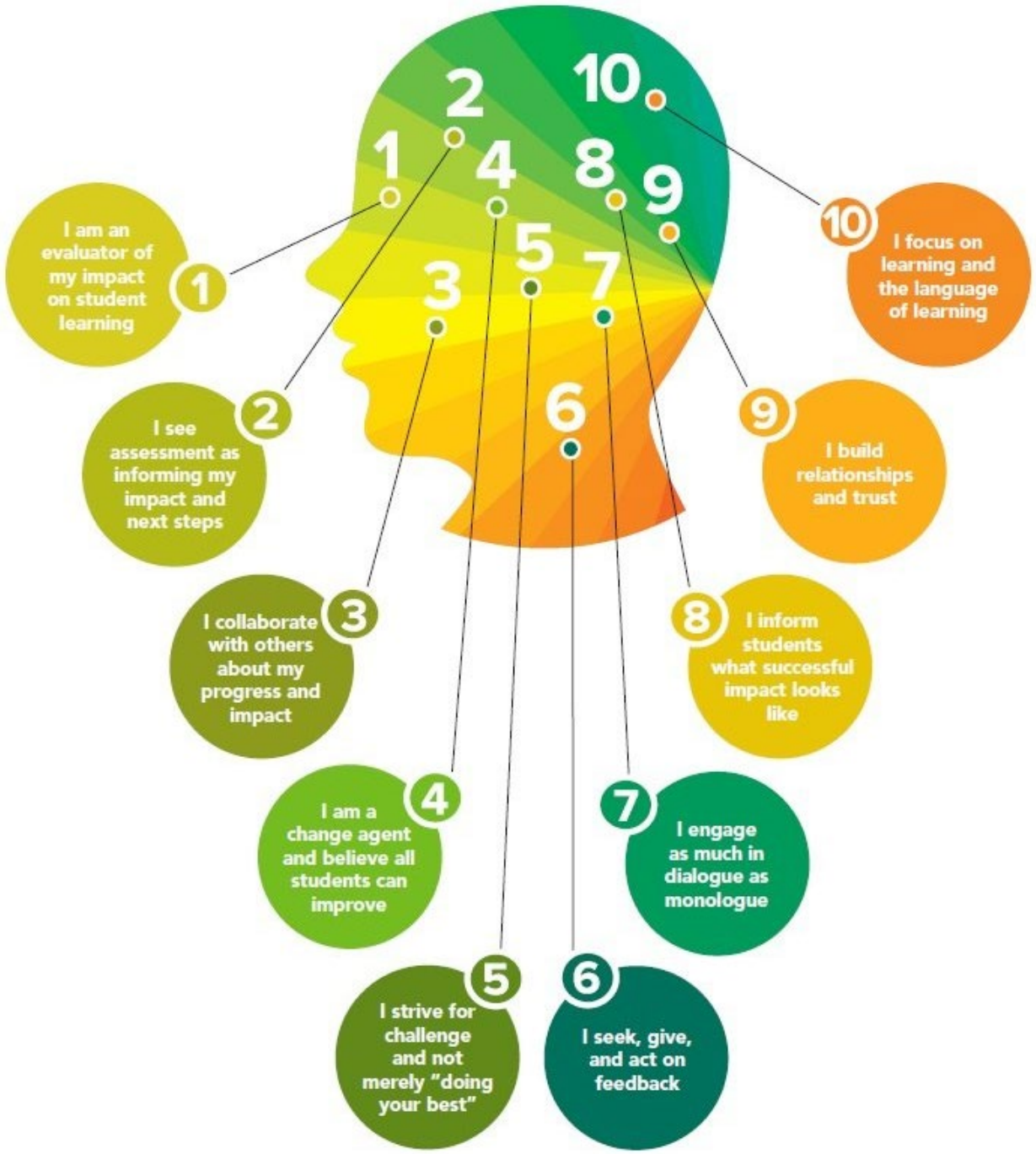
MINDFRAMES

A SET OF BELIEFS THAT UNDERPIN OUR ACTIONS AND DECISIONS



JOHN HATTIE

POSITIVELY IMPACT STUDENT LEARNING

