

Visible Learning^{plus} 250+ Influences on Student Achievement

| STUDENT | ES |
|--|-------|
| Prior knowledge and background | |
| Field independence | 0.68 |
| Non-standard dialect use | -0.29 |
| Piagetian programs | 1.28 |
| Prior ability | 0.94 |
| Prior achievement | 0.55 |
| Relating creativity to achievement | 0.40 |
| Relations of high school to university achievement | 0.60 |
| Relations of high school achievement to career performance | 0.38 |
| Self-reported grades | 1.33 |
| Working memory strength | 0.57 |
| Beliefs, attitudes and dispositions | |
| Attitude to content domains | 0.35 |
| Concentration/persistence/ engagement | 0.56 |
| Grit/incremental vs. entity thinking | 0.25 |
| Mindfulness | 0.29 |
| Morning vs. evening | 0.12 |
| Perceived task value | 0.46 |
| Positive ethnic self-identity | 0.12 |
| Positive self-concept | 0.41 |
| Self-efficacy | 0.92 |
| Stereotype threat | 0.33 |
| Student personality attributes | 0.26 |
| Motivational approach, orientation | |
| Achieving motivation and approach | 0.44 |
| Boredom | -0.49 |
| Deep motivation and approach | 0.69 |
| Depression | -0.36 |
| Lack of stress | 0.17 |
| Mastery goals | 0.06 |
| Motivation | 0.42 |
| Performance goals | -0.01 |
| Reducing anxiety | 0.42 |
| Surface motivation and approach | -0.11 |
| Physical influences | |
| ADHD | -0.90 |
| ADHD – treatment with drugs | 0.32 |
| Breastfeeding | 0.04 |
| Deafness | -0.61 |
| Exercise/relaxation | 0.26 |
| Gender on achievement | 0.08 |
| Lack of illness | 0.26 |
| Lack of sleep | -0.05 |
| Full compared to pre-term/low birth weight | 0.57 |
| Relative age within a class | 0.45 |

| CURRICULA | ES |
|---|------|
| Reading, writing and the arts | |
| Comprehensive instructional programs for teachers | 0.72 |
| Comprehension programs | 0.47 |
| Drama/arts programs | 0.38 |
| Exposure to reading | 0.43 |
| Music programs | 0.37 |
| Phonics instruction | 0.70 |
| Repeated reading programs | 0.75 |
| Second/third chance programs | 0.53 |
| Sentence combining programs | 0.15 |
| Spelling programs | 0.58 |
| Visual-perception programs | 0.55 |
| Vocabulary programs | 0.62 |
| Whole language approach | 0.06 |
| Writing programs | 0.45 |
| Math and sciences | |
| Manipulative materials on math | 0.30 |
| Mathematics programs | 0.59 |
| Science programs | 0.48 |
| 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 | 0.62 |
| Diversity courses | 0.09 |
| Extra-curricula programs | 0.20 |
| Integrated curricula programs | 0.47 |
| Juvenile delinquent programs | 0.12 |
| Motivation/character programs | 0.34 |
| Outdoor/adventure programs | 0.43 |
| Perceptual-motor programs | 0.08 |
| Play programs | 0.50 |
| Social skills programs | 0.39 |
| Tactile stimulation programs | 0.58 |

| HOME | ES |
|---------------------------------|-------|
| Family structure | |
| Adopted vs non-adopted care | 0.25 |
| Engaged vs disengaged fathers | 0.20 |
| Intact (two-parent) families | 0.23 |
| 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 | -0.34 |
| Parental autonomy support | 0.15 |
| Parental involvement | 0.50 |
| 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 | 1.57 |
| Principals/school leaders | 0.32 |
| School climate | 0.32 |
| School resourcing | |
| External accountability systems | 0.31 |
| Finances | 0.21 |
| Types of school | |
| Charter schools | 0.09 |
| Religious schools | 0.24 |
| Single-sex schools | 0.08 |
| Summer school | 0.23 |
| Summer vacation effect | -0.02 |
| School compositional effects | |
| College halls of residence | 0.05 |
| Desegregation | 0.28 |
| Diverse student body | 0.10 |
| Middle schools' interventions | 0.08 |
| Out-of-school curricula experiences | 0.26 |
| School choice programs | 0.12 |
| School size (600-900 students at secondary) | 0.43 |
| Other school factors | |
| Counseling effects | 0.35 |
| Generalized school effects | 0.48 |
| Modifying school calendars/timetables | 0.09 |
| Pre-school programs | 0.28 |
| Suspension/expelling students | -0.20 |

The Visible Learning research synthesises findings from **1,400** meta-analyses of **80,000** studies involving **300** million students, into what works best in education.

