CONTENTS

	Prefaceiii
	MERGA 30: Judges and Reviewers iv
VOL	LUME 1
KEY	YNOTES
	The Beginnings of MERGA
	Teaching and Learning by Example
	Introducing Students to Data Representation and Statistics
	Studies in the Zone of Proximal Awareness
PRA	CTICAL IMPLICATIONS AWARD
	Empowered to Teach: A Practice-based Model of Teacher Education
RES	EARCH PAPERS
	Communicating Students' Understanding of Undergraduate Mathematics using Concept Maps
	Primary Student Teachers' Diagnosed Mathematical Competence in Semester One of their Studies
	An Online Survey to Assess Student Anxiety and Attitude Response to Six Different Mathematical Problems
	Mathematical Investigations: A Primary Teacher Educator's Narrative Journey of Professional Awareness
	Describing Mathematics Departments: The Strengths and Limitations of Complexity Theory and Activity Theory
	Three Student Tasks in a Study of Distribution in a "Best Practice" Statistics Classroom
	Anthony Bill & Jane Watson
	Teacher Researchers Questioning their Practice
	Imagined Classrooms: Prospective Primary Teachers Visualise their Ideal Mathematics Classroom

Early Notions of Functions in a Technology-Rich Teaching and Learning Environment (TRTLE)
Collective Argumentation and Modelling Mathematics Practices Outside the Classroom
Visual Perturbances in Digital Pedagogical Media
Professional Experience in Learning to Teach Secondary Mathematics: Incorporating Pre-service Teachers into a Community of Practice
Young Children's Accounts of their Mathematical Thinking
Mathematical Reform: What Does the Journey Entail for Teachers?201 Linda Cheeseman
Year Six Fraction Understanding: A Part of the Whole Story
Teaching as Listening: Another Aspect of Teachers' Content Knowledge in the Numeracy Classroom
Essential Differences between High and Low Performers' Thinking about Graphically-Oriented Numeracy Items
High School Students' Use of Patterns and Generalizations
The Teacher, The Tasks: Their Role in Students' Mathematical Literacy
Informal Knowledge and Prior Learning: Student Strategies for Identifying and Locating Numbers on Scales
Documenting the Knowledge of Low-Attaining Third- and Fourth-Graders: Robyn's and Bel's Sequential Structure and Multidigit Addition and Subtraction
Interdisciplinary Modelling in the Primary Mathematics Curriculum
Students' Tendency to Conjoin Terms: An Inhibition to their Development of Algebra
Towards "Breaking the Cycle of Tradition" in Primary Mathematics
Exploring the Number Knowledge of Children to Inform the Development of a Professional Learning Plan for Teachers in the Ballarat Diocese as a Means of Building Community Capacity
Technology-Enriched Teaching of Secondary Mathematics: Factors Influencing Innovative Practice

Professional Development Model
Identity and Mathematics: Towards a Theory of Agency in Coming to Learn Mathematics
Categorisation of Mental Computation Strategies to Support Teaching and to Encourage Classroom Dialogue
Student Experiences of VCE Further Mathematics
Video Evidence: What Gestures Tell us About Students' Understanding of Rate of Change
Sandra Herbert & Robyn Pierce
The Role of Dynamic Interactive Technological Tools in Preschoolers' Mathematical Patterning
Students Representing Mathematical Knowledge through Digital Filmmaking
What Does it Mean for an Instructional Task to be <i>Effective</i> ?
A School-Community Model for Enhancing Aboriginal Students' Mathematical Learning 402
Peter Howard & Bob Perry
Benchmarking Preservice Teachers' Perceptions of their Mentoring for Developing Mathematics Teaching Practices
Relational or Calculational Thinking: Students Solving Open Number Equivalence Problems
Scaffolding Small Group Interactions
Numeracy in Action: Students Connecting Mathematical Knowledge to a Range of Contexts
A Story of a Student Fulfilling a Role in the Mathematics Classroom

VOLUME 2

RESEARCH PAPERS

Secondary-Tertiary Transition: What Mathematics Skills Can and Should We Expect This Decade?
Nicolas Jourdan, Patricia Cretchley & Tim Passmore
The Power of Writing for all Pre-service Mathematics Teachers
"Connection Levers": Developing Teachers' Expertise with Mathematical Inquiry483 Katie Makar
Acquiring the Mathematics Register in te reo Mäori
Teaching Ratio and Rates for Abstraction
Setting a Good Example: Teachers' Choice of Examples and their Contribution to Effective Teaching of Numeracy
Developing the Concept of Place Value
Interdisciplinary Learning: Development of Mathematical Confidence, Value, and the Interconnectedness of Mathematics Scales
Mathematical Methods and Mathematical Methods Computer Algebra System (CAS) 2006 - Concurrent Implementation with a Common Technology Free Examination543 Pam Norton, David Leigh-Lancaster, Peter Jones & Michael Evans
A Concrete Approach to Teaching Symbolic Algebra
Developing Positive Attitudes Towards Algebra
Changing Our Perspective on Measurement: A Cultural Case Study
Enhancing Student Achievement in Mathematics: Identifying the Needs of Rural and Regional Teachers in Australia
The Growth of Early Mathematical Patterning: An Intervention Study
Whole Number Knowledge and Number Lines Help to Develop Fraction Concepts601 Catherine Pearn & Max Stephens
Identifying and Analysing Processes in NSW Public Schooling Producing Outstanding Educational Outcomes in Mathematics
Teachers Research their Practice: Developing Methodologies that Reflect Teachers' Perspectives
Teacher Professional Learning in Mathematics: An Example of a Change Process631 Pauline Rogers