INTRODUCTION TO VISIBLE LEARNING

Popularised by John Hattie

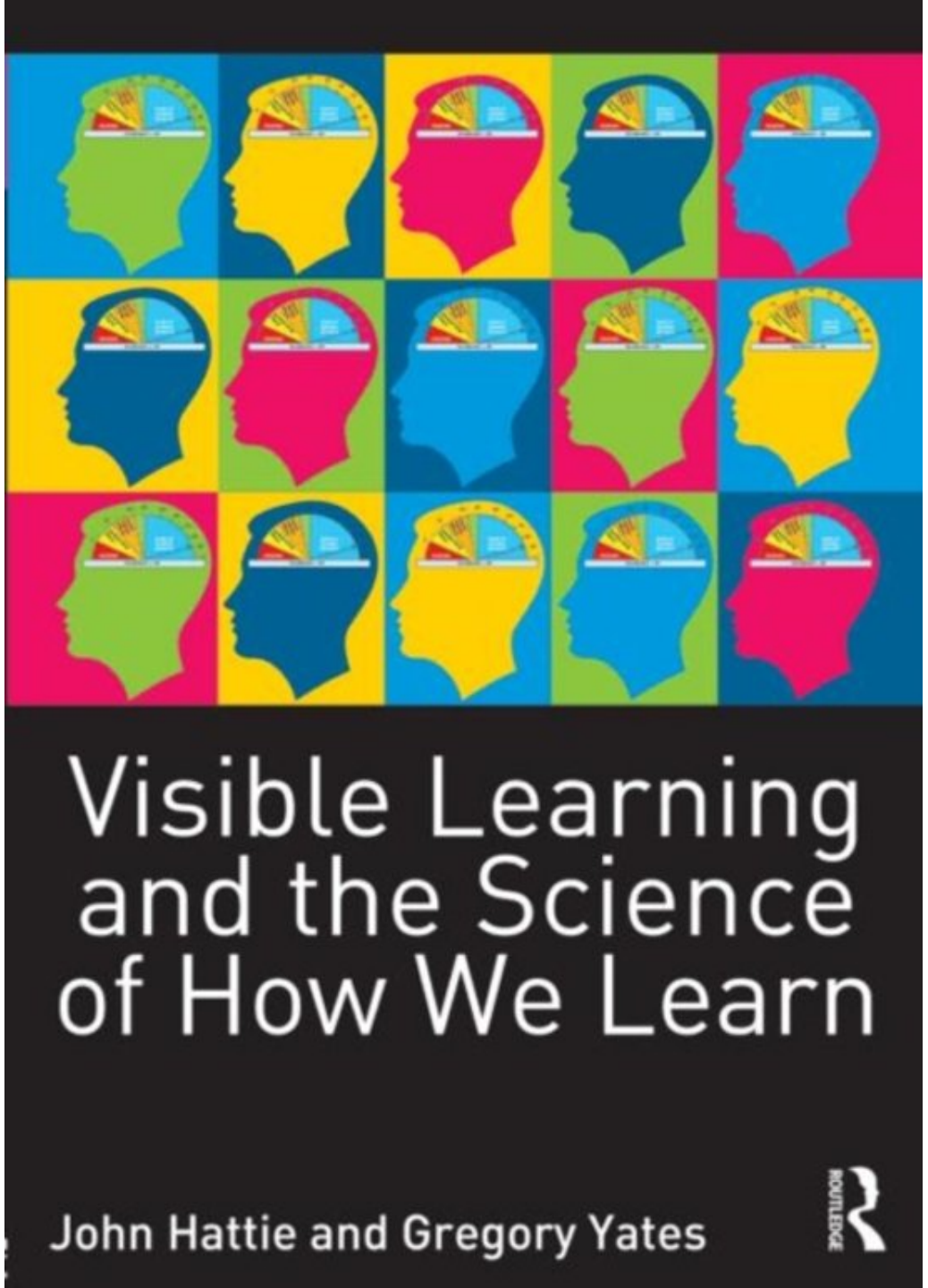
VISIBLE LEARNING

Based on:

