Hattie Ranking: 252 Influences And Effect Sizes Related To Student Achievement

visible-learning.org/hattie-ranking-influences-effect-sizes-learning-achievement

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John Hattie developed a way of synthesizing various influences in different meta-analyses according to their effect size (Cohen's d). In his ground-breaking study "<u>Visible Learning</u>" he ranked 138 influences that are related to learning outcomes from very positive effects to very negative effects. Hattie found that the average effect size of all the interventions he studied was 0.40. Therefore he decided to judge the success of influences relative to this 'hinge point', in order to find an answer to the question "What works best in education?"

Originally, Hattie studied six areas that contribute to learning: the <u>student</u>, the <u>home</u>, the <u>school</u>, the <u>curricula</u>, the <u>teacher</u>, and <u>teaching and learning approaches</u>. (The updated list also includes the classroom.) But Hattie did not only provide a list of the relative effects of different influences on student achievement. He also tells the story underlying the data. He found that the key to making a difference was making teaching and learning visible. He further explained this story in his book "<u>Visible learning for teachers</u>".

John Hattie updated his list of 138 effects to 150 effects in <u>Visible Learning for Teachers</u> (2011), and more recently to a list of 195 effects in <u>The Applicability of Visible Learning to</u> <u>Higher Education (2015)</u>. His research is now based on nearly 1200 meta-analyses – up from the 800 when Visible Learning came out in 2009. According to Hattie the story underlying the data has hardly changed over time even though some effect sizes were updated and we have some new entries at the top, at the middle, and at the end of the list.

Below you can find an updated version of our <u>first</u>, <u>second</u> and <u>third</u> visualization of effect sizes related to student achievement.

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- Image View
- <u>Table View</u>
- Older Versions

Hattie's 2018 updated list of factors related to student

achievement: 252 innuences and enect sizes (Conen's d)

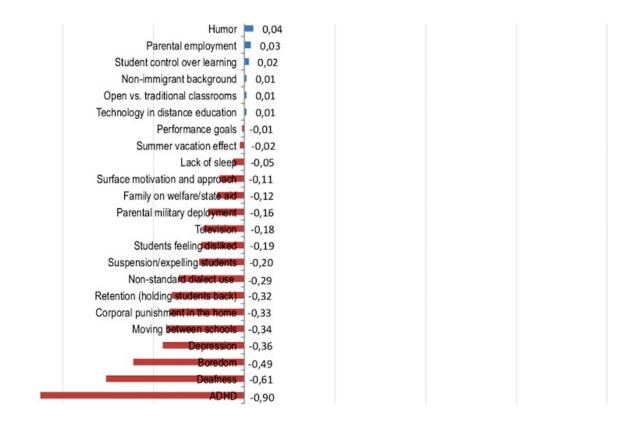
Source: J. Hattie (December 2017) visiblelearningplus.com Diagram: S. Waack (2018) visible-learning.org

	1/	hinge point 0.4	
Collective teacher efficacy			
Self-reported grades	5		1,33
Teacher estimates of achievemen	t The second sec		1,29
Cognitive task analysis	6		1,29
Response to intervention	n]		1,29
Piagetian programs	6		1,28
Jigsaw method	1		1,20
Conceptual change programs	; 	0,	.99
Prior ability	/]	0,94	1
Strategy to integrate with prior knowledge		0,93	
Self-efficacy	/	0,92	
Teacher credibility	/	0,90	
Micro-teaching/video review of lessons	- -	0,88	
Transfer strategies	5	0,86	
Classroom discussion	n]	0,82	
Scaffolding		0,82	
Deliberate practice		0,79	
Summarization	1	0,79	
Effor	t]	0,77	
Interventions for students with learning needs	6	0,77	
Mnemonics	6	0,76	
Planning and prediction	1	0,76	
Repeated reading programs	6	0,75	
Teacher clarity	(]	0,75	
Elaboration and organization	n]	0,75	
Evaluation and reflection	n]	0,75	
Reciprocal teaching]	0,74	
Rehearsal and memorization	1]	0,73	
rehensive instructional programs for teachers	5	0,72	
Help seeking]	0,72	
Phonics instruction	n]	0,70	
Feedback	<]	0,70	
Deep motivation and approach	1]	0,69	
Field independence		0,68	
Acceleration programs	6	0,68	
Learning goals vs. no goals	6	0,68	
Problem-solving teaching		0,68	
Outlining and transforming		0,66	
Concept mapping		0,64	
Vocabulary programs	6	0,62	
Creativity programs	6	0,62	
Behavioral intervention programs	6	0,62	
Setting standards for self-judgemen	t	0,62	
Teachers not labeling students	6	0,61	
tions of high school to university achievemen	t]	0,60	
Meta-cognitive strategies	5	0,60	
Spaced vs. mass practice		0,60	
Direct instruction		0,60	
Mathematics programs	5	0,59	
Appropriately challenging goals	5	0,59	
Spelling programs	5	0,58	
Tactile stimulation programs		0,58	

