

The Learning Challenge

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@TheLearningPit

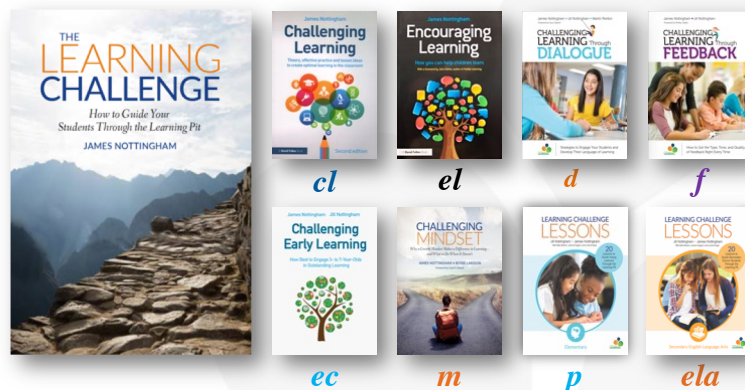
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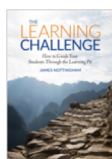
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Challenging LEARNING SERIES

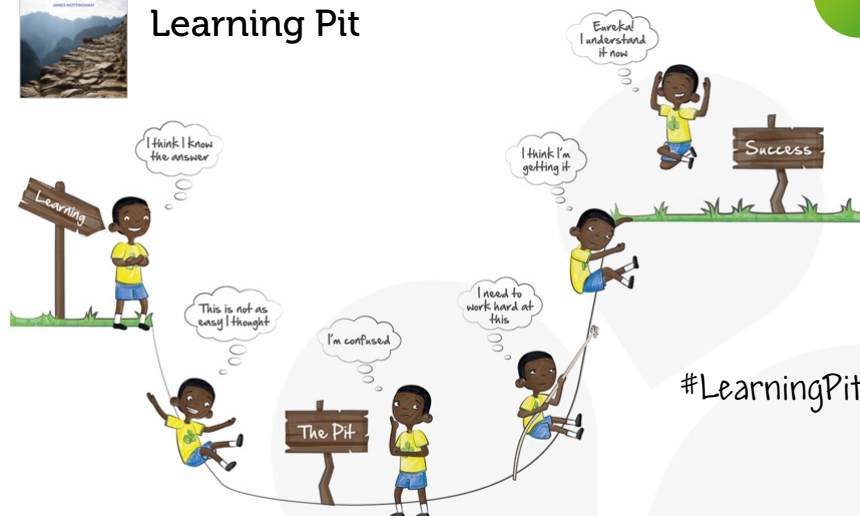
7.2





The Learning Pit

8.0



#LearningPit



Giving students control
over their learning
ES = 0.04



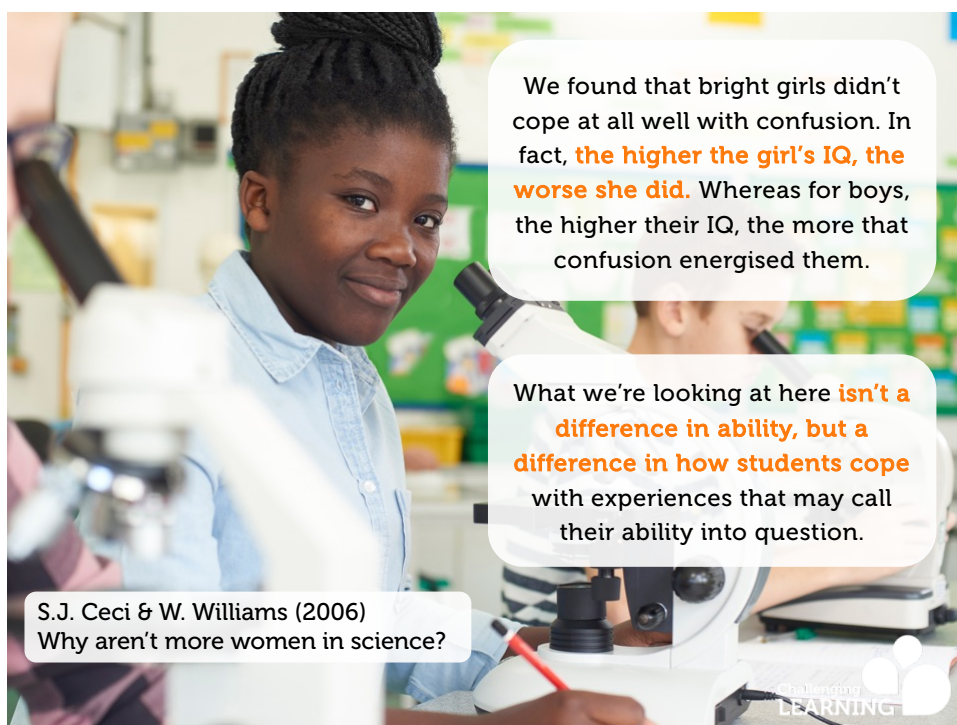


**Praise is a
positive
judgment**






How do you
respond when
students are
confused
or make
mistakes?