THE ANALYSIS OF 1400 META ANALYSIS

COMPRISING 90000 STUDIES

INVOLVING 300 MILLION STUDENTS

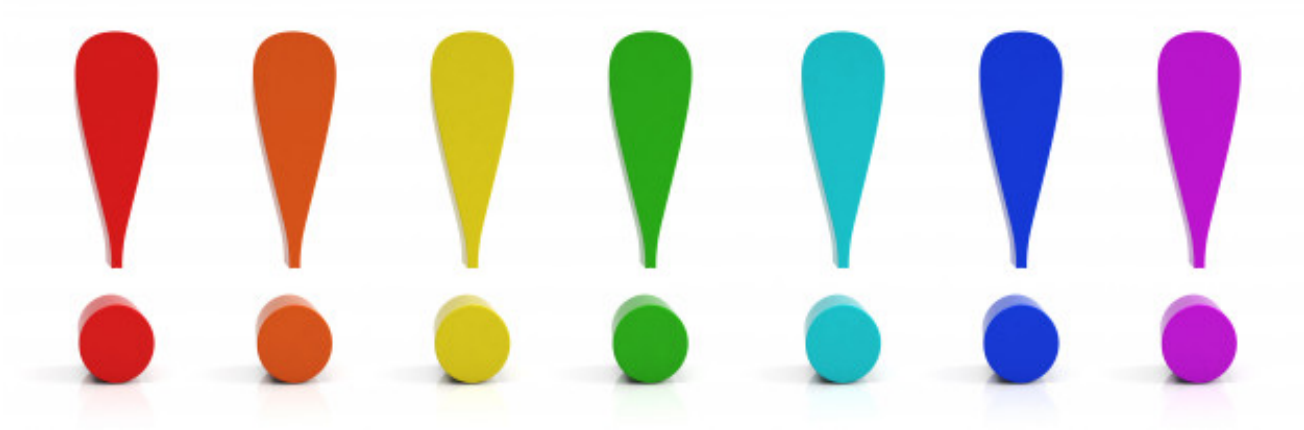


WHAT WORKS ?

