

Enablers and Threats to Resilience and Performance

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The context: a PhD

“you don’t need intelligence, you need passion”

- Most challenging educational experience yet
- Rollercoaster – successes and failures/emotions
- The idea is to learn, not to ‘perform’
- A world of self doubt and fraud complex
- Self directed
- Motivated

Resilient

Robertson Cooper model of resilience

- **Confidence:** Feelings of competence, effectiveness in coping with stressful situations and strong self-esteem are inherent in feeling resilient. The frequency with which individuals experience positive and negative emotions is also key.
- **Adaptability:** Flexibility and adapting to changing situations which are beyond our control. In many situations, resilience involves coping well with change and recovering from its impact.

1) Confidence 2) Adapt and recover

Where does confidence come from?

Self esteem

- The whole person, general feeling
- Balance of positive reinforcement vs punishment across our lives
 - Context - the situations we put ourselves in
 - Selection - what we see
 - Interpretation - our own cognitions/self voice (more on that later)

Self Efficacy

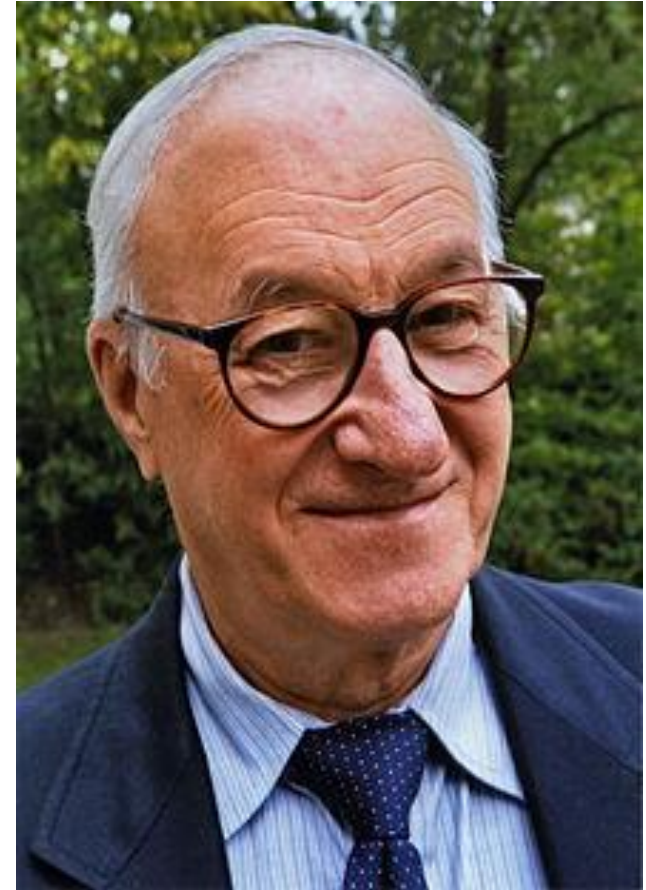
Motivation

Belief in your ability to complete a task to the level required to achieve the *desired outcome/reward*

- Experience
- Vicarious learning
- Others expectations (more on that later)

Face challenge, take risks, more likely to achieve

But what about when failure occurs? (Adaptability/Recover)



Professor Carol Dweck

- American social cognitive psychologist.
- Research - motivation, achievement & intelligence.
- Motivated by personal experiences.
- Led her to develop **Implicit Theories of Intelligence** (Mindsets).



What are Mindsets?

