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# Effective Teaching: What do(n't) we really know?

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# Introduction

- What we are going to do:
  - Look at teacher effectiveness research
  - Four key principles of effective teaching
  - Professional development
  - Some thoughts on the future

# Teacher effectiveness research

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- An empirical programme of research on the impact of teaching and teaching factors on student outcomes
- Started in 1960's (Brophy & Good, 1986; Muijs & Reynolds, 2011)
- Aims to produce practically important findings

# Teacher effectiveness research

- How would you start?

# Methodology

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- Basic model:
  - Input – process – output
- Three levels of variables therefore
  - Input measures
  - Process measures
  - Output measures
- All three are problematic and disputed

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# Input and outcome Measures

- Importance of student background – value added
- Varying levels of reliability
- Choice of input variables affects results
- Choice of outcome variable affects result

# Process measures

- What might affect outcomes?
  - Base on theory
  - Practical knowledge
  - Empirical research
  - Answers never definitive, though
- Is it possible to capture complexity of classrooms and schools?
- Most common: surveys and systematic observation
- Also used: interviews, ethnographic studies

# Activity

- What factors (e.g. individual pupil factors like gender, school factors like school size or classroom factors) do you think have the greatest impact on student outcomes?

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# Key factors (in order)

- The pupil her/himself
- The classroom they are in
- The school they are in

# Teacher effectiveness

- Explains up to 75% of classroom level variance in pupil performance
- If one takes two pupils with identical background (SES, gender, …) and test scores at beginning of year, the pupil taught by the most effective teacher will score 25% higher at the end of the year than the pupil taught by the least effective teacher (Muijs & Reynolds, 2001)

# A social justice issue…

- Most important for
  - Pupils from low SES and disadvantaged backgrounds
  - Lower achieving pupils
  - Pupils at risk
  - Less important for more advantaged pupils

# Effective Teaching

- So teaching matters, but what factors are related to student outcomes?

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# Principle 1: Direct Instruction

- Good grasp of basic skills and foundation in knowledge Direct instruction is the best method of attaining these skills
- Whole-class interactive teaching with individual practise and group work
- Careful lesson build-up
- Short chunks and practice – mastery learning
- Especially important for pupils from disadvantaged backgrounds

# Principle 2: Metacognition

- Two main elements: knowledge of cognition and cognitive skills (Shraw et al, 2006)
- Knowledge of cognition:
  - declarative knowledge: knowledge about oneself as a learner
  - procedural knowledge: knowledge about strategies and procedures
  - conditional knowledge: why and when to use a particular strategy.
- Cognitive skills:
  - planning
  - monitoring
  - evaluation

# Principle 2: Metacognition

- Importance of self-regulated learning and meta-cognition
- This does not necessarily occur naturally, so intervention needed.
- How to approach:
  - Embed with subject content
  - Tell learners why it matters
  - Training must be prolonged
  - Open-ended tasks

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# Principle 3: Feedback and assessment

- Key importance of formative assessment (Black & William, 2…, Hattie, 2012)
- Needs to be frequent and specific
- Sufficiently detailed for pupils
- Developmental tool for teachers
- Praise must be contingent
- Allows targeting

# Principle 4: Subject Knowledge

- Knowledge forms the basis for understanding. Being able to draw upon knowledge in long-term memory is key to understanding
- Teachers therefore require good subject knowledge
- Not just direct effect, but important through effect on teacher confidence
- Not a simple linear effect, however…

# Principle 5: School and system-level effects

- Quality of schools matters
- Recruitment and quality of teacher education important
- Lifelong learning: CPD is key
- Teacher education needs to be tailored to teacher level
- Professional learning as a cycle of inquiry (Timperley et al, 2012)

# Quality of schools matters

- Providing environment for quality teaching
- Providing consistent experience for pupils
- School improvement is a cycle – from failing to effective
- Cycle requires different approaches to leadership

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# Future developments in teacher effectiveness research

- Cognitive science
- Big data
- New technologies

# Conclusion

- Teaching is key to student outcomes
- Five principles of world-class teaching:
  - Direct instruction in basic skills and knowledge
  - Developing self-regulated learning and metacognitive skills
  - Feedback and target-setting
  - Subject knowledge
  - Teacher development
- We know a lot, but often don't apply what we know!
- Need for rigorous evaluation of new developments and methods

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# Conclusion

- Thank you for your attention!
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