

Visible Learning™ 250+ Influences on Student Achievement

STUDENT	ES
Prior knowledge and background	
Field independence	0.94
Non-standard dialect use	-0.29
Piagetian programs	1.28
Prior ability	0.98
Prior achievement	0.59
Relating creativity to achievement	0.35
Relating high school to university achievement	0.60
Relating high school achievement to career performance	0.38
Self-reported grades	1.33
Working memory strength	0.66
Beliefs, attitudes and dispositions	
Attitude to content domains	0.46
Concentration/persistence/ engagement	0.54
Grit/incremental vs. entity thinking	0.25
Mindfulness	0.28
Morning vs. evening	0.12
Perceived task value	0.46
Positive ethnic self-identity	0.12
Positive self-concept	0.47
Self-efficacy	0.71
Stereotype threat	-0.33
Student personality	0.30
Motivational approach, orientation	
Achieving motivation and approach	0.42
Boredom	-0.47
Deep motivation and approach	0.57
Depression	-0.26
Lack of stress	0.17
Mastery goals	0.06
Motivation	0.38
Performance goals	-0.01
Anxiety	-0.44
Surface motivation and approach	-0.14
Physical influences	
ADHD	-0.90
ADHD – treatment with drugs	0.32
Breastfeeding	0.04
Deafness	-0.61
Exercise/relaxation	0.21
Gender on achievement	0.08
Illness	-0.44
Lack of sleep	-0.05
Full compared to pre-term/low birth weight	0.57
Relative age within a class	0.45
Bullying	-0.20

CURRICULA	ES
Reading, writing and the arts	
Comprehensive instructional programs for teachers	0.72
Comprehension programs	0.55
Drama/arts programs	0.42
Exposure to reading	0.43
Music programs	0.30
Phonics instruction	0.60
Repeated reading programs	0.75
Reading Recovery	0.53
Sentence combining programs	0.15
Spelling programs	0.58
Visual-perception programs	0.55
Vocabulary programs	0.63
Whole language approach	0.06
Writing programs	0.46
Math and sciences	
Manipulative materials on math	0.30
Mathematics programs	0.59
Science programs	0.56
Use of calculators	0.27
Other curricula programs	
Bilingual programs	0.36
Career interventions	0.38
Chess instruction	0.34
Conceptual change programs	0.99
Creativity programs	0.64
Diversity courses	0.09
Extra-curricula programs	0.20
Integrated curricula programs	0.47
Juvenile delinquent programs	0.12
Motivation/character programs	0.35
Outdoor/adventure programs	0.43
Perceptual-motor programs	0.08
Play programs	0.50
Social skills programs	0.37
Tactile stimulation programs	0.58

HOME	ES
Family structure	
Adopted vs non-adopted care	0.25
Engaged vs disengaged fathers	0.21
Intact (two-parent) families	0.22
Other family structure	0.16
Home environment	
Corporal punishment in the home	-0.33
Early years' interventions	0.44
Home visiting	0.29
Moving between schools	-0.30
Parental autonomy support	0.12
Parental involvement	0.45
Parental military deployment	-0.16
Positive family/home dynamics	0.52
Television	-0.18
Family resources	
Family on welfare/state aid	-0.12
Non-immigrant background	0.01
Parental employment	0.03
Socio-economic status	0.52

SCHOOL	ES
Leadership	
Collective teacher efficacy	1.39
Principals/school leaders	0.37
School climate	0.43
School resourcing	
External accountability systems	0.20
Finances	0.21
Types of school	
Charter schools	0.04
Religious schools	0.24
Single-sex schools	0.08
Summer school	0.19
Summer vacation effect	0.02
School compositional effects	
College halls of residence	0.05
Desegregation	0.28
Diverse student body	0.10
Middle school interventions	0.18
Out-of-school curricula experiences	0.07
School choice programs	0.12
School size (600-900 students at secondary)	0.43
Other school factors	
Counseling effects	0.35
Modifying school calendars/ timetables	0.09
Pre-school programs	0.28
Suspension/expelling students	-0.20

The Visible Learning™ research synthesises findings from **1,600+** meta-analyses of **95,000+** studies involving **300 million** students, into what works best in education.

Key for rating

- Potential to considerably accelerate student achievement
- Potential to accelerate student achievement
- Likely to have positive impact on student achievement
- Likely to have small positive impact on student achievement
- Likely to have a negative impact on student achievement

ES Effect size calculated using Cohen's *d*

Visible Learning™ 250+ Influences on Student Achievement

CLASSROOM	ES
Classroom composition effects	
Detracking	0.09
Mainstreaming/inclusion	0.25
Multi-grade/age classes	0.04
Open vs. traditional classrooms	0.01
Reducing class size	0.15
Retention (holding students back)	-0.32
Small group learning	0.47
Tracking/streaming	0.12
Within class grouping	0.18
School curricula for gifted students	
Ability grouping for gifted students	0.30
Acceleration programs	0.68
Enrichment programs	0.48
Classroom influences	
Background music	0.10
Behavioral intervention programs	0.62
Classroom management	0.35
Cognitive behavioral programs	0.29
Decreasing disruptive behavior	0.34
Mentoring	0.12
Positive peer influences	0.53
Strong classroom cohesion	0.53
Students feeling disliked	-0.19