We found that bright girls didn't cope at all well with confusion. In fact, **the higher the girl's IQ, the worse she did.** Whereas for boys, the higher their IQ, the more that confusion energised them.

What we're looking at here **isn't a difference in ability, but a difference in how students cope** with experiences that may call their ability into question.

S.J. Ceci & W. Williams (2006)
Why aren't more women in science?



1.3.1

Easy is boring

Challenge is interesting



You set the culture

8.2.1



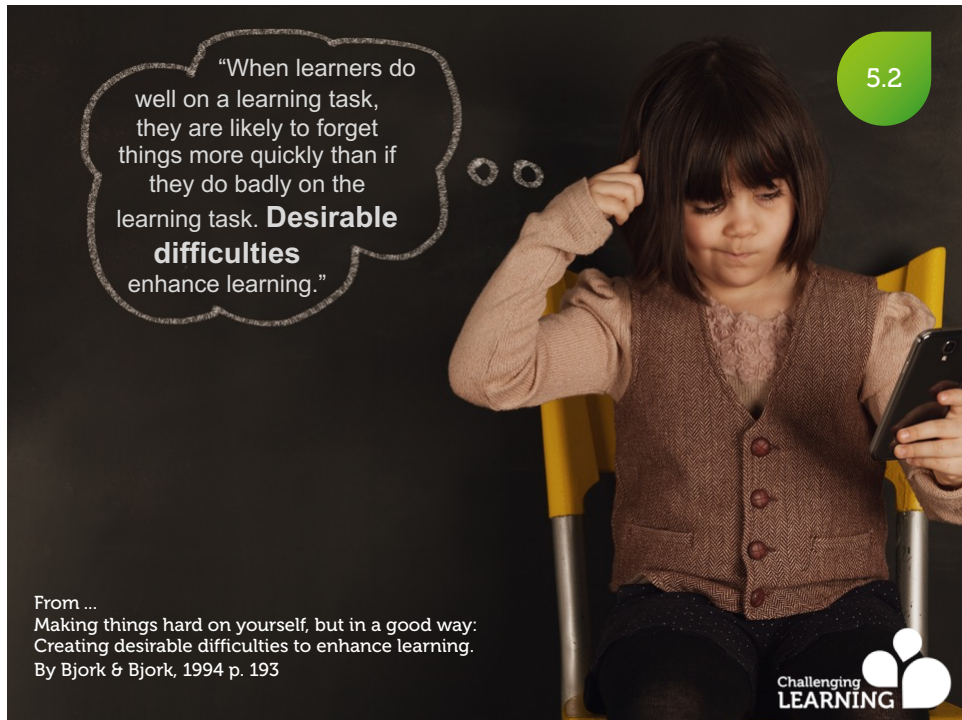
“ Don't ask what
teachers do.
*Instead, ask students
what their
teachers value* ”



“The most productive
classrooms are those
in which students
work on complex problems,
are encouraged to take risks,
and can struggle and
fail and still feel good
about working on hard
problems.”

Boaler, 2015, p.177





"When learners do well on a learning task, they are likely to forget things more quickly than if they do badly on the learning task. **Desirable difficulties** enhance learning."

5.2

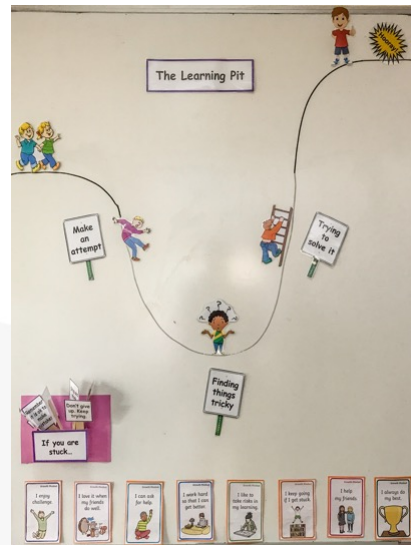
From ...
Making things hard on yourself, but in a good way:
Creating desirable difficulties to enhance learning.
By Bjork & Bjork, 1994 p. 193

Challenging
LEARNING

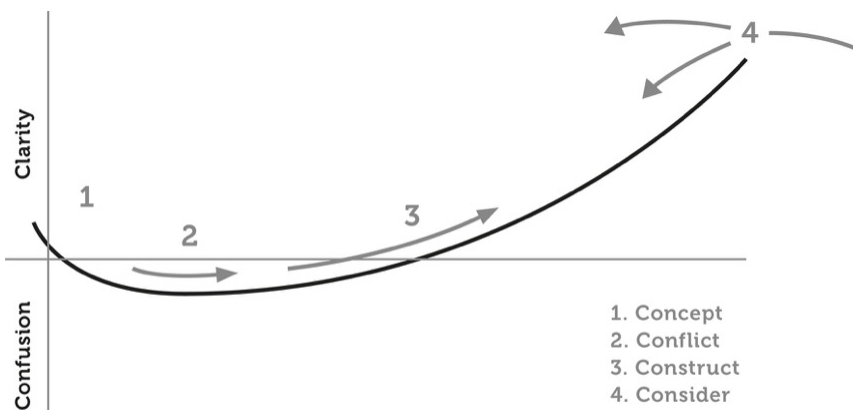


Think more
Go beyond their first answer
Make connections

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The Learning Challenge for students with special needs



