

1. Record Nr.	UNINA9910823598703321
Autore	Jaworski Barbara
Titolo	Investigating Mathematics Teaching : A Constructivist Enquiry
Pubbl/distr/stampa	London, : RoutledgeFalmer, 1996 Los Angeles, : Sony Electronics [distributor]
ISBN	1-135-71611-0 9786610057269 1-135-71612-9 1-280-05726-2 0-585-44757-8 0-203-45421-9
Edizione	[1st ed.]
Descrizione fisica	xvii, 231 p. : ill
Collana	Studies in mathematics education series ; ; 5
Disciplina	510/.71
Soggetti	Mathematics - Study and teaching Constructivism (Education)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references (p. 215-225) and index.
Nota di contenuto	Cover -- Half Title -- Title Page -- Copyright Page -- Dedication -- Table of Contents -- Preface by Series Editor -- Preface -- Acknowledgments -- Epigraph -- Chapter 1 An Investigative Approach: Why and How? -- Personally and Historically -- The Origins of Investigations -- The Purposes of Investigations -- The Place of Investigational Work in the Mathematics Curriculum -- Classroom Approaches -- An Investigative Approach to Mathematics Teaching -- Chapter 2 Constructivism: A Philosophy of Knowledge and Learning -- Introduction -- Radical Constructivism -- Radical Constructivism and Knowledge -- Constructivism, Meaning and Communication -- Social Constructivism -- Constructivism and the Classroom -- Piaget and Vygotsky -- Consequences for Teaching -- The Social and Cultural Environment -- Challenges to Constructivism -- The Learning Paradox -- Constructivism and Pedagogy -- Constructivism and Ontology -- Chapter 3 Working with Two Teachers: Defining the Study -- Tentative Beginnings -- An Outline of my First Phase of Research -- The Early Observations -- Emergence of Field Notes -- Observing my Own

Teaching -- Participant Observation and Analysis -- A Lesson on Tessellations -- My Immediate Account of Reflections on the Pair of Tessellations Lessons -- Later Reflections on this Account -- Conclusion -- Chapter 4 The Research Process -- Introduction -- A Very Brief Overview -- The Choice of an Ethnographic Approach -- Focus and Emphasis of the Researcher -- Data Collection -- Interpretive Enquiry -- Data Analysis -- Significance -- The Place of Theory in Ethnographic Research -- Validation and Rigour -- A Constructivist Perspective -- Chapter 5 Interlude 1: From Phase 1 to Phase 2 -- Theory Validation to Theory Construction -- The 'Fit' with Radical Constructivism -- Relating Constructivism to Teacher development -- Implications for Phase 2.

Chapter 6 Clare: Origins of the Teaching Triad -- Background -- The School and the Mathematics Department -- Analysis of Clare's Autumn-term Lessons -- Management of Learning -- Categorization of Data -- Identifying Management of Learning -- Further Manifestations of Management of Learning -- Sensitivity to Students -- Mathematical Challenge -- An Investigative Approach? -- Analysis of the Spring-term Lessons -- The Packaging Lesson -- The Lines-crossing Lesson -- Teacher's and Students' views -- Characterizing Clare's Teaching -- Chapter 7 Mike: Significant Episodes and the Teaching Triad -- Background -- The Teaching Triad Related to Mike's Teaching -- Management of Learning -- Sensitivity to Students -- Mathematical Challenge -- Teacher's and Students' Views -- Tensions for the Teacher -- Balance: Management and Control, Sensitivity and Challenge -- Chapter 8 Interlude 2: From Phase 2 to Phase 3 -- Teacher and Researcher Awareness -- Recognition of an Issue: The Teacher's Dilemma -- The Researcher's Dilemma -- Significance -- Implications for Phase 3 -- Chapter 9 Ben: Affirming the Teaching Triad -- Background -- The Teaching Triad -- The 'Moving Squares' Lesson -- Creating an Environment for Thinking and Involvement -- The Lesson Opening -- Working on the Task -- An Investigative Lesson-Why? -- Didactic Versus Investigative Teaching -- The Vectors Lesson -- The Lesson Opening -- Working on the Task -- A Didactic Lesson-Why? -- Theoretical Considerations -- Chapter 10 Investigative Mathematics Teaching: Characteristics and Tensions -- Characteristics of Classrooms Observed -- Teaching Acts: Some Common Themes -- Characterizing the Teaching Role: Teaching Outcomes -- Establishing Mathematical Meaning -- Engendering Mutual Trust and Respect -- Encouraging Responsibility for Own Learning -- Tensions -- The Teacher's Dilemma.

The Didactic-Constructivist Tension -- The Didactic Tension -- The Double Dialectic -- A Counter-example -- Chapter 11 Reflection and Development Thinking and Reflection-Some Starting Points -- The Teacher-Researcher Relationship -- Stage 1: Reflecting -- Stage 2: Accounting for -- Stage 3: Critical Analysis -- Development of Teaching: Teaching Knowledge and Teaching Wisdom -- Researcher Perceptions -- Reflecting on the Conceptual Model -- The Epistemology of Practice -- Supporting the Reflective Teacher -- My Own Development as a Reflective Practitioner -- Reflective Practice Is 'Critical' and Demands 'Action' -- Investigative Teaching -- Chapter 12 Epilogue -- Theory and Practice -- The Problematic Position of Classroom Knowledge -- Constructivism and its Place in this Research -- Individual and Social Dimensions -- From Individual to Intersubjective Knowledge -- Socio-cultural Perspectives -- An Interactionist Perspective -- Social Constructivism in this Study -- The Value of this Study for Teachers and Other Practitioners -- References -- Index.