	4
Service learning	0,58
Working memory strength	0,57
Full compared to pre-term/low birth weight	0,57
Mastery learning	0,57
Explicit teaching strategies	0,57
Technology with learning needs students	- 0,57
Concentration/persistence/ engagement	0,56
Prior achievement	- 0,55
Visual-perception programs	0,55
Self-verbalization and self-questioning	- 0,55
Cooperative vs. individualistic learning	0,55
Technology in other subjects	- 0,55
Practice testing Interactive video methods	- 0,54
Second/third chance programs	- 0,54 0,53
Enrichment programs	-
Positive peer influences	- 0,53 0,53
Positive peer initiatives Peer tutoring	0,53
Cooperative vs. competitive learning	0,53
Positive family/home dynamics	0,55
Socio-economic status	- 0,52
Teacher-student relationships	0,52
Self-regulation strategies	0,52
Record keeping	0,52
Play programs	0,50
Parental involvement	0,50
Student rating of quality of teaching	0,50
Note taking	0,50
Underlining and highlighting	0,50
Time on task	0,49
Science programs	0,48
Generalized school effects	0,48
Clear goal intentions	0,48
Providing formative evaluation	0,48
Questioning	0,48
Intelligent tutoring systems	0,48
Comprehension programs	0,47
Integrated curricula programs	0,47
Small group learning	0,47
Information communications technology (ICT)	0,47
Perceived task value	0,46
Study skills	0,46
Relative age within a class	0,45
Writing programs	0,45
Imagery	0,45
Achieving motivation and approach	- 0,44
Early years' interventions	- 0,44
Strong classroom cohesion	- 0,44
Inductive teaching	- 0,44
Technology with elementary students	0,44
Exposure to reading Outdoor/adventure programs	- 0,43 0,43
School size (600-900 students at secondary)	0,43
Teacher expectations	0,43
Philosophy in schools	0,43
Teaching communication skills and strategies	0,43
Motivation	0,43
Reducing anxiety	0,42
Elaborative interrogation	0,42

		0,42	
	Behavioral organizers	0,42	
	Technology in writing	0,42	
	Technology with college students	0,42	
	Positive self-concept	0,41	
	Professional development programs	0,41	
	Relating creativity to achievement	0,40	
	Goal commitment	0,40	
	Cooperative learning	0,40	
	Inquiry-based teaching	0,40	
After-school programs		0,40	
Social skills programs		0,39	
Relations of high school achievement to career performance		0,38	
Drama/arts programs		0,38	
	Career interventions	0,38	
	Music programs	0,37	
	Worked examples	0,37	
	Mobile phones	0,37	
	Bilingual programs	0,36	
	Student-centered teaching	0,36	
	Attitude to content domains	0,35	
	Counseling effects	0,35	
	Classroom management	0,35	
	Gaming/simulations	0,35	
	Chess instruction	0,34	
	Motivation/character programs	0,34	
	Decreasing disruptive behavior	0,34	
	Collaborative learning	0,34	
	Teaching creative thinking	0,34	
	Stereotype threat	0,33	
	Technology in mathematics	0,33	
	ADHD – treatment with drugs	0,32	
	Principals/school leaders	0,32	
	School climate	0,32	
	Average teacher effects Adjunct aids	0,32	
		0,32	
	External accountability systems	0,31	
	Matching style of learning Manipulative materials on math	0,31	
	Ability grouping for gifted students	0,30	
	Teaching test taking and coaching	0,30	
	Technology with high school students	0,30	
	Mindfulness	0,30	
	Home visiting	0,29	
	Cognitive behavioral programs	0,29	
	Online and digital tools	0,29	
	Technology in reading/literacy	0,29	
	Homework	0,29	
	Desegregation	0,28	
	Pre-school programs	0,28	
	Whole-school improvement programs	0,28	
	Use of calculators	0,27	
	Mainstreaming/inclusion	0,27	
	Student personality attributes	0,26	
	Exercise/relaxation	0,26	
	Lack of illness	0,26	
	Out-of-school curricula experiences	0,26	
	Volunteer tutors	0,26	
	Problem-based learning	0,26	
	Har of David David	0.00	

Use of PowerPoint	0,26
Grit/incremental vs. entity thinking	0,25
Adopted vs non-adopted care	0,25
Religious schools	0,24
Competitive vs. individualistic learning	0,24
Intact (two-parent) families	0,23
Summer school	0,23
Teacher personality attributes	0,23
Individualized instruction	0,23
Programmed instruction	0,23
Technology in science Teacher verbal ability	0,23
Clickers	0,22
Visual/audio-visual methods	0,22
Finances	0,22
Reducing class size	0,21
Interleaved practice	0,21
Discovery-based teaching	0,21
Technology in small groups	0,21
Student support programs - college	0,21
Extra-curricula programs	0,20
Engaged vs disengaged fathers	0,20
Aptitude/treatment interactions	0,19
Learning hierarchies-based approach	0,19
Co- or team teaching	0,19
Within class grouping	0,18
Web-based learning	0,18
Lack of stress	0,17
Other family structure	0,16
One-on-one laptops	0,16
Home-school programs	0,16
Sentence combining programs	0,15
Parental autonomy support	0,15
Distance education	0,13
Morning vs. evening Positive ethnic self-identity	0,12
Juvenile delinquent programs	0,12
School choice programs	0,12
Tracking/streaming	0,12
Mentoring	0,12
Initial teacher training programs	0,12
Different types of testing	0,12
Teacher subject matter knowledge	0,11
Diverse student body	0,10
Background music	0,10
Diversity courses	0,09
Charter schools	0,09
Modifying school calendars/timetables	0,09
Detracking	0,09
Gender on achievement	0,08
Perceptual-motor programs	0,08
Single-sex schools	0,08
Middle schools' interventions	0,08
Mastery goals Whole language approach	0,06
College halls of residence	0,05
Teacher performance pay	0,05
Breastfeeding	0,04
Multi-grade/age classes	0,04
0	-



Source: www.visiblelearningplus.com/content/250-influences-student-achievement (Retrieved 28 March 2018 / PDF)