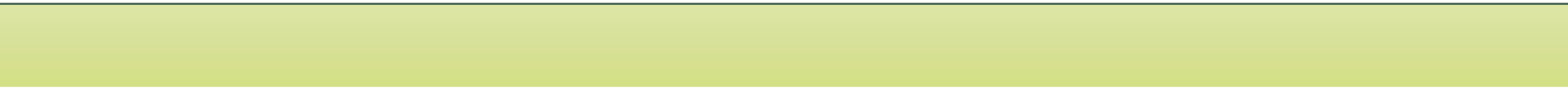


# **A primer for bioscientists on the essential principles for good pedagogy in HE**

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# Today

- Overview
- Some things it might be good to know
- Getting students to buy it
- Talking about teaching (or is it learning?)
- Something for you to do

# A question...

- What is the most important thing you can say to a student to help them learn?
- Write it on an index card
- Pass the index cards around



# What we just did

- Sometimes it's difficult for students to take part in a classroom discussion
  - They're a bit scared
  - The group is too big
  - They don't know the other students
  - They know the other students
  - They don't want to appear stupid
  - They don't want to appear keen
- If you ask for students to write down AND pass it around
  - Everyone can contribute
  - It's anonymous
  - Nobody knows who wrote it
    - Pink pen
    - Elaborate writing



# Back to the question...

- What's the most important thing you can say to a student to help them learn?





Let me suggest something...

“I don’t know”

- Get into groups of four or five
- Take a few minutes to discuss why that might be a good idea



# Carol Dweck – Growth mindset

- Growth mindset
  - Sees intelligence as something to be worked on
  - Leads to a desire to learn, so one has a tendency to:
    - Embrace challenges
    - Persist in the face of setbacks
    - See effort as the path to mastery
    - Learn from criticism
    - Find lessons and inspiration in the success of others
- As a result, reach ever higher levels of achievement



# Carol Dweck – Fixed mindset

- Fixed mindset
  - Intelligence is static
  - Leads to a desire to look smart, and therefore a tendency to:
    - Avoid challenges
    - Give up easily
    - See effort as fruitless, or worse
    - Ignore useful negative feedback
    - Feel threatened by the success of others
- As a result, they plateau early and achieve less than their full potential

Dweck, Carol S. (2006) Mindset, the New Psychology of Success, Random House, New York



But it's not just what you say to students  
that counts





# Competition or collaboration?

- Yes!
  - Competition, collaboration and co-operation are all necessary
  - Different people are good at different things
    - Belbin team roles ([www.belbin.com](http://www.belbin.com))
    - Myers-Briggs Type Inventory ([www.myersbriggs.org](http://www.myersbriggs.org))



# Belbin team roles

- The Plant
  - Highly creative
  - Good at solving problems
- The Monitor/Evaluator
  - Logical
  - Impartial
- The Co-ordinator
  - Concentrates on the objective
  - Delegates
  - Draws out other members
- The Resource Investigator
  - Outside knowledge
  - World outside the team
- The Implementor
  - Plan a workable strategy
  - Implement efficiently
- The Completer Finisher
  - Polish the final product
  - Scrutinise for errors
  - Quality assurance
- Teamworker
  - Identify work to be done
  - Do it
- The Shaper
  - Provide drive
  - Prevent loss of momentum
- The Specialist
  - In depth, specialist knowledge



# The downside

- **Plants** could be unorthodox or forgetful
- **Resource Investigators** might forget to follow up on a lead
- **Monitor Evaluators** could be overly critical and slow moving
- **Co-ordinators** might over delegate leaving themselves little work to do
- **Implementers** might be slow to relinquish their plans in favour of positive changes
- **Completer Finishers** could be accused of taking their perfectionism to the extremes
- **Teamworkers** might become indecisive when unpopular decisions need to be made
- **Shapers** could risk becoming aggressive and bad-humoured in their attempts to get things done
- **Specialist** may have a tendency to focus narrowly on their own subject of choice



# Fantastic contraption

- Physics game
  - Get into ten teams of about the same size
  - You have to choose your team – do it wisely!
- You have until 12 o'clock to:
  - Complete as many puzzles as possible
  - Save each puzzle as you go
  - Each team will need a username and password
- There is a prize

[www.fantasticcontraption.com](http://www.fantasticcontraption.com)