

Cambridge University Press

0521848318 - Frameworks for Thinking: A Handbook for Teaching and Learning

David Moseley, Vivienne Baumfield, Julian Elliott, Maggie Gregson, Steven Higgins,

Jennifer Miller and Douglas Newton

Index

[More information](#)

Index

- Adams, H. 26, 251, 259, 265, 302–303
- Adey, P. 25, 27–28, 112–113
- affective domain and affect 2, 14, 51, 73, 77, 83, 137, 198, 246, 271, 272–273, 279, 299
- Allen, R.
 brief outline of framework 120
 description and intended use 128–130
 evaluation 130–132
 summary 132–133
- Altshuller, G. 305–306
 brief outline of TRIZ framework 120
 description and intended use 122–126
 evaluation 126–127
 generic nature of TRIZ 127
 summary 128
 TRIZ and creativity 131
- Anderson, L. 300, 302
 brief outline of framework 49
 comparison with Bloom's taxonomy 103–105, 110
 description and intended use 102–105
 evaluation 109–111
 knowledge dimension 104, 106–108
 organising questions 104–105
 summary 112
 treatment of metacognition 110
- Anderson, R. 34, 40
- Andrews, R. 132, 163
- argument analysis 128–130, 131, 143, 145–146
- ARIZ algorithm for inventive problem solving 122, 125
- Ashman, A. 13, 24
- assessment 23, 57–58, 73, 88, 104–105, 140–141, 156, 212, 306–307
- attribution for success or failure 237–238, 239, 309
- Ausubel, D. 31
 brief outline of framework 47
 comparison with Bloom's categories 68
 description and intended use 67–69
 evaluation 69–70
 summary 70–71
- Baddeley, A. 229, 244–245
- Bailey, K. 33, 37, 38, 39
- Bailin, S. 120
 brief outline of framework 122
 description and intended use 177–181
 evaluation 181–182
 summary 182–183
- Bandura, A. 238
- Barnes-Holmes, D. see Strand, P.
- Barnes-Holmes, Y. see Strand, P.
- Baron, J.
 brief outline of framework 121
 description and intended use 148–150
 evaluation 150–151
 model of the good thinker (authored with Glatthorn) 149–150
 summary 151–152

350 | **Index**

- Baron-Cohen, S. 219–220
- Baumfield, V. 21, 32, 163
- behaviourist approaches 30, 44–45, 311–312
- Belenky, M. 202–203
 - brief outline of framework 188
 - description and intended use 217–219
 - evaluation and gender issues 219–220
 - summary 220–221
- Bhana, K. 162, 198–199
- Bidell, T. 193–194, 233
- Biggs, J. 5, 204–205, 223, 306, 307, 308, 309
 - brief outline of SOLO framework 48
 - comparison with Perry’s scheme 204–205
 - description and intended use 85–88
 - evaluation 88–89
 - summary 89–90
- Bloom, B. 77, 83
 - aims and values 45, 49
 - brief critique 41
 - brief outline of framework 47
 - comments by Richard Paul 53
 - comparison with Anderson and Krathwohl revision 102–104, 110
 - comparison with Ausubel’s categories 68
 - comparison with Halpern’s categories 146
 - comparison with Hauenstein’s framework 273–274, 276
 - comparison with Marzano’s taxonomy 286
 - comparison with our integrated model 313
 - comparison with Quellmalz’s higher order processes 91
 - comparison with Romiszowski’s skill categories 254–256
 - description and intended use 49–52
 - evaluation 52–54
 - hierarchical nature of framework 41, 50–53, 104
 - influence on Hannah and Michaelis 75
 - summary 54–55
 - value for teachers 54, 302
- Boekaerts, M. 13, 241
- Bowler, P. 35, 36, 39
- Brody, N. 293
- Bronowski, J.
 - model of executive function 244
- Bruner, J. 25
- Carroll, J.
 - brief outline of framework 188
 - correspondence with Demetriou’s model 226–227
 - correspondence with Gardner’s ‘intelligences’ 209
 - description and intended use 221–223
 - evaluation 223–224
 - factor analytic support for ‘g’ 185–186
 - summary 224–225
- Clarke, S. see Andrews, R.
- cognitive approaches
 - cognitive acceleration 25, 28, 112–115
 - cognitive apprenticeship 25
- cognitive science
 - connectionism 30
 - symbolicism 30
- Collis, K. 5, 204–205, 306–307
 - for taxonomy, see Biggs, J.
- Comte, A. 16
- conation 2, 95, 267, 275, 282–283, 299
- Conway, R. see Ashman, A
- Corno, L. 31
- Costa, A. 302
- Costello, P. see Andrews, R.

