
Our expectations
Principles of Pedagogy
JANUARY 2012
Contact details
Aims
Session Outlines
Module handbook
Memory review
Learning Theory Review
Learning Myths
Quiz

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Principles of Pedagogy

Learning Theory in Action



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Aims

☒ Consider the following questions...

Can we remember some of last session?

Can we learn anything from hungry dogs?

What was Vygotsky going on about?

Who was Piaget?

To go deeper into the Learning theories discussed previously.

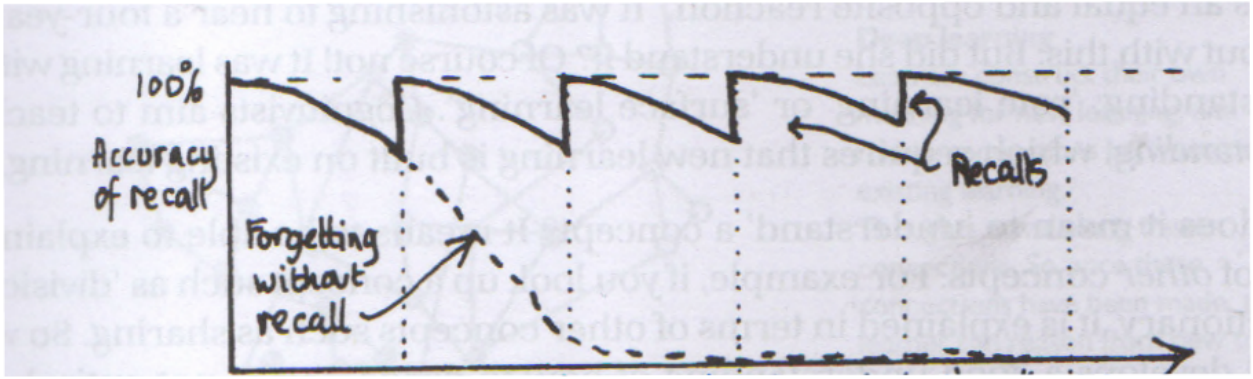
...to have a response to the

Memory review

Choose a question to answer.

What must happen for information to pass from the STM to the LTM?

What factors make us forget things?



What are the missing time frames for recall?

Can you remember the list of words?

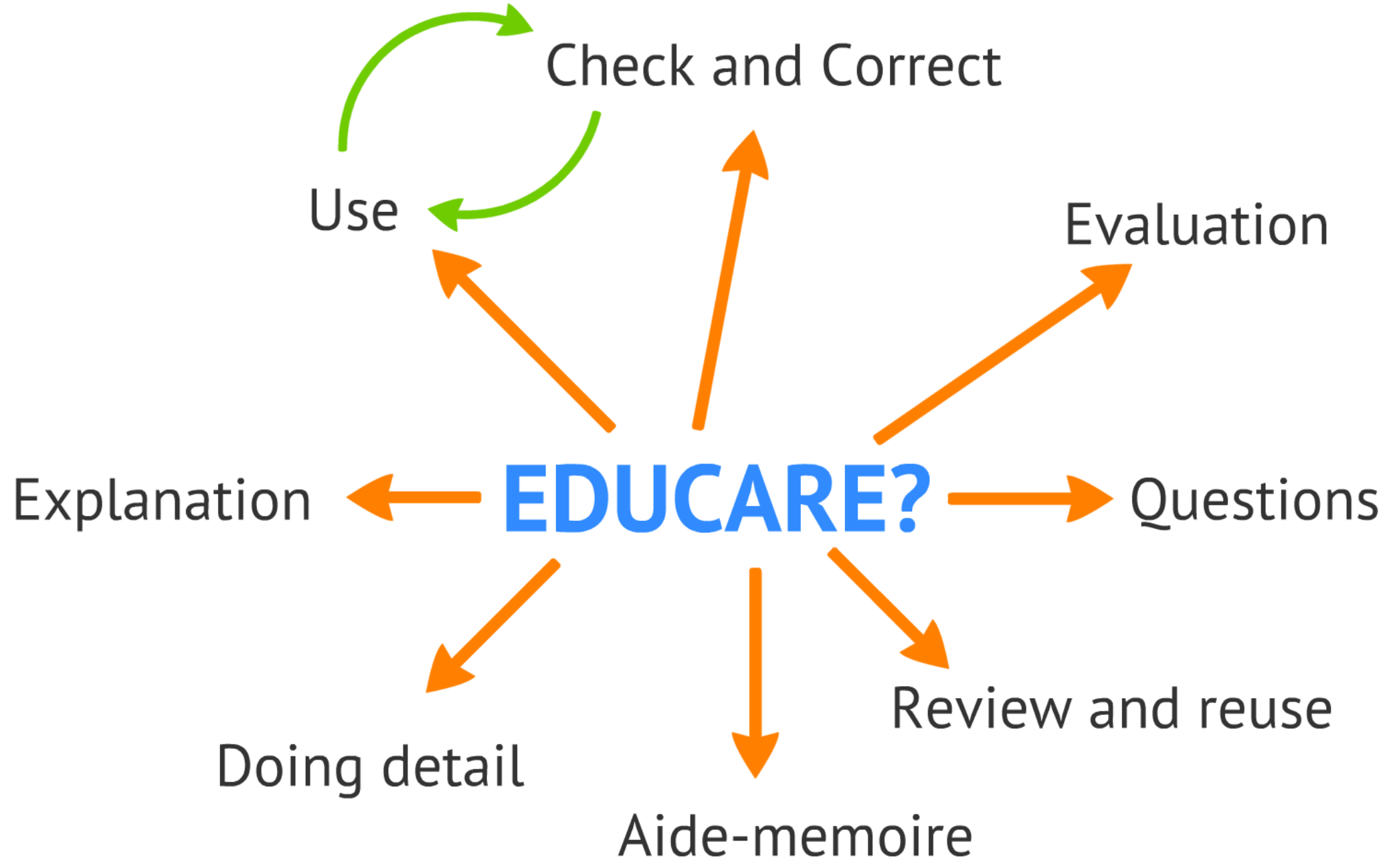
Thick wall it tea of myrrh seize knots trained

Nearly phonetically identical to...

The quality of mercy is not strained

Makes sense?

On the whole we don't remember words, we remember meanings and these meanings we must make ourselves!



Geoff petty (2009)

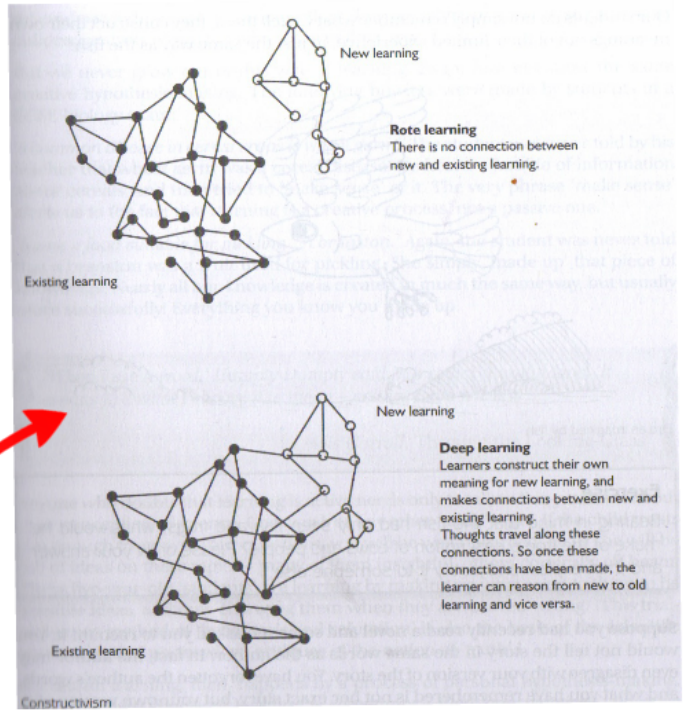
Learning Theory Review

Choose a question to answer.

Name three LEARNING THEORIES?

Who put cats in a box and why is that interesting for us?

Children who are scared to fail will do two things, what are they?



Can you explain constructivist understanding?

What is learning?

