

Challenges for Educational Research: implications for graduate education

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Overview

- ▶ Educational research as an ‘engaged social science’
- ▶ Research in schools and colleges: design options
- ▶ What expertise is required?
- ▶ Implications for graduate education



Why Do I Do Educational Research?

- ▶ As a Vygotskian theorist I see ideas developing thorough being constantly tested in the field of study
- ▶ Educational research is **an engaged social science**, developing in close iteration with the field of education
- ▶ **Making a difference** for practitioners and learners while in the field
- ▶ Building an evidence base for policy and practice
- ▶ **Doing conceptual work** to develop the resources that can be used in educational research (relational agency, relational expertise)



The Challenges: educational research as an engaged social science

- ▶ **Educational research is a social science in its own right – i.e. not applied sociology, philosophy etc.**
 - ▶ It calls for distinct methodologies

 - ▶ **Educational research involves attention to teaching and learning in some way**
 - ▶ This may include curriculum, leadership, policy as well as pedagogy

 - ▶ **Educational research is an ‘engaged’ social science i.e. making a difference in the world**
 - ▶ It is a practice which is close to the practices of pedagogy, policy etc.
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The Educational Research as Practice

- ▶ It is a practice with its own knowledge base, motives, values etc.
- ▶ Two main differences from most other social sciences:
 - (i) Because there is a strong iteration between the field and the concepts used to study it: e.g. ‘pedagogy’ is different from ‘learning’
 - (ii) Educational research aims at improving education: ‘making a difference’ through developing ideas that aid education

But that can lead to misunderstandings among those who hold an appliance of science model of the link between research and practice....



Overcoming Unreasonable Expectations of Educational Research

- ▶ No simple linear links between research and practice, (Hargreaves, 2000; Kennedy, 1997; Schoenfeld, 1999)
 - ▶ Hargreaves suggested that the quality of educational research is to blame for the research-practice impasse
 - ▶ Kennedy suggested that we have all expected too much
 - ▶ Schoenfeld's conclusion is that research and its applications are not in 'binary opposition'

 - ▶ The relationship between educational research and educational practice is not **simply** a matter of the appliance of educational science
 - ▶ **Implication for graduate education: recognising alternatives to dualism and objectivism**
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Getting Close to Practice Through 'Practice Research' (Nissen 2009)

- ▶ Researchers and practitioners can collaborate in what he calls 'practice research' to create 'prototypes' in the course of dialogues between the practice of research and, in his example, the practice of social work.
- ▶ Nissen argues that the practice of research allows the everyday practices of different kinds of social work to be turned into an object of study and examined by researchers and social workers. This joint examination allows them to jointly build a 'model' or account of what is going on which is then open to scrutiny.
- ▶ **Implication for graduate education: staying in touch with educational practice while also standing back**



Making a Difference Through Understanding Education

- ▶ Flyvbjerg argues that social sciences are stronger in an area where the natural sciences are weak:

‘the reflexive analysis and discussion of values and interests, which is the prerequisite for an enlightened political, economic, and cultural development of any society...’ (2001: 3).

- ▶ Educational research informs professional judgements which occur within knowledge-laden and values-driven practices (Rickinson, Sebba and Edwards, in press)

Implication for graduate education: learning to recognise values and interests in practices



Knowledge-Building in Research

- ▶ Research involves engaging with what Knorr Cetina calls ‘knowledge objects’
- ▶ These engross the researchers, unfold before them leaving them to pursue them
- ▶ These knowledge objects are enriched when people from different practices work on them in collaboration – bring to bear their different understandings and expertise in interpreting them and developing them
- ▶ **Implication for graduate education: pursuing conceptual clarity – even refining concepts**



Four Assumptions about Research Which Tries to Make a Difference

- ▶ the relationship between research studies and fields of practice is not a simple linear one: it is complex and needs careful management over time
- ▶ working closely with the field of practice can strengthen educational research as it allows researchers to keep in touch with current intentions and interpretations in practices
- ▶ engagement in research alongside university-based researchers can help create a capacity for purposeful questioning of practices and sustaining innovation
- ▶ knowledge is mobilised, shared and built in conversations where each participant recognises what is important for the others



Design Options for Making a Difference (interventionist options)

- creating feedback loops
- university-led participatory research
- combining small-scale studies
- co-research for conceptual development
- user-led research

Teaching and Learning Research Programme



Making a Difference Collaborating with users to develop educational research

TLRP was the first large-scale systematic attempt to develop robust research on teaching and learning by building partnerships between researchers and research users. One vital way of doing this was a seminar series which brought together researchers, educational practitioners and those involved in designing and taking forward educational policy to examine the processes and implications of user engagement. The series drew on the experiences of TLRP projects to reveal the purposes and practices of involving users in funded research.