TEACHER	ES
Teacher attributes	
Average teacher effects	0.32
Teacher clarity	0.75
Teacher credibility	1.09
Teacher estimates of achievement	1.29
Teacher expectations	0.43
Teacher personality attributes	0.24
Teacher performance pay	0.05
Teacher verbal ability	0.22
Teacher-student interactions	
Student rating of quality of teaching	0.45
Teachers not labeling students	0.44
Teacher-student relationships	0.48
Teacher education	
Initial teacher training programs	0.10
Micro-teaching/video review of lessons	0.88
Professional development programs	0.37
Teacher subject matter knowledge	0.23

STUDENT LEARNING STRATEGIES	ES
Strategies emphasizing student meta-cognitive/ self-regulated learning	
Elaboration and organization	0.75
Elaborative interrogation	0.56
Evaluation and reflection	0.75
Meta-cognitive strategies	0.55
Help seeking	0.72
Self-regulation strategies	0.52
Self-verbalization and self-questioning	0.59
Strategy monitoring	0.58
Transfer strategies	0.86
Student-focused interventions	
Aptitude/treatment interactions	0.11
Individualized instruction	0.23
Matching style of learning	0.32
Student-centered teaching	0.36
Student control over learning	0.02
Strategies emphasizing student perspectives in learning	
Peer tutoring	0.51
Volunteer tutors	0.51
Learning strategies	
Deliberate practice	0.79
Effort	0.77
Imagery	0.51
Interleaved practice	0.47
Mnemonics	0.80
Note taking	0.51
Outlining and transforming	0.66
Practice testing	0.46
Record keeping	0.52
Rehearsal and memorization	0.73
Spaced vs. mass practice	0.65
Strategy to integrate with prior knowledge	0.93
Study skills	0.45
Summarization	0.74
Teaching test taking and coaching	0.30
Time on task	0.44
Underlining and highlighting	0.44

TEACHING STRATEGIES	ES
Strategies emphasizing learning intentions	
Appropriately challenging goals	0.59
Behavioral organizers	0.42
Clear goal intentions	0.51
Cognitive task analysis	1.29
Concept mapping	0.64
Goal commitment	0.40
Learning goals vs. no goals	0.51
Learning hierarchies-based approach	0.19
Planning and prediction	0.76
Setting standards for self-judgement	0.75
Strategies emphasizing success criteria	
Mastery learning	0.61
Worked examples	0.37
Strategies emphasizing feedback	
Classroom discussion	0.82
Different types of testing	0.12
Feedback	0.66
Formative evaluation	0.34
Questioning	0.48
Response to intervention	1.09
Teaching/instructional strategies	
Adjunct aids	0.35
Collaborative learning	0.34
Competitive vs. individualistic learning	0.24
Cooperative learning	0.40
Cooperative vs. competitive learning	0.53
Cooperative vs. individualistic learning	0.55
Direct instruction	0.59
Discovery-based teaching	0.21
Explicit teaching strategies	0.57
Humor	0.04
Inductive teaching	0.44
Inquiry-based teaching	0.46
Jigsaw method	1.20
Philosophy in schools	0.43
Problem-based learning	0.35
Problem-solving teaching	0.67
Reciprocal teaching	0.74
Scaffolding	0.58
Teaching communication skills and strategies	0.43

TECHNOLOGY, SCHOOL, & OUT-OF-SCHOOL STRATEGIES	ES
Implementations using technologies	
Clickers	0.22
Gaming/simulations	0.34
Information communications technology (ICT)	0.48
Intelligent tutoring systems	0.51
Interactive video methods	0.54
Mobile phones	0.43
One-on-one laptops	0.16
Online and digital tools	0.26
Programmed instruction	0.23
Technology in distance education	0.01
Technology in mathematics	0.33
Technology in other subjects	0.55
Technology in reading/literacy	0.29
Technology in science	0.23
Technology in small groups	0.21
Technology in writing	0.42
Technology with college students	0.42
Technology with elementary students	0.44
Technology with high school students	0.30
Technology with learning needs students	0.57
Use of PowerPoint	0.26
Visual/audio-visual methods	0.22
Web-based learning	0.33
Implementations using out-of-school learning	
After-school programs	0.40
Distance education	0.14
Home-school programs	0.16
Homework	0.29
Service learning	0.58
Implementations that emphasize school-wide teaching strategies	
Co- or team teaching	0.19
Interventions for students with learning needs	0.77
Student support programs – college	0.21
Teaching creative thinking	0.37
Whole-school improvement programs	0.28

Key for rating

- Potential to considerably accelerate student achievement
- Potential to accelerate student achievement
- Likely to have positive impact on student achievement
- Likely to have small positive impact on student achievement
- Likely to have a negative impact on student achievement

ES Effect size calculated using Cohen's *d*

The Visible Learning™ research synthesises findings from **1,600+** meta-analyses of **95,000+** studies involving **300 million** students, into what works best in education.