THE PIT

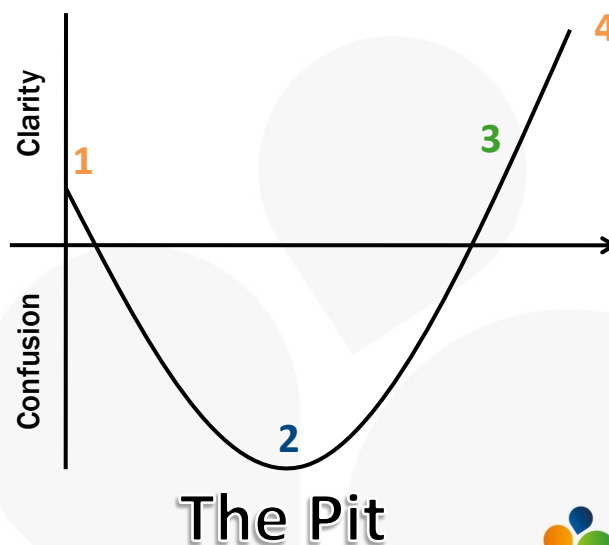


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The Learning Challenge: Guiding students through the Learning Pit

1. Concept
2. Conflict
3. Construct
4. Consider



Concepts in everyday (school) life

1. It's not **fair**
2. Are we still **friends**?
3. Please will you **help** me?
4. Stop calling me **names**!
5. That is **bullying**
6. Stop **daydreaming** and pay attention!
7. **Act** your age!
8. That was a **foolish** thing to do
9. That was the **best** one yet
10. Why the **sad** face?
11. Lovely to see you looking **happy**
12. Who **knows** the answer?
13. Come on: play the **game**!
13. I was only **joking**
14. That was a **kind** thing to do
15. What a great **team** you make
16. Make sure you **share** properly
17. You can all go **home** now
18. Are you telling me the **truth**?
19. That was a stroke of **luck**
20. Tell me what is **wrong**
21. **Play** nicely together
22. Can you **explain** what you did?
23. I don't **understand**
24. Stop **telling tales**
25. We need to show **respect** for each other



Concepts for young children

Being nice	Hygiene
Choice	Language
Dreaming	Me
Emotions	Pets
Fairness	Real
Fairy tales	Same
Friends	Shape and space
Growth/change	Superheroes
Health	Telling lies
Home	Thinking
English	





What is a Toy?



Art & Design

Audience
 Beauty
 Colour
 Copy
 Elegance
 Expressionism
 Imagination
 Meaning
 Music
 Originality
 Perspective
 Real
 Simplicity
 Surrealism
 Value

Citizenship

Bravery/Courage
 Bullying
 Community
 Conscience
 Consequence
 Courage
 Culture
 Democracy
 Duties
 Enterprise
 Equal treatment
 Fairness
 Famous
 Freedom
 Friendship
 Hatred
 Justice/just dessert
 Life choices
 Love
 Nation
 Responsibility
 Revenge
 Reconciliation
 Rights
 Risk
 Talent
 Truth
 Value
 Welfare
 Will power



English

Chivalry
Democracy
Drama
Fairness
Goodness
Hero
Honour
Justice
Language
Love
Madness
Poem
Power
Romance
Story

Humanities

Biodegradable
Border
Cause
Culture
Cultural globalisation
Democracy
Empire
Equality
Evidence
Globalisation
History
Home/place
Interpretation
Justice
Migration/immigration

Mountain
Nation
Poverty
Race
Rivers
Social Diversity
Tourist
Truth
Urbanisation



Maths

Continuous
Equal
Infinite
Logical
Measurement
Nil/zero
Number
Odd Numbers
Probability
Proportion/ratio
Shape
Significance
Size
Unit
Value

MFL

Communication
Culture
Foreign
Globalisation
Identify
Language
Nationality
Understanding

PE

Competition
Condition
Confidence
Drugs
Fair
Games
Performance
Race
Sports
Success/failure
Talent
Team



RE

Belief
Culture
Faith
Fate
Morality
Tolerance
Tradition
Truth
Value

Science

Biodegradable
Cause
Discovery
Drugs
Elements
Evidence
Evolution
Experiment
Exploration
Fair Test
Forces
Genetic
Human
Invention

Knowledge
Proof
Same (Cloning)
Science
Significant
Species
Theory
Universe
Waste



How many 'real' apples are there?



Invisible apple







Concept Table

	A. Real	B. Not Real	C. Not Sure	Reason
1. A toy animal				
2. A dead animal				
3. An unborn animal				
4. A photo of an animal				
5. A drawing of an animal				
6. Your memories of an animal				
7. <i>The Three Little Pigs</i>				



Types of talk

Cumulative	Disputational	Exploratory
		
<p>Too nice</p> <p>Agreeing for the sake of agreeing</p>	<p>Too argumentative</p> <p>Arguing for the sake of arguing</p>	<p>Just right</p> <p>Investigative and collaborative dialogue</p>



What's the difference between ...?