• Understanding of user engagement has still deepening	→	Different institutions had different expectations of user engagement, and different research genres have different relevance for it
• User engagement is more than casual dissemination and presents important new challenges to project management	→	User engagement needs to be built into research design from the outset and capacity building to project management is an important priority
• Across the field, as a whole, research agendas still disproportionately lean towards the quantitative research	→	Developing research like policy settings to an extent may essential expertise
• Traditional research in the UK is strong, but its impact tends to be local	→	TLRP has shown that large-scale practitioner research or funded projects can generate knowledge which can inform practice more widely

Creating Feedback Loops: researchers come to the boundary of the study

- ▶ Building feedback into the design of a research study
 - ▶ To return findings to the field as soon as feasible, to check face validity of interim analysis, to gather additional data
 - ▶ Issues: timing, structure, usefulness to research participants
 - ▶ Value: possibility of immediate impact of research on practice
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University-led Participatory Research: education professionals are invited in as visitors

- ▶ Using expert groups or panel to test or check findings
- ▶ Practitioners say they enjoy the experience – but don't engage as researchers – using the core concepts etc.



Combining Small-scale Studies: opening up the boundaries

(Sutherland, John and Robertson 2007)

The TLRP 'Using computers to enhance learning' study

- ▶ a partnership: university researchers, teacher educators and teachers
 - ▶ aimed at finding out about how ICT could be used to support pedagogy and at integrating ICT into everyday classroom practices
 - ▶ involved four primary schools, five secondary schools and a further education college, 59 teachers, seven researchers, six teacher educators and three research students who were all placed in Subject Design Teams (SDTs) in English, mathematics, science, modern foreign languages, music, history and geography with university-based staff.
 - ▶ The SDTs worked together in the schools to develop and evaluate examples of practice which showed how ICT could be used as a tool for learning.
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Impact

Working closely with my university partner and the whole team was without doubt the biggest influence on my learning. I was introduced to new subject knowledge and new theories of teaching and learning. I was reading new things on language, and research on language learning, as well as discussing ideas. (partner-teacher)

Challenges –

- ▶ Is it research or staff development?
- ▶ The demands of project management – keeping a research focus



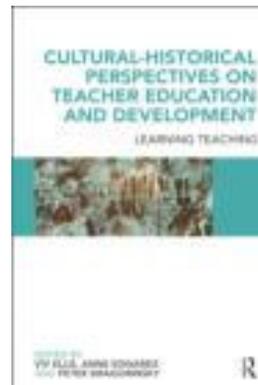
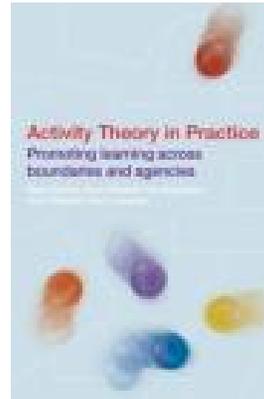
Design Experiments (Cobb et al. 2003)

- ▶ Aim at addressing the complexity of the ‘learning ecology’ of classrooms – from proof of construct to scaling up

Five features

- ▶ The theories that are produced aim at supporting learning.
 - ▶ The methodology is interventionist and the studies are often test-beds for innovation.
 - ▶ The studies are both prospective and reflective: i.e. (i) implemented to test a hypothesised learning process; and (ii) conjecture-driven, with new conjectures arising as the study proceeds.
 - ▶ The designs are therefore iterative
 - ▶ The theories produced must provide guidance for organising instruction.
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Co-research for Conceptual Development: a knowledge building partnership?