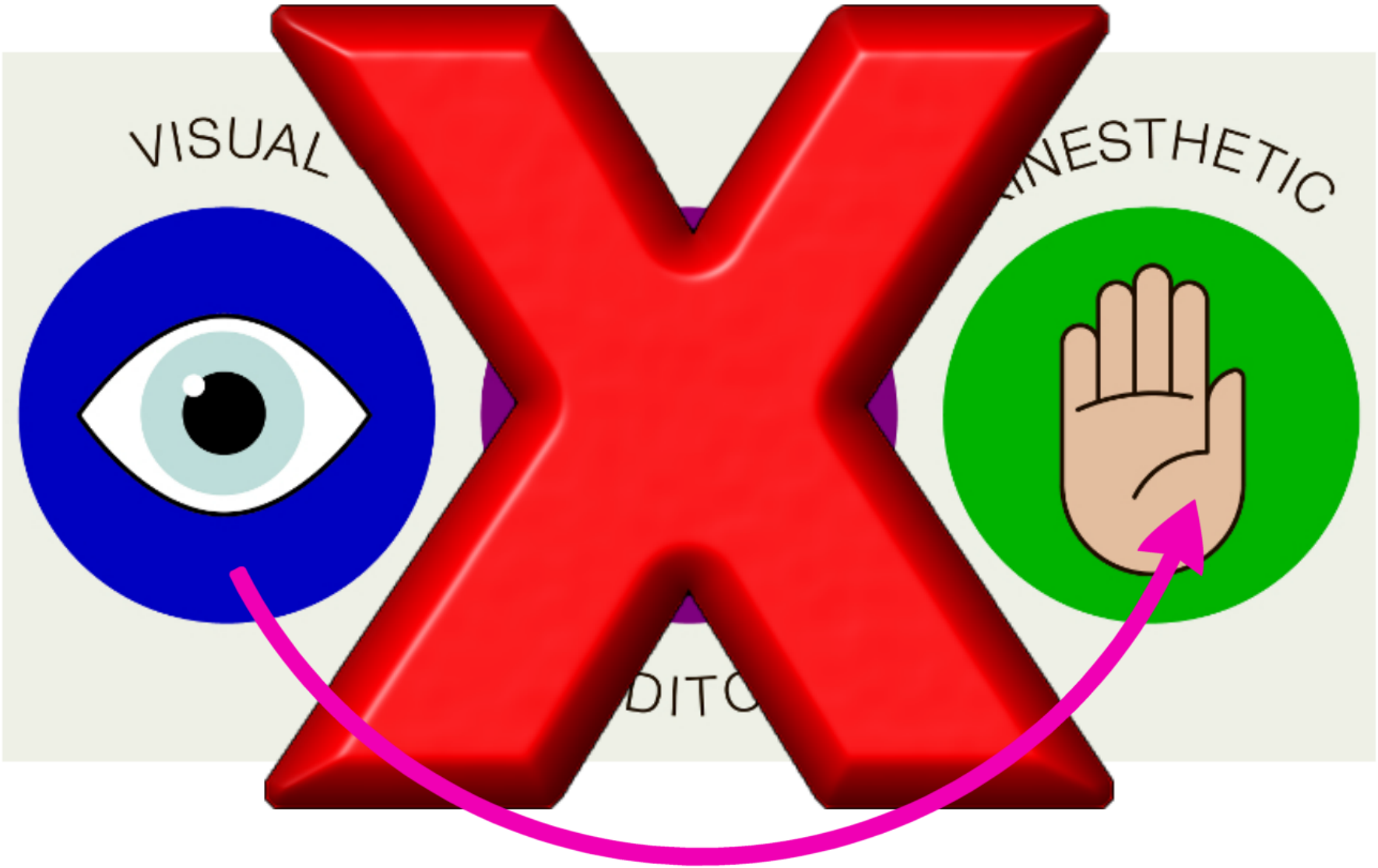
What do you draw upon when you learn?



What is the role of the teacher (or other) in the process of learning?



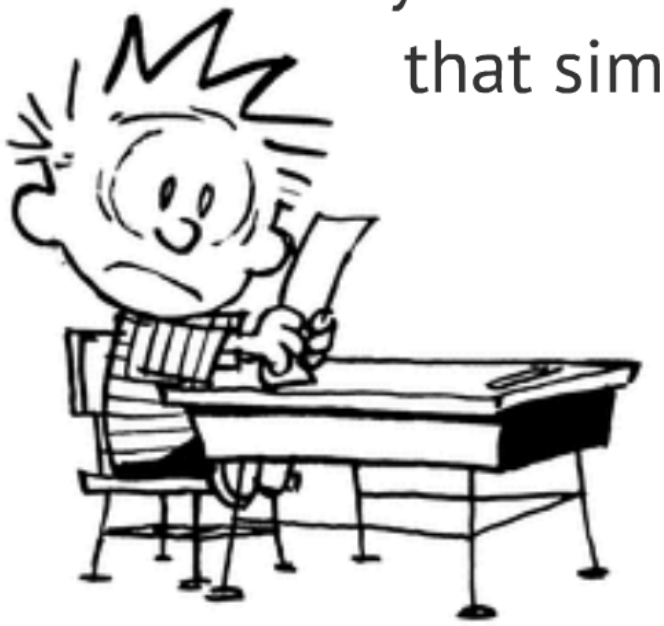
How do we learn?



How do we learn?



Do you think it's that simple?



Is there an argument to reverse it?

Learning Myths

What is seen as good practice may not always be seen as such.

Not all 'good practices' or beliefs have any basis in evidence.

Learning myths can seem like evidenced truths.



Quiz

How do we learn?

biology

sociology

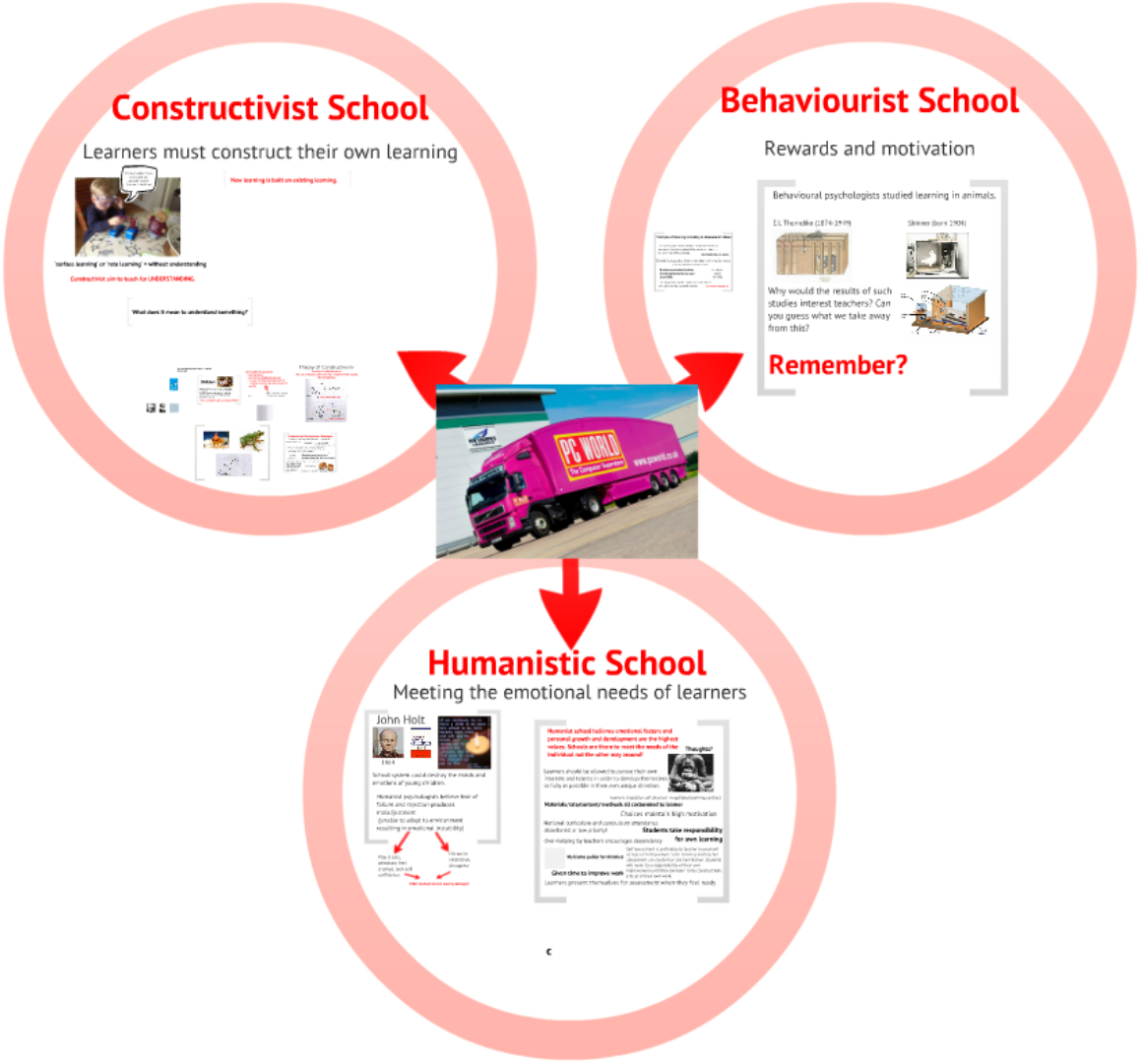


critical theory

psychology

neuroscience

In short: No-one really knows!