Cambridge University Press

0521848318 - Frameworks for Thinking: A Handbook for Teaching and Learning

David Moseley, Vivienne Baumfield, Julian Elliott, Maggie Gregson, Steven Higgins,
Jennifer Miller and Douglas Newton

Index

[More information](#)

- Craft, A. 176
- creativity *see* thinking, creative
- critical thinking 96, 120, 158, 291
and subject knowledge 21
and supporting dispositions 11,
119–120, 122, 145, 150–151,
153, 159–160, 166, 171, 178–179,
237–238, 306–307
- assessment of 156, 306
- definitions of 20–21, 141, 164
- standards of (Paul) 165
- weak and strong sense (Paul) 22,
164, 166
- de Bono, E. 26, 176
brief outline of framework 121
CoRT programme 134–135, 139
description and intended use
133–137
evaluation 137
lateral thinking 133–134
parallel thinking 135–137
Six Thinking Hats 135–137
summary 139–140
- de Corte, E. 28, 30–31
- Demetriou, A. 13, 186, 244, 307
brief outline of framework 188–189
comparison with Marzano's model
229, 286–287, 288
correspondence with Carroll's
abilities 226–227
correspondence with Gardner's
'intelligences' 226–227
description and intended use
225–228
evaluation 228–229
influence of Piaget 49
summary 230
see also: hypercognition
- Denckla, M. 243–246
- developmental stage theories 25, 186,
189–194, 203, 306
- Dewey, J. 8, 10–12, 307
influence on Lipman 162
dialogue 22, 162–163, 264
Durkheim, E. 16
- educational interventions
cognitive 27–29, 56
engaging metacognition 28–29, 309
engaging the self system 14, 309
experimental 162–163, 223, 293,
307–309
for use by students 309
for use by teachers 309
psycholinguistic 27
relational 309
unistructural 308–309
- Elder, L. 164, 245
- Eliasmith, C. 30
- Ennis, R. 18, 23, 170
assessment of critical thinking
156, 306
brief outline of framework 121
comparison with Jewell's model 172
definition of critical thinking 20
description and intended use 152–155
evaluation 155–156
over-arching dispositions 21, 155
summary 156–157
- enquiry
and supporting dispositions 159–160
and thoughtfulness 8
community of 22–23, 26–27,
161, 301–302
professional 301
- epistemology
and development 186, 192
continuum of theories 44
cultural differences 168, 233
epistemic cognition (Quellmalz) 95
- evidence 129, 148–149, 168, 214
- executive function 64–65, 207,
243–246, 267

Cambridge University Press

0521848318 - Frameworks for Thinking: A Handbook for Teaching and Learning

David Moseley, Vivienne Baumfield, Julian Elliott, Maggie Gregson, Steven Higgins,

Jennifer Miller and Douglas Newton

Index

[More information](#)

