Interdisciplinary research: benefits and burdens

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An interconnected world

- Human actions reverberate into many places across the globe, over time, and from one generation to another.
Sustainable Development

• Calls for exploring ways of meeting the societal needs that are environmentally more sustainable.

• Concerned with the links between society and nature

• Intrinsically interdisciplinary.
What is a discipline?

• The word originates from the Latin words *discipulus* (pupil) and *disciplina* (teaching).

• It means not only “training someone to follow a rigorous set of instructions”, but also “enforcing obedience” (Krishnan, 2009:8).

• **Academic discipline**: systematic knowledge production and organisation of learning.
Disciplines means different things to different disciplines

- **Philosophical** perspective: academic disciplines are about epistemology
  - how knowledge is organised and relates to reality

- **Anthropological** perspective puts the emphasis on cultural practices
  - Disciplines as ‘academic tribes’ who inhabit and defend various ‘knowledge territories’
    
    (Becher, 1994).
• **Sociological** perspective perceives disciplines in terms of the sociology of work
  – A form of societal division of labour through professionalisation

• **Educational perspective** focuses on pedagogy
  Disciplines are distinguished by what they offer in terms of:
  – knowledge or knowing what (truth)
  – skills or knowing how (learning)
  – values or knowing why (moral)
• **Management perspective:**
  – dividing departments along disciplinary lines to align the supply-side of knowledge to its market / societal demand-side
  – Disciplinary structures are a management problem; a problem of how to market knowledge

• **Historical perspective:**
  – focuses on the wider context which leads to the foundation of an academic discipline, its change over time, and its particular trajectory
What is a discipline?

- **Disciplines** are social constructs evolved through historical processes and perform multiple functions:
  - Epistemologically, particular objects of enquiry and rules for:
    - what constitute a ‘problem’
    - what counts as evidence
    - what is considered as acceptable methods by which knowledge is produced, evaluated and exchanged

- **Socially**, they provide:
  - shared terminologies and discourses
  - identities, peers, and careers

- **Institutionally**, they reproduce themselves through
  - university courses, academic departments, discussion fora
Overcoming ‘disciplinary tribalism’

• **Multi-disciplinary**: multiple disciplines coming together but, each working primarily with their own framings and methods (*science of interaction*)

• **Inter-disciplinary**: occupying the spaces between disciplines to build new knowledge (*science of integration*)

• **Trans-disciplinary**: creating a cross-road in which different disciplines intersect and problematize each other through a social learning process (*science of hybridisation*)
Trans-disciplinary approaches

• Involve organisation of knowledge around complex subjects, or real world, problems rather than disciplines

• Are more likely to produce outcomes which are more than the sum of different parts

• Help greater awareness of one’s own disciplinary knowledge
A continuum of approaches

• Cooperation versus transformation

• Interdisciplinarity occupies the broadest position on the continuum:
  
  – **Cognate** interdisciplinarity *within* natural or physical, or social sciences
  
  – **Radical** interdisciplinarity *between* them, spanning the natural and the social
1. Epistemological challenges

• Persisting disciplinary silos with regard to:
  – Understanding what constitutes knowledge
  – Intellectual traditions
  – Methodological approaches
  – Problem definitions

• Disciplinary “‘experts’ tend generally to regard fields other than their own with considerable suspicion – spurious at worst, at best irrelevant... ‘interdisciplinary’ research is often actively discouraged as being, among other things, too speculative”

  (Baigent et al, 1982)
2. Institutional barriers

- Institutional practices

- Funding mechanisms

- Assessment and recognition of research excellence

- Publication strategies and refereeing processes
Benefits of interdisciplinary perspectives:

• Providing useful means of dealing with complex, ‘wicked’ problems

• Real world issues require synthetic and integrative approaches
Conditions for making it work

• Mutual trust, respect and sense of humour

• Confidence in one’s own discipline but without being defensive

• Space and time for: sharing of knowledge, different framing of problems, and construction of methods

• The aim is problem setting & problem solving, rather than doing interdisciplinary work for its own sake

• Using intermediaries (persons and processes)
An interconnected world needs new forms and patterns of intellectual inquiry that challenges existing disciplinary and institutional boundaries.
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