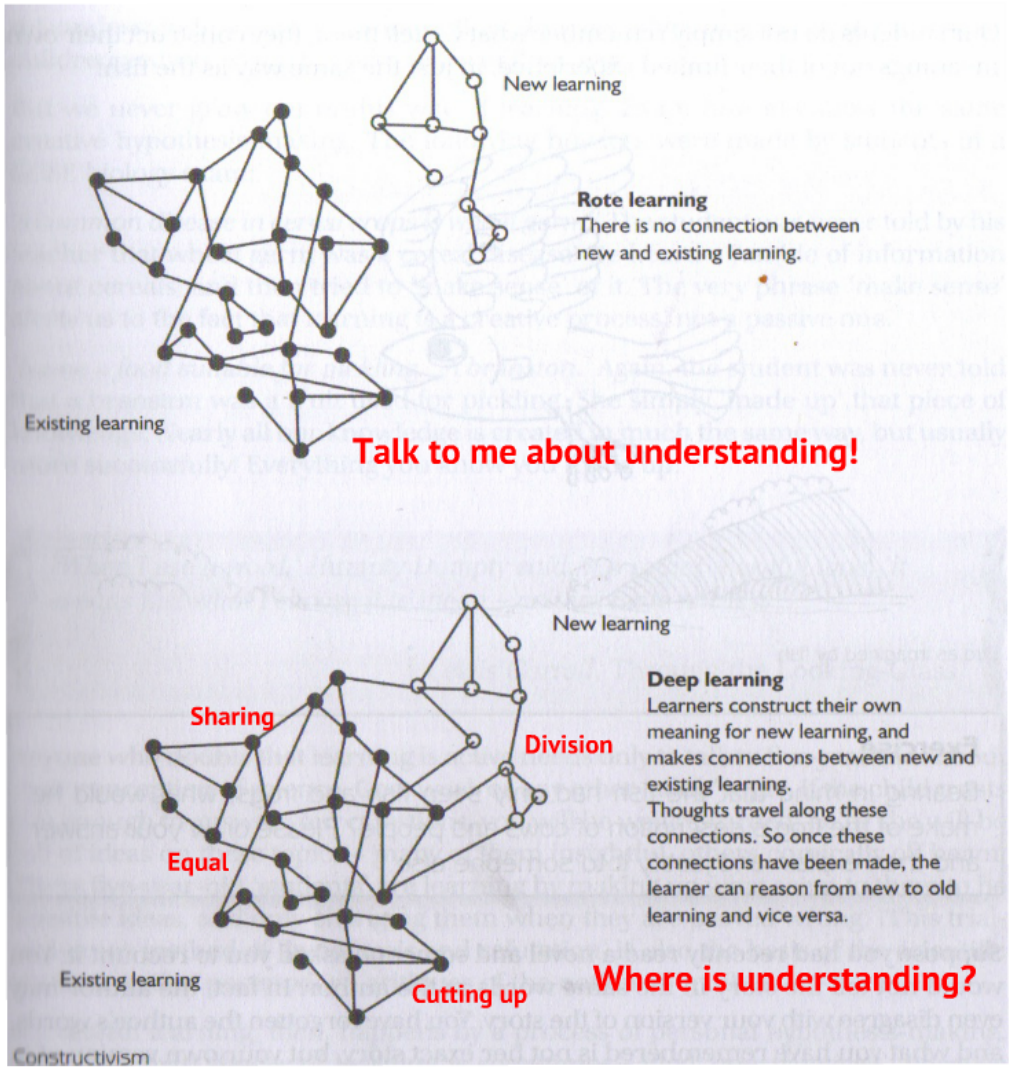


Three schools of learning in psychology

Theory of 'Constructivism'

Learning is a physical process

(Billions of neurons connect to make a network which encodes the new learning)



Behavioural psychologists studied learning in animals.

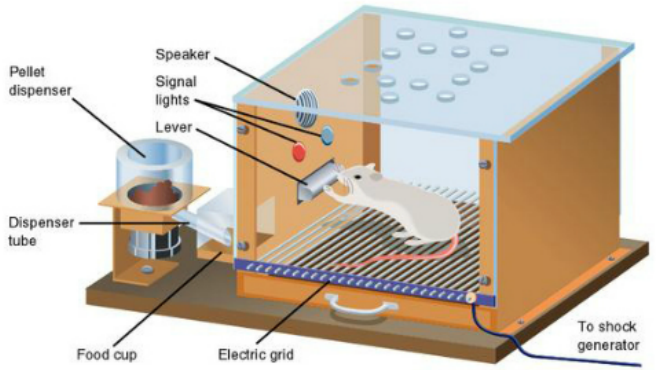
E.L Thorndike (1874-1949)



Skinner (born 1904)



Why would the results of such studies interest teachers? Can you guess what we take away from this?

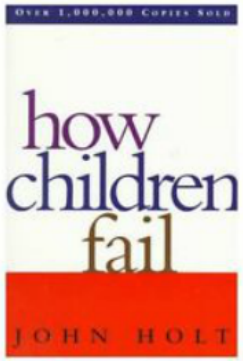


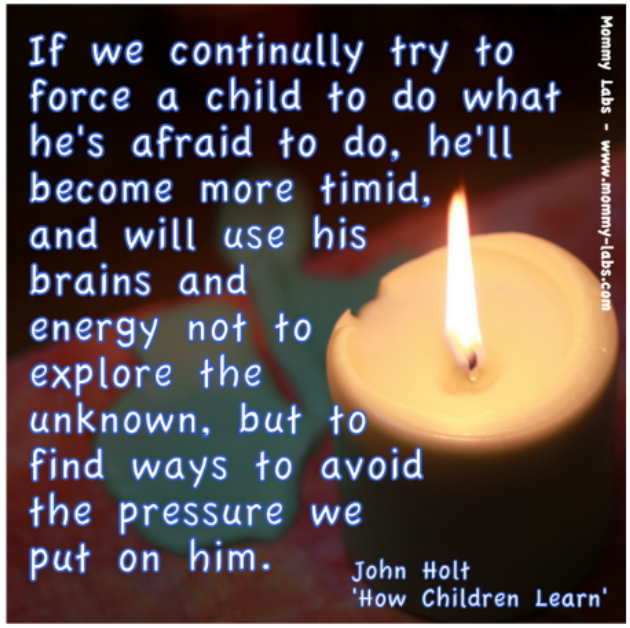
Remember?

John Holt



1964

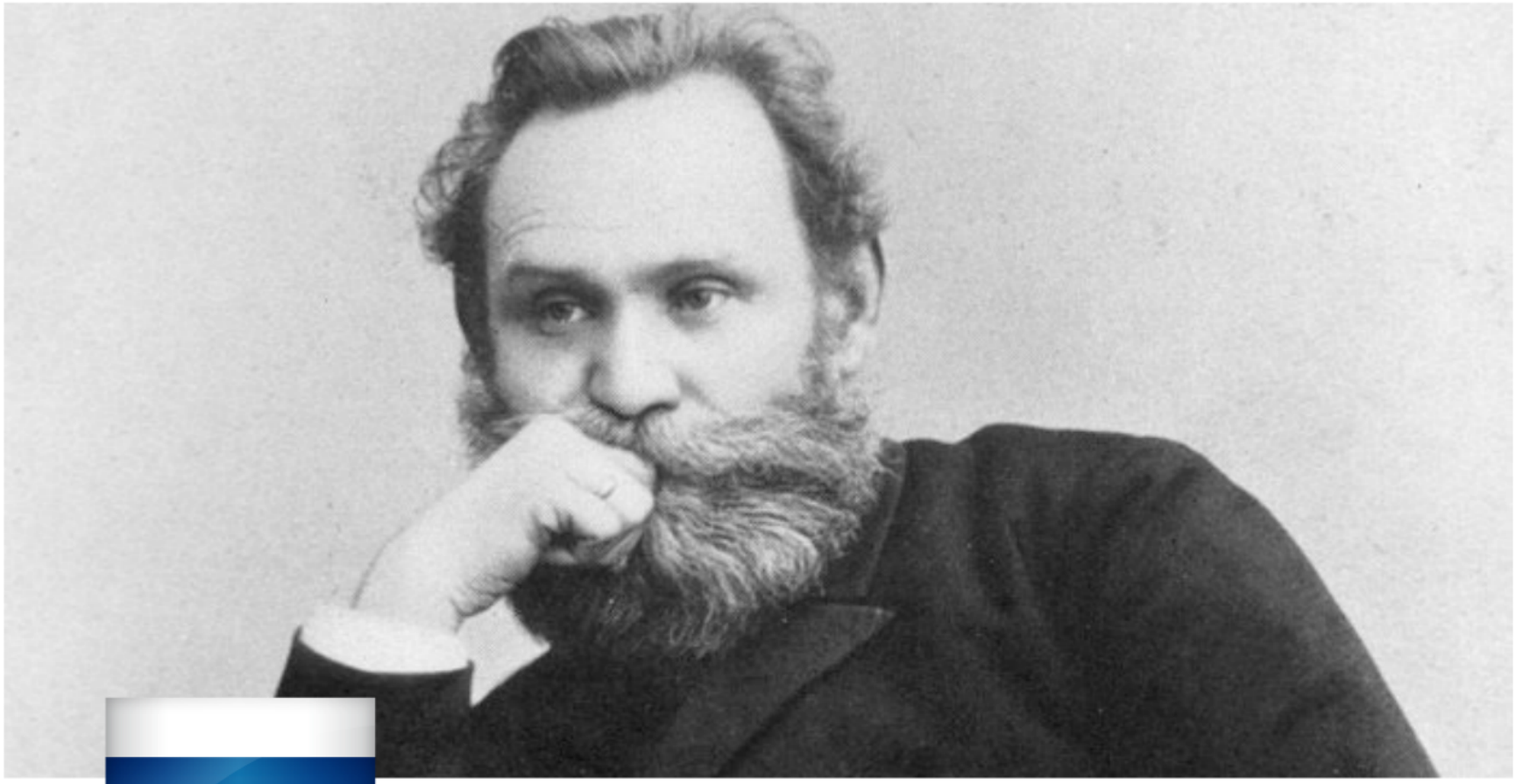




School system could destroy the minds and emotions of young children.

