

CONTENTS

Acknowledgements	v
List of Figures	vi
List of Tables	vii
List of Contributors	viii
Preface	x
Foreword: Dr Kathleen Hart, Director, Nuffield Secondary Mathematics	xiii
PART I: PSYCHOLOGICAL PERSPECTIVES ON MATHEMATICS EDUCATION	1
1. Cognitive Psychology and Mathematics Education: Convergence, Collaboration, and Challenge Brian Greer	3
2. Between the Ears: Making Inferences about Internal Processes Gerry Mulhern	29
3. Logo: A Vehicle for Thinking Erik De Corte and Lieven Verschaffel	63
PART II: THE BASIC ARITHMETICAL OPERATIONS	83
4. Teaching Word Problems in the Primary School: What Research Has to Say to the Teacher Erik De Corte and Lieven Verschaffel	85
5. Multiplication and Division as Models of Situations: What Research Has to Say to the Teacher Clare Mangan	107

Contents

PART III: CURRICULUM DEVELOPMENTS IN THE UNITED KINGDOM	129
6. The Further Maths Project: a Response to Cockcroft at the Sixth-form Level Ron McCartney and Brian Greer	131
7. Statistical Investigations in the Secondary School Alan Graham	149
8. Teaching Mathematics in an Inner-city Secondary School Gerry Hamill	165
PART IV: CURRICULUM DEVELOPMENTS: THE INTERNATIONAL PERSPECTIVE	183
9. Is There an International Mathematics Curriculum? Elizabeth Oldham	185
10. The Changing Mathematics Curriculum in the United States Ruth Hoffman	225
11. Mathematics Teaching in Japan Richard Lynn	263
PART V: OVERVIEW	285
12. Improving Mathematics Education: a Human Problem Brian Greer and Gerry Mulhern	287
References	307
Index	328