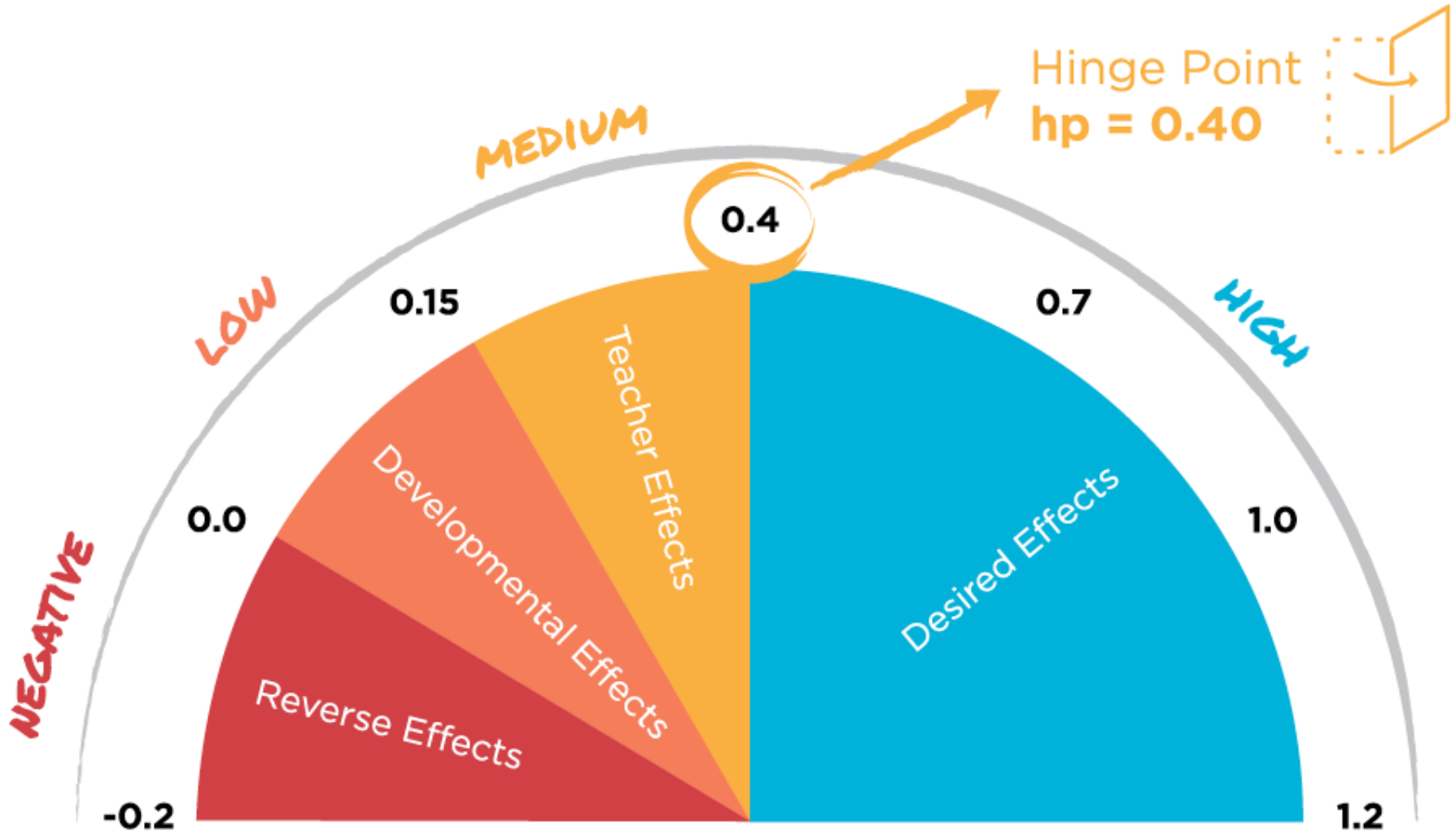
WHAT WORKS ?

EVERYTHING WORKS!

The most significant discovery of his studies is that **any intervention can make a difference in student learning**.



BAROMETER OF INFLUENCE



Any intervention with an effect size less than 0,4 doesn’t produce desired effects.

WHAT WE THINK WORKS...

- Learning styles (0,17)
- Structure of class or school (0,10)
- Individualised instruction (0,22)
- Use of powerpoint (0,26)

VERY LOW IMPACT

WHAT WE SHOULD DO...

- Teachers working together as evaluators of their impact (0,93)
- Seeking help from peers (0,83)
- Classroom discussion (0,82)
- Welcome errors and trust as opportunities to learn (0,72)
- Building teacher – student relationship (0,72)

HIGH IMPACT

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
- 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^{plus}™

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

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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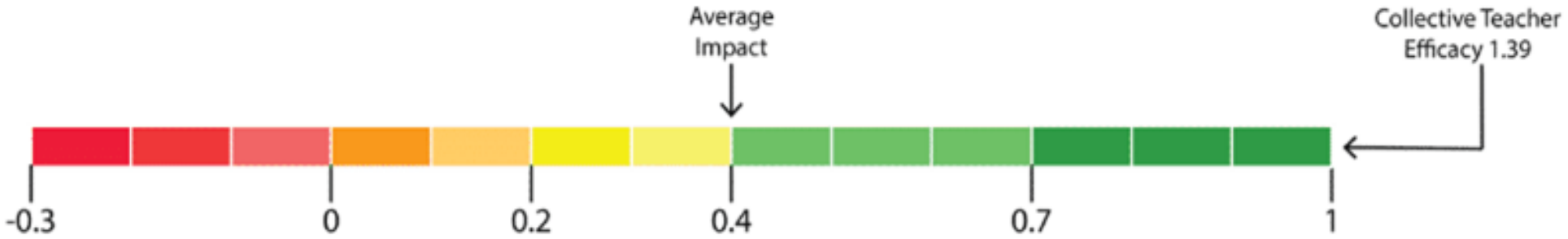
COLLECTIVE TEACHER EFFICACY 1.39



It refers to the shared beliefs of teachers within a school. Specifically, the beliefs they hold about their collective capacity to help students in their school to learn. Higher levels of collective efficacy have a strong link to higher levels of student achievement.