(is this the same as that?)

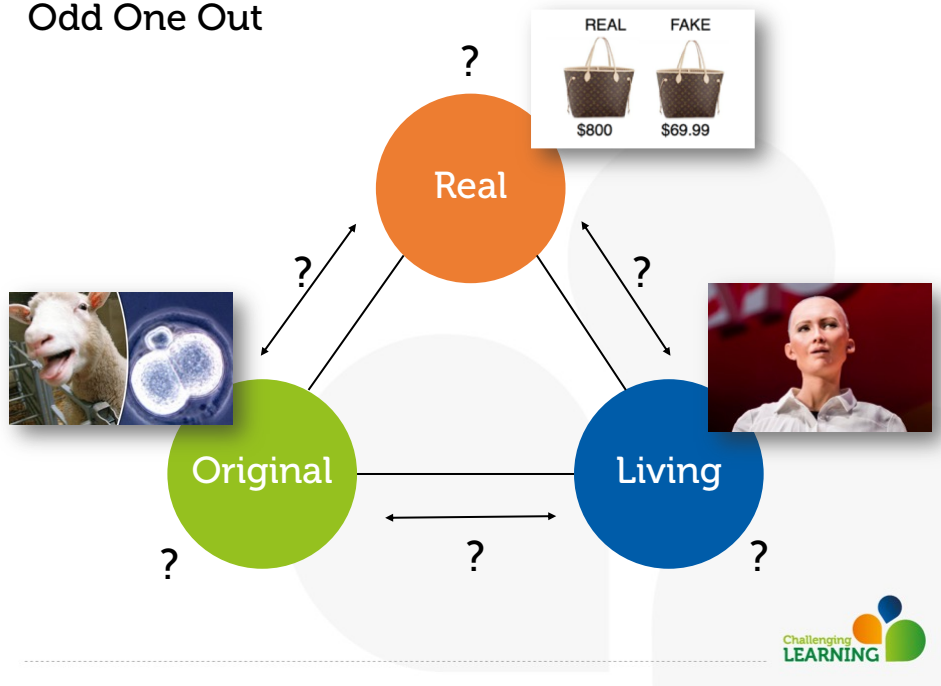


What is the difference between ...

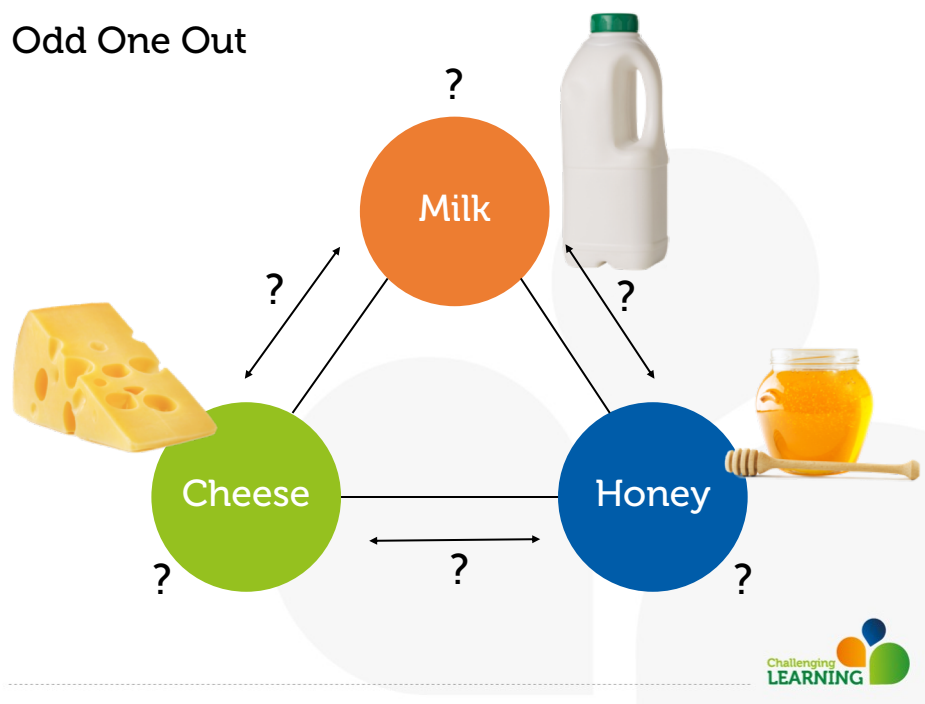
Real	and	Pretend
Real	and	Digital
Real	and	Living



