................................................... 36
    2.4.6 Professional development summary ............................................................................................ 37

CHAPTER 3: METHODOLOGY .................................................................................................................. 39
  3.1 Justification for methodology .......................................................................................................... 39
  3.2 Validity and reliability ...................................................................................................................... 40
  3.3 The dilemma of generalisation ......................................................................................................... 42
  3.4 Ethics ................................................................................................................................................. 43
  3.5 Data collection methods ................................................................................................................... 43
    3.5.1 The questionnaire ......................................................................................................................... 44
    3.5.2 Interviews ..................................................................................................................................... 46
    3.5.3 The researcher's role ..................................................................................................................... 47
  3.6 The research setting and sample ..................................................................................................... 48
    3.6.1 Overview of School A .................................................................................................................. 49
    3.6.2 Overview of School B .................................................................................................................. 50
  3.7 Data analysis ..................................................................................................................................... 50
  3.8 Summary ............................................................................................................................................ 51
LIST OF FIGURES AND TABLES

FIGURE 2.1: ANDERSON’S CONTESTED MODEL ...........................................................................15
FIGURE 2.2: ANDERSON’S BUFFERED MODEL .........................................................................15
FIGURE 2.3: ANDERSON’S INTERACTIVE MODEL ....................................................................16
FIGURE 2.4: LADDER OF INFERENCE AS DEVELOPED BY ARGYRIS (1990) .........................21
TABLE 2.1: PROFESSIONAL DEVELOPMENT PROCESSES: IMPACT AND USE (LINDSTROM AND SPECK, 2004, P. 57) .........................................................................................34
FIGURE 4.1: AGE OF RESPONDENTS ....................................................................................54
FIGURE 4.2: HIGHEST QUALIFICATION IN MATHEMATICS ......................................................56
FIGURE 4.3: RESPONSES TO LOW VALUE INDICATORS OF MVI .............................................60
FIGURE 4.4: RESPONSES TO HIGH VALUE INDICATORS OF MVI ..........................................60
FIGURE 4.6: TYPES OF PROFESSIONAL DEVELOPMENT UNDERTAKEN IN MATHEMATICAL PEDAGOGY ........................................................................................................63
FIGURE 4.7: TO WHAT EXTENT RESPONDENTS LEARNED ABOUT MATHEMATICAL TOPICS THROUGH PROFESSIONAL DEVELOPMENT ..............................................................65
FIGURE 4.8: PERCEPTION OF EFFECTIVENESS OF PROFESSIONAL DEVELOPMENT ..............67
FIGURE 4.9: PERCEPTION OF FREQUENCY OF REINFORCEMENT ACTIVITIES .......................72
FIGURE 4.10: PERCEPTION OF AMOUNT OF MATHEMATICS PROFESSIONAL DEVELOPMENT RECEIVED TO AID MATHEMATICS TEACHING ..........................................................74
FIGURE 4.11: PERCEPTION OF LEADERSHIP OF PROFESSIONAL DEVELOPMENT IN MATHEMATICS ..............................................................................................................75
FIGURE 5.1: AGE OF RESPONDENTS ....................................................................................77
FIGURE 5.2: HIGHEST QUALIFICATION IN MATHEMATICS ......................................................78
FIGURE 5.3: RESPONSES TO LOW VALUE INDICATORS OF MVI .............................................82
FIGURE 5.4: RESPONSES TO HIGH VALUE INDICATORS OF MVI .............................................82
FIGURE 5.5: MOST COMMON CURRICULUM AREA FOR PROFESSIONAL DEVELOPMENT ...........84
FIGURE 5.6: TYPES OF PROFESSIONAL DEVELOPMENT UNDERTAKEN ..................................86
FIGURE 5.7: CONTENT LEARNED THROUGH PROFESSIONAL DEVELOPMENT BY PERCENTAGE OF TEACHER RESPONDENTS ..................................................................................89
FIGURE 5.8: PERCEPTION OF EFFECTIVENESS OF PROFESSIONAL DEVELOPMENT ..............92
FIGURE 5.9: PERCEPTION OF FREQUENCY OF REINFORCEMENT ACTIVITIES BY PERCENTAGE OF TEACHER RESPONDENTS ..................................................................................95
FIGURE 5.11: PERCEPTION OF AMOUNT OF MATHEMATICS PROFESSIONAL DEVELOPMENT RECEIVED TO AID MATHEMATICS TEACHING ..........................................................98
FIGURE 5.12: PERCEPTION OF LEADERSHIP OF PROFESSIONAL DEVELOPMENT IN MATHEMATICS .........................................................................................................................99