Humanist psychologists believe fear of failure and rejection produces maladjustment
(unable to adapt to environment resulting in emotional instability)

Behaviourism = Learning has occurred when there is a change in behaviour





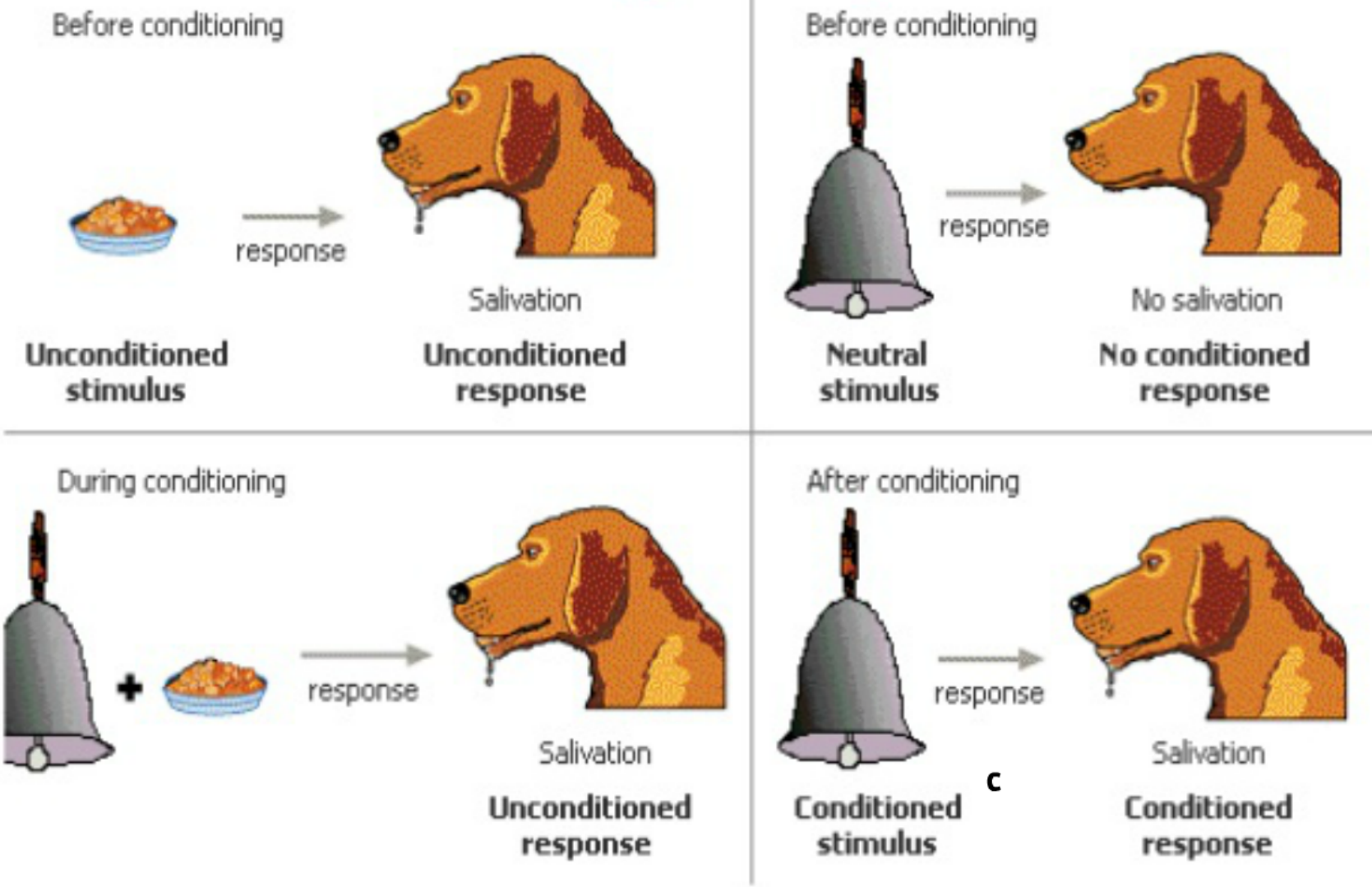
1890s

Ivan Pavlov



Classical conditioning

Pavlov's Dog Experiment



Behaviourism

Behaviourism is a worldview that assumes a learner is essentially ***passive, responding to environmental stimuli.*** The learner starts off as a clean slate (i.e. ***tabula rasa***) and behaviour is shaped through ***positive*** reinforcement or ***negative reinforcement*** (Watson, 2013).

Behaviourism

Both positive reinforcement and negative reinforcement increase the probability that the behaviour will happen again.

In contrast, punishment (both positive and negative) decreases the likelihood that the behaviour will happen again.

Behaviourism

Positive indicates the application of a stimulus; negative indicates the withholding of a stimulus.

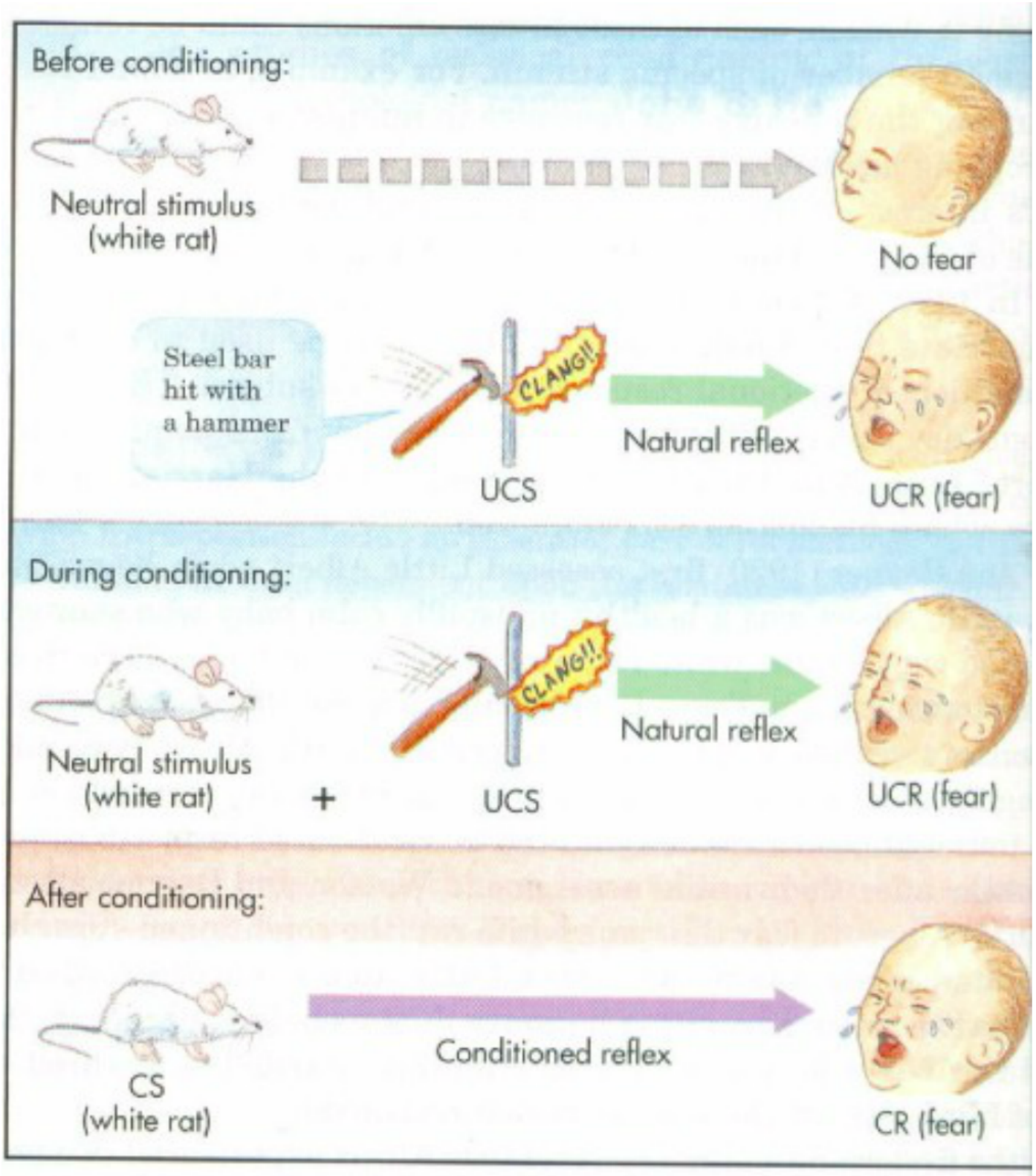


Learning is therefore defined as a change in behaviour in the learner.