1
I'm an evaluator of my impact on student learning
2
I see assessment as informing my impact and next steps
3
I collaborate with all about my conceptions of progress and my impact
4
I am a change agent and believe all students can improve
5
I strive for challenge and not merely "doing your best"
6
I give feedback and act on feedback given to me
7
I engage as much in dialogue as monologue
8
I inform students what successful impact looks like
9
I build relationships and trust
10
I focus on learning and the language of learning

94,4%

I am an evaluator of my impact on student learning

Visible learning and 'Know thy impact' are at the core of this mindset.
It often means stopping teacher talk and taking the time to truly listen to the impact.
Students are the major beneficiaries.
Continual adjustments and refinement of what we do to maximize impact for each student.
Use of different types of evaluation throughout the learning process. Formative evaluation during learning BENEFITS both the teacher and the students as teachers are able to make adjustments and apply intervention strategies.
Summative evaluation BENEFITS only the teacher as they examine their impact of student learning and growth.

89%

I see assessment as informing my impact and next steps

Student assessment is not just important feedback for learners but is even more useful to teachers as they work to examine whether the learning goals were achieved, content was understood, methods were appropriate and media helpful.

This mindframe is about evaluation of judgements made.

Time on task doesn't just mean busy learners but that they spend the majority of learning time working on tasks they have been assigned, feel challenged by to an appropriate degree and test their limits.

41,7%

I collaborate with my peers and my students about my conceptions of progress and my impact

Educational expertise is a product of exchange and cooperation,
important for developing a sense of community amongst individuals.
It is the collaborative nature of learning and professional development that makes a true impact.

16,7%

I am a change agent and believe all students can improve

Learning has a lot to do with perspectives, particularly the perspective of the teacher, the parent and the learner themselves.

Successful learning requires targeted perspectives, and it is the responsibility of all those surrounding the learner to build up, support and develop positive perspectives.

75%

I strive for challenge and not "doing your best"

Learning needs to be challenging. It is the role of the teacher to ensure that this is neither too high or too low.
Clarity around goals and making them transparent in the lesson.
Goals also need to be appropriately challenging and provide many ways and opportunities to monitor progress from learner entry into the lesson towards the goals of the lesson.

80,6%

I give and help students understand feedback and I interpret and act on feedback to me

Learner feedback provides crucial information for teachers about whether learning and teaching has been successful.

Occurs within a dialogic process.

Successful teachers give student timely and meaningful feedback on their learning progress and also seek and analyse feedback from students.

55,6%

I engage in dialogue much as monologue

Involves exchanges with another person - learners, teachers or parents

Focus on getting the balance right between talking and explaining and listening and privileging student discussion.

88,9%

Success criteria is critical

Successful learning requires clarity - not only in the learning process but in view of the learning outcomes.
Using and demonstrating the success criteria to students linked to the goal of the lesson is more effective and proves to have a lasting impact on learners and what constitutes learning success.

