Research Questions

What do good questions ‘look’ like?

Dick Ng’ambi
University of Cape Town
“Research! a mere excuse for idleness; it has never achieved, and will never achieve any results of the slightest value.”

Benjamin Jowett (1817-93), British Theologian
Asking Good Research Questions

Rick Miller, PhD
Aim of research

...to answer a non-trivial question
Purpose

Research in a nutshell

human activity

social activity

socially constructed outcomes

social construction

about people, communities, their ‘things’ or practices

NB: involves individuals, their activities and context for instantiation
Assumptions

Implicit and explicit

Ontological:
- nature of their discipline

Epistemological:
- nature of the ‘things’ being inquired
Type of questions

What is?

Why is?

How does?

How should?
What is?

...explores **fundamental nature or essence** of the research problem

...exposes **structure of the problem or meaning or underlying concepts or ideas**
Examples of ‘what is?’

What are the components of higher-order thinking?

What are the obstacles preventing higher-order thinking among 1st year engineering students?

What is needed to facilitate active learning?

What are the conditions in which higher-order thinking skills are acquired among pre-service teachers?
Why is?

...explains real-life behaviour or characteristics of the phenomenon

...determines relationships between things
<table>
<thead>
<tr>
<th>Examples of ‘Why is?’</th>
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<tbody>
<tr>
<td>Why is most learning passive and not active?</td>
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<tr>
<td>Why is active learning difficult to achieve?</td>
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<tr>
<td>Why is there a demand for higher-order thinking skills?</td>
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<td>Why do teachers resist a move from passive to active learning?</td>
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How does?

...through direct observation of a phenomenon, it describes its reality

...seeks to explain a problem or phenomenon
Examples of ‘How does?’

How do learners perceive their role in a learning process?

How do we facilitate a change in these perceived roles?

How do under-resourced institutions facilitate higher-order thinking skills?
How should?

...focuses on *normative* aspects of a phenomenon

...attempts to establish *guidelines for recommendations* based on results
Examples of ‘How should?’

How should higher-order thinking take place?

How should we promote the concept of higher-order thinking?

How should we introduce a programme of change from passive to active learning?

How should we facilitate this process?
So what makes a ‘good’ research question

...more than common sense is needed

...explore the research problem or issue from different angles

...courage to make personal, subjective decisions
Example:

Connectivism assumes that people, information, and knowledge do not function autonomously, but are individually connected by webs of context, culture, and pre-connection to others (Terry & Terry, 2010).

Both the learners and learning networks exist all at the same time. Did learners or learning networks come first?
• How does learning occur?

  Distributed within a network, recognizing and interpreting patterns.

  Technologically enhanced, social, and collaborative.
What factors influence learning?

- Diversity of network
- Distributed within a network, social, technologically enhanced, recognizing and interpreting patterns

How does learning occur?

Ireland, 2007
What factors influence learning?

- Diversity of network

What is the role of memory?

- Adaptive patterns, representative of current state, existing in networks

How does learning occur?

- Distributed within a network, social, technologically enhanced, recognizing and interpreting patterns
What factors influence learning?
- Diversity of network

How does transfer occur?
- Connecting to (adding nodes)

What is the role of memory?
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How does learning occur?

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Complex Learning Theory

What factors influence learning?

- Diversity of network

What types of learning are best explained by this theory?

Adaptive patterns, representative of current state, existing in networks

How does transfer occur?

Connecting to existing nodes
Review of TEL: 1994-2013

Phase 1: 1994-1998
Computer-assisted instruction

Phase 2: 1999-2003
Democratisation of knowledge and development of strategies

Phase 3: 2004-2008
Scholarship and professional development

Phase 4: 2009-2013
Digital literacies, flexible learning, social media and professional development

Low ICT infrastructure

High ICT infrastructure

Personal Control/Cloud-based

Institutional Control/regulated systems

Global

predominate focus on innovative uses of ‘new media’ to enhance teaching & learning

South Africa

technology used for ‘drill & practice’ computer-aided instructions & consciousness of digital divide

Question

how to overcome the parity in physical access to computers to ensure computer-assisted learning does not widen digital divide
1999-2003: Democratisation of knowledge

Global
exploit Internet and mobile
technologies for active learning
and collaborative knowledge
production

South Africa
building ICT infrastructure,
demonstratisation of information
& policy development

Question
what policies & infrastructure would enable equitable access & use of ICT for teaching and learning
2004-2008: Professional development

Global emphasis on learning objects, content aware computing, extended learning, wireless & social media

South Africa
ICT became part of institutional strategic directions, digital divide debates shifts & focus on pedagogy

Question what ICT mediated practices could leverage the scholarship of teaching, learning and professional development
Global
new forms of scholarship and emerging forms of publications to become mainstream

South Africa
an era of mobile learning and social media. The presence of digital devices acknowledge in 2012 Green Paper

Question
what is the role of HE when majority of students own mobile devices, are socially connected, and digital content freely available. How will we proceed in the future?
Beyond 2013 - implications

- Meaning of ‘teach’ and everything associated with this concept is revisited (oral traditions as its roots)
- Demand for online learning increases
- Innovation becomes a learning culture
- Strategies to preserve digital expressions of institutional practices becomes priority or risk losing generations of scholarly, cultural and creative contributions

Thank you