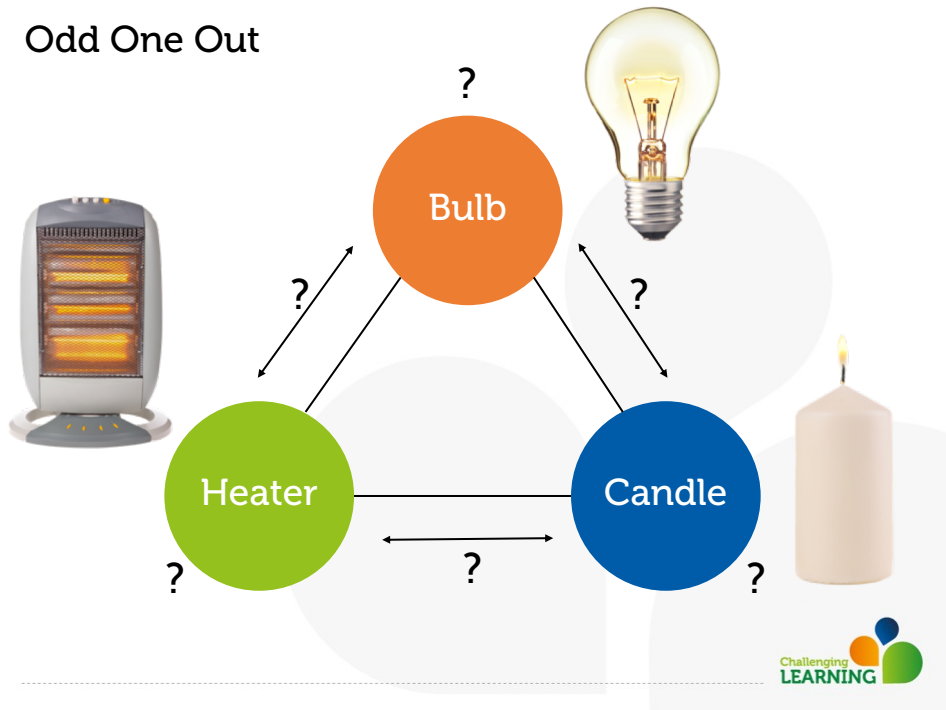
Odd One Out



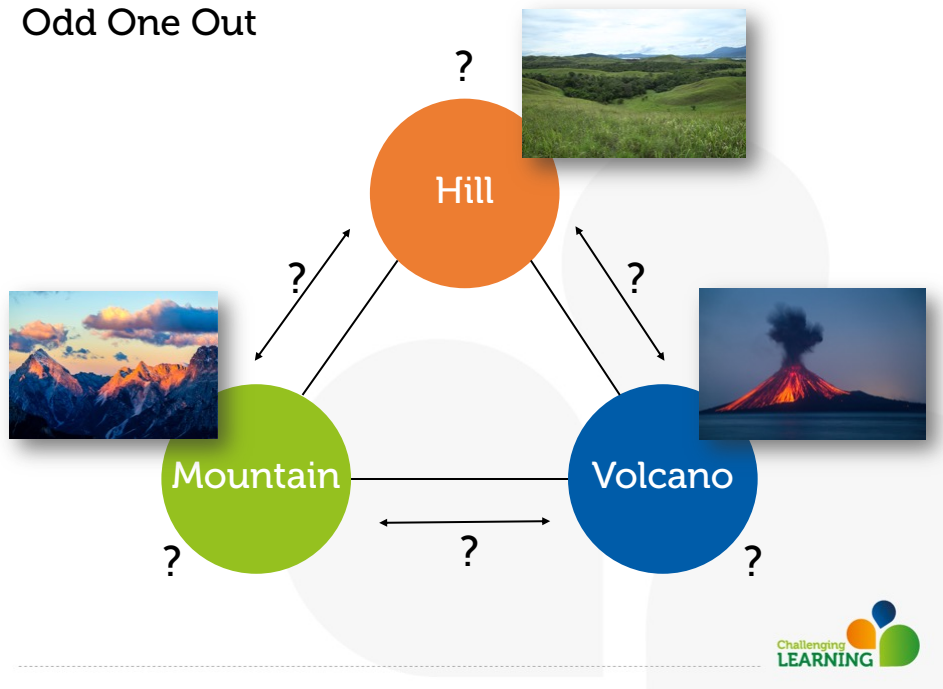
Odd One Out



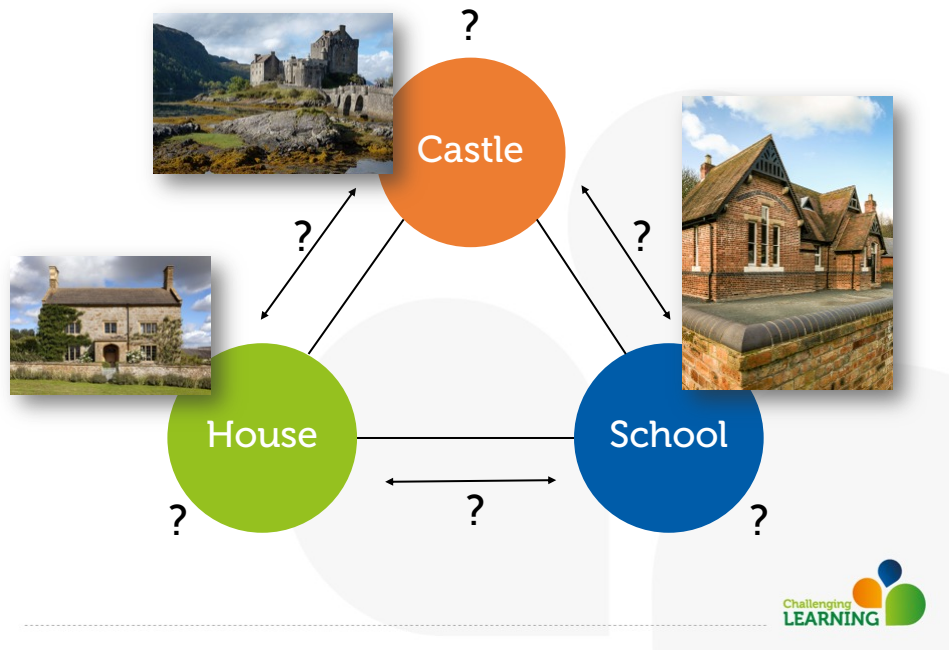
Odd One Out



Odd One Out



Odd One Out



Odd One Out



Extending Odd One Out

	A	B	C
1	11	3	2
2	4	7	14
3	8	12	5

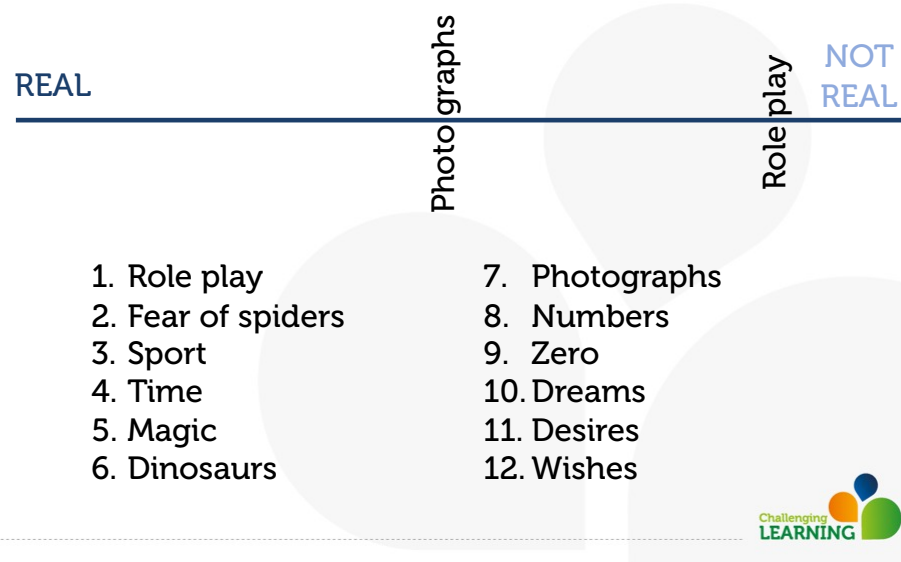


Extending Odd One Out

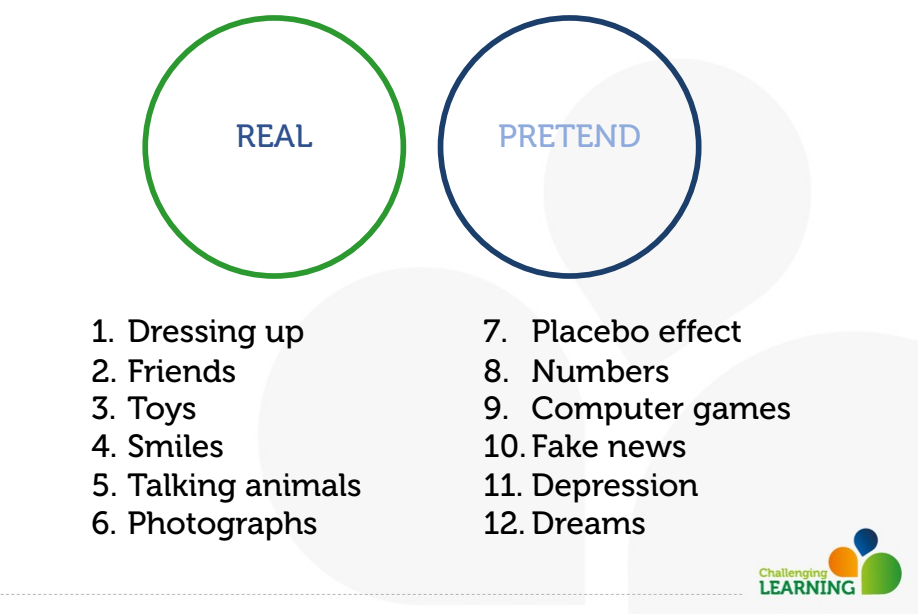
	A	B	C
1			
2			
3			

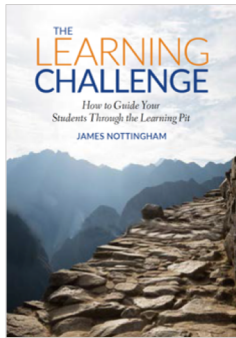


Concept Line



Venn Diagram





LEARNING CHALLENGE VALUES

Challenge is not difficult, challenge is interesting

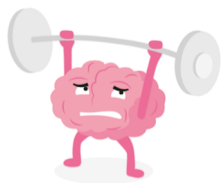
Easy answers should be extended

Desirable difficulties lead to longer-lasting learning

Struggling is not a sign of weakness but of developing strength

Challenge builds self-efficacy

Education should also value resilience, empathy, patience, self-awareness, hope, open-mindedness & confidence



