Southern Cross UNIVERSITY

A new way to think

Assessing clinical reasoning in osteopathy

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Acknowledgement

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Benchmarking assessment of clinical reasoning in osteopathic curricula

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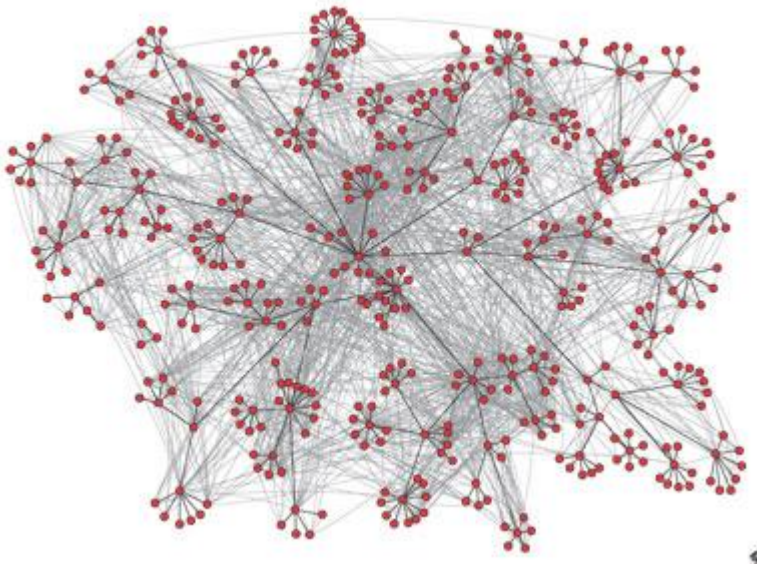


Adapted from Reinman, 2014

The diverse and variable nature of practice settings, as well as the subjective nature of professional judgement involved, mean that consistent and equitable assessment presents numerous challenges for universities and professions.

Clinical reasoning

Practice decision-making

- A context-dependent way of thinking and decision making on professional practice to guide wise practice actions

- Occurs within a set of problem spaces informed by the practitioner's unique frames of reference, workplace context and practice models, and the patient's or client's contexts

Clinical reasoning

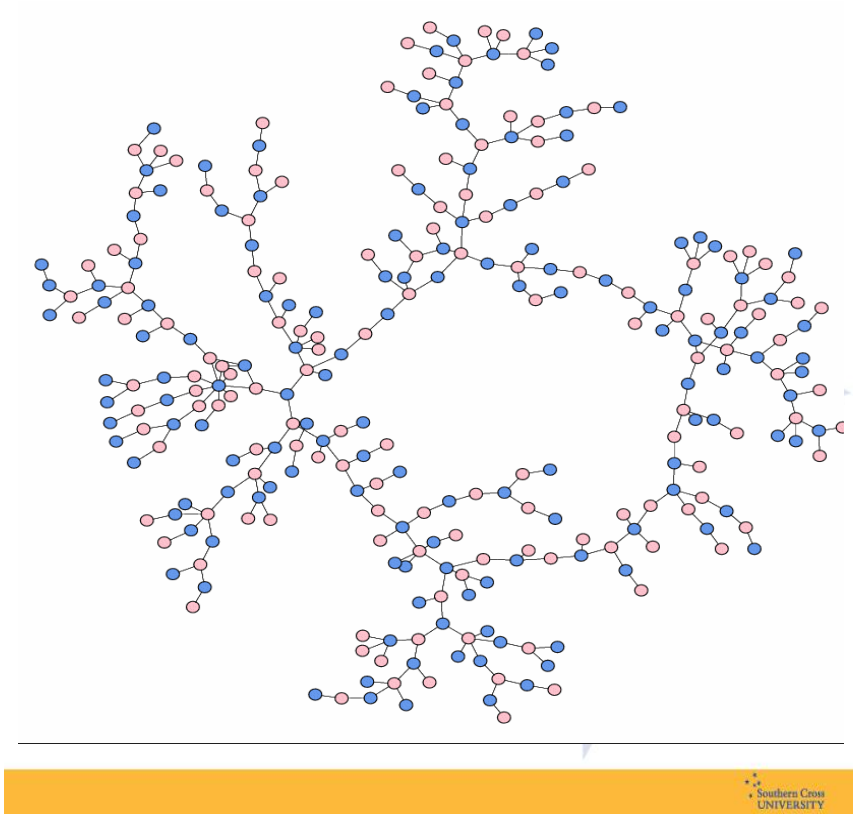
- Uses core dimensions of practice knowledge, reasoning and metacognition and draws on these capacities in others
- Occurs at micro, macro and meta levels and may be individually or collaboratively constructed
- Involves metaskills of critical inquiry, knowledge generation, practice model authenticity and reflexivity