Behaviourism and learned behaviours in humans

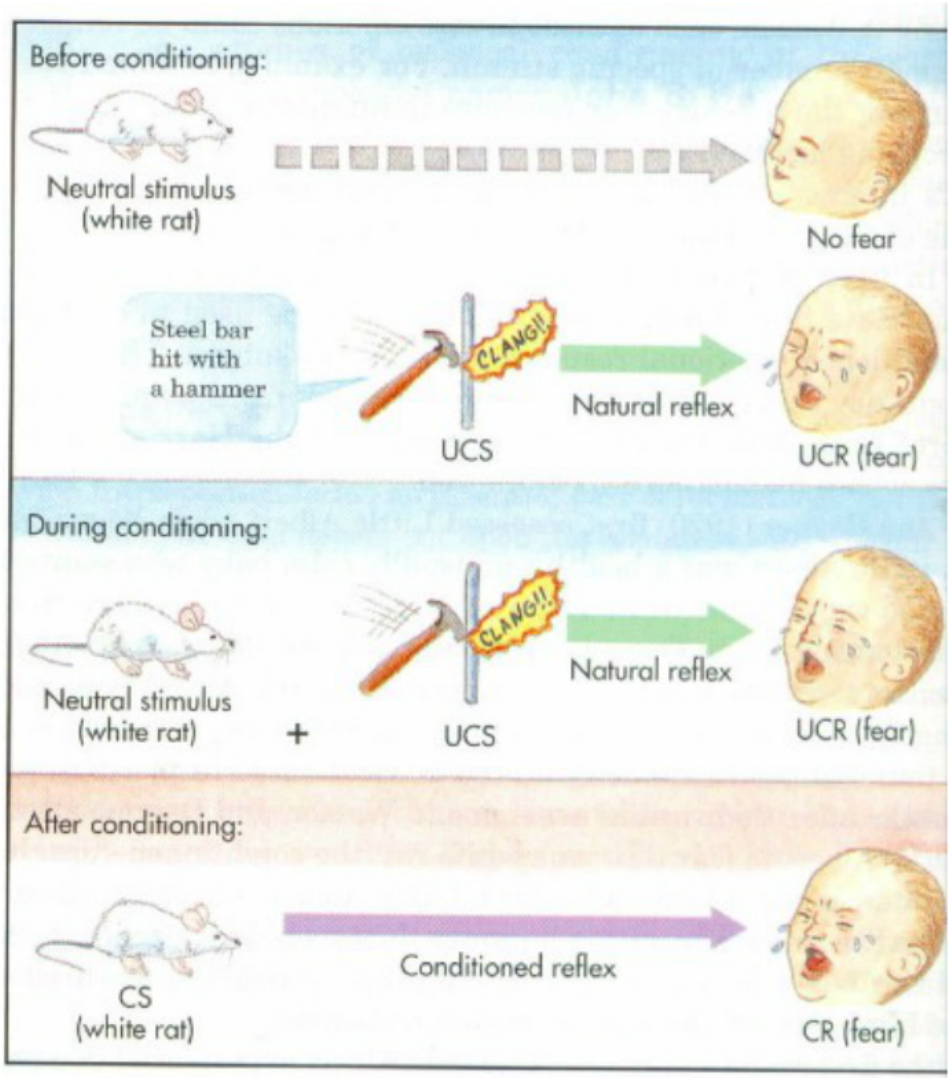


Meet Albert!



What
appli
class

Can w
Hamr



What could be the classroom applications of this in classrooms today?

Can we replace the 'Rat' 'Steel bar + Hammer' and 'Albert'?

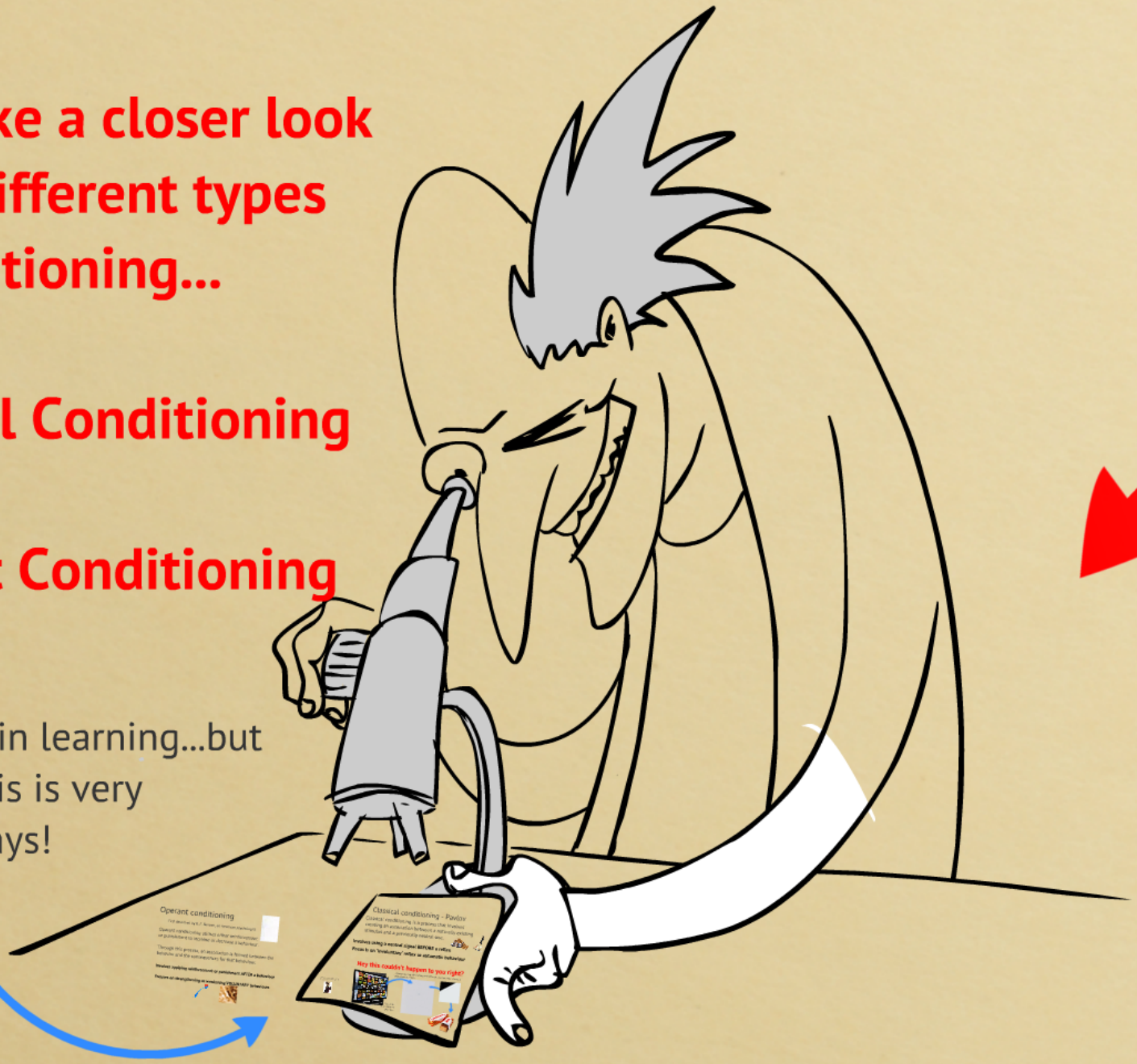
c

Albert was 'conditioned' to have a response to the rat...

Let's take a closer look at the different types of conditioning...

Classical Conditioning and Operant Conditioning

Both result in learning...but go about this is very different ways!



Classical conditioning - Pavlov



Classical conditioning is a process that involves creating an association between a naturally existing stimulus and a previously neutral one.





Involves using a neutral signal BEFORE a reflex

Focus is on 'Involuntary' reflex or automatic behaviour

Hey this couldn't happen to you right?



Used to be unconditioned stimulus...

...repeated pairing with 'putting the kettle on...has now made adverts a 'conditioned stimulus!







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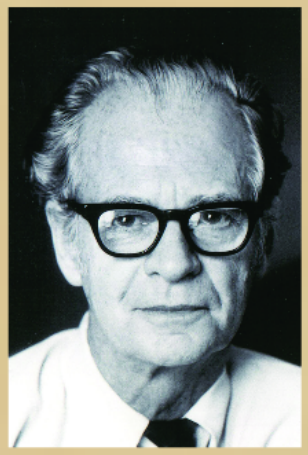




I physically get up, say 'Who want's a cuppa?' and walk like trained dog into the kitchen every time I see this guy!



Operant conditioning



First described by B. F. Skinner, an American psychologist

Operant conditioning utilises either reinforcement or punishment to increase or decrease a behaviour.

Through this process, an association is formed between the behavior and the consequences for that behaviour.

Involves applying reinforcement or punishment AFTER a behaviour

Focuses on strengthening or weakening VOLUNTARY behaviours







More effective for behaviour management than learning?



