Classroom talk – dialogue with students and teachers

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Switch your mind set

- You **don't** need to spend hours preparing lecture slides
- You **don't** have to do what your own lecturers used to do to you
- You **don't** have to do what your colleagues do
- You **can** teach effectively without pre-preparing little owl pellets of knowledge for the students
- See yourself as an **enabler** rather than as an entertainer
- Your job is to **listen** as well as talk

What is an interactive class like anyway?

- Waiting until the end and then asking "any questions?" then running away
- Asking "do you all understand [micro-pause]? Good, then I'll move on."
- Asking verbal content related questions throughout
- Setting problems for students to solve and then discussing answers
- Quizzes
- Paired discussion, buzz groups, feedback
- Debates
- E-Voting
- Changing pace/content of lecture depending on student preference
- Others – you tell me

Classroom questioning

Lecturer: Who knows the type of this parameter?

Class: <sullen silence>

Lecturer: Oh come on! I just told you

Jenny <reluctantly>: String

Lecturer: String. Good. Now, Bill. What is the parameter type here?

Bill <in terror>: int

Lecturer: int. That's right. Now what about the return type?

Classic classroom interaction

- Typical 3 part exchange
    - Teacher question
    - Student answer
    - Teacher evaluation plus next question
- Students know the teacher knows the answer already
- All (sanctioned) talk is mediated through teacher
- Rapid fire (for kids anyway)

Watch out for Nerdy Strutting!

- Try not to get into lengthy public exchanges about tricky technical topics with high achieving students early on

- It's a quick way to make people feel like outsiders

- "But wouldn't it be better to use a function to do X?"

- "But wouldn't X be more elegant?"

- https://cacm.acm.org/blogs/blog-cacm/162535-nerdy-strutting-how-to-put-women-off-the-tech-industry/fulltext

How to model high quality discussion

- If you want your students to think and discuss at a high level, you need to guide and scaffold this when you talk to them (Gillies, 2011)
- The aim is teach them to make their reasoning explicit
- Skills your students will need when solving problems:
    - Predicting
    - Questioning
    - Summarising
    - Clarifying

Question types used by teachers to promote thinking

- Ask for elaborations/reasons (why do you think so? Can you provide evidence?)
- Probe (Can you tell me more about what you're thinking)
- Clarify (So you mean…)
- Challenge discrepancies (how does that fit with point X which you made before?)
- Consider alternatives (what other solutions might there be)
- Suggest ways to scaffold learning (I wonder if this approach to the problem might work)
- *Remember to give students time to think after you ask!*

Live coding

- [Programming an example solution in front of an audience]
- Can be very valuable way to model problem solving
- Remember to talk through step by step for beginners – might help to do a double act with a colleague who asks:
  - Why did you …?
  - What are you thinking?
  - [To students] What might have gone wrong here?
- It's OK to make mistakes – model how to debug

Round up

- Classes should be focussed around student learning, not your teaching
- This might mean you need to teach *less* to achieve more
- Try to talk less and listen more
- General question to ask yourself when preparing a class: how can I get the students to do more work than me?

I'm always happy to discuss teaching!

- Let me know if you have suggestions for seminar topics about teaching
- Come to Teaching Hour
  - My office IF 3.49
  - Thursdays 11am -12 (starting 21st March)
- Email me with a teaching conundrum at Judy.Robertson@ed.ac.uk