352

Index

- Facione, P. 20, 119
 Feezel, J. *see* Allen, R.
 Feuerstein, R.
 brief outline of framework 47
 description and intended use 55–58
 evaluation 58–61
 Instrumental Enrichment 25, 27, 45,
 56–57, 60–61, 307
 Learning Potential Assessment
 Device 57–58
 summary 61–62
 Fischer, K. 194, 231, 233, 245
 Flavell, J. 12–13, 278
 frameworks
 accessibility of 302–303
 coverage of thinking and learning
 298, 299–300
 evaluation criteria 3–4
 types of:
 explanatory models 40
 groups 35–36
 lists 34–35
 maps 41
 taxonomies 36–42,
 uses of 296–297
 by classroom teachers 317
 by students 301–302, 306, 317
 for understanding thinking and
 learning 297, 302–303
 in assessment 306–307
 in consultancy 306
 in instructional design 303–304
 in professional development 301
 in research and evaluation 302,
 307–308

 Gagné, R. 40, 46, 99
 brief outline of framework 47
 description and intended use 62–65
 evaluation 65–66
 summary 66–67
 Gardner, H. 186
 brief outline of framework 206
 correspondence with Carroll's
 abilities 226–227
 correspondence with Demetriou's
 model 226–227
 criteria for an intelligence 207, 210
 critique of theory by Klein 210, 211
 description and intended use
 206–209
 evaluation 209–212
 intervention study 211
 summary 212–213
 gender differences
 in Belenky's model 219–220
 in empathy 219–220
 Gerlach, V.
 Gerlach and Sullivan's taxonomy 42
 Glatthorn, A. 151
 characteristics of the good thinker
 (authored with Baron, J)
 150–151
 model of thinking (authored with
 Baron, J) 149–150
 Gottfredson, L. 293
 Gouge, K.
 brief outline of framework 49
 cognitive acceleration 114–115
 description and intended use
 112–115
 evaluation 115–116
 Piagetian features in taxonomy
 113–114
 reasoning patterns 212
 summary 116–117
 Grigorenko, E. 198–199, 292, 293
 Guilford, J.
 brief outline of framework
 187–188
 creativity as divergent
 production 197
 description and intended use
 195–197
 evaluation 197–199
 influence on Sternberg 198–199

model as a three-dimensional typology 42	example of a theoretical framework 40
summary 199–200	psychological orientation 30–31
use of factor analysis 185–186	recommended frameworks 303–304
	theory 31–32
Hacker, D. 13	integrated model (as proposed here) 4
Halpern, D. 300, 302	model outline 313–316
brief outline of framework 120	need for 297
comparison with Bloom’s taxonomy 146	relationship to Bloom’s taxonomy 313
comparison with Marzano’s taxonomy 146	uses of (illustrative) 317–318
description and intended use 122–126	intelligence 58, 61, 138, 148, 165, 185–186, 189–192, 195–198, 206–209, 209–212, 221–223, 226–227, 246, 291, 292, 293
evaluation 126–127	
summary 128	Jewell, P.
Handley, S. 245, 246	brief outline of framework 122
Hannah, L.	comparison with Ennis’ categories 172
behaviour descriptors provided 54	debt to Lipman 170
brief outline of framework 47–48	description and intended use 170–171
debt to Bloom 75	evaluation 172–173
description and intended use 75–77	summary 173–174
evaluation 77–78	
summary 78–79	Jonassen, D.
Hattie, J. 223, 307–309, 312	brief outline of framework 251
Hauenstein, A.	description and intended use 266–268
brief outline of framework 252	evaluation 268–270
comparison with Bloom’s taxonomy 273–274, 276	summary 270–271
description and intended use 271–274	
evaluation 274–277	Kauffie, F. see Allen, R.
summary 277–278	key skills 258, 288, 317
Hawley, W. 44–45	King, P. 186, 203
Herrmann, N. 176, 219	brief outline of framework 231–234
Higgins, S. 21, 26, 310	description and intended use 231–232
Hofer, B. 186, 231	evaluation 231
hypercognition 13, 226, 228, 244	influence of Piaget 231
	recommendation 303
	summary 234
Illeris, K. 2, 17–18	
instructional design 29–32	
educational orientation 30–31	

