
Index

A

Abrantes 4, 7
absolutist tradition 2-4, 6, 8-9, 256
academic expectations of students 286-7
Allen 9
Arbreton 19
Arnot 21, 185, 276, 377-8
 et al 11, 12, 14, 247, 362
 and Weiner 13
attitude scales 311-17
Australia 19, 20

B

Bacharach, Burt 246
Ball 185
 and Gewirtz 185
Ballard 21
Barman 364
Barnes 375-6
Barrett 13
Beaton 5
 et al 2, 6, 254, 275, 279, 366
Becker 20, 365
Beechey 13
Behaviourist learning theory 3
bench marking 7, 114
Bernstein 3, 143, 147, 367, 382
Bloor 3
Boaler 22, 23, 214, 222, 279, 357, 378
 and Greeno 363-5
Bornholt et al 19-20
Bourdieu 8, 329-30
 et al 355
 and Passerson 380
Bowles and Gintis 8, 114, 382
Boylan and Lawton 308, 369, 371

Boylan, Lawton and Povey 308, 366,
 369, 371
Broadfoot 114
Brown, Collins and Duguid 23
Brown et al 8, 22
Burgess 222, 378
Burton 2-3, 4, 6, 225, 250-1, 256, 357,
 363-4, 365, 368
Buxton 369

C

Canada 16
case studies 65-93
 attitudes to mathematics 283-4, 290,
 297, 306-7
 boys' schools 81-3, 126, 172-8, 217-
 20, 229-35, 259-60, 266-7, 269-70,
 272-3, 275
 choosing schools and classes 65-70
 coeducational schools 74, 83-7, 125,
 162-71, 201-2, 238-40, 260-2, 265,
 267-70, 275-6, 297
 community colleges 85-7
 community schools 84-5, 125-6
 designated-disadvantaged schools 80-
 2, 85-6, 102-4, 125-30, 201-2, 229-
 32, 259-60, 265, 272-3
 English classroom 225-51
 fee-paying schools 78-9, 82-3, 98-
 102, 215-20, 232-5, 265-7
 free-scheme schools 79-87, 102-4,
 215-20
 general profile of schools 73-8
 girls' schools 78-81, 98-102, 178-82,
 201-6, 215-20, 259, 266, 275
 mathematical profile of classes 76-8

- profile of individual schools and classes 78-87
 researching mathematics classes and English classes 71-3
 social-class background of students 74-6, 290
 students' views 72, 279-307
 tables 68, 70, 75, 77, 89-91, 289
 teachers and parents 73
 TIMMS-related test 71, 76-87, 125-6, 173-4, 180, 201-2, 215, 290, 297-8, 307, 371
 traditional teaching methods 366-8
 videotaping classes xiii-xiv, 71, 87, 146-7, 257-8
 vocational community colleges 85-7
 vocational schools 125
 Chambers 364
 Civil, Social and Political Education 244
 Clancy 20, 23
 Clark and Peterson 253, 275, 366
 classroom interaction *see* interaction in classrooms
 classrooms, and hierarchical approach to teaching 114
 Close, Kellaghan, Madaus and Airasian 2
 Cobb 23
 et al 8, 22-3
 coeducation 13-16, 57, 83-7
 ESRI study xiii, 12, 14, 25, 28, 38, 69, 357-8
 see also case studies; gender; interaction in classrooms; school types
Coeducation and Gender Equality 28
 Cohen 247
 Coleman et al 329
 Connell 18, 184, 276, 376-7
 Connolly 21
 Coolahan 8, 114, 382
 Cooper and Dunne 22
 Costello, Elvis 232, 246
 critical theorists 3
 Crozier 329
 Cuban 8
- D**
- Dale 332
 Daly and Defty 2
 Daly and Shuttleworth 2
 David 13
 Davies 7, 114, 382
 Davis and Hersch 3
 Department of Education and Science 4-6, 12, 20, 33, 35, 44
 Gender Equality Committee 66
 Statistical Reports 247
 study of Junior Certificate Examination results 360
 Desforges and Cockburn 8
 Devlin et al 372
 Dick and Rallis 279, 288, 308, 371
 Dossey 3, 256, 363
 Drudy and Uí Catháin 14, 15, 76, 162-3, 184
 Duffy 51
 et al 251
 Dunne 22, 279
 Dweck et al 21
- E**
- Eagleton 225
 Eccles 20
 Economic and Social Research Institute *see* ESRI
 Eisenstein 13
 England 11-12, 362
 English classroom 225-51
 analysis of language used 244-5
 cross-curricular references 244
 examples 230-1, 233-5, 237-43, 245-6
 figures 236
 gender differences in interaction 247-50
 group work 232, 244
 interaction analysis 235-50
 interpretation and discussion 229, 235-40, 250-1, 368
 learning/classroom environment 246-7
 moral dimensions of English 240-3
 organisation of lessons 227-35

tables 227-8, 248
 teachers' approaches compared to
 maths 232, 244, 250, 367-8
 variability in material covered 226-7
see also interaction in classrooms
 epistemological assumptions 143-4,
 147