(Higgs & Jones, 1995)

Components of clinical reasoning

Dimensions	• A deep understanding and commitment to tacit norms of the profession • The challenges of contemporary work • A social and moral awareness of issues affecting the profession, the health care system, and broader social issues like chronic diseases, healthy ageing, the environment • Powers of self-critique
Contexts A set of problem-spaces	• Practice knowledge - Domain-specific conceptual knowledge - Domain-specific procedural knowledge - Dispositional knowledge • Workplace context, practice models, patient's contexts • Practitioner's unique frames of reference
Metaskills	• Critical inquiry and reflection • Knowledge generation (including hypothesis generation/working diagnoses) • Reflexivity • Metacognition • Emotional capability • Practice model authenticity

Benchmarking project



Aim:

To benchmark assessment of clinical reasoning by osteopathic students in their final two years during their practicums across four educational institutions in Australia, New Zealand and the UK

Benchmarking project

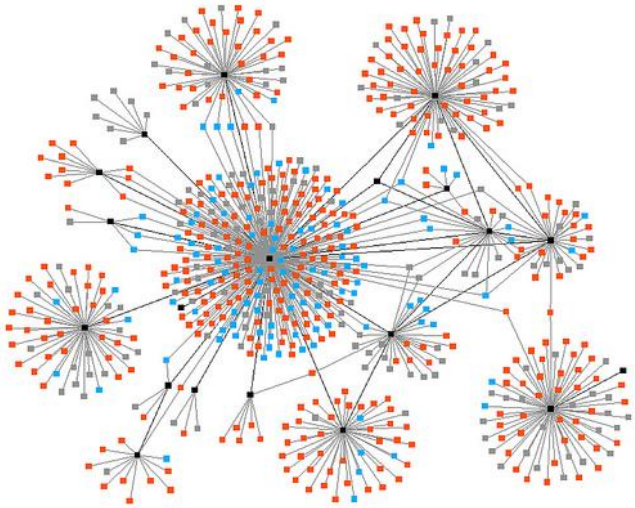
Data collection

- Documents containing clinical examinations and assessments of the final two-years of the osteopathy programs at four universities (Institutions A, B, C and D) were collected.
- Data were entered into a template by a member of the research team.
- Academic representative from participating institution was contacted when further information was required.

Benchmarking project

Data verification

- Academic representatives from each participating institution checked accuracy of templates representing learning objectives and assessment strategies in their clinical curricula.



Benchmarking project

Comparative content analysis

- Types of assessment tools were collated and compared across all osteopathic programs.

- The learning objectives of each assessment were reviewed to determine how they were used in each program and for alignment with Bloom‘s taxonomy and Millers’ hierarchy.

Results

Assessment type	Frequency			
	A	B	C	D
Assessment of actual performance	Yes	Yes	Yes	Yes
Assessment of simulated performance	Yes	Yes	Yes	
Global reports	Yes		Yes	Yes
Oral or written assessments	Yes	Yes		Yes
Portfolio		Yes	Yes	
Peer review	Yes			

Semester	Institution	Bloom's taxonomy					
		Level 1 Knowledge	Level 2 Comprehen-sion	Level 3 Application	Level 4 Analysis	Level 5 Synthesis	Level 6 Evaluation
S1	A				*		
	B					**	
	C	*			**		
	D					**	
S 2	A				*		
	B					*	
	C	*			**		
	D					**	
S3	A				**		*
	B	*			*	*	
	C			**			**
	D					**	
S4	A				*		
	B	*				*	
	C			**			**
	D					**	

Assessing clinical reasoning

- Typically assessments use simulated authentic clinical stimulus to elicit written, verbal or practical performance responses.

- Problem-solving largely dependent on the amount, specificity and organisation of knowledge. No evidence that a general problem-solving skill is independent of content.

- Simulation technologies with capacity for much greater sampling are more valid instruments than complex clinical simulations.

