

Contents

Preface	vii
Introduction	1
1 The Place of Meaning in the Teaching of Arithmetic	8
William A. Brownell	
<i>Elementary School Journal</i> 47 (1947): 256–65	
Perspective by Mary Montgomery Lindquist	
2 The Missouri Mathematics Effectiveness Project: An Experimental Study in Fourth-Grade Classrooms	16
Thomas L. Good and Douglas A. Grouws	
<i>Journal of Educational Psychology</i> 71 (1979): 355–62	
Perspective by Barbara J. Dougherty	
3 Sex-Related Differences in Mathematics Achievement, Spatial Visualization and Affective Factors	26
Elizabeth Fennema and Julia Sherman	
<i>American Educational Research Journal</i> 14 (winter 1977): 51–71	
Perspective by Gilah Leder	
4 Variables and Methodologies in Research on Problem Solving	40
Jeremy Kilpatrick	
In L. L. Hatfield (1978): <i>Mathematical Problem Solving</i> (pp. 7–20). ERIC/SMEAC	
Perspective by Nicholas A. Branca	
5 Benny’s Conception of Rules and Answers in IPI Mathematics	48
S. H. Erlwanger	
<i>Journal of Children’s Mathematical Behavior</i> 1 (2) (1973): 7–26	
Perspective by J. Michael Shaughnessy	
6 The Child’s Thought and Geometry	60
P. M. van Hiele	
In D. Fuys, D. Geddes, & R. Tischler (Eds.) (1959/1985): <i>English Translation of Selected Writings of Dina van Hiele-Geldof and Pierre M. van Hiele</i> , (pp. 243–52). ERIC/SMEAC	
Perspective by Douglas H. Clements	
7 “Radical Constructivism and Mathematics Education”	68
Leslie P. Steffe and Thomas Kieren	
<i>Journal for Research in Mathematics Education</i> 25 (1994): 711–33	
Perspective by Patrick W. Thompson	
8 “Multiplicative Structures”	84
Gérard Vergnaud	
In J. Hiebert and M. Behr (1988). <i>Number Concepts and Operations in the Middle Grades</i> , (pp. 141–61). Reston, VA: National Council of Teachers of Mathematics	
Perspective by Carolyn Kieran	

9	“Concept Image and Concept Definition in Mathematics with Particular Reference to Limits and Continuity”	98
	David Tall and Shlomo Vinner	
	<i>Educational Studies in Mathematics</i> 12 (1981): 151–69	
	Perspective by Guershon Harel	
10	“Beyond the Purely Cognitive: Belief Systems, Social Cognitions, and Metacognitions as Driving Forces in Intellectual Performance”	110
	Alan H. Schoenfeld	
	<i>Cognitive Science</i> 7 (1983): 329–63	
	Perspective by Frank K. Lester, Jr.	
11	“Using Knowledge of Children’s Mathematics Thinking in Classroom Teaching: An Experimental Study”	134
	Thomas P. Carpenter, Elizabeth Fennema, Penelope L. Peterson, Chi-Pang Chiang, and Megan Loef	
	<i>American Educational Research Journal</i> 26 (1989): 499–531	
	Perspective by Victoria R. Jacobs	
12	“When the Problem Is Not the Question and the Solution Is Not the Answer: Mathematical Knowing and Teaching”	152
	Magdalene Lampert	
	<i>American Educational Research Journal</i> 27 (1990): 29–63	
	Perspective by Miriam Gamoran Sherin	
13	“The Relationship of Teachers’ Conceptions of Mathematics and Mathematics Teaching to Instructional Practice”	172
	Alba Gonzalez Thompson	
	<i>Educational Studies in Mathematics</i> 15 (1984): 105–27	
	Perspective by Douglas B. McLeod and Denise S. Mewborn	
14	“Mathematics in the Streets and in Schools”	186
	Terezinha Nunes Carraher, David William Carraher, and Analúcia Dias Schliemann	
	<i>British Journal of Developmental Psychology</i> 3 (1985): 21–29	
	Perspective by MacKenzie A. (Ken) Clements	
15	“Ethnomathematics and Its Place in the History and Pedagogy of Mathematics”	194
	Ubiratan D’Ambrosio	
	<i>For the Learning of Mathematics</i> 5 (1985): 44–48	
	Perspective by Beatriz D’Ambrosio	
16	“Mathematics Education in Its Cultural Context”	200
	A. J. Bishop	
	<i>Educational Studies in Mathematics</i> 19 (1988): 179–91	
	Perspective by Norma Presmeg	
17	“Constructivist, Emergent, and Sociocultural Perspectives in the Context of Developmental Research”	208
	Paul Cobb and Erna Yackel	
	<i>Educational Psychologist</i> 31 (1996): 175–90	
	Perspective by Janet Bowers	