Growth Mindset (Incremental Theory)

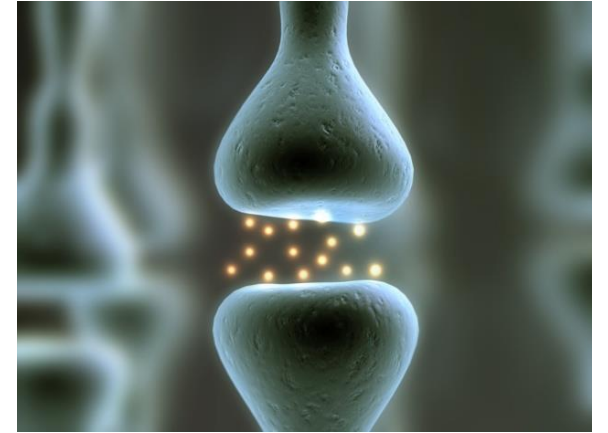
- Belief that abilities are malleable and can develop.
- Success and failure are attributed to effort and persistence, learning from mistakes and challenges.

Fixed Mindset (Entity Theory)

- Belief that abilities are something you are born with.
- Can't change it much.
- Failures attributed to self or others.

Evidence from Neuroscience

Neurones in the brain transmit information through connections (synapses). The more we keep our brains active through learning new information, the more connections the brain makes.



- UCL - London taxi drivers.
- Brain scans = larger hippocampus than others
- Grew as they spent more time in the job.
- Suggests brain adapts to help them learn 'The Knowledge' and store mental maps.

Have you ever . . . ?

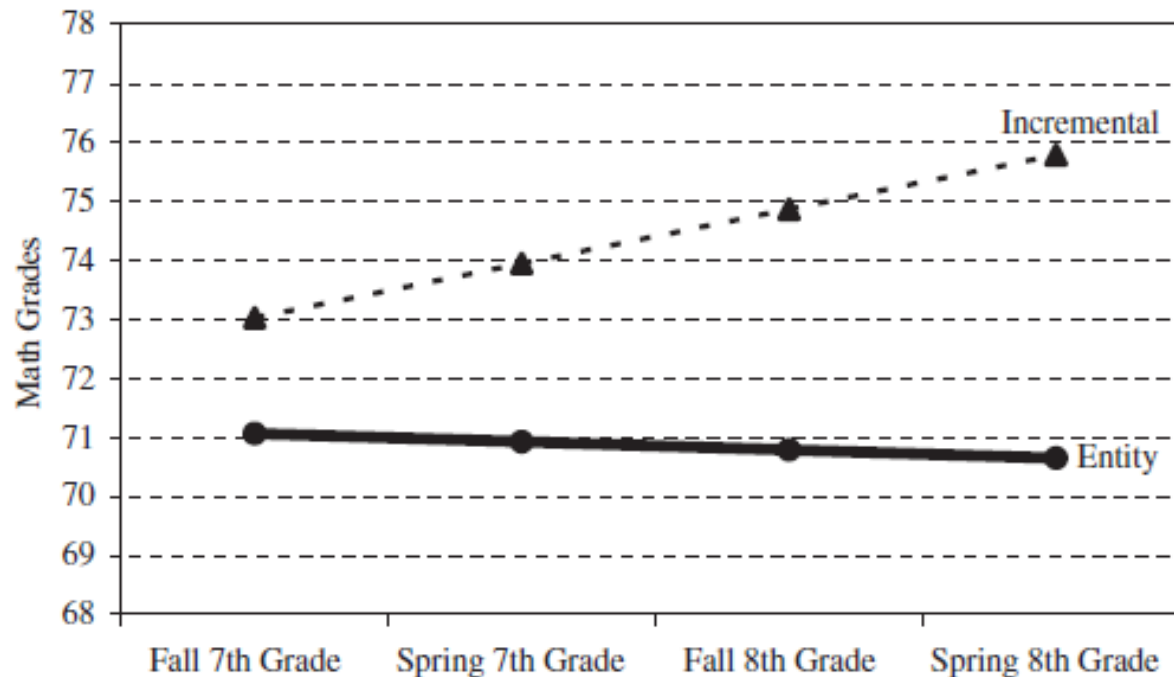
- Said something to look clever.
- Not asked a question in case you looked 'stupid'.
- Given up on a colleague because 'they will never be good at . . .'
- Given up in the face of challenge.
- Passive or active avoidance of a tough task . . .
- Not tried something challenging because you feel sure to fail.
- Selected an easy task to look good.
- Hidden the fact you found something really difficult.

