ORIGO EDUCATION

THE RESEARCH BEHIND ORIGO PRODUCTS

Visible Learning

In his groundbreaking meta-study, education researcher John Hattie popularized the concept of **visible learning**, in which he ranked 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?"

The question is, which strategies and innovations work best, and where does one concentrate efforts in order to improve student achievement?

In his list of 252 effects, Hattie found the **ten most effective** influences relating to student achievement to be:

1. Collective teacher efficacy
2. Self-reported grades
3. Teacher estimates of achievement
4. Cognitive task analysis
5. Response to intervention
6. Piagetian programs
7. Jigsaw method
8. Conceptual change programs
9. Prior ability
10. Strategy to integrate with prior knowledge

As we develop and constantly update and improve ORIGO products, these influences and the tenets of Hattie's Visible Learning influence everything we do.

PROFESSOR JOHN HATTIE
Education Researcher

One of the main aspects of Visible Learning is a new understanding of the enhanced role of teachers: teachers are most successful when they become evaluators of their own teaching.

Effect Size

The tool Hattie uses to understand the impact in more measurable terms is **Effect Size.**

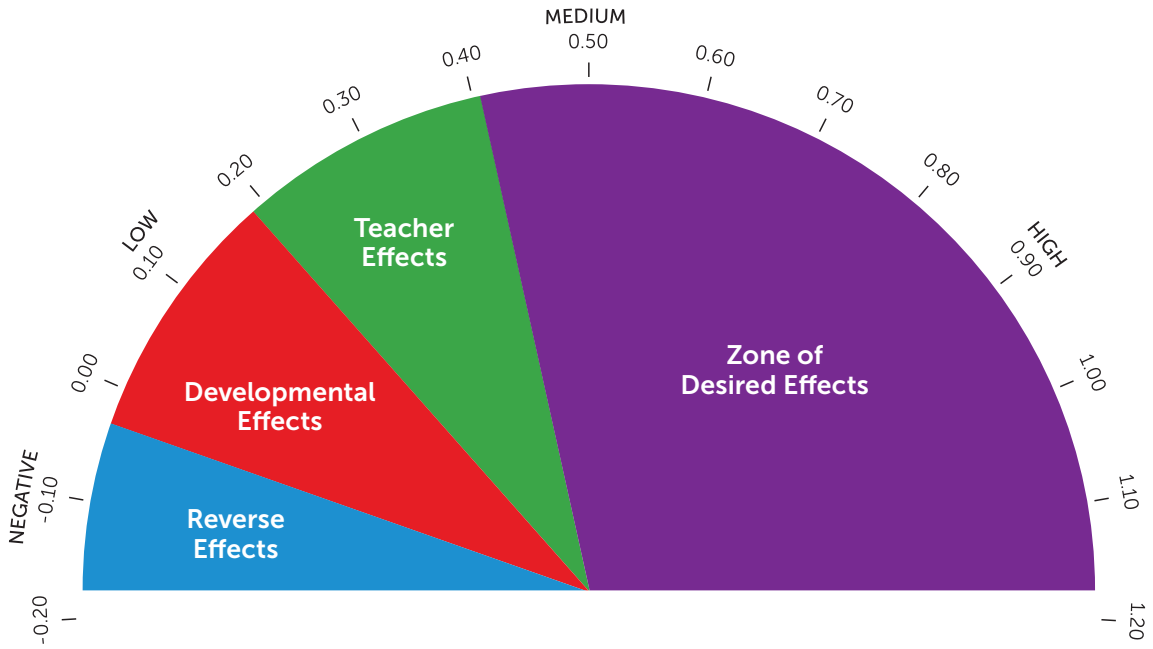
The effect size is a value that gives us a measure of the impact on student learning. The greater the number, the better!

Hattie determined that *influences, strategies* or *actions* that had an effect size of at least 0.40 allowed students to learn at the appropriate rate, as illustrated in The Barometer of Influence. Influences with a larger effect size are likely to accelerate the rate of learning beyond the typical one year of growth for one year in school. Below, we use The Barometer of Influence to illustrate four influences and their impact on learning.

> *The biggest effect on student learning occurs when teachers become learners of their own teaching, and when students become their own teachers.*

PROFESSOR JOHN HATTIE

The Barometer of Influence*



** J. Hattie, (December 2017) visiblelearningplus.com*
S. Waack (2018) visible-learning.org

** See also: Hattie Ranking: 252 Influences and Effect Sizes Related to Student Achievement*

Spaced Teaching and Practice

Historically, publishers have tended to "clump" content into blocks of learning. This "massed" learning approach required **more** time dedicated to practice. Which meant less time was available for teaching new ideas. There is a growing body of research that suggests that learning spaced over time helps people learn faster and to remember better.*

Ranked 47 in Hattie's list of 252 effects, **Spaced Teaching** and **Practice** matters because it has a positive effect on learning outcomes.