100%

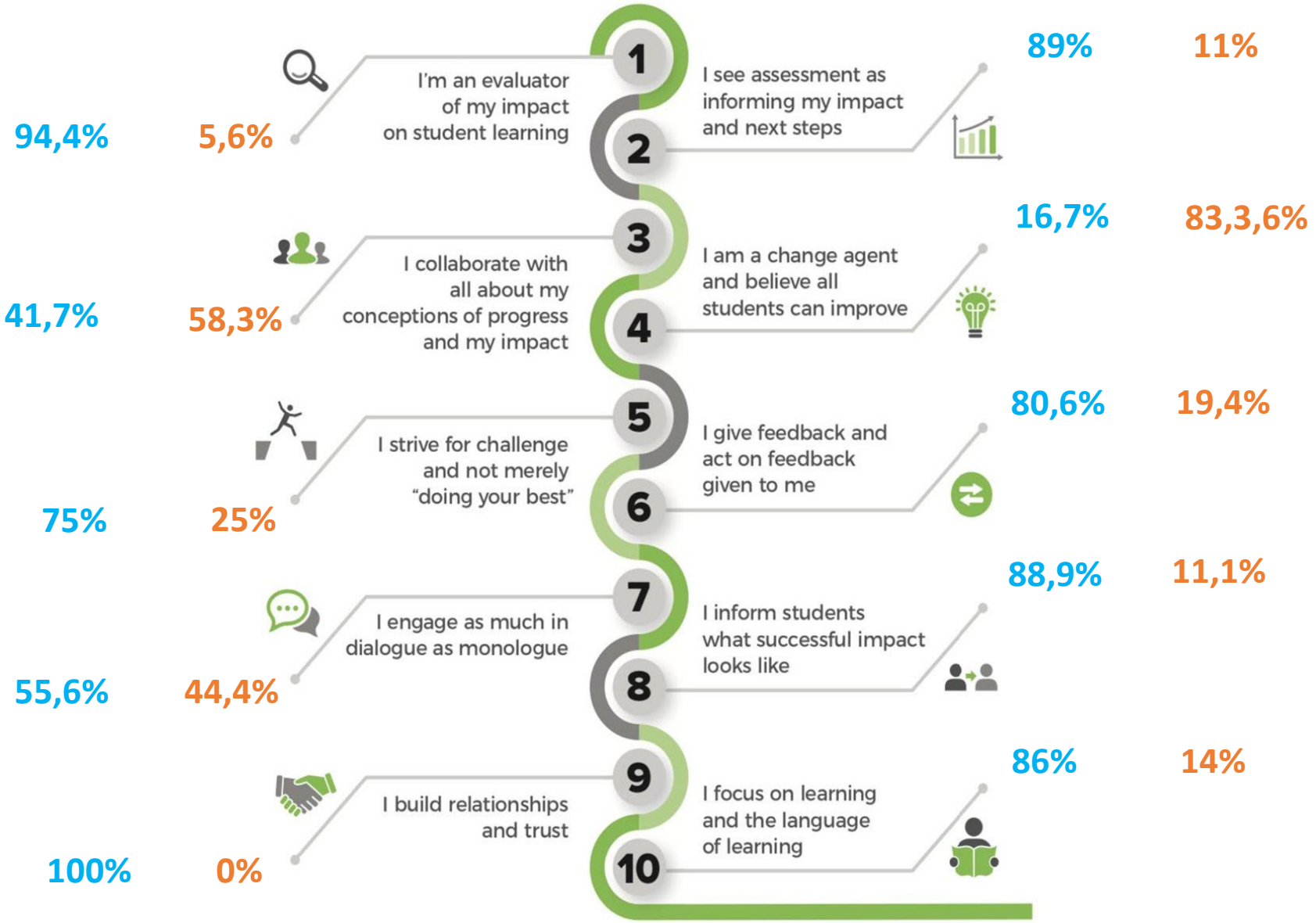
I build relationships and trust so that learning can occur in a place where it is safe to make mistakes and learn from others

Learning requires positive relationships.
Instructions is essentially built on relationships and the more safe and trusting these are, the more the child will learn.
Developing high expectations for all students.

86%

I talk about learning, not about teaching

We do not start from scratch when we learn something - we bring with us prior knowledge, skills and connections.
Teachers need to be willing to take this as an initial starting point for instructional thought and action.
Learning is an active and self-directed process.



Stongly agree/agree

Stongly disagree/disagree

84% of the participants agree that subject matter knowledge of the teacher has a high impact on students' achievement

https://www.edutopia.org/discussion/how-important-subject-matter-knowledge-teacher

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95% of the participants agree that students learn better when teaching is matched to the learning styles of the students.

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