(van der Vleuten et al., 2012)

Assessing clinical reasoning

- Current strategies for assessing clinical reasoning based on real-life cases include:
  - Key feature approach (Farmer and Page, 2005)
  - Extended matching questions (Wood, 2003)
  - Problem-based scenarios that present aspects of case in steps (Anderson et al., 2008; Tiwari et al., 2006)

- Such assessments focus on discipline-specific knowledge. Unlikely to demonstrate the more global development of students' attitudes (e.g. their ability to reflect on and critique ways of knowing and acting in the world)

Assessing clinical reasoning

- Other strategies for assessing clinical reasoning include:
  - Reflective journals
  - Oral case discussions
  - Participation in collaborative practices
  - OSCEs
  - Viva voce exams

- May more fully contribute to developing clinical reasoning skills than assessments focussed narrowly on cognitive skills (Wass et al., 2001).

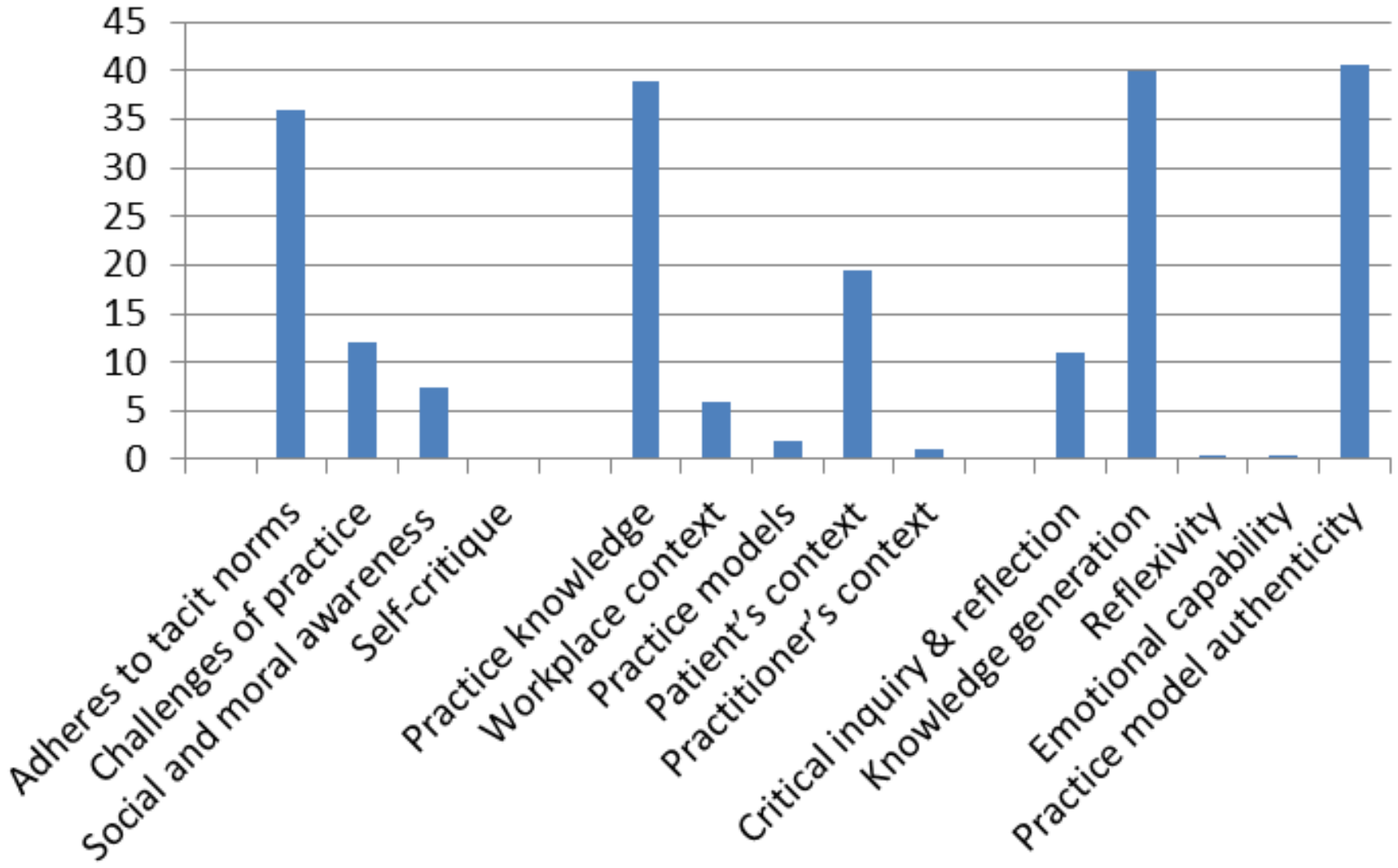
Further analysis: Example 1

Learning objective	Components of CR
Manage a patient consultation in co-operation with the clinical supervisor, identifying the presenting problem, developing a basic working diagnosis and selecting a treatment regime that considers the presenting problem with some consideration for ethical, practical and pragmatic concerns.	*Dimensions* - **Adhering to tacit norms of practice** - Challenges of practice - Awareness of social and moral issues influencing practice - Powers of self-critique *Contexts* - **Practice knowledge** - **Workplace context, practice models, patient's context** - Practitioner's frame of reference *Metaskills* - Critical inquiry & reflection - **Knowledge generation** - Reflexivity - Emotional capability - **Practice model authenticity**

Further analysis: Example 2

Learning objective	Components of CR