www.ChallengingLearning.com

Feedback is one of the most significant influences on student learning

*f*1.0

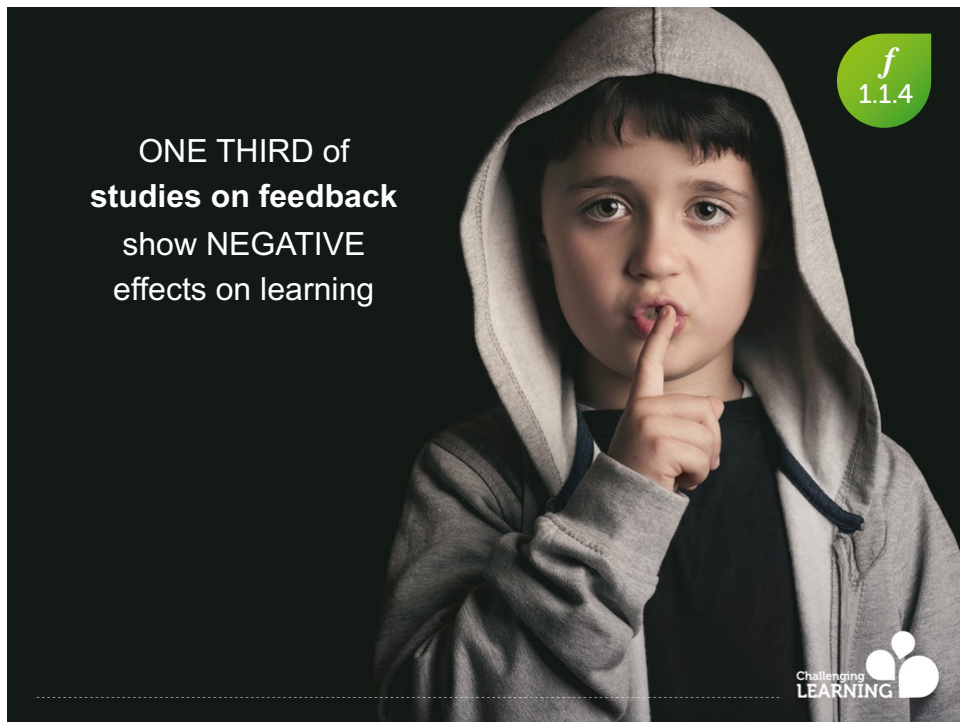
"Twelve meta-analyses involving 196 studies place feedback among the top 5 to 10 highest influences on student achievement."

Lysakowski and Walberg, 1982

"The effect of feedback on learning... suggest average percentiles on learning outcomes between 50% and 83% improvement."

Hattie, 2009

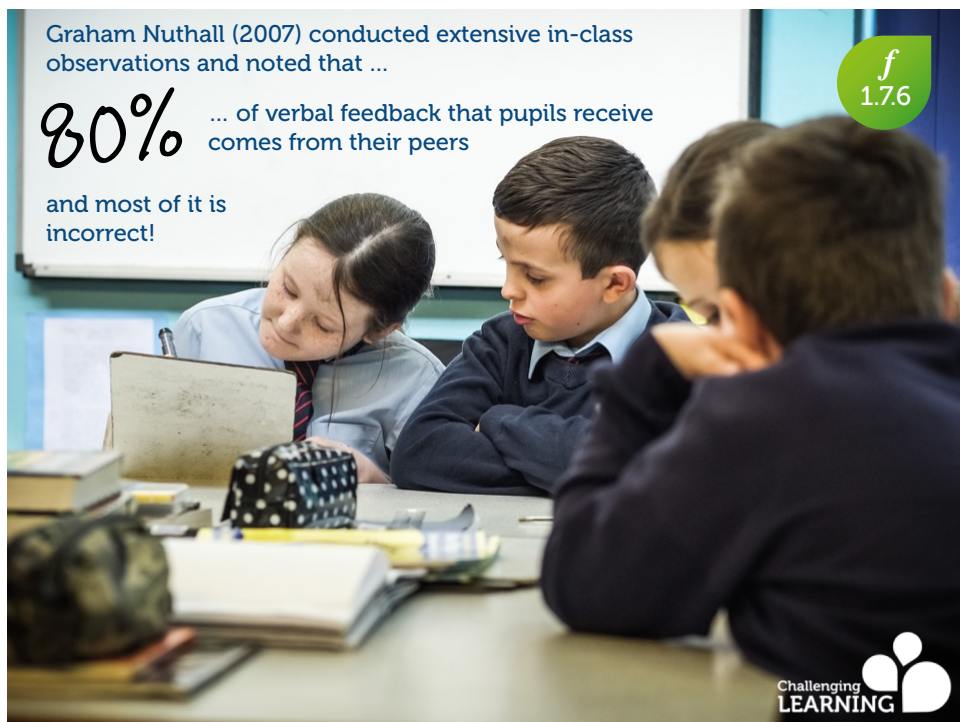
Challenging LEARNING



ONE THIRD of
studies on feedback
show **NEGATIVE**
effects on learning

f
1.1.4

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Graham Nuthall (2007) conducted extensive in-class
observations and noted that ...