Cambridge University Press

0521848318 - Frameworks for Thinking: A Handbook for Teaching and Learning

David Moseley, Vivienne Baumfield, Julian Elliott, Maggie Gregson, Steven Higgins,

Jennifer Miller and Douglas Newton

Index

[More information](#)

354

Index

- Kitchener, K. see King, P.
- Klein, P.
critique of Gardner's theory 210–211
- knowledge and skills 64–65, 75, 99, 104, 106–108, 110, 217–218, 252–255, 258, 266–267, 269, 284, 288, 290–291, 305, 309
- Koplowitz, H. 306
brief outline of framework 188
description and intended use 213–215
evaluation 214–216
influence of Piaget 213
summary 216–217
- Kozulin, A. 60, 61
- Krathwohl, D. see Anderson, L.
- Lane, R. 243–245, 246
- language to describe thinking and learning 8–9, 54, 131, 280, 297, 300
- learning
and supporting dispositions 67, 262–263, 267
dimensions of 2, 17–18
from experience 263
in a social context 17–18, 45, 162, 166, 194–233, 263, 311–312
independent 25, 301, 302
individualised 211, 257, 311
meaningful v. rote 67–68, 269
mediated 45, 55–58, 61, 162, 200
objectives/outcomes 16, 25, 29, 45, 49, 63, 75, 80, 83, 88, 103–104, 211, 255, 266–269, 271–273, 283–284
self-regulated 235–241, 280
shared regulation 280
teacher-directed 69, 280, 302, 304, 312
types of 63–65
- learning disabilities
and working memory 245–246
cognitive interventions 27, 29
metacognitive interventions 29
- learning to learn 21, 28–29, 56, 264, 290, 308–309
- Lipman, M. 11, 22–23, 26–27, 301–302
brief outline of framework 121
critical, creative and caring thinking 158
description and intended use 157–161
evaluation 161–163
influence on Jewell 170
summary 163–164
- see also: enquiry, community of
see also: Philosophy for Children
- Marzano, R. 79, 307–309, 316
brief outline of framework 252
comparison with Bloom's taxonomy 286
comparison with Demetriou's model 229, 286–288
comparison with Halpern's categories 146
description and intended use 282–285
evaluation 285–289, 300, 303–304, 316
hierarchical nature of framework 282–283, 288
summary 289–290
- Masia, B. 51
- McPeck, J. 18, 21–23
- memory
reproductive 309
retrieval 63, 141, 235–237, 254, 309
skills (Halpern) 142
working memory 87–88, 228, 244–246
and metacognition 25, 228, 235–237

Merrill, M.
 brief outline of framework 48
 description and intended use 99–100
 evaluation 100–102
 summary 101–102

meta-analysis 307–308
 findings from 162–163, 307–310

metacognition 12–14, 262, 282–283
 and self-regulation 12–14, 278–279
 and working memory 25, 228, 235–237
 disposition towards 122, 171
 metacognitive knowledge 13, 108, 110, 290
 Presseisen’s model 94, 97
 self-awareness 13
 self-monitoring 13

see also: hypercognition

Mezirow, J. 204

Michaelis, J. see Hannah, L.

Moore, W. 203, 269

Moseley, D. 1, 4

Murphy, G. see Stahl, R.

Nadel, L. see Lane, R.

nature and nurture 227, 310–311

Nosich, G. 165, 168

Parks, S. see Swartz, R.

Pascual-Leone, J. 192, 245

Paul, R. 22, 23
 brief outline of framework 121–122
 comments on Bloom’s work 53
 description and intended use 164–166
 elements of reasoning 164–165
 evaluation of framework 166–169
 intellectual abilities 165–166
 intellectual traits 166
 standards of critical thinking 165
 summary 169–170

pedagogical approaches 22, 23–24, 192, 280, 302, 304, 312

Perkins, D. 307

Perry, W. 12
 brief outline of framework 188
 comparison with SOLO categories 204–205
 debt to Piaget 202
 description and intended use 200–202
 evaluation 202–205
 impact and influence in the US 186, 217
 summary 205–206