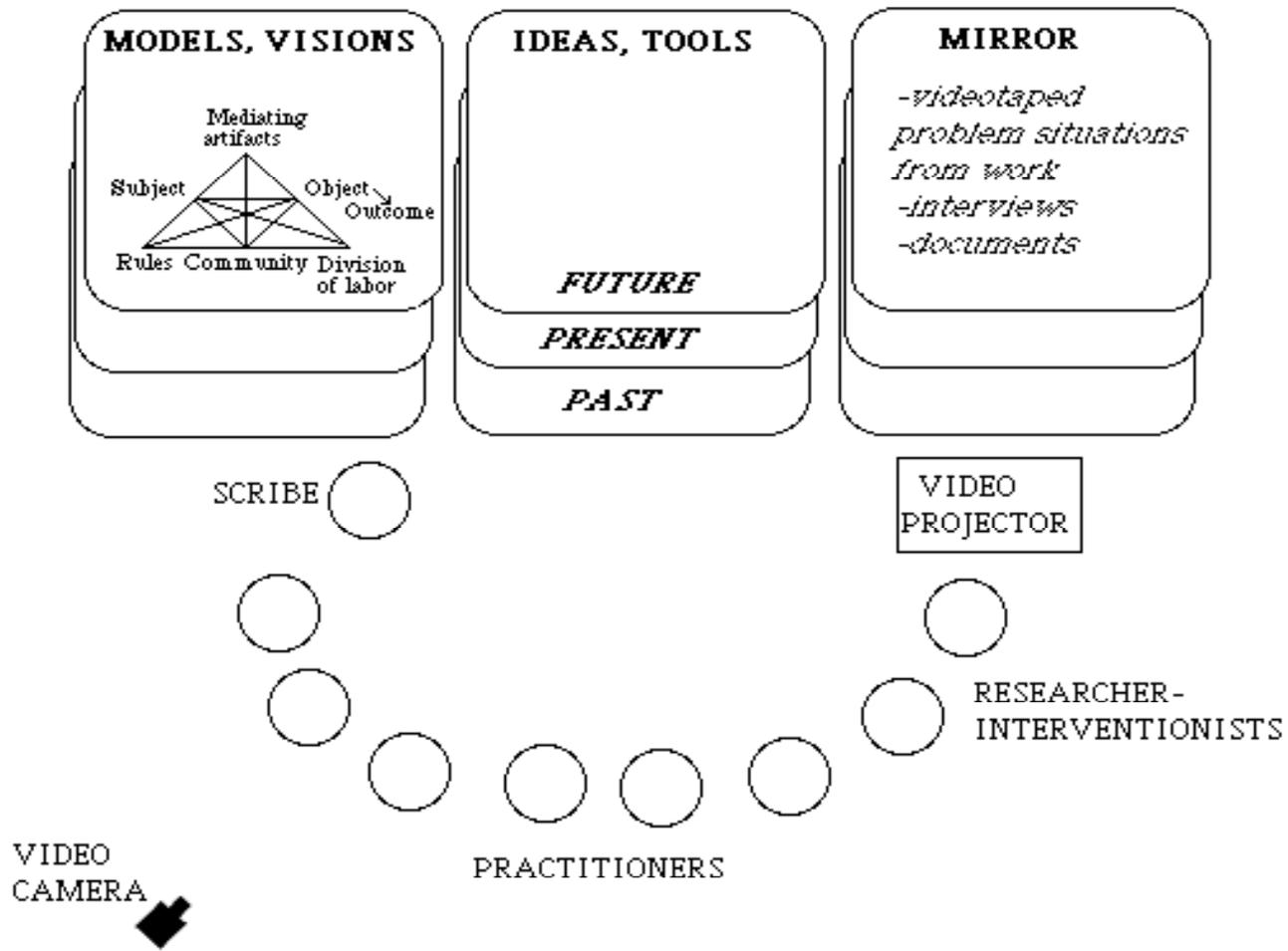
In Oxford we do this through versions of Developmental Work Research (Engestrom 2007)

The Learning in and for Interagency Working Study (Edwards et al. 2009)