80% ... of verbal feedback that pupils receive
comes from their peers

and most of it is
incorrect!

f
1.7.6

Challenging
LEARNING



Feedback for learning

answers 3 questions ...

f
1.1.5

1. What am I aiming to achieve?

3. What should I do next?

2. How much progress have I made so far?

Challenging
LEARNING



f
1.1.6

Students trust feedback from computers more than from teachers

(Helen Timperley, 2007)

Challenging
LEARNING

Success Criteria for history essays

f
4.0.7

Introduction

- 4+ sentences
- Proposition stated
- Outline of narrative
- Context of topic

Conclusion

- 3+ sentences
- Summation
- Proof of proposition
- Specific reference to assess/evaluate

Body of essay

- 3+ paragraphs
- 6+ facts per paragraph
- Inter-relationships
- Argument is relevant
- Quote with source given



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LEARNING

Emails from Frank Egan, Perth, WA

f
4.0.7

I thought you may be interested in last year's Year 12 results. They were the first group to use our self-evaluation sheets from Year 10 onwards

We finished in the top five schools for History in the state

The self-evaluation guidelines helps both students and teachers to evaluate and improve their learning

(March 2016)

The majority of the class noticed a **high degree of confidence** in their expected exam performance with a **reduced stress level**

(Nov 2016)

I am developing a new formative rubric for middle school Science, Technology, Engineering, Arts and Maths

(Nov 2016)

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Example Success Criteria in Maths

✓ = Starting Point

= Current Point

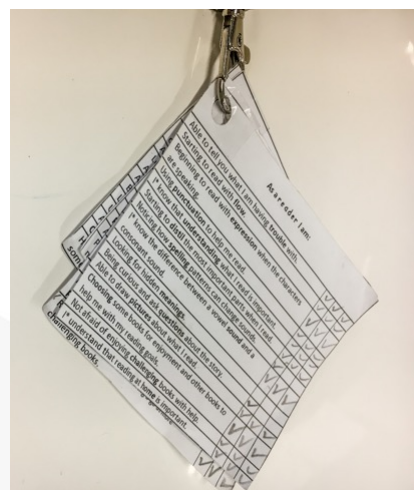
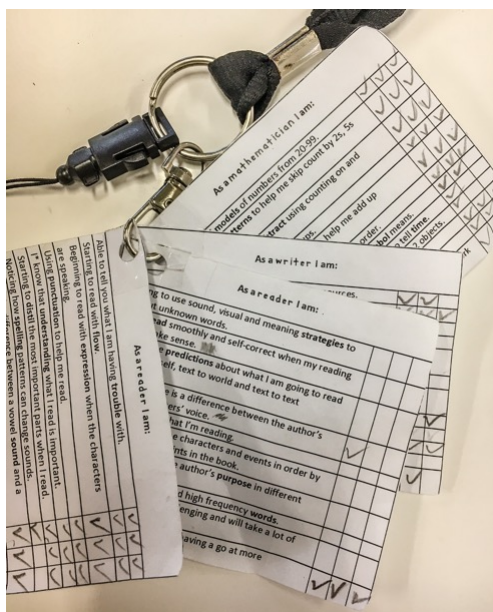


Skill shown	Not Shown	Need help	Getting it	Got it
Use SOH CAH TOA			✓	
Recognise the three ratios and write the rule			✓	
Identify and label a right angle triangle, Hyp, Opp, Adj			✓	
Correctly identify which trigonometry ratio to apply			✓	
Check the calculator is in DEG mode			✓	
Round answers to specified number of decimal places			✓	

Use Sin, Cos & Tan functions correctly on a calculator		✓		
Use Sin-1, Cos-1 & Tan-1 functions correctly		✓		
Write the full rule		✓		
Substitute in correct values into appropriate locations		✓		
Rearrange the rule		✓		
Find an unknown side length		✓		



Example Success Criteria in Elementary Literacy



Criteria for collaborating effectively

f 4.6



"Today's lesson is about targets of opportunity."



Seven Steps to Feedback Success

f7.1

1. Agree goals
2. First attempt
3. Self (or peer) review
4. Edits
5. Teacher feedback
6. Final edits
7. *Grade*



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Feedback after final edits is not cheating!
(unless you think of yourself as a referee rather than a coach)



$f_{1.6}$

“Research experiments have established that whilst pupils’ learning can be advanced by feedback through comments, the giving of marks, or grades, has a negative effect because pupils ignore comments when marks are also given”

Black & Wiliam (2002)

PERFORMANCE- FOCUS

LEARNING FOCUS





The Learning Pit, written & performed by Grace Gaffney, aged 6



vimeo.com/224448260

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