Entity Theory	Incremental Theory
Ability fixed & can't change much	Ability can be increased through practice
Focus on performance	Focus on learning
Failure and/or effort perceived as being sign of low ability	Not threatened by hard work or failure
Choose activities to maximise performance (easy ones to feel clever)	Seek new challenges for a sense of achievement
Don't recover well from setbacks	Mistakes are perceived as a good thing as they help the learning processes
Avoid constructive feedback, don't attend to it when given. Seek social comparison.	Seek and attend to feedback on their performance. Focus on own development.
Decrease efforts, withdraw or consider cheating (self-protection)	View effort and persistence as a necessary part of success
Helplessness orientation	Mastery orientation

Blackwell, Trzesniewski & Dweck (2007)

Study 1: Children's theory of intelligence predicted maths grades when making transition to high school.

- Pupils with **growth mindsets** progressed faster and outperformed pupils with **fixed mindsets**.



Blackwell, Trzesniewski & Dweck (2007)

Study 2: Intervention training (Brainology)

- 8 week intervention with school children.
- One group received study skills and mindset workshop, other group received only study skills.
- Mindset training promoted positive change in motivation and grades, in comparison to study skills only group.
- Teacher evaluations.

Attention to Information

Mangels et al. (2006); Moser, Schroder, Heeter, Moran, & Lee (2011)



- Fixed Mindset students don't want feedback they want class results.
- Measured ERPs during difficult general knowledge test and compared those with a fixed mindset, **to those with a growth mindset**:
 - more attentional resources to corrective information following feedback
 - corrected significantly more mistakes on a surprise retest

How does this relate to self esteem and mental health?

Entity (Fixed) Theory

- Higher scores on RST Behavioural Inhibition System (BIS) and
- the Big Five Neuroticism measure.

People (children) with entity theory (King, 2012; Plaks & Stecher, 2007)

- greater negative affect
- engage in more negative self-cognitions

Risk factor

Depression and anxiety

(e.g. Seligman, Reivich, Jaycox, Gillham & Kidman, 1995).

Resilience (Self Esteem) = context, selection, interpretation

Stereotype threat?

At breakfast one morning, Barbie is already hard at work on her laptop.

"What are you doing, Barbie?" asks Skipper.

"I'm designing a game that shows kids how computers work," explains Barbie. "You can make a robot puppy do cute tricks by matching up colored blocks!"

"Your robot puppy is so sweet," says Skipper. "Can I play your game?"

"I'm only creating the design ideas," Barbie says, laughing. "I'll need Steven's and Brian's help to turn it into a real game!"



Most adults in the UK are unable to name one living female or black role model in STEM, I suspect many don't even believe they exist.