Evaluate and use evidence in clinical practice including evidence-based practice, evidence to support clinical decision making and justify the use of evidence in contemporary practice.	*Dimensions* - **Adhering to tacit norms of practice** - **Challenges of practice** - Awareness of social and moral issues influencing practice - Powers of self-critique *Contexts* - **Practice knowledge** - **Workplace context, practice models,** patient's context - Practitioner's frame of reference *Metaskills* - **Critical inquiry & reflection** - **Knowledge generation** - Reflexivity - Emotional capability - **Practice model authenticity**

Results


45
40
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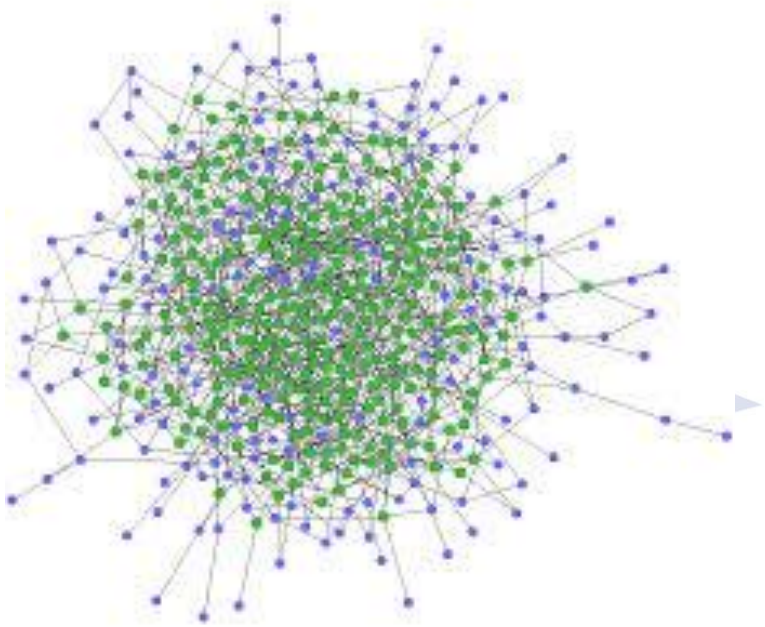
Adheres to tacit norms
Challenges of practice
Social and moral awareness
Self-critique
Practice knowledge
Workplace context
Practice models
Patient's context
Practitioner's context
Critical inquiry & reflection
Knowledge generation
Reflexivity
Emotional capability
Practice model authenticity

Results

- Assessments emphasised acquisition of practice knowledge, adherence to tacit norms of osteopathy and use of metaskill *practice model authenticity*
- Person-centred care was evident
- To a lesser extent students were assessed on their ability to consider and use evidence to inform clinical decision making
- There was little or no evidence that students' reflexivity, emotional capability, and social and moral awareness of issues influencing practice were assessed.

Limitations



- Written assessments of learning objectives may not accurately represent what actually occurs.
- This study was limited to clinical assessments of clinical reasoning.

Implications

- Assessing clinical reasoning requires multiple assessment tools and repeated assessments.

- Current assessment criteria may need to be reviewed to ensure that all dimensions, contexts and metaskills associated with clinical reasoning are included.