Epstein 21
 et al 247

ESRI
 re-analysis of data on schools 28-9,
 69
 study of coeducation xiii, 12, 14, 25,
 28, 38, 69, 357-8
 examination-driven education 6-8, 144,
 147, 244, 261, 368-9, 382
 examples of classroom interaction 34-7,
 98-101, 105-6, 125-30, 134-7, 148-
 52, 169-70, 174-7, 181-2, 203, 205,
 210-13, 219-20
 in English classroom 230-1, 233-5,
 237-43, 245-6

F

feminism 3, 13, 21, 225
 Fennema 14, 17, 18, 20, 21, 131, 253,
 276
 et al 377
 and Leder 357
 and Nelson 8
 and Romberg 143
 and Tartre 20
Field, The 226, 240, 242-3
 Finland 11
 Fontes and Kellaghan 372
 Forgasz and Leder 279, 308
 Foucault 8, 114, 382
 Foundation level 12, 32-3, 35, 37, 45,
 54-5, 57-8, 60, 276
 France 330
 Francis 19, 20, 276, 377
 Freire 3, 143

G

Gamoran 214, 222, 378
 Gardner 372, 374
 Gates 8, 383

Gellert 17

gender
 and academic expectations 286-7
 and attitudes to mathematics 281-8
 awareness of issues 374-7
 balance in classroom 374-7
 and class size 162-5
 and classroom interaction 13-16, 153-
 95, 247-50, 284-6, 357
 in coeducational schools 153-62, 282-
 3
 in English classroom 247-50
 factors associated with gendered
 interaction 162-71
 figures 34-6, 268
 girls opting out 20-1
 and hidden curriculum 171-2
 and mathematics self-image 284
 and mathematics-related professions
 23
 perceptions of performance and
 abilities 19-20
 and performance in mathematics 11-
 12
 and related issues 1-23, 357-8
 in single-sex schools 171-82
 stereotypical views 17-20, 185, 247
 and student attitudes to mathematics
 18-19, 283, 365
 tables 30, 39, 42, 49, 51-2, 163, 186-
 94, 282-5, 287
 and take-up of mathematics 29-30,
 34-9, 362
 of teacher 163
 and teacher attitudes 165-71, 168-71,
 184, 247, 276, 365
 see also coeducation; interaction in
 classrooms
 Gender Equality Committee 66
 Gewirtz et al 329, 333, 355, 378, 380
 Gilligan 13, 21, 23
 Giroux 3
 Good and Brophy 14, 124, 134, 276
 Gorard et al 11, 12, 247, 362
 Gorard, Rees and Salisbury 11
 Gordon 185, 378
 grades 41-6

Gravemeijer and Kindt 4
 Greany and Close 2
 Gregg 8, 16-17, 244, 253, 275
 Gregory 214
 grinds 43, 338, 340-1, 346, 348
 grouping
 and mixed 'ability' 214-20
 and parental interventions 377-9
 and social class 197-224
 tables 198
 see also streams
 Grouws 357

H

Hacker et al 214
 Hall and Coles 247
 Hallam and Toutounji 222, 379
 Hammersley 4
 Hannan and Boyle 361, 378
 Hannan et al
 on coeducation xiii, 12, 14, 25, 28,
 38, 69, 357-8
 on girls' schools 171
 on mathematics self-image 287
 on schooling and sex roles 18, 19,
 185
 on secondary schools 361
 Harding 3, 13, 21, 23
 Hargreaves et al 7, 114
 Harker 11, 12, 14
 Harre 3
 Hazin et al 368
 Henningsen and Stein 113
 Heron 66
 hidden curriculum 171-2
 hierarchical approach to teaching 114,
 382
 Higher Level 12, 30-3, 35-8, 44-6, 54,
 56-7, 59-60, 360-1
 Holland et al 20
 homework 17, 107-10, 125-6, 258
 figure 277
 Hooks 3-4
 Howe 14, 184, 376
 Humphries 3, 66
 and Truman 66

