

## APPENDIX: EFFECT SIZES

Rank	Influence	ES
1	Self-reported grades/student expectations	1.44
2	Piagetian programs	1.28
*3	Response to intervention	1.07
*4	Teacher credibility	0.90
5	Providing formative evaluation	0.90
6	Micro-teaching	0.88
*7	Classroom discussion	0.82
8	Comprehensive interventions for students who are learning disabled	0.77
9	Teacher clarity	0.75
10	Feedback	0.75
11	Reciprocal teaching	0.74
12	Teacher–student relationships	0.72
13	Spaced versus mass practice	0.71
14	Metacognitive strategies	0.69
15	Acceleration	0.68
16	Classroom behavioral	0.68
17	Vocabulary programs	0.67
18	Repeated reading programs	0.67
19	Creativity programs on achievement	0.65
20	Prior achievement	0.65
21	Self-verbalization and self-questioning	0.64
22	Study skills	0.63
23	Teaching strategies	0.62
24	Problem-solving teaching	0.61
25	Not labeling students	0.61
26	Comprehension programs	0.60
27	Concept mapping	0.60
28	Cooperative versus individualistic learning	0.59
29	Direct instruction	0.59
30	Tactile stimulation programs	0.58
31	Mastery learning	0.58
32	Worked examples	0.57
33	Visual perception programs	0.55

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## APPENDIX: EFFECT SIZES (Continued)

Rank	Influence	ES
34	Peer tutoring	0.55
35	Cooperative versus competitive learning	0.54
36	Phonics instruction	0.54
*37	Student-centered teaching	0.54
38	Classroom cohesion	0.53
39	Pre-term birth weight	0.53
40	Keller's Master Learning	0.53
41	Peer influences	0.53
42	Classroom management	0.52
43	Outdoor/adventure programs	0.52
44	Home environment	0.52
45	Socio-economic status	0.52
46	Interactive video methods	0.52
47	Professional development	0.51
48	Goals	0.50
49	Play programs	0.50
50	Second/third chance programs	0.50
51	Parental involvement	0.49
52	Small group learning	0.49
53	Questioning	0.48
54	Concentration/persistence/engagement	0.48
55	School effects	0.48
56	Motivation	0.48
57	Quality of teaching	0.48
58	Early interventions	0.47
59	Self-concept	0.47
60	Preschool programs	0.45
61	Writing programs	0.44
62	Expectations	0.43
63	School size	0.43
64	Science	0.42
65	Cooperative learning	0.42
66	Exposure to reading	0.42
67	Behavioral organizers/adjunct questions	0.41

Rank	Influence	ES
68	Mathematics programs	0.40
69	Reducing anxiety	0.40
70	Social skills programs	0.39
71	Integrated curricula programs	0.39
72	Enrichment	0.39
73	Principals/school leaders	0.39
74	Career interventions	0.38
75	Time on task	0.38
*76	Psychotherapy programs	0.38
77	Computer-assisted instruction	0.37
78	Adjunct aids	0.37
79	Bilingual programs	0.37
80	Drama/arts programs	0.35
81	Creativity related to achievement	0.35
82	Attitude to mathematics/science	0.35
83	Frequent/effects of testing	0.34
84	Decreasing disruptive behavior	0.34
*85	Various teaching on creativity	0.34
86	Simulations	0.33
87	Inductive teaching	0.33
88	Ethnicity	0.32
89	Teacher effects	0.32
90	Drugs	0.32
91	Inquiry-based teaching	0.31
*92	Systems accountability	0.31
93	Ability grouping for gifted students	0.30
94	Homework	0.29
95	Home visiting	0.29
96	Exercise/relaxation	0.28
97	Desegregation	0.28
98	Teaching test-taking and coaching	0.27
99	Use of calculators	0.27

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## APPENDIX: EFFECT SIZES (Continued)

Rank	Influence	ES
*100	Volunteer tutors	0.26
101	Lack of illness	0.25
102	Mainstreaming	0.24
103	Values/moral education programs	0.24
104	Competitive versus individualistic learning	0.24
105	Programmed instruction	0.23
106	Summer school	0.23
107	Finances	0.23
108	Religious schools	0.23
109	Individualized instruction	0.22
110	Visual/audio-visual methods	0.22
111	Comprehensive teaching reforms	0.22
*112	Teacher verbal ability	0.22
113	Class size	0.21
114	Charter schools	0.20
115	Aptitude/treatment interactions	0.19
116	Extra-curricular programs	0.19
117	Learning hierarchies	0.19
118	Co-/team teaching	0.19
119	Personality	0.18
120	Within-class grouping	0.18
121	Special college programs	0.18
122	Family structure	0.18
*123	School counseling effects	0.18
124	Web-based learning	0.18
125	Matching learning styles	0.17
126	Teacher immediacy	0.16
127	Home-school programs	0.16
128	Problem-based learning	0.15
129	Sentence-combining programs	0.15
130	Mentoring	0.15
131	Ability grouping	0.12

Rank	Influence	ES
132	Diet	0.12
133	Gender	0.12
134	Teacher education	0.12
135	Distance education	0.11
136	Teacher subject matter knowledge	0.09
*137	Changing school calendar/timetable	0.09
138	Out-of-school curricular experiences	0.09
139	Perceptual motor programs	0.08
140	Whole language	0.06
*141	Diversity of students	0.05
142	College halls of residence	0.05
143	Multi-grade/age classes	0.04
144	Student control over learning	0.04
145	Open versus traditional learning spaces	0.01
146	Summer vacation	-0.02
147	Welfare policies	-0.12
148	Retention	-0.13
149	Television	-0.18
150	Mobility	-0.34

Source: Hattie (2012). Reproduced with permission.

\* Represents an effect that has been added to the original list since the publication of *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement* (Hattie, 2009).

Note: Effect size for collective teacher efficacy published separately in Hattie (2015), The Applicability of Visible Learning to Higher Education, *Scholarship of Teaching and Learning in Psychology*, 1(1), 79–91. In-chapter references to effect sizes for mnemonics, taking class notes, organizing and transforming conceptual knowledge, and teaching students to summarize are not listed here and are based on the ongoing synthesis of learning strategies research.