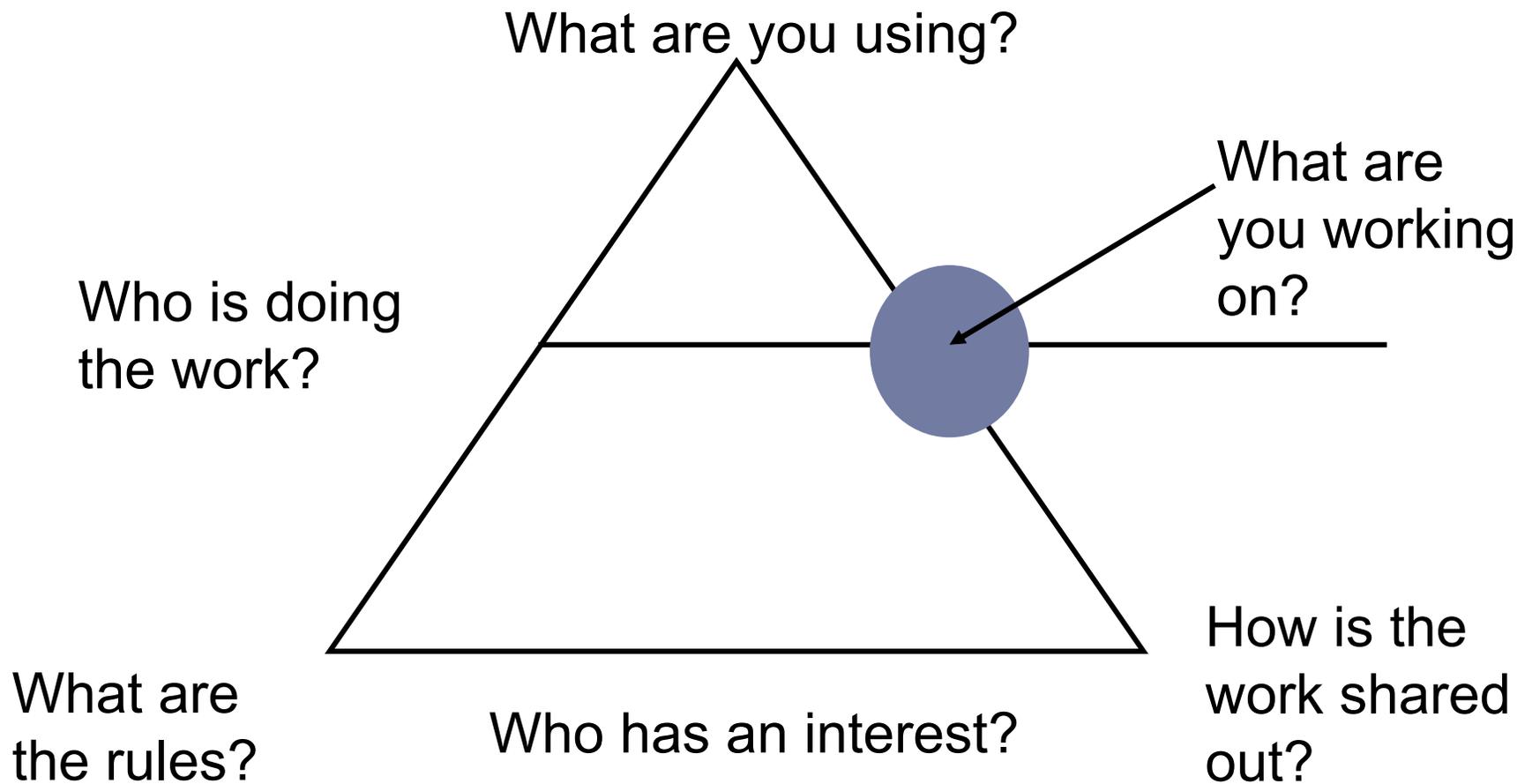
DETAIL – a partnership with teachers of English (Ellis 2010)



Developmental Work Research (DWR) (Engestrom 2007)



Activity Theory



Using Dual Stimulation to Elicit Concepts

- ▶ A Vygotskian technique: give people tools – and how they use them will reveal how they think
- ▶ DWR gives people the tools of activity theory to use to analyse their practices and the concepts they use in them – but more than that – they work on those practices as they refine the conceptual tools and create new knowledge
- ▶ In DETAIL teachers recognised how the practice of teaching writing was limited by ‘sedimented’ knowledge built up over the years in the school and began to recognise ‘buds’ of new knowledge



User-led Research

- ▶ Disability research (e.g. Tom Shakespeare)
- ▶ Research on users of mental health services (Sure Search) in social policy at the University of Birmingham
- ▶ Children as researchers?