Seeking Evidence of Thinking and Mathematical Understandings in Students' Writing641
Anne Scott
Utilising the Rasch Model to Gain Insight into Students' Understandings of Class Inclusion Concepts in Geometry
Exploring Teachers' Numeracy Pedagogies and Subsequent Student Learning across Five Dimensions of Numeracy
The Complexities for New Graduates Planning Mathematics Based on Student Need 671 Carole Steketee & Keith McNaught
Students' Emerging Algebraic Thinking in the Middle School Years
A Framework for Success in Implementing Mathematical Modelling in the Secondary Classroom
Eliciting Positive Student Motivation for Learning Mathematics
Learning from Children about their Learning with and without ICT using Video-Stimulated Reflective Dialogue
Dependency and Objectification in a Year 7 Mathematics Classroom: Insights from Sociolinguistics
Pedagogical Practices with Digital Technologies: Pre-service and Practicing Teachers
Colleen Vale
Procedural Complexity and Mathematical Solving Processes in Year 8 Mathematics Textbook Questions
Designing Effective Professional Development: How do we Understand Teachers' Current Instructional Practices?
"Doing Maths": Children Talk About Their Classroom Experiences
The Role of Pedagogy in Classroom Discourse
Australian Indigenous Students: The Role of Oral Language and Representations in the Negotiation of Mathematical Understanding
Student Change Associated with Teachers' Professional Learning
Choosing to Teach in the "STEM" Disciplines: Characteristics and Motivations of Science, ICT, and Mathematics Teachers
Percentages as Part Whole Relationships

	Education Number Theory Unit	
	Students' Conceptual Understanding of Equivalent Fractions	824
	Statistics Teachers as Scientific Lawyers	834
	Developing Pedagogical Tools for Intervention: Approach, Methodology, and an Experimental Framework	843
	Pedagogy and Interactive Whiteboards: Using an Activity Theory Approach to Understand Tensions in Practice	853
SYI	MPOSIA	
	International Perspectives on Early Years Mathematics	865
	Early Childhood Mathematics Education Research: What is Needed Now?	870
	Trimangles and Kittens: Mathematics Within Socio-dramatic Play in a New Zealand Early Childhood Setting	
	Children's Number Knowledge in the Early Years of Schooling	879
	Listening to Students' Voices in Mathematics Education	884
	Students' Pedagogical Knowledge: A Source of Pedagogical Content Knowledge Brian Doig & Susie Groves	885
	Research Enriched by the Student Voice	890
	Listening to Student Opinions about Group Assessment	895
RO	UND TABLE DISCUSSIONS	
	Profiles of Thinking Skills and Levels of Motivation in a Problem-Solving Task Sarah Buckley, Mary Ainley & Pip Pattison,	903
	An Investigation of Mathematics Strategies in Traditional School Contexts and Real-World Contexts	904
	Mäori Student's Perspective on Their Mathematical Journey Through Mäori Mediu	
	Leeana Herewini	905
	Some Methodological Considerations in the Estonian Study about Students' Beliefs i Mathematics: Is Triangulation Necessary?	
	Progress in Mathematics – Learning through Home School Partnership	907

SHORT COMMUNICATIONS

Exploring Data Representation and Statistical Reasoning through Integrated Investigations in a Grade 2 Classroom
Reform and Assessment Practice: The Need for an Investigation
Autobiographical Research and Mathematics Curriculum
Mathematically Gifted Students Managing School Transfer
Improving Procedures for Effective Teaching
Using Counter-Examples and Paradoxes in Teaching Probability: Students' Attitudes 913 <i>Murray Black, Farida Kachapova, Sergiy Klymchuk & Ilias Kachapov</i>
Using Cabri Geometry to Explore the Geometric Properties of Parallelograms in Year 7 Mathematics Classrooms
Defining Teacher Knowledge Needed in the Teaching of Statistics at Primary School Level
Year 12 Students' Participation in Higher Mathematics Courses
Pre-service Primary Teachers Developing Positive Attitudes Towards Teaching Mathematics
Measuring the Effectiveness and Efficiency of Language-In-Use for Algebra Learning: A Multi-Level Nested Modelling and DEA Approach
Te Poutama Tau (TPT): An Indigenous Response to the Numeracy Development Project 2002-2006
"I Have a Fear of Maths and it Does Worry Me a Bit as a Future Teacher": The Cycle of Maths Anxiety
Using Electronic Handwriting and Tablet PCs to Enhance Distance Students' Understanding of First Year Mathematics at University
Mathematical Modelling in CAS Clothing
The Cognitive and Pedagogical Affordances of Digital Learning Tools on Early Mathematical Development
Revisions and Extensions of a Pirie-Kieren-Based Teaching Model
An Insight into Norwegian Students' Thoughts about Mathematics

The Impact of Didactical Contract on Students' Perceptions of their Intentional Learning Acts	19
Troels Lange & Tamsin Meaney	1,
The Impact of an Intervention on the Development of Mathematical Pattern and Structure in the First Year of Schooling	20
Activity Theory as a Framework to Analyse the Positive Influence of Formative Assessment on Student Learning	20
Teaching Geometry with CAS in the Junior Secondary Classroom: A Case Study9 Warren Palmer	21
Wanted: One Great Maths Teacher!	21
Building Early Childhood Educators' Knowledge, Skills and Confidence in the Facilitati and Assessment of Young Children's Mathematical Learning	
CAS in the Middle Secondary Years: Strengths, Weaknesses, Opportunities and Threats	
	22
Myths and Positioning: Insights from Hermeneutics	23
Misconceptions in Locating Negative Decimals on the Number Line	23
Proportional Reasoning: A Global or Localised Development?	23