t

The 16 Habits of Mind

1. Persisting



2. Managing Impulsivity



3. Listening with understanding & empathy



4. Thinking Flexibly



5. Thinking about thinking (metacognition)



6. Striving for accuracy



7. Questioning and posing problems



8. Applying past knowledge to new situations



9. Thinking & communicating with clarity and precision



10. Gathering data through all senses



11. Creating, imagining, innovating



12. Responding with wonderment and awe



13. Taking responsible risks



14. Finding humour



15. Thinking interdependently



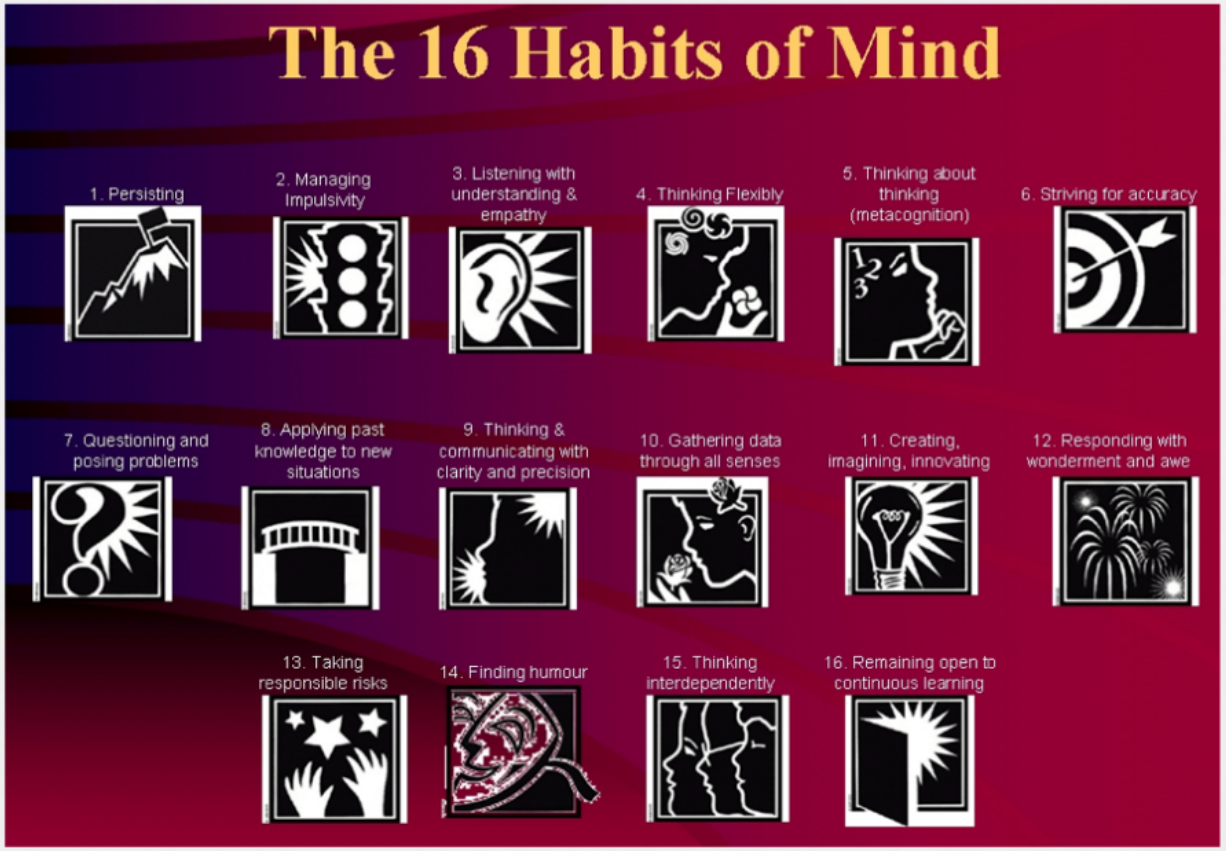
16. Remaining open to continuous learning



So what about these?

Are they a reflex?

Are they an involuntary response to a problem?



Are the a learned behaviour that the learner chooses to employ?

Can HoM be conditioned? How?

OK, let's say we go down the route of operant conditioning HoM...

Schedule of reinforcement

(How often and when?)

- After every 30 mins feedback / reward given. Slow steady progress. **(Variable-Interval Schedule)**
- After each display of the desired behaviour
- After an unpredictable number of responses **(Variable-ratio- Schedule)**



What might be the factors that can influence how quickly a response is learned and the strength of the response?

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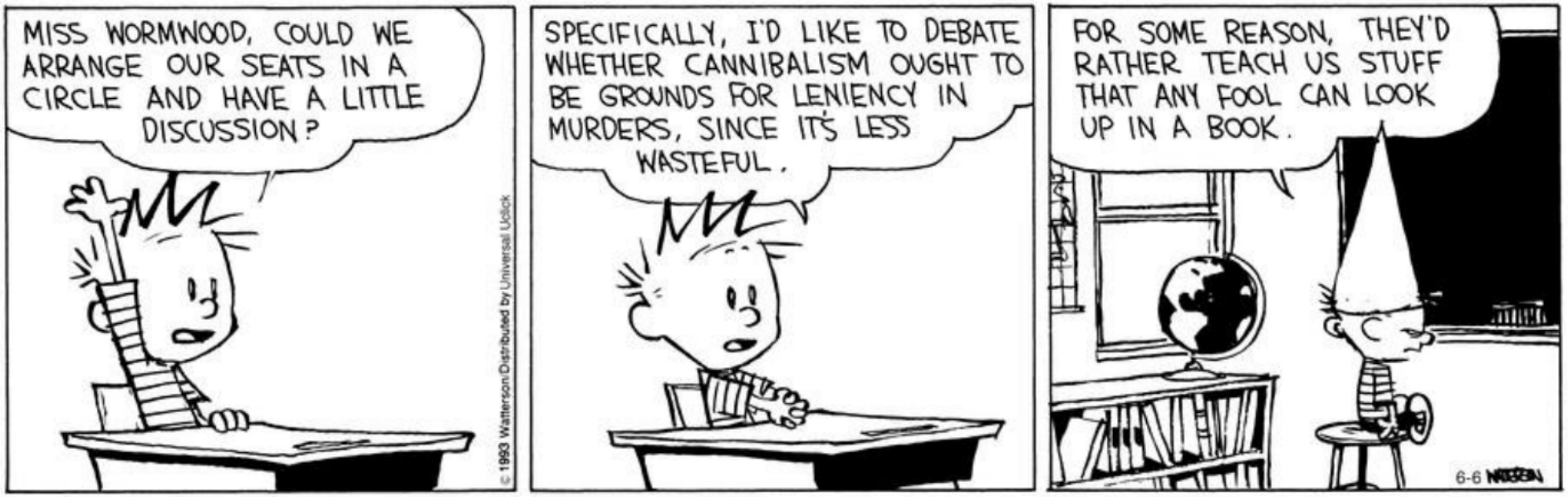
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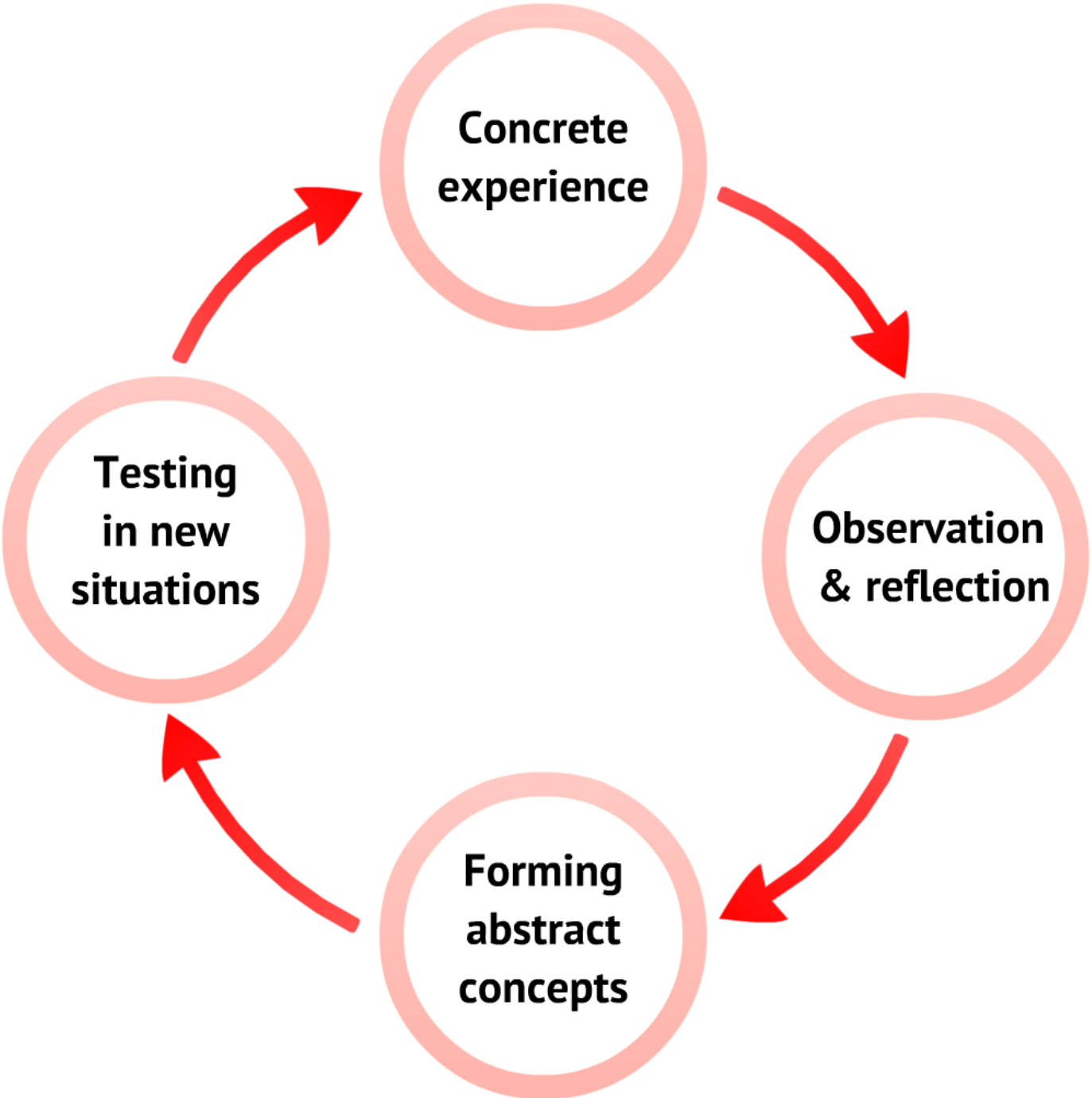
What might be the factors that can influence how quickly a response is learned and the strength of the



"The problem with a behaviourist approach is that it initiates learning based on external consequences rather than internal desire to learn. "

Mayer (2004): Learners may be behaviourally active but not 'cognitively active'.

What might we be looking at here?