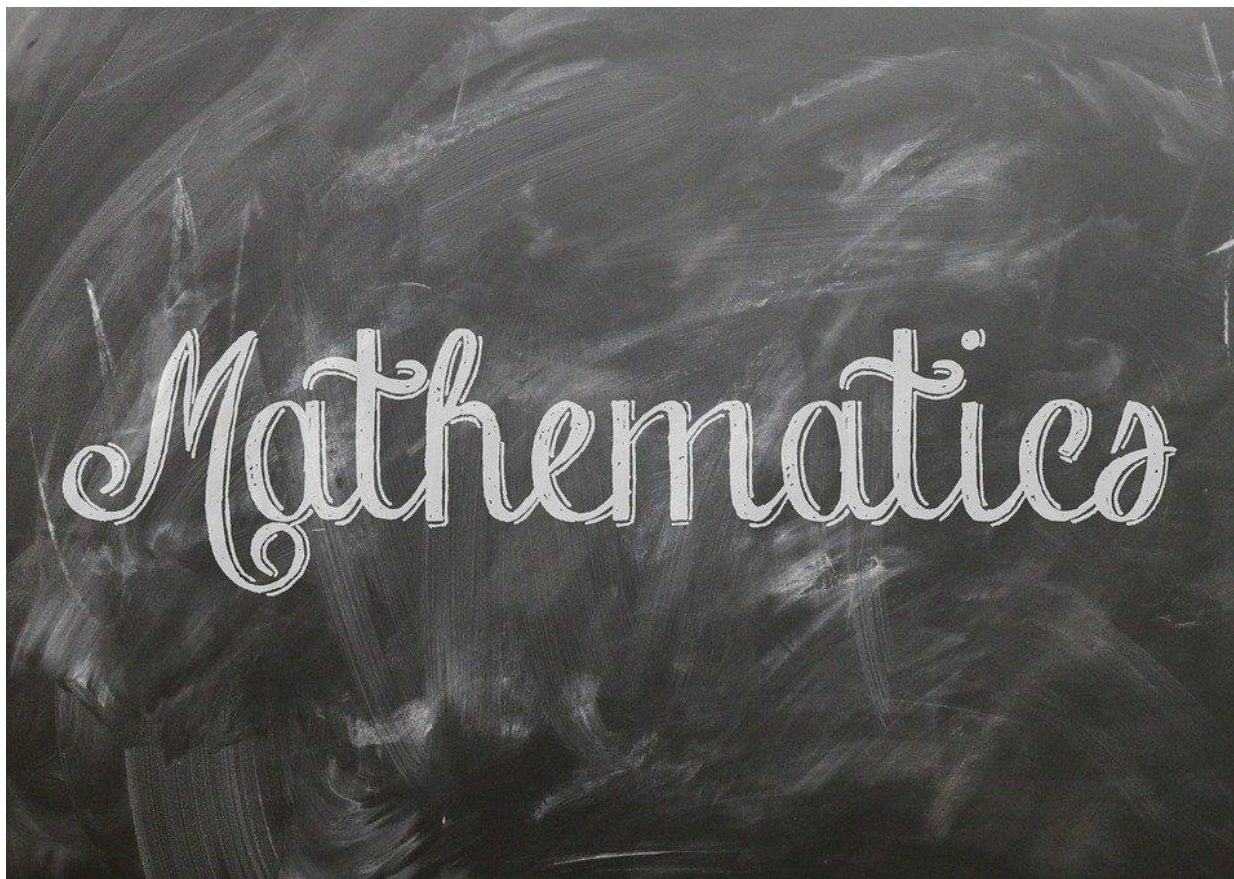


Dr Maggie Aderin's interest in science began at the age of 6 when she saw an astronomy book in the school library and decided she wanted a career in space. Despite suffering from dyslexia she went on to university at Imperial College and got her first degree in Physics and a PhD in Mechanical Engineering.



What is stereotype threat?

- Stereotype threat reduces the performance of individuals who belong to negatively stereotyped groups.
- Effect on beliefs/cognition/affect = behaviour = outcome
- *Salient identity.*