What Expertise is Needed in these Kinds of Research?

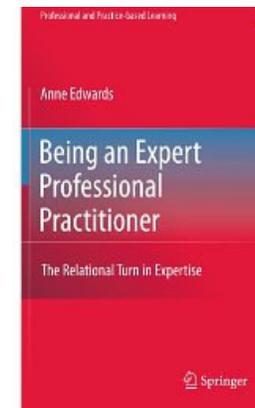
- ▶ A strong sense of what core knowledge you bring to the relationship e.g. Mathematics, Vygotskian theory or.....
- ▶ Project management – setting limits, while following the knowledge object
- ▶ Ability to negotiate across practice boundaries
- ▶ **Implications for graduate education: strong specialist knowledge base together with capacity to negotiate**



The relational turn in expertise

- ▶ An ability to take the standpoint of the other and respect what matters for them
- ▶ Working on and identifying shared goals which act as a glue to hold the project together
- ▶ Building ‘common knowledge’ as a basis for collaboration. Carlile (2004):
transfer, translate, transform – common knowledge mediates action

**Implication for graduate education:
preparation for inter-professional and
inter-disciplinary work**

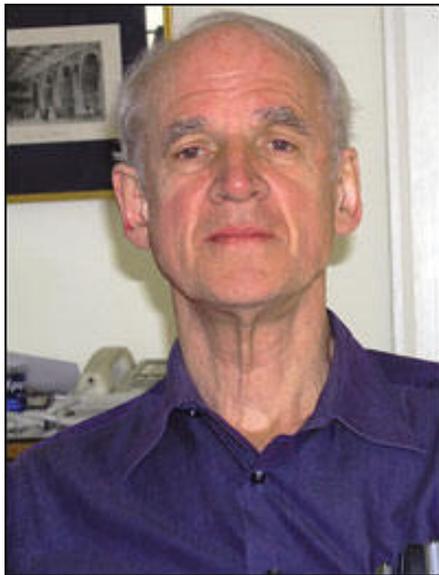


Non-interventionist Research

- ▶ Not all educational research is interventionist (though we need to be aware that we do, as Giddens put it, ‘spiral in and out’ of the worlds we study)
- ▶ It may simply stay close to practice in order to keep in touch with the intentions, priorities and changes to be found in practices (Edwards, Sebba and Rickinson 2007)
- ▶ There are implications for methodologies here too
- ▶ *Edwards, Sebba and Rickinson (2007) Working with Users: some implications for educational research, British Educational Research Journal, 33. 5. 647-661.*



- ▶ Charles Taylor: two models of science: *'one of brute data and one that admits of interpretation'* but they exist in a *'dialogue of the deaf'* (Taylor, 1985, p. 124).



HUMAN
AGENCY
AND
LANGUAGE

PHILOSOPHICAL
PAPERS
1
CHARLES TAYLOR

For Taylor, research that deals with motivated action is best done within the hermeneutic or interpretative tradition

Implication for graduate education: mixed methods to avoid the dialogue of the deaf



Using ideas from Social Science to Question Practices – an example: Childs and McNicholl

- ▶ The problem of lack of specialist expertise in some schools – ‘what matters’ in practices is to ensure that the curriculum is covered
- ▶ The idea of distributed expertise is used to explain what is going on – expertise is distributed across the science department
- ▶ But analyses of conversations show it can lead to a focus on Pedagogic Content Knowledge and **how** to teach science and not on what it is that is being taught



Ann Childs and Jane McNicholl

- ▶ A science team room



Example of Emphasising 'How' Rather than 'Why'

CL (in first year of teaching) is working on her laptop in the team room.

DE (student teacher) is planning lessons. CL then asks AD (student teacher with a physics PhD) for ideas about how he would explain to students in Y10 that objects fall at the same rate despite their being different masses.

AD explains $F=ma$ and other equations on the team room whiteboard. DE joins in.