"Constructivists view learning as the result of _mental_ construction. That is, learning takes place when new _information_ is built into and added onto an individual's current structure of knowledge, understanding and skills“



Pritchard (2009) Ways of Learning. London: Routledge

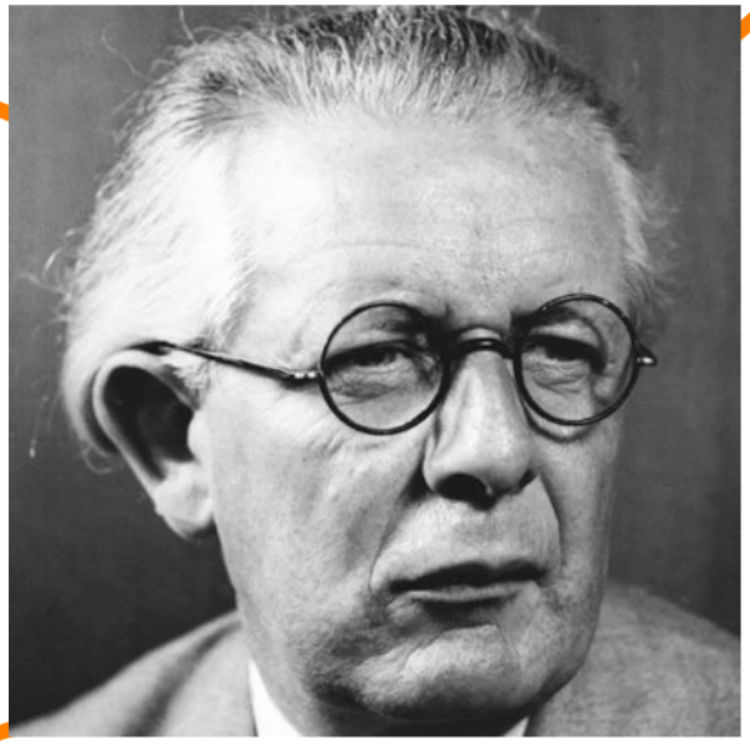
Who's this guy?





People, as 'lone scientists' actively 'make meaning'.

Jean Piaget was a Swiss psychologist



1896-1980

Piaget observed his children's cognitive development and thinking and concluded that the human infant actively seeks to make sense of the world.

Children pass through stages in which different types of learning occur – implying that children are only able to learn certain information and skills once they have reached a certain stage in their development. He linked this to the age of a child.

Learning is a result of the child's exploration of and interaction with the environment but importantly that learning is the result of internal processes rather than external stimuli.

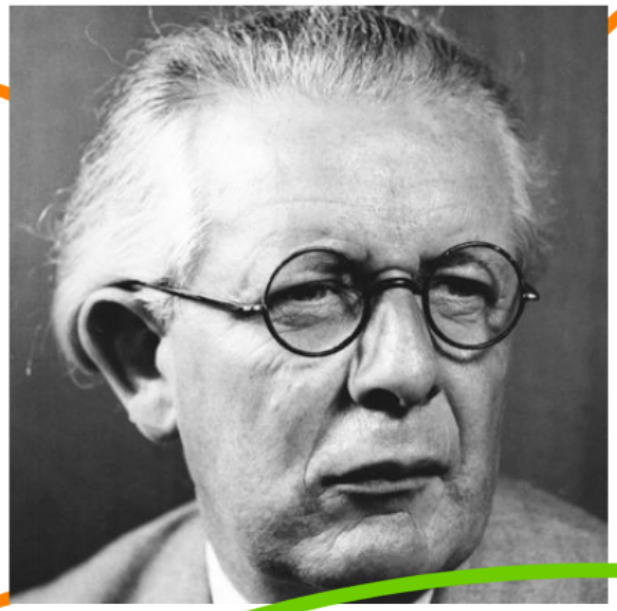
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Children construct knowledge

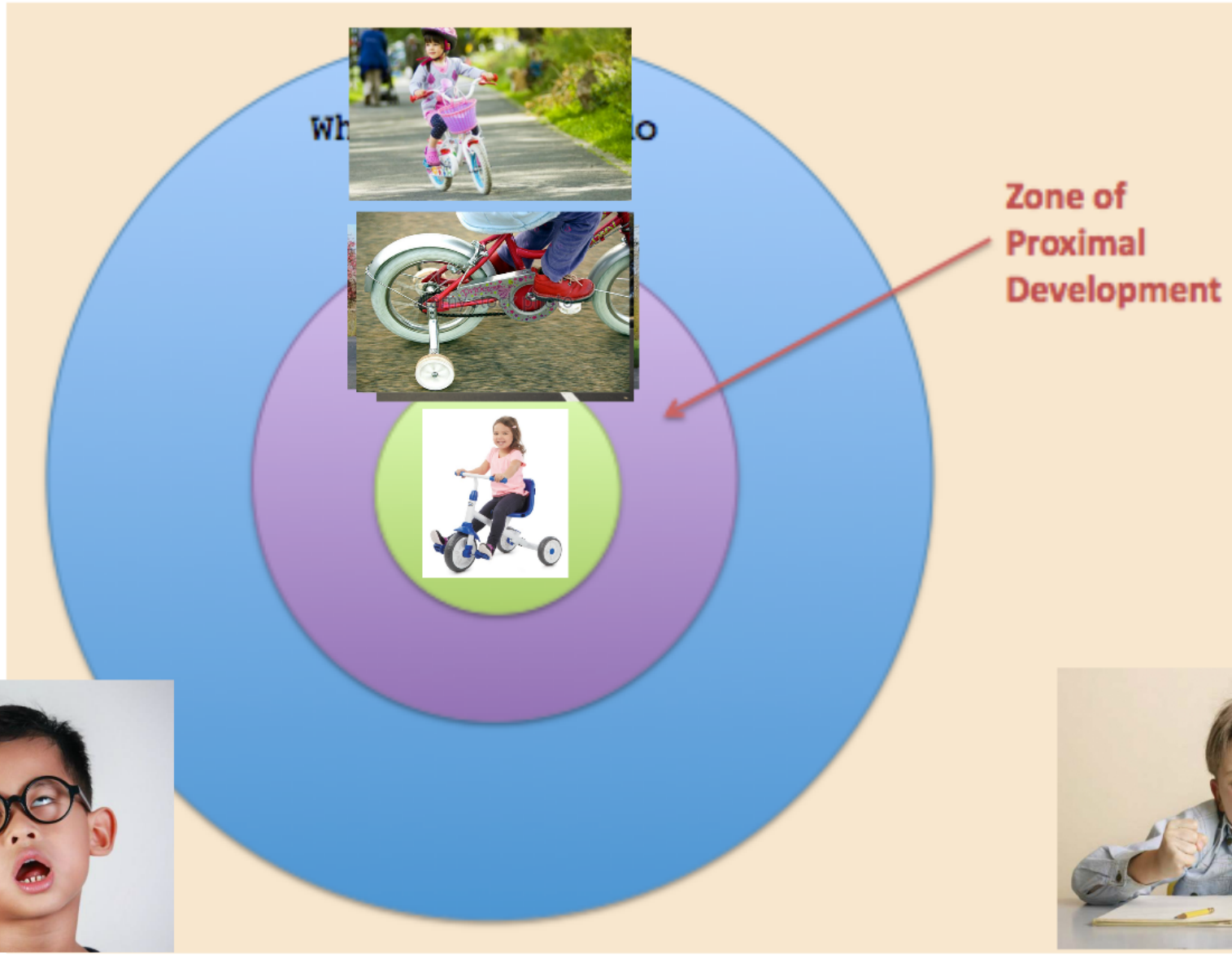
Learning can lead to development (Precedes)

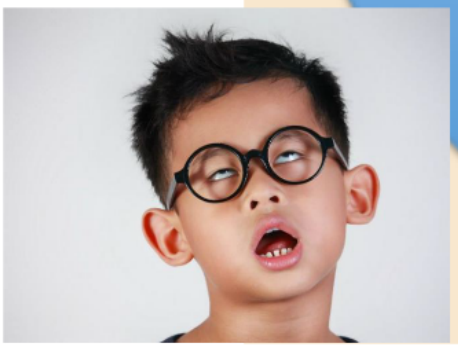
Development can't be separated from social context

Language plays a central role in mental development

Probably most famous for the ZPD!