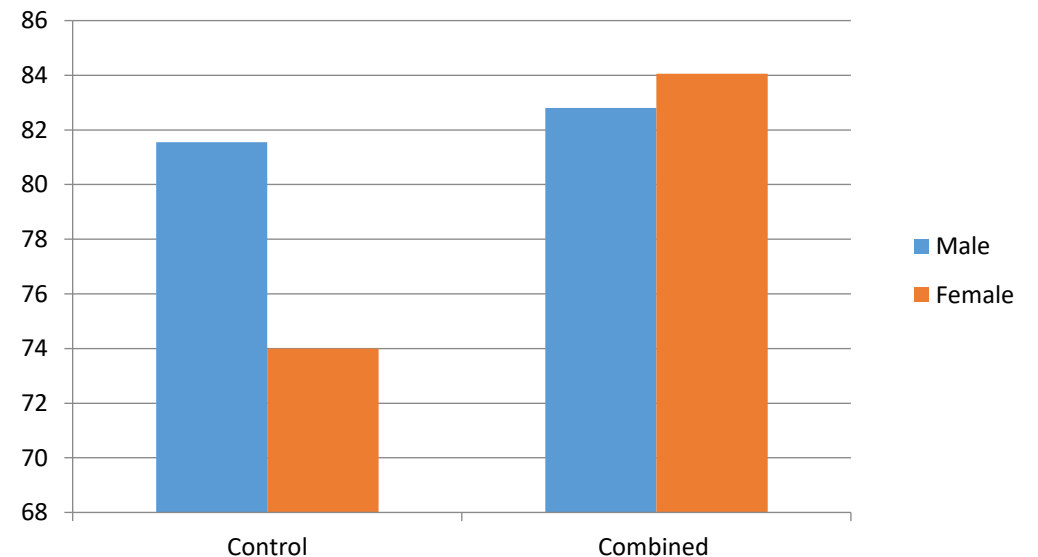


Research evidence

Five experiments - peoples' implicit theories predict degree of social stereotyping (*Levy, Dweck, Stroessner, 1998*)

Good, Aronson & Inzlicht (2003)

Girls who received mindset training benefitted more in maths scores and narrowed the gender gap.

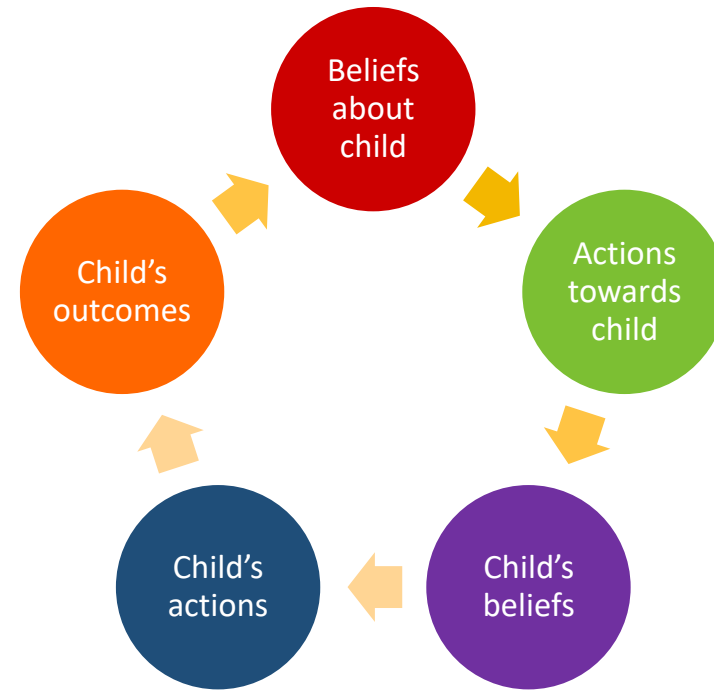


Practical Tips

1. Set High Expectations

Lowering expectations does **not** raise self-esteem or attainment

- Pygmalion in the classroom (Rosenthal & Jacobson, 1968)
- Implicit signals have a big impact on the brain (Barry-Kauffman)
- High Expectations vs pressure.
 - Expectations focus on learning, not just outcomes.
 - “You can achieve this”, not “I want you to achieve this”.



2. Coping with Emotions

- Resilience requires ability to *overcome negative feelings* about difficult tasks.
- Simply physiology – complex interpretations
- Misinterpretations/alternatives.
- Talk about negative feelings – helps to off-load anxiety so mental resources can focus on task in hand.
- Link positive interpretations to increased arousal/hard work:
 - “My heart is racing, wow I must be learning”
 - “This is exciting **but** challenging!” to “This is exciting **and** challenging!”