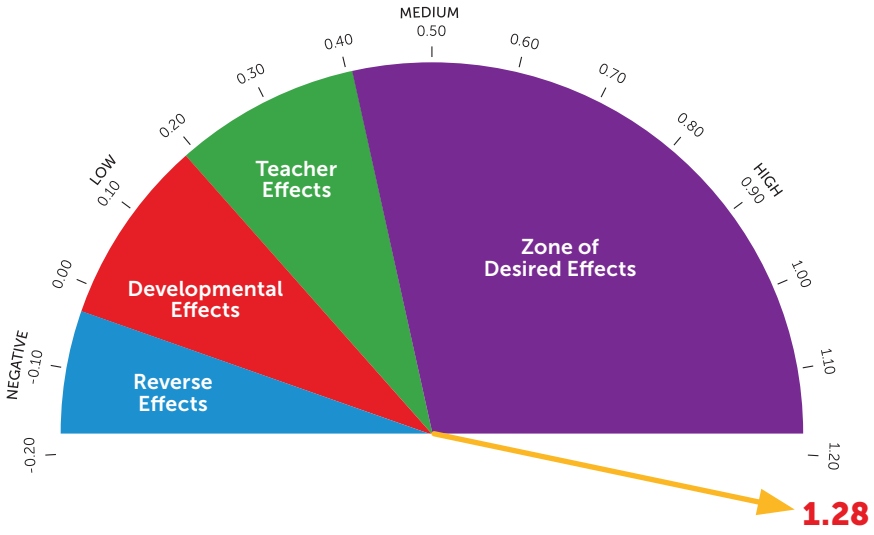
** Casebourne, I., (2015). Spaced Learning: An approach to minimize the forgetting curve. Elements: Self-paced learning library*

Piagetian Programs

Piaget described four stages of learning:

1. Sensorimotor (birth to age 3)
2. Preoperational (ages 3-7)
3. Concrete operational (ages 7-12)
4. Formal operational (ages 12 to adulthood)

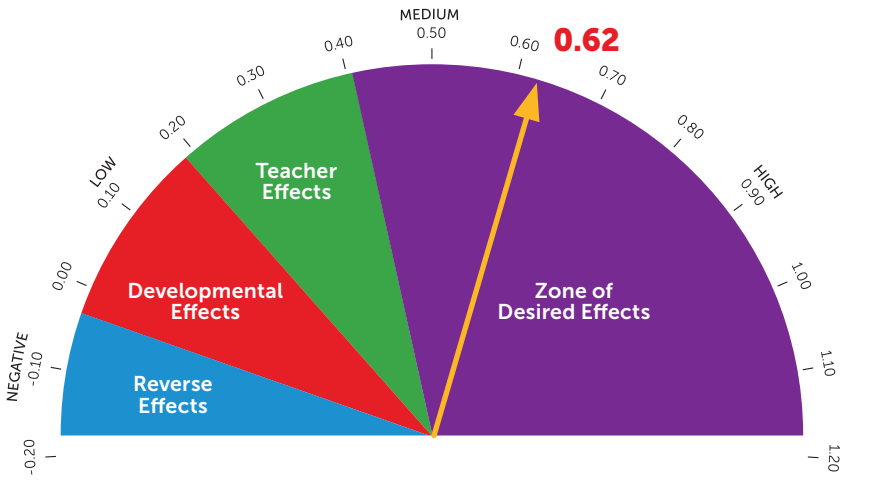
The Barometer of Influence for ***Piagetian Programs***



Vocabulary Programs

Vocabulary programs are ranked 40 in Hattie's list of 252 effects.

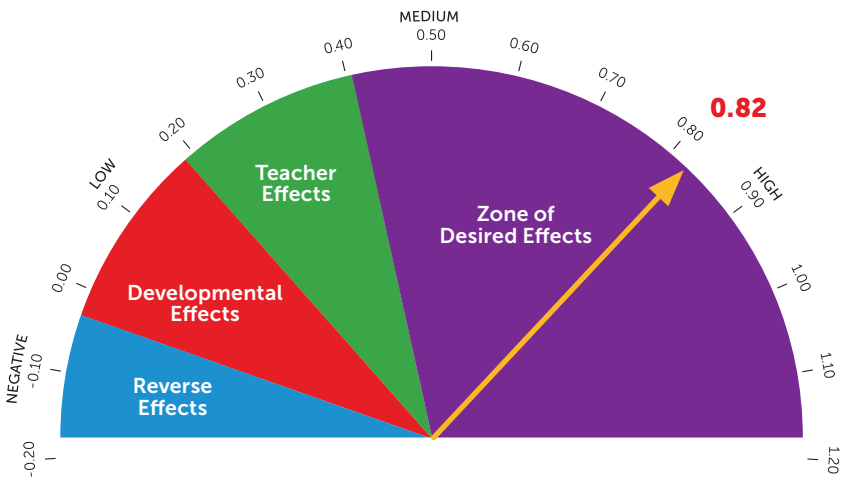
The Barometer of Influence for ***Vocabulary Programs***



Classroom Discussion

Classroom discussion is ranked 15 in Hattie's list of 252 effects.

The Barometer of Influence for ***Classroom Discussion***



Origo Stepping Stones 2.0

- Implements a spaced teaching and practice approach to learning content over time.
- Applies a Piagetian approach to teaching concepts and skills
- Develops mathematical language and vocabulary
- Fosters discourse in mathematics

At ORIGO Education we make learning mathematics ***meaningful, enjoyable,*** and ***accessible*** for all.

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