In order to learn we must be presented with tasks





Too easy = Boredom



Too hard = Frustration

Tasks that are just out of reach of the learners current ability

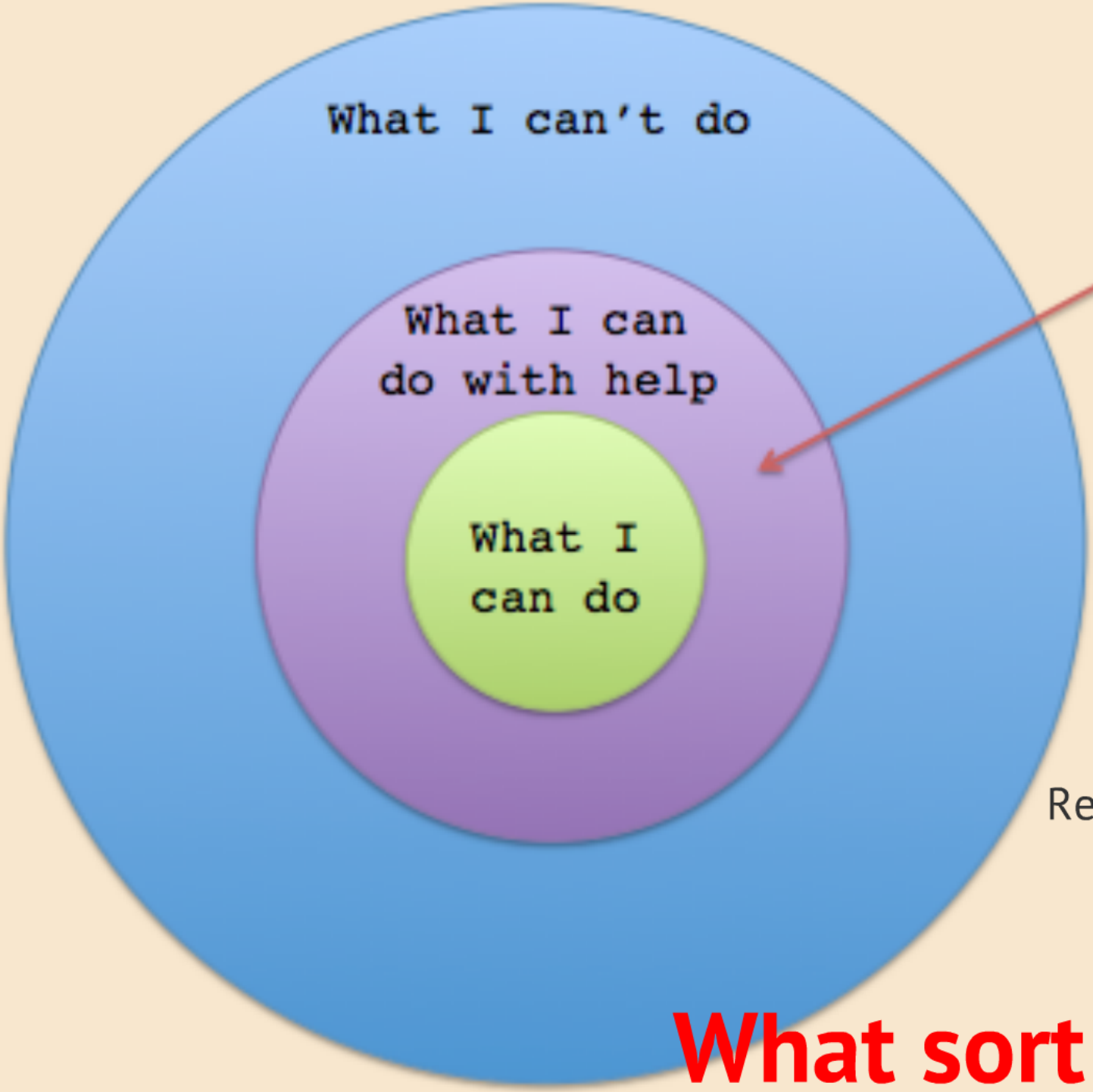







Princess





Zone of Proximal Development

Parent/ coach

Teacher support

Peer support

Resources / materials

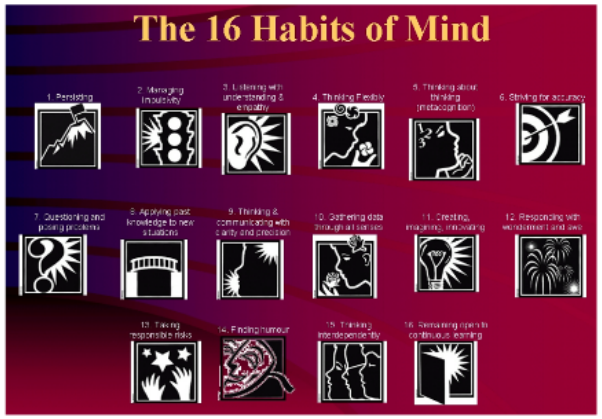
Scaffolding

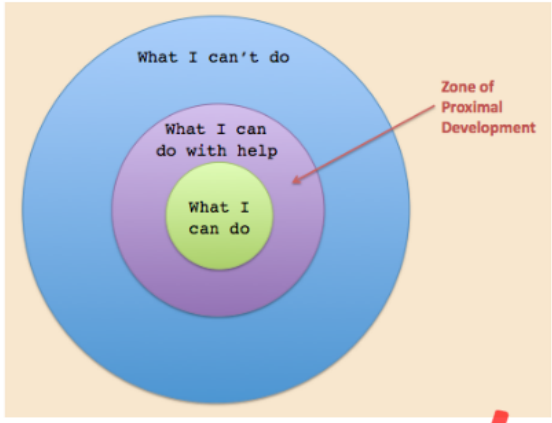
What sort of help?

ices / Materia

Scaffolding

Sort it out Coxy!

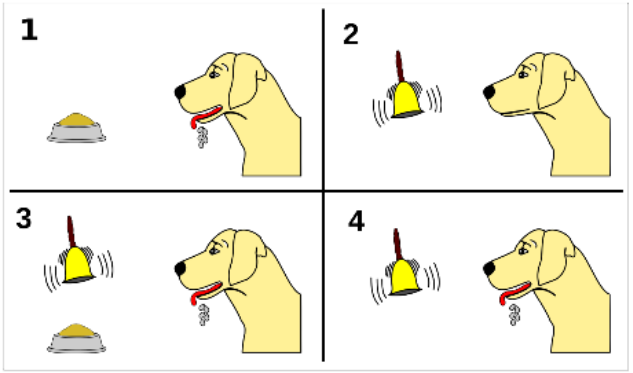




Social constructivism

Humanist





Behaviourism



Constructivism

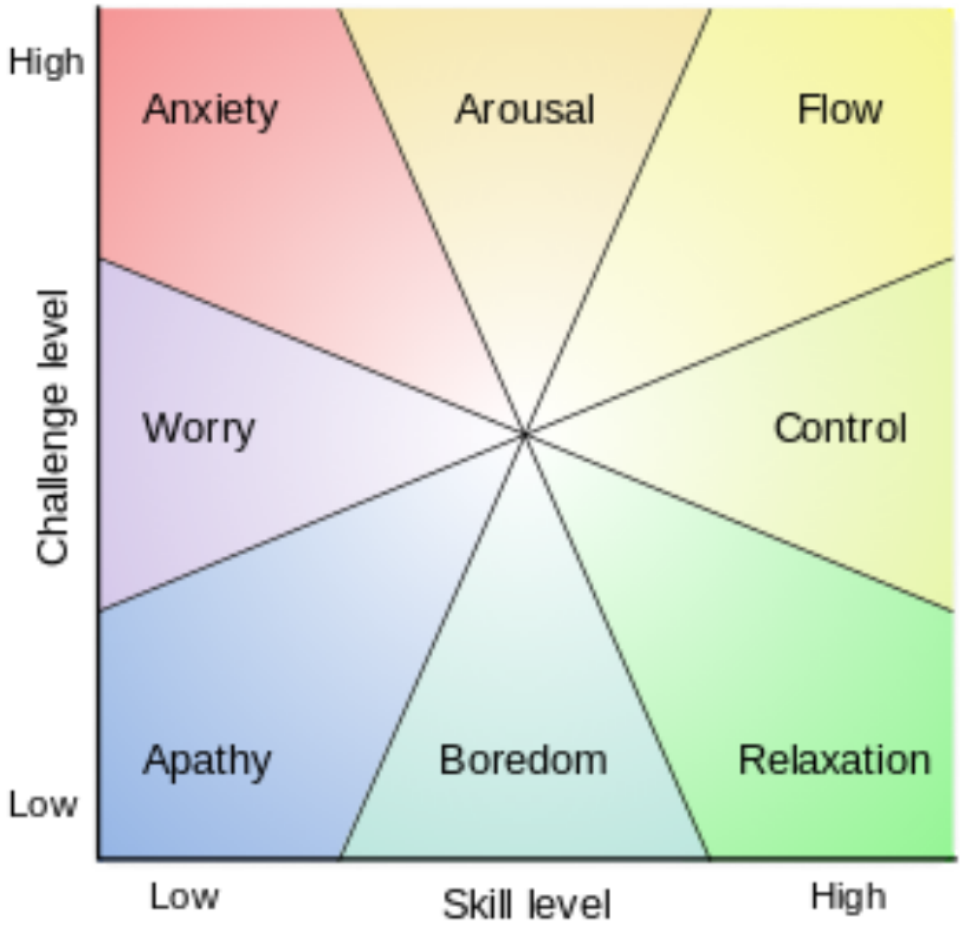
The theory of 'Flow'

psychologist Mihaly Csikszentmihalyi

"Just call me Mike!"

FLOW - a state of concentration/ absorption with the activity at hand.

- So involved in an activity that nothing else seems to matter.
- Involves *intrinsic motivation,* where the person is fully immersed in what they are doing.
- This is a feeling everyone has at times, a feeling of great absorption, engagement, fulfilment, and skill.



Behaviourism = Learning has occurred when there is a change in behaviour

Key approaches

Learning Theory			
	Behaviourism	Constructivism	Social constructivism
Knowledge	Response to external stimuli	Active construction	Social construction
Learning	Passive absorption by repetition	Discovery, assimilation and accommodation	Collaborative assimilation and accommodation
Motivation	Extrinsic, reward and punishment	Intrinsic	Intrinsic and extrinsic
Teaching	Transmission and reinforcement by teacher	Teacher facilitates	Collaboration is facilitated and guided by teacher

Some bedtime reading?

Vygotsky, L 1978, ***'Interaction between learning and development', in Mind and Society***, Harvard University Press, Cambridge, pp 79-91.

Reprinted in Readings on the Development of Children, second edition, 1997 WH Freeman and Company.

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Sort it out Coxy!