3. Celebrating Mistakes

- Promote challenge and mistakes as part of everyone's life and learning process.
- Take fear out of mistakes (debilitates growth)
- Create space to talk about and learn from mistakes
- Don't blame others for failure and mistakes
- Admit your own mistakes
- When you have good examples of achievement – remove luck and talent myths.

4. Avoid person focussed self praise

“You have a gift for chairing meetings!”

“You are really great a presentations”

“Don’t worry I just don’t think this is one of your areas of strength, but you have others”

“why not focus on your talents”

Incremental theory feedback

Give 'process praise'

- Effort.
- Strategy.
- Persistence.

Use 'task praise'

- What is better/worse than the last attempt.
- What is/not good, realistic, neat, correct etc. about the product.

Growth Focused Praise...

“You tried really hard and it’s even better than the last one.”

“That is the best one that you have done yet!”

“That was a good way to do it.”

“This is so good that I think you should do the harder questions next time.”

“Try different ways until you find the right one for you.”

“Why not take some more time to improve this bit.”

“Everyone has to work at it.”

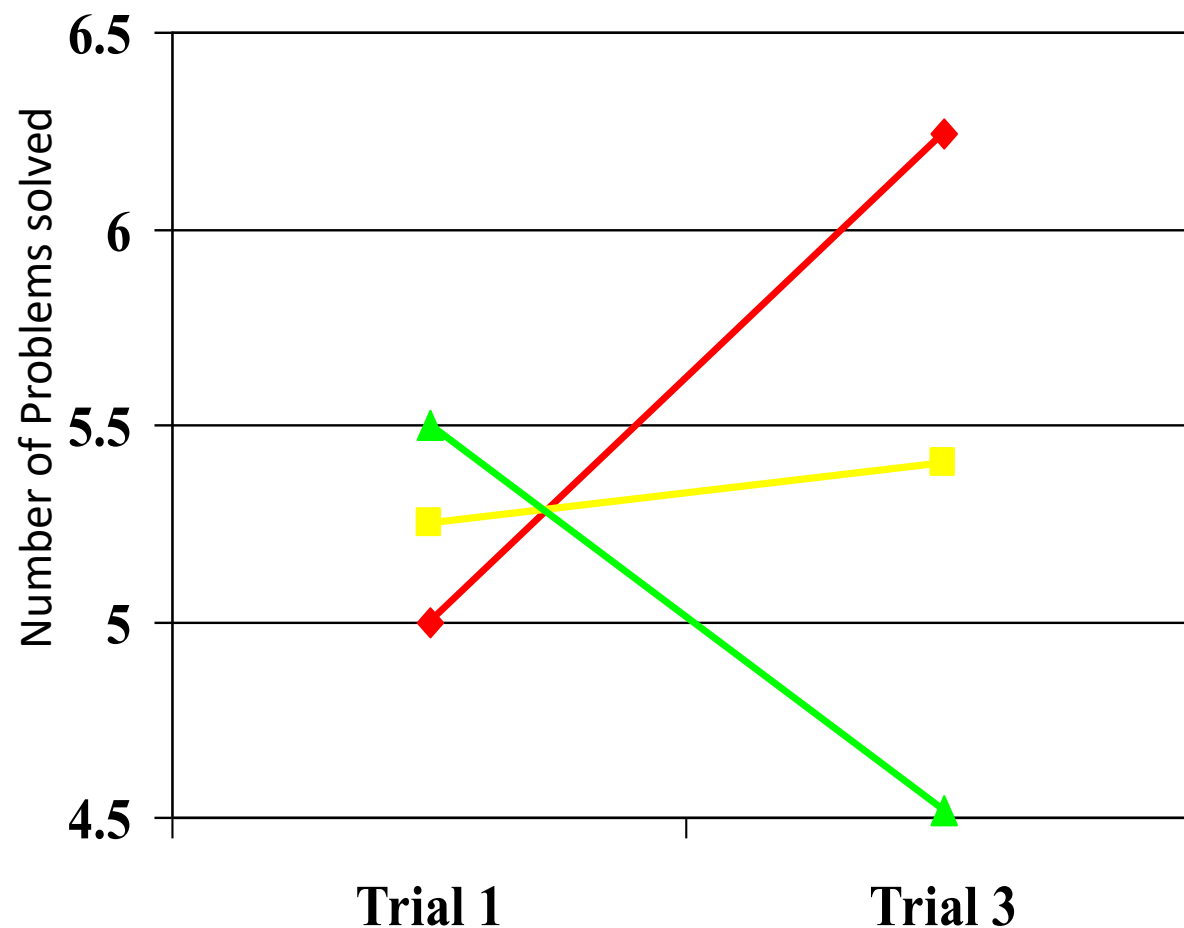
“I know that you can do better than this with a little more focus.”