Petty, G. 176
 brief outline of framework 122
 description and intended use 174
 evaluation 174–176
 mindsets supporting creativity 174–176
 summary 177

Philosophy for Children 22–23, 161, 162–163

Piaget, J. 186, 214–216, 222
 brief outline of framework 187
 description and intended use 189–192
 evaluation 192–194
 formal operations 87, 113, 191
 impact on education 192
 influence on Demetriou 227
 influence on Gouge and Yates 113–114
 influence on King and Kitchener 231
 influence on Koplowitz 213
 influence on Perry 202
 neo-Piagetian theory 245
 summary 194–195

Pintrich, P. 2, 186–187, 229, 231, 244, 300, 307, 316
 brief outline of framework 189

Cambridge University Press

0521848318 - Frameworks for Thinking: A Handbook for Teaching and Learning

David Moseley, Vivienne Baumfield, Julian Elliott, Maggie Gregson, Steven Higgins,

Jennifer Miller and Douglas Newton

Index

[More information](#)

- Pintrich, P. (*cont.*)
 comparison with Vermunt and Verloop's categories 280
 description and intended use 235–241
 evaluation 241–242, 300
 summary 242–243
- Presseisen, B.
 brief outline of framework 48
 description and intended use 94–95
 evaluation 95–98
 summary 98
- psychomotor domain and skills 77, 271–273
- Quellmalz, E.
 brief outline of framework 48
 comparison with Bloom's taxonomy 91
 description and intended use 90–91
 evaluation 92–93
 summary 93
- Randi, R. *see* Corno, L.
- rationality 148, 150, 168
- reasoning 122, 132
 deductive 91, 142–143
 hypothesis testing 143
 inductive 27, 76, 91, 222
 inference 76, 91–92, 129, 148–149, 154
 likelihood and uncertainty 144
 moral 233
 patterns of 129
 Paul's elements of reasoning 164–165
 taxonomy of (Jewell) 171
- Reigeluth, C. 31–32, 100
- Rhodes, M. 176
- Robinson, F. *see* Ausubel, D.
- Rogoff, B. 25
- Romiszowski, A. 119
 brief outline of framework 251
 comparison with Bloom's taxonomy 254–256
 comparison with Kolb's learning cycle 256
 description and intended use 252–255
 evaluation 256–258
 knowledge categories 253
 skill categories 253
 skill cycle 253–254, 258
 summary 258–259
- self-efficacy 13–14, 75, 238
- self-regulation 12–14, 187, 235–241, 243–244, 302, 304, 305
 and metacognition 12–14, 278–279
 and self-efficacy 13–14
 in teachers 31
 Zimmerman's triadic model 241
see also: hypercognition
- Shayer, M. 25, 27–28, 113
- Skuy, M.
 map of cognitive strengths and weaknesses 58, 59–60
- Smith, G. 21, 22
- Smith, L. 193–194
- Smith, M. 209–210
- sociocultural perspectives 16–18, 25, 292, 311–312
- SOI (Structure of Intellect) 198–199
- SOLO (Structure of the Observed Learning Outcome) taxonomy 5, 306–307
 and working memory 87–88
 brief outline of SOLO framework 48
 comparison with Perry's scheme 204–205
 description and intended use 85–88
 evaluation 88–89

Cambridge University Press

0521848318 - Frameworks for Thinking: A Handbook for Teaching and Learning

David Moseley, Vivienne Baumfield, Julian Elliott, Maggie Gregson, Steven Higgins,

Jennifer Miller and Douglas Newton

Index

[More information](#)