I

Ikertel 222
 illustrative vignettes *see* examples of
 classroom interaction
 innate mathematical ability, belief in
 307, 348-9, 356, 372-4
 interaction in classrooms 14, 121-52
 demonstration 95-104, 115-18
 differences across streams 201-14
 discourse 144-7
 disruptive students 165, 174-8, 184
 drill questioning 125-6
 emphasis on right answer 145-6
 epistemological assumptions 143-4
 examples 34-7, 98-101, 105-6, 111-
 12, 115-18, 125-30, 134-7, 148-52,
 169-70, 174-7, 181-2, 203, 205,
 210-13, 219-20
 fear and anxiety 368
 figures 110, 122-3, 138, 157
 and gender 13-16, 153-95, 247-50,
 375-7
 lesson aims 110-12
 patterns of 122-3
 questions described as hard or easy
 146
 references to exam 144, 147
 seeking help 180, 295-7, 303-4, 307-
 8
 student practice 95-7, 104-10
 student responses to teachers'
 questions 159-60
 student-initiated 138-41, 161-2, 181
 tables 96, 119, 155-6, 158, 160-1,
 163-4
 teacher feedback to student responses
 160-1
 teacher-initiated 153-9, 367
 see also case studies; English
 classroom
 International Assessment of Educational
 Progress (IAEP) 9-10
 International Association for the
 Evaluation of Educational
 Achievement (IEA) 9
 International Group for the Psychology
 of Mathematics Education 2

J

- Johnston 279, 288, 308, 371
 Jones and Gerig 14-15
 Jones and Jones 21
 Jones and Smart 20, 21, 179
 Jovanovic and King 184, 376-7
 Junior Certificate mathematics 4-9, 12, 253-77
 changes and developments 5-7
 discussion 44-7
 excelling and performing poorly 41-4
 figures 30, 34-6, 54-61
 school type and gender differences 39-47, 359
 short time frame for course 261
 study of examination results xiv, 360-2
 tables 30-2, 39-40, 42, 47-53
 take-up and performance 25-63
 three levels 4, 26, 30-4, 39-47, 54-61, 201, 359

K

- Kaiser and Rogers 13
 Karabenick and Knapp 19
 Kawanka et al xiii, 67
 Keane, John B. 240
 Keitel and Kilpatrick 7, 10
 Kelleher 225
 Kelly 15, 18, 23
 Kerry 214
 Kilpatrick 3
 Kimmel and Messner 18

L

- Lakatos 3
 Lareau 329, 355, 378, 380
 Lave and Wenger 358
 Leaving Certificate 6-7, 12
 Leavis, F.R. 225
 Leder 13, 14, 16, 21, 358, 362
 and Fennema 14
 and Forgasz 20, 279, 287, 308, 377
 Lee 184, 376
 Lentin 3
 Lerman 3, 358, 378
 Lindquist-Wong 226

- Lodge 184, 376
 Lortie 276
 Lynch 9, 22, 171
 and Lodge 14-15, 18, 43, 113, 147, 171, 184-5, 222, 250-1, 361, 367, 375-6, 378-9, 382
 and O'Riordan 43, 277, 380

M

- Ma 279, 288, 308, 371
 Mac An Ghaill 21, 184, 247, 376
 McCaslin and Good 19
 McDermott 250
 McDonnell 287
 McLaren 4
 McLeod 16, 360, 368-9
 McRobbie 365
 Mahony 15
 and Zmroczek 13, 365
 Martin 18
 et al 2, 6
 mathematics
 absolutist tradition 2-3, 6, 256, 382
 abstracted view of 144, 363
 attitude scales 311-17
 attributes required for success in 255-6, 279-81, 373-4
 belief in innate ability for 307, 348-93, 356, 372-4
 changes and developments 5-7
 core themes in teaching and learning 95-120
 demonstration of 95-104
 developing understanding in 143-4
 emphasis on examination 6-8, 144-7, 244, 261, 368-9, 382
 excelling and performing poorly in 41-4
 Foundation level 12, 32-3, 35, 37, 45, 54-5, 57-8, 60, 276
 Higher level 12, 30-3, 35-8, 44-6, 54, 56-7, 59-60, 360-1
 new mathematics movement 5
 Ordinary level 44, 46, 55-6, 58-9, 61
 pedagogical challenges 8-9
 performance in 9-12
 and personal identity 364

perspectives on mathematics
 education 279-327
 problem-centred approach 113
 relativist tradition 3
 setting the context 1-2
 students' perspectives on 279-327
 success in school 279-80, 307
 taught as fixed body of knowledge
 147, 250, 364, 367
 teachers' perspectives on 253-77
 teaching and learning 1-2, 95-120,
 258-63, 366-8
 three levels 4, 25-6, 29-34, 36-47, 54-
 61, 201, 256-8, 357, 360-1, 363
 traditional approach 113-14, 366-8
 use in the real world 256
 use of technology in 5, 6
see also Junior Certificate
 mathematics
 Mathematics Teachers Association of
 Ireland 66
 Meyer and Rowan 114
 Miller 225, 247
 Moane 18
 Mura 20
 Murphy and Gipps 14, 18
 Murphy and Torrance 7, 114
 Myhill 247

