

# Hattie Effect Size 2016 Update

 [evidencebasedteaching.org.au/hattie-effect-size-2016-update/](http://evidencebasedteaching.org.au/hattie-effect-size-2016-update/)

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You have probably heard about John Hattie. Specifically, you may have heard about his research on the factors that affect student achievement. Hattie uses **effect sizes** to show the relative impact of each factor. An effect size of 0.4 is regarded as *average* or *typical*. His work is ongoing. To my knowledge, his results were 1<sup>st</sup> published in 1999. They became well-known after he published a book in 2008 called *Visible Learning*. His results were last updated in late 2016. This Hattie effect size 2016 update summarizes these new findings in the context of what went before.

## Hattie Effect Size 1999 Results

I first heard about John Hattie and his work on effect sizes in 1999 when he published his article [Influences On Student Learning](#).

At the time, Hattie was at pains to point out that nearly everything we do in the classroom helps students to learn. Put another way, every teaching strategy worked, at least to some degree. Therefore, research needed to focus on *what works best* rather than *what works*.

- Some of the factors that had a high impact included students *cognitive ability (IQ)*, *Direct Instruction* and *feedback*.
- Some of the factors that had a lower than average impact included *repeating students*, *parental involvement* and *ability grouping*.

## Hattie Effect Size 2008 Results

In 2008, after growing this database grew to include over 800 meta-analyses, he published the book *Visible Learning*. Soon afterwards, the phrase *Hattie effect size* become an incredibly popular search term.

- New factors that had a high impact included *teacher clarity*, *formative evaluation* and *acceleration*.
- New factors that had a lower than average impact included *inductive teaching*, *inquiry learning* and *teaching test taking*.

## Hattie Effect Size 2016 Results

Since then, he has continued to add to his database to include over 1200 meta-analyses. The latest effect sizes were published in 2016.

- New factors that had a higher than average impact included *collective teacher efficacy*, *conceptual change programs*, *teacher credibility*, *response to intervention*, *cognitive task analysis* and particular types of *classroom discussion*.
- New factors that had a negative or lower than average impact included *depression*, *corporal punishment in the home*, *web-based learning*, and *juvenile delinquent programs*

Of interest, a new item *service learning* had a moderate effect.

Here are the updated Hattie effect sizes for 2016. Just hover over each bar to see its effect size.

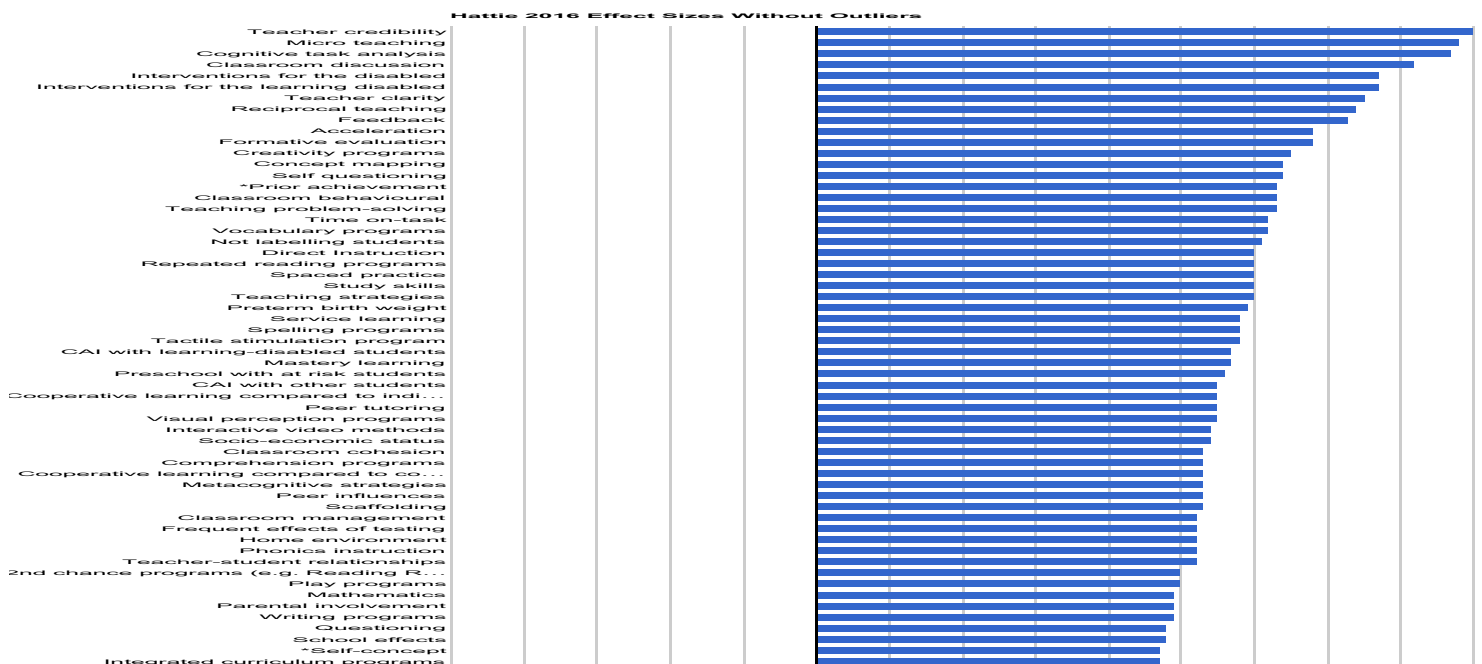
I will help you unpack what some of these factors mean in practical terms in future articles throughout the year.