CL then says she needs a simpler explanation..



Cont'd

BW (Head of Department and experienced physics teacher) enters the team room and says that this is difficult and gives CL an analogy where she uses Canderel and then biscuits.

DE says she gets it.

CL says that's all very well but she is thinking about the students in her Y10 class and they won't get this analogy. BW gives another explanation



Using Social Science Concepts to Question Practices

Wartofsky – three types of tools for action:

- ▶ for direct action (axes etc.);
- ▶ representations which guide (recipes etc.);
- ▶ concepts that take you into imagined futures (ideas that are generative and e.g. allow for responsive teaching).

Does science education in schools focus too much on recipes and too little on conceptual change? (McNicholl and Childs 2010)

Implication for graduate education: the importance of theory to studies of practices



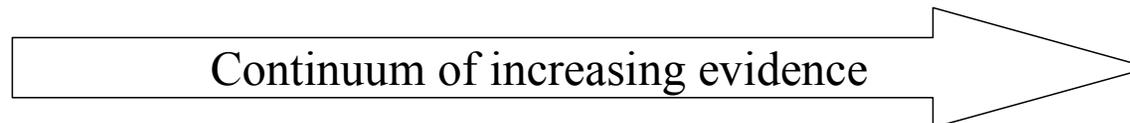
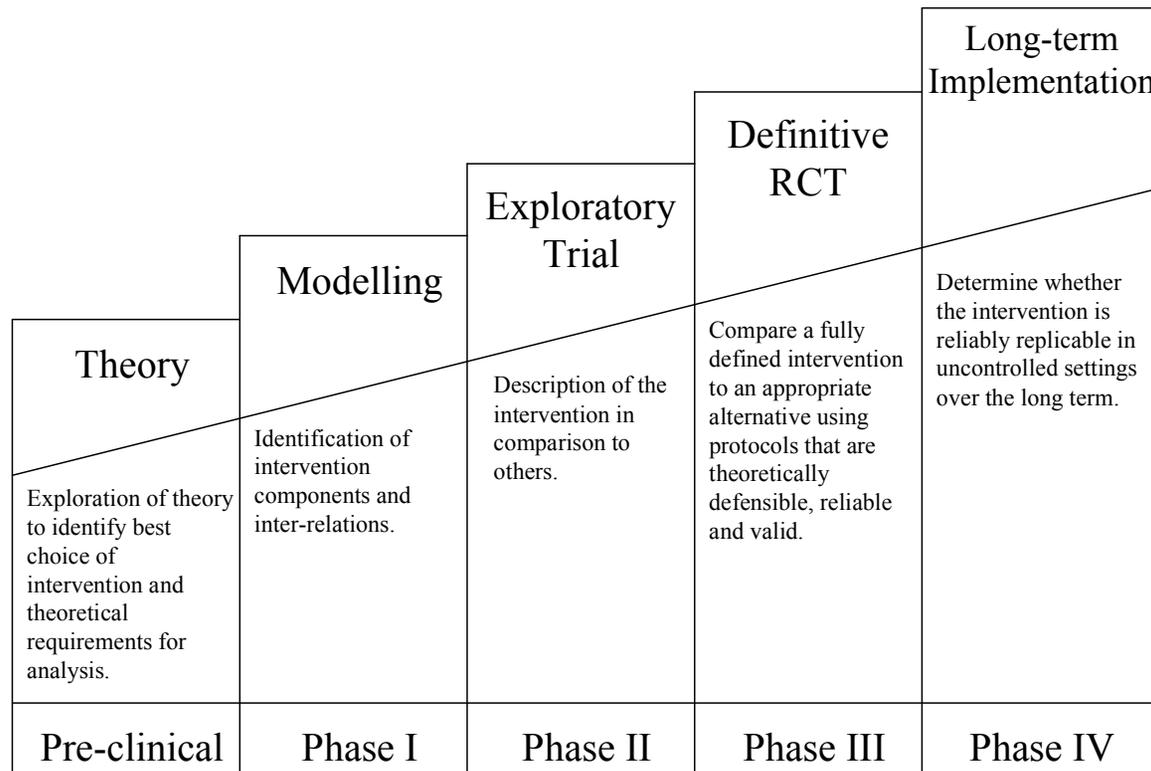
How Far Can you Go in Doctoral Research?