- summary 89–90
- value in assessment 88
- Stahl, R.
 - brief outline of framework 48
 - description and intended use 79–83
 - evaluation 83–84
 - summary 84–85
- Sternberg, R. 162, 172, 187, 192, 198–199, 212, 246, 303, 307
 - brief outline of framework 252
 - comments on Gardner 209
 - debt to Guilford 198–199
 - description and intended use 290–292
 - evaluation 292–294
 - intervention study 293
 - summary 294
 - theory of creativity 198
 - triarchic theory of intelligence
 - criticisms of 293
- Stiggins, R. 91
- Strand, P. 311–312
- Sullivan, A. *see* Gerlach, V.
- Swanson, H. 27, 29, 246
- Swartz, R. 28, 316
- TASC (Thinking Actively in a Social Context)
 - see*: Wallace
- taxonomies 36–42
 - examples of:
 - in biology 37
 - in chemistry 38
 - in instructional design 40
 - in the social sciences 38
 - qualitative approach 37
 - quantitative approach 37
 - typologies 38
- ten Dam, G. 304
- Tessmer, M. 266, 268
 - for taxonomy *see* Jonassen, D.
- Thagard, P. 15
- Thayer-Bacon, B. 168
- thinking
 - accounts of
 - descriptive 19, 23, 120
 - first person 16
 - normative 19, 23, 120, 149–150, 150–151
 - third person 16
 - and caring 11, 21, 161
 - and learning 21, 263, 269
 - building understanding 315–316
 - computational aspects 15
 - conscious control of 12
 - creative 68–69, 70, 71–73, 96, 113, 133–134, 139, 144–145, 149–150, 158, 174–176, 197, 198, 291, 305–306
 - critical (*see* critical thinking)
 - diverse nature of 10–12, 157–161,
 - generality of 18, 22, 127, 179
 - imagination 10–11, 73, 113, 160, 191
 - information-gathering 75, 315–316
 - parallel 135–137
 - post-formal 87, 213, 214–216
 - productive 96, 119, 133, 144–145, 254–255, 300, 313
 - reflective 11–12, 15–16, 20, 149, 154, 204, 231–233, 237–238, 240–241, 267, 280, 313–315
 - representational aspects 15, 309
 - specificity of 18–19, 22–23
 - strategic 91, 97, 313, 314–315
 - usage of the term in education 12
- thinking skills
 - approaches
 - discrete 22–23, 25, 135–137, 161
 - infused across the curriculum 22, 28
 - subject-specific 25, 27–28, 112–113
 - working definition of 24
 - classification of 297–298
 - critique of 179, 180
 - in education 23–24, 308–310
 - need for 9

358 | Index

- thinking skills (*cont.*)
 - programmes 22–28, 92, 112–113, 132, 135–137, 149–150, 161, 198, 300
- thought and language skills (Halpern) 142
- thoughtfulness 8, 11
 - and enquiry 8
- Topping, K. *see* Trickey
- Toulmin, S. 129, 131–132
- transfer 27, 61, 139, 147, 180, 223, 269, 301, 309
- Trickey, S. 162–163
- TRIZ Theory of Inventive Problem Solving 305–306
 - and creativity 131
 - and Six Thinking Hats 137
 - generic nature of 127
- van Gelder, T. 30, 132
- Velmans, M. 16
- Verloop, N. 302, 304, 306–307
 - for framework, *see* Vermunt, J.
- Vermunt, J. 302, 304–305, 307
 - brief outline of framework 252
 - comparison with Pintrich’s framework 280
 - description and intended use 278–280
 - evaluation 280–281, 306
 - summary 281–282
- Volman, M. *see* ten Dam, G.
- Vygotsky, L. 25, 45
 - functional learning systems 18
 - influence on Wallace and Adams 264
- Wallace, B. 26, 303
 - brief outline of TASC framework 251
 - description and intended use 259–260
 - evaluation 261–265
 - debt to Vygotsky 264
 - recommendation 302–303
 - summary 265
- Williams, F. 176
 - brief outline of framework 47
 - description and intended use 71–73
 - evaluation 73–74
 - summary 74–75
- Yates, C. *see* Gouge, K.
- Zeidner, M. 13
- Zimmerman, B. 13–14, 237, 241