N

Nardi and Steward 377
 National Council for Curriculum and
 Assessment (NCCA) 7
 Nelson Le-Gall 19
 New Zealand 12
 Nickson 363-4, 367
 Nussbaum 23

O

Oakes 222, 378
 OECD 1, 10
 Oldham 2, 4, 5, 6, 7, 10
 Oliver 66
 Omvig 14
 Oppenheim 281, 311
 Ordinary level 44, 46, 55-6, 58-9, 61
 outline of chapters xiv-xvi

Oxford 225

P

parents
 belief in innate ability for
 mathematics 348-9, 356
 comments 332-54
 differences in the cultural capital of
 330-1
 educational level and intervention
 334-8, 343-6
 and grinds 338, 340-1, 346, 348
 helping at home 337, 345-6
 and Higher level 338-9
 Insiders 329-42, 355-6, 373, 380
 Intermediaries 329-30, 349-56, 381
 intervention 335-8, 352-3, 377-9
 interviewed 73, 88, 329-56
 key role 380-2
 knowledge of children's progress at
 mathematics 339-40, 347-9
 not informed 381-2
 and Ordinary or Foundation level
 346-7
 Outsiders 329-30, 342-9, 355-6, 380-
 1
 personalising problems with
 mathematics 353-5
 perspectives 329-56
 school choice 332-4, 342-3, 350-1
 social class and involvement in
 education 329-56
 and streaming 338, 346, 349
 tables 331
 views on teaching and learning of
 mathematics 340-2
 wait and see approach 351-2
 pedagogy
 for the bottom stream 202-6
 challenges 8-9
 knowledge of alternative approaches
 263-4
 for mixed 'ability' groups 215-20
 pedagogical practices 15, 121-52,
 217, 256-8, 366, 379
 tables 96
 for the top stream 208-14

- see also* interaction in classrooms;
teachers
- Pedro et al 20
Peterson and Fennema 21
Phillips 13
Picker and Berry 288, 307-8, 364-5, 371
pilot study 67
PISA 9-10, 12, 22
Points Commission 6-7
Polya 226
Ponte et al 16
positivism 3-4, 13
postmodernism 3, 13, 225
Powers, Austin 246
Programme for International Student
Assessment *see* PISA
- Q**
- questioning 124-35
drill 125-6
and students' responses 142, 159-60
- R**
- Raymond 16, 253, 275
Reason 4
and Rowan 4
Reay 3, 329, 378
and Ball 355, 380
Reid et al 214
research
in European countries 363-4
in France 330
limited opportunities for 9
on mathematics education 2
in UK 11, 18-19, 362, 363-4
in US 363-4
research advisory committee 66
research instruments 67
Restivo 3
Reynolds 225, 247
and Walberg 279
Richards, I.A. 225
Robinson 18
Romberg 4, 113, 367
and Kaput 113
Ruffell, Mason and Allen 16
Ryan et al 19
- S**
- Sadker and Sadker 184, 376
Schoenfeld 113
school types 26-34, 36-9
and attitudes to mathematics 283-4,
290, 297, 306-7
coeducational 13-16, 25, 33, 162
community colleges 32
community schools 31-2, 46
comprehensive 32
designated disadvantaged 31-2, 38,
43-6, 362
fee-paying 32, 43, 45
and learning environment 172-82
single-sex 31, 162, 172-82
tables 30-2, 39-40, 42, 47-53
and take-up rates of different levels
of mathematics 30-4, 360-2
vocational 31-2, 46
schools
in case studies 67-93
parents' choice of 332-4, 342-3, 350-
1
Schools IT2000 initiative 5
Seale 66
Secada 357-8, 374, 377-8
Second International Mathematics Study
(SIMS) 9
Seegers and Boekaerts 20
Shavelson and Stern 253, 275, 366
She, H.C. 14, 16, 253
Sheil et al 6, 10, 12, 22
Sirotnik 8
Skeggs 365
Skilbeck 1
Smith 3, 13
and Glynn 15
social class
in case studies 74-6, 220-1, 290
and cultural deficit interpretation 379-
80
and different levels of mathematics
34
and disadvantaged schools 381-2
figure 271
and grouping 197-224
and mathematics education 21-2, 358