“You could have been clearer in the way you expressed that”

“That approach might not be the best for you.”

“what went wrong with the ... can you think of some other ways to do it?”

Mueller & Dweck (1998)



[Carol Dweck talking about praise](http://www.youtube.com/watch?v=TTXrV0_3UjY)

http://www.youtube.com/watch?v=TTXrV0_3UjY

- ◆ Effort Praise
- Control Praise
- ▲ Intelligence Praise

This type of person/ability focused feedback causes...

...Temporary high self-esteem if performed well but
longer term implications:

[http://www.youtube.com/
watch?v=mGTk6yeh9qE](http://www.youtube.com/watch?v=mGTk6yeh9qE)



5. Avoid social comparisons

“I don’t divide the world into the weak and the strong, or the successes and the failures... *(or the high and low ability)* I divide the world into the learners and non learners.”

Benjamin Barber

Focus instead on your own growth – identify as a learner.

6. Make specific plans for growth

- Identify area of weakness - establish clear plan for improvement.
- Specific plans:
 - **Ineffective:** “work harder”
 - **Better:** “before each meeting plan how you are going to communicate in a way that doesn’t offend, talk it through with another colleague”
- Review - update with the next step (mountain).

7. Take control of the balance of positive reinforcement vs punishment

- Reinforcement schedules do not have to be accidental (Watson, Skinner)
 - Social support
 - Physical highs and health
 - The situations we put ourselves in
 - Portray skills/abilities as acquirable.
 - Value passion, effort, improvement (and teamwork), not talent.
 - Focus on learning.
 - Permits failure if learning is taking place.
 - Mentors vs. judges
 - Facilitator, not one with 'right answers'.
 - Reveal process/thinking.
 - Shows their mistakes and are un-defensive and flexible in thinking
- Our own cognitions/self voice

Supporting self change

- Mindset message means different things to different people.
Poor achievers vs high achievers
- Self compassion
 - high expectations
 - challenge your own emotion and cognitions
- Growth Mindset is for challenge, so provide challenge.

Resources

Articles available online from Carol Dweck, just visit her website:

<https://www.stanford.edu/dept/psychology/cgi-bin/drupalm/cdweck>

[Motivation and self-regulation across the life span](#) Dweck et al, 1998

[Self-theories: their role in motivation, personality, and development](#) Dweck, 2000

Materials and outcomes from our HE based mindsets project (be patient with us – this has been lost in our revamp of websites and is just being retrieved)

http://mindsets.port.ac.uk/?_ga=2.112194500.1372568285.1578491911-247057752.1567434722

Ruminating on the nature of intelligence – our paper looking at aversion, neuroticism and anxiety related to theories of intelligence

[https://www.sciencedirect.com/science/article/pii/S0191886917301952#:~:text=Dweck%20\(1999\)%20proposed%20that%20individuals,to%20as%20'entity%20theorists'%20and](https://www.sciencedirect.com/science/article/pii/S0191886917301952#:~:text=Dweck%20(1999)%20proposed%20that%20individuals,to%20as%20'entity%20theorists'%20and)

Thank you

Any Questions?