Key for rating

- Potential to considerably accelerate student achievement
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ES Effect size calculated using Cohen's *d*



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| CLASSROOM | ES |
|---|-------|
| Classroom composition effects | |
| Detracking | 0.09 |
| Mainstreaming/inclusion | 0.27 |
| Multi-grade/age classes | 0.04 |
| Open vs. traditional classrooms | 0.01 |
| Reducing class size | 0.21 |
| 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 | 0.53 |
| 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 | 0.44 |
| Students feeling disliked | -0.19 |

| TEACHER | ES |
|--|------|
| Teacher attributes | |
| Average teacher effects | 0.32 |
| Teacher clarity | 0.75 |
| Teacher credibility | 0.90 |
| Teacher estimates of achievement | 1.29 |
| Teacher expectations | 0.43 |
| Teacher personality attributes | 0.23 |
| Teacher performance pay | 0.05 |
| Teacher verbal ability | 0.22 |
| Teacher-student interactions | |
| Student rating of quality of teaching | 0.50 |
| Teachers not labeling students | 0.61 |
| Teacher-student relationships | 0.52 |
| Teacher education | |
| Initial teacher training programs | 0.12 |
| Micro-teaching/video review of lessons | 0.88 |
| Professional development programs | 0.41 |
| Teacher subject matter knowledge | 0.11 |

| TEACHING: Focus on student learning strategies | ES |
|--|------|
| Strategies emphasizing student meta-cognitive/self-regulated learning | |
| Elaboration and organization | 0.75 |
| Elaborative interrogation | 0.42 |
| Evaluation and reflection | 0.75 |
| Meta-cognitive strategies | 0.60 |
| Help seeking | 0.72 |
| Self-regulation strategies | 0.52 |
| Self-verbalization and self-questioning | 0.55 |
| Strategy monitoring | 0.58 |
| Transfer strategies | 0.86 |
| Student-focused interventions | |
| Aptitude/treatment interactions | 0.19 |
| Individualized instruction | 0.23 |
| Matching style of learning | 0.31 |
| Student-centered teaching | 0.36 |
| Student control over learning | 0.02 |
| Strategies emphasizing student perspectives in learning | |
| Peer tutoring | 0.53 |
| Volunteer tutors | 0.26 |
| Learning strategies | |
| Deliberate practice | 0.79 |
| Effort | 0.77 |
| Imagery | 0.45 |
| Interleaved practice | 0.21 |
| Mnemonics | 0.76 |
| Note taking | 0.50 |
| Outlining and transforming | 0.66 |
| Practice testing | 0.54 |
| Record keeping | 0.52 |
| Rehearsal and memorization | 0.73 |
| Spaced vs. mass practice | 0.60 |
| Strategy to integrate with prior knowledge | 0.93 |
| Study skills | 0.46 |
| Summarization | 0.79 |
| Teaching test taking and coaching | 0.30 |
| Time on task | 0.49 |
| Underlining and highlighting | 0.50 |

| TEACHING: Focus on teaching/instructional strategies | ES |
|--|------|
| Strategies emphasizing learning intentions | |
| Appropriately challenging goals | 0.59 |
| Behavioral organizers | 0.42 |
| Clear goal intentions | 0.48 |
| Cognitive task analysis | 1.29 |
| Concept mapping | 0.64 |
| Goal commitment | 0.40 |
| Learning goals vs. no goals | 0.68 |
| Learning hierarchies-based approach | 0.19 |
| Planning and prediction | 0.76 |
| Setting standards for self-judgement | 0.62 |
| Strategies emphasizing success criteria | |
| Mastery learning | 0.57 |
| Worked examples | 0.37 |
| Strategies emphasizing feedback | |
| Classroom discussion | 0.82 |
| Different types of testing | 0.12 |
| Feedback | 0.70 |
| Providing formative evaluation | 0.48 |
| Questioning | 0.48 |
| Response to intervention | 1.29 |
| Teaching/instructional strategies | |
| Adjunct aids | 0.32 |
| 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 | 0.60 |
| Discovery-based teaching | 0.21 |
| Explicit teaching strategies | 0.57 |
| Humor | 0.04 |
| Inductive teaching | 0.44 |
| Inquiry-based teaching | 0.40 |
| Jigsaw method | 1.20 |
| Philosophy in schools | 0.43 |
| Problem-based learning | 0.26 |
| Problem-solving teaching | 0.68 |
| Reciprocal teaching | 0.74 |
| Scaffolding | 0.82 |
| Teaching communication skills and strategies | 0.43 |

| TEACHING: Focus on implementation method | ES |
|---|------|
| Implementations using technologies | |
| Clickers | 0.22 |
| Gaming/simulations | 0.35 |
| Information communications technology (ICT) | 0.47 |
| Intelligent tutoring systems | 0.48 |
| Interactive video methods | 0.54 |
| Mobile phones | 0.37 |
| One-on-one laptops | 0.16 |
| Online and digital tools | 0.29 |
| 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 | 0.18 |
| Implementations using out-of-school learning | |
| After-school programs | 0.40 |
| Distance education | 0.13 |
| 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 | 0.34 |
| Whole-school improvement programs | 0.28 |

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