- and parents' involvement in education 329-56
 - profile of Junior Certificate Students 28
 - school type and gender 28-9, 199
 - and streaming 206-8
 - and student attitudes to mathematics 283, 287-8, 318
 - tables 199-200
 - teacher perspectives on 271-5, 277, 380
 - social context of mathematics education
 - discussion 363-6
 - issues to be addressed 357-84
 - Sorenson and Hallinan 222, 378-9
 - Stanley and Wise 3
 - Steinbring 4
 - Stigler and Heibert 71
 - streams 201-14, 378-9
 - bottom 181, 202-6, 240, 248, 260, 267
 - mixed 'ability' 214-20, 379
 - parents' attitudes to 338, 346, 349
 - and social class 206-8, 272
 - and student attitudes to mathematics 288, 371
 - top 208-14, 245-6, 248, 259, 262-3, 265, 288, 296
 - see also* grouping
 - structuralism 225
 - students
 - academic expectations 286-7
 - attitudes to mathematics 18-19, 311-17
 - classroom experience 284-6
 - comments 291-6, 298-306
 - composition by school type and gender 26-9
 - disruptive 165, 174-8, 184
 - fear and anxiety 295-7, 306-8, 368-70
 - figures 138, 140, 142, 281, 310
 - gender differences in attitudes 281-8
 - negative experience 295-307
 - perspectives on learning mathematics 279-327
 - positive experience 288-95
 - practice 95-7, 104-10
 - responses to teachers' questions 142, 159-60
 - seeking help 180, 295-7, 303-4, 307-8
 - student-initiated interactions 138-41, 161-2, 181
 - tables 141, 282-5, 289, 318-26
 - views on teachers 280-1, 291-309, 364, 369
 - views on what is required for success in maths 279-81, 373-4
 - Sukhnandan and Lee 214
- ### T
- Taber 15
 - Taylor 222, 379
 - teachers
 - attitudes 16-18, 247
 - belief in innate mathematical ability 307, 372-4
 - comments 165-9, 204, 207-9, 213-14, 216-18, 259-67, 269-70, 272
 - emphasis on examination 369
 - feedback to student responses 160-1
 - figures 132, 254-5, 257, 268
 - and gender balance 374-7
 - impact on student attitudes to mathematics 288, 370-2
 - instructions 135-7
 - interviewed 73, 88
 - knowledge of alternative pedagogical approaches 263-4
 - level and type of questioning 124-35
 - pedagogical practices 15, 121-52, 217, 256-8, 366, 379
 - person-centred and depersonalised 258-63
 - perspectives on gender differences 268-71, 276
 - perspectives on mathematics 253-77
 - perspectives on social class differences 271-5, 277, 380
 - questioning students 124-35
 - students' views on 280-1, 291-309, 364
 - study in Canada 16
 - traditional approach 113-14, 366-8

- view of their role 3
 - views on learning 264-8
 - views on social class 380
 - working conditions of 7
 - see also* English classroom;
 - interaction in classrooms;
 - pedagogy
 - technology 1
 - Third International Mathematics and Science Study *see* TIMSS
 - Thomas 225, 251, 368
 - Thompson 3, 8, 16, 383
 - TIMSS xiii, 7, 9, 10, 71, 254-5, 275, 366, 372
 - videotape study of mathematics classrooms 67, 71
 - see also* case studies
 - To Kill a Mockingbird* 227
 - Toale et al 14
 - Tobin 15, 16
 - Travers and Cooper 114
- U**
- United Kingdom 18-19
 - Useem 329, 355, 380
- V**
- van Veen 114
 - et al 7
 - video study xiii-xiv, 71, 87, 146-7, 257-8
 - Volman and Ten Dam 20
- W**
- Wales 11, 362
 - Walkerdine and Lucey 365
 - Wang 222
 - and Haertal 379
 - Warrington 19
 - et al 184, 376
 - Watson 23
 - Weiler 4
 - Wells and Oakes 378
 - Wells and Serna 380
 - Wenger 378
 - West et al 329, 355, 380
 - White 225, 226, 247, 368
 - Widmer, Goulding and Oldham 2
- Y**
- Younger et al 14, 15, 18
- Z**
- Zevenbergen 279