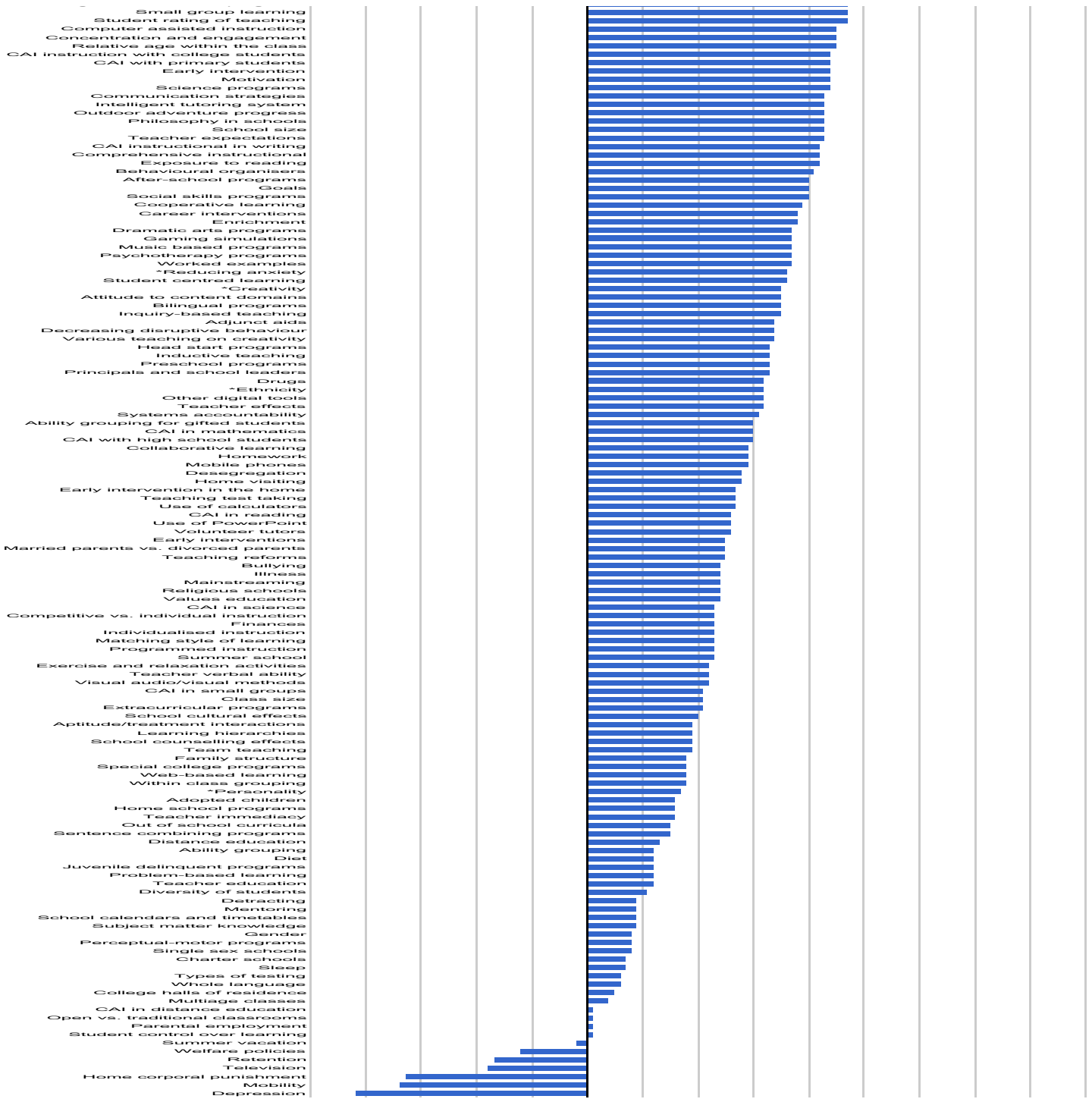
## The 6 Super Factors

There were some new and some old favourites at the top of the list. Six of these had such a strong effect that they would distort *any* attempt to graph them. I call these super factors. Including them in the graph would distort the important differences between the other 188 factors. So I have listed them here.

The 6 super factors were:

Here are the other 188 factors. Simply hold over each bar to view the effect size.





**Factor** **Effect Size**

Teacher credibility	0.9
Micro teaching	0.88
Cognitive task analysis	0.87
Classroom discussion	0.82
Interventions for the disabled	0.77

<b>Factor</b>	<b>Effect Size</b>
Interventions for the learning disabled	0.77
Teacher clarity	0.75
Reciprocal teaching	0.74
Feedback	0.73
Acceleration	0.68
Formative evaluation	0.68
Creativity programs	0.65
Concept mapping	0.64
Self questioning	0.64
*Prior achievement	0.63
Classroom behavioural	0.63
Teaching problem-solving	0.63
Time on-task	0.62
Vocabulary programs	0.62
Not labelling students	0.61
Direct Instruction	0.6
Repeated reading programs	0.6
Spaced practice	0.6
Study skills	0.6
Teaching strategies	0.6
Preterm birth weight	0.59
Service learning	0.58
Spelling programs	0.58
Tactile stimulation program	0.58

<b>Factor</b>	<b>Effect Size</b>
CAI with learning-disabled students	0.57
Mastery learning	0.57
Preschool with at risk students	0.56
CAI with other students	0.55
Cooperative learning compared to individual learning	0.55
Peer tutoring	0.55
Visual perception programs	0.55
Interactive video methods	0.54
Socio-economic status	0.54
Classroom cohesion	0.53
Comprehension programs	0.53
Cooperative learning compared to competitive learning	0.53
Metacognitive strategies	0.53
Peer influences	0.53
Scaffolding	0.53
Classroom management	0.52
Frequent effects of testing	0.52
Home environment	0.52
Phonics instruction	0.52
Teacher-student relationships	0.52
2nd chance programs (e.g. Reading Recovery)	0.5
Play programs	0.5
Mathematics	0.49
Parental involvement	0.49