- ▶ Proof of construct – identifying what to examine
- ▶ Digging deeper?
- ▶ Theorising better?
- ▶ Testing in small scale experiments?



A Framework for the Development of RCTs for Complex Interventions to Improve Health

London: Medical Research Council (2000)



Making a Difference While Working Alongside

- ▶ The new production of knowledge: mode 2 knowledge emerges in research partnerships between universities and those who have traditionally been seen as users of research.
- ▶ It overcomes problems of 'the application of knowledge'.
- ▶ Originated in thinking about the sciences and is still underplayed in much social science.
- ▶ In social sciences often seen more in terms of ethically appropriate participatory research e.g. with people with disabilities.
- ▶ Is action research with teachers a research partnership?

Gibbons, M. *et al.* (1994) *The New Production of Knowledge*. (London, Sage).



Socially Robust Knowledge

- ▶ ...the more open and comprehensive the scientific community, the more socially robust will be the knowledge it produces. This is contrary to the traditional assumption that there is a strong relationship between the social and intellectual coherence (and therefore boundedness) of a scientific community and the reliability of the knowledge it produces. Reliable knowledge may have been produced by such cohesive (and therefore restricted) scientific communities. But socially robust knowledge can only be produced by much more sprawling socio/scientific constituencies with open frontiers. (*Gibbons, in Nature, 1999*)



Changing Relationships

- ▶ A shift in how participants position themselves in relation to each other and to the purposes of the research activity
- ▶ Gibbons *et al*, 1994: universities become '*active partners in a complex knowledge producing game*'
- ▶ Gibbons, 1999: '*experts must now...try to integrate what they "know" now with what others want "to do" in the future.*'



The Importance of *know-who*

- ▶ Lundvall: ‘know-who’ is much needed alongside ‘know-what, why and how’
- ▶ It involves *‘the social capacity to establish relationships to specialised groups in order to draw on their expertise’*
- ▶ Knowing how to ‘know-who’ and the ‘building of common knowledge’ therefore need to be labelled as capacities and incorporated into research capacity building

Implication for graduate education: the importance of knowing how to recognise and work with the expertise of others



Impact – UK responses to the need to justify funding for university research

- ▶ 20-30% of a department's profile in the 2012 Research Excellence Framework (replacing RAE) will be 'impact'
- ▶ Tracing impact of work on policy, practice....
- ▶ Think pedagogically about impact
- ▶ Research design to maximise impact – creating fora for knowledge flows in research design
- ▶ Maintaining contact during and after the research has ended (can be 20% of time spent on the project)
- ▶ Creating resources – short summaries, tailored short reports etc.



My Premise

- ▶ Educational research is a practice
- ▶ All practices are knowledge-laden, taken forward by motives and freighted by emotion
- ▶ Researchers need to have core social science knowledge and perhaps other disciplinary knowledge, understand their motives for doing research and develop identities that reflect these
- ▶ But educational researchers need more than that – they need to be able to look across practice boundaries to work with educational practitioners
- ▶ The relational turn is important to the expertise of educational researchers



Additional Expertise Needed

- ▶ building common knowledge with stakeholder communities during and after the project
- ▶ project management- brokering knowledge in and out of the research project as it proceeds
- ▶ confidence in one's specialist expertise
- ▶ capacity to work relationally with other researchers and research participants
- ▶ moving on from ideas of 'disseminating outcomes'
- ▶ knowing how to get ideas across to the media and to have conversations with policy communities
- ▶ remaining fascinated by the ideas that are being developed in the field



Implications for Graduate Education

- ▶ recognising alternatives to dualism and objectivism
- ▶ staying in touch with educational practice while standing back
- ▶ learning to recognise values and interests in practices
- ▶ pursuing conceptual clarity – even refining concepts
- ▶ strong specialist knowledge base
- ▶ negotiating, building common knowledge and taking the standpoint of others
- ▶ knowing how to know who -preparation for inter-professional and inter-disciplinary work
- ▶ acknowledging mixed methods, avoiding the dialogue of the deaf
- ▶ recognising the importance of theory to studies of practices