<b>Factor</b>	<b>Effect Size</b>
Writing programs	0.49
Questioning	0.48
School effects	0.48
*Self-concept	0.47
Integrated curriculum programs	0.47
Small group learning	0.47
Student rating of teaching	0.47
Computer assisted instruction	0.45
Concentration and engagement	0.45
Relative age within the class	0.45
CAI instruction with college students	0.44
CAI with primary students	0.44
Early intervention	0.44
Motivation	0.44
Science programs	0.44
Communication strategies	0.43
Intelligent tutoring system	0.43
Outdoor adventure progress	0.43
Philosophy in schools	0.43
School size	0.43
Teacher expectations	0.43
CAI instructional in writing	0.42
Comprehensive instructional	0.42
Exposure to reading	0.42

<b>Factor</b>	<b>Effect Size</b>
Behavioural organisers	0.41
After-school programs	0.4
Goals	0.4
Social skills programs	0.4
Cooperative learning	0.39
Career interventions	0.38
Enrichment	0.38
Dramatic arts programs	0.37
Gaming simulations	0.37
Music based programs	0.37
Psychotherapy programs	0.37
Worked examples	0.37
*Reducing anxiety	0.36
Student centred learning	0.36
*Creativity	0.35
Attitude to content domains	0.35
Bilingual programs	0.35
Inquiry-based teaching	0.35
Adjunct aids	0.34
Decreasing disruptive behaviour	0.34
Various teaching on creativity	0.34
Head start programs	0.33
Inductive teaching	0.33
Preschool programs	0.33

<b>Factor</b>	<b>Effect Size</b>
Principals and school leaders	0.33
Drugs	0.32
*Ethnicity	0.32
Other digital tools	0.32
Teacher effects	0.32
Systems accountability	0.31
Ability grouping for gifted students	0.3
CAI in mathematics	0.3
CAI with high school students	0.3
Collaborative learning	0.29
Homework	0.29
Mobile phones	0.29
Desegregation	0.28
Home visiting	0.28
Early intervention in the home	0.27
Teaching test taking	0.27
Use of calculators	0.27
CAI in reading	0.26
Use of PowerPoint	0.26
Volunteer tutors	0.26
Early interventions	0.25
Married parents vs. divorced parents	0.25
Teaching reforms	0.25
Bullying	0.24



<b>Factor</b>	<b>Effect Size</b>
Illness	0.24
Mainstreaming	0.24
Religious schools	0.24
Values education	0.24
CAI in science	0.23
Competitive vs. individual instruction	0.23
Finances	0.23
Individualised instruction	0.23
Matching style of learning	0.23
Programmed instruction	0.23
Summer school	0.23
Exercise and relaxation activities	0.22
Teacher verbal ability	0.22
Visual audio/visual methods	0.22
CAI in small groups	0.21
Class size	0.21
Extracurricular programs	0.21
School cultural effects	0.2
Aptitude/treatment interactions	0.19
Learning hierarchies	0.19
School counselling effects	0.19
Team teaching	0.19
Family structure	0.18
Special college programs	0.18

<b>Factor</b>	<b>Effect Size</b>
Web-based learning	0.18
Within class grouping	0.18
*Personality	0.17
Adopted children	0.16
Home school programs	0.16
Teacher immediacy	0.16
Out of school curricula	0.15
Sentence combining programs	0.15
Distance education	0.13
Ability grouping	0.12
Diet	0.12
Juvenile delinquent programs	0.12
Problem-based learning	0.12
Teacher education	0.12
Diversity of students	0.11
Detracting	0.09
Mentoring	0.09
School calendars and timetables	0.09
Subject matter knowledge	0.09
Gender	0.08
Perceptual-motor programs	0.08
Single sex schools	0.08
Charter schools	0.07
Sleep	0.07

<b>Factor</b>	<b>Effect Size</b>
Types of testing	0.06
Whole language	0.06
College halls of residence	0.05
Multiage classes	0.04
CAI in distance education	0.01
Open vs. traditional classrooms	0.01
Parental employment	0.01
Student control over learning	0.01
Summer vacation	-0.02
Welfare policies	-0.12
Retention	-0.17
Television	-0.18
Home corporal punishment	-0.33
Mobility	-0.34
Depression	-0.42

0.52