Challenges facing
a BEME systematic review of
The contribution of theory to the effective development & delivery of interprofessional curricula

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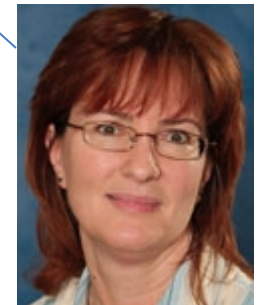**In-2-theory** Interprofessional Theory, Scholarship and Collaboration

Debra Morris University of Southampton, UK, Librarian

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Carol John Anglo European Chiropractic College, UK. Reviewer

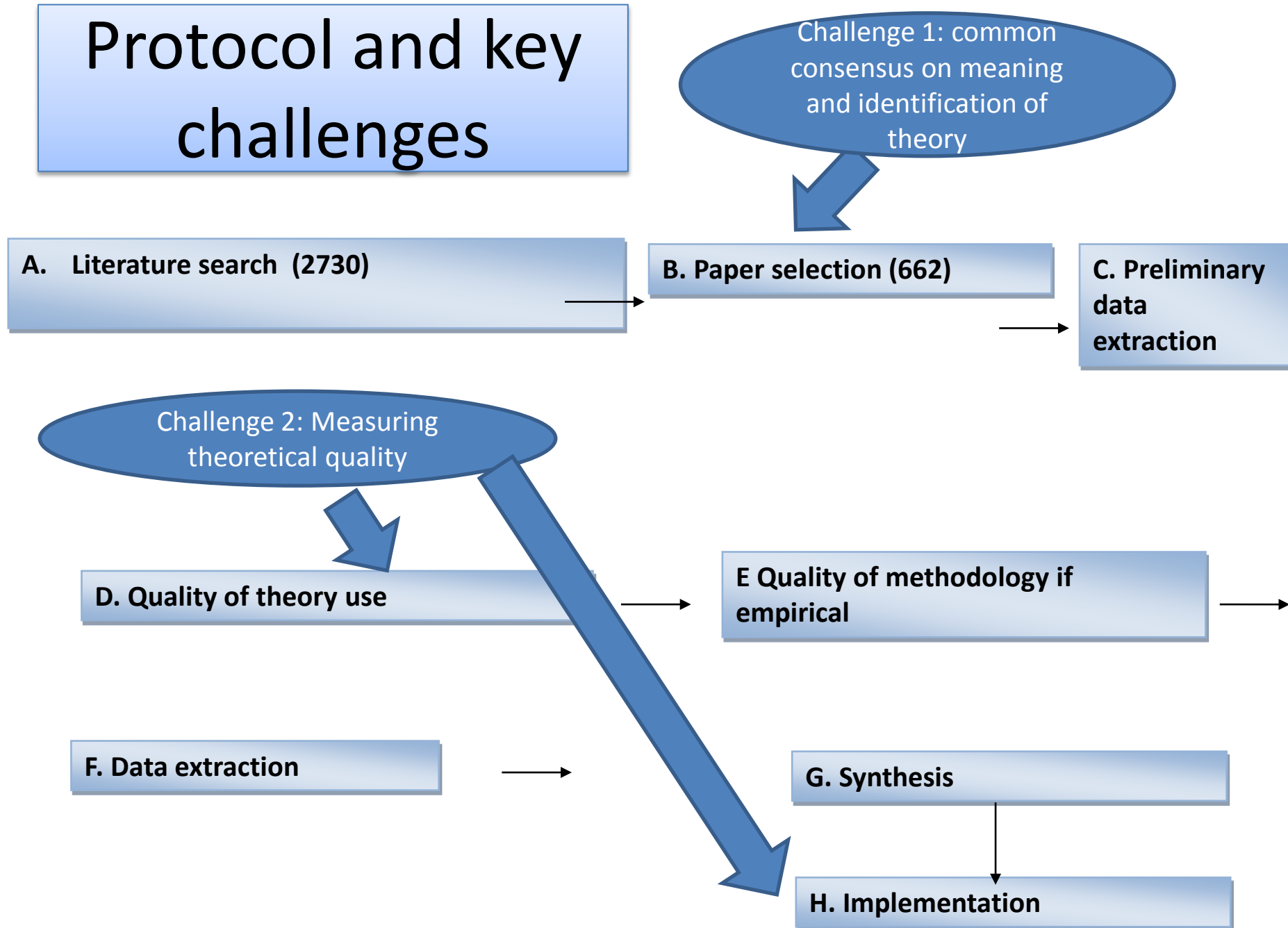Liz Anderson, University of Leicester, UK, Reviewer

Aim and rationale of presentation

- Brief introduction to remit of review

- Sharing some challenges to a review on contribution of <u>theory</u> to medical education

- Practical take home messages

- Target audience: fellow and new BEME reviewers
- Need to share methodological challenges with international, national, regional hubs

Utility of review for Medical Educators

- IPE theory less but not any more.

- The review will guide:

  - The design and evaluation of IPE curricula with strong theoretical underpinnings.

  - Selection and application of theories fit for purpose.

Protocol and key challenges

Challenge 1: common consensus on meaning and identification of theory

A. Literature search (2730)

B. Paper selection (662)

C. Preliminary data extraction

Challenge 2: Measuring theoretical quality

D. Quality of theory use

E Quality of methodology if empirical

F. Data extraction

G. Synthesis

H. Implementation

Challenge 1: defining and identifying theory

Definition of theory

- Set of propositions that link concepts together though a rational argument.

- Predict, describe, explain, prescribe or organise a particular phenomenon. (Walker & Avant, 2005;Jary and Jary, 1995; Fawcett & Downs, 1992). The phenomenon in question is IPE.

Definition of Interprofessional education

- When students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes (WHO, 2010.p.10).

Paper selection

Selection framework

Pilot 1

Inclusion and exclusion criteria

THEORY	
Can you identity a concept from the title or abstract* **(A concept is a word or phrase that describes an abstract idea or mental image of some phenomenon)?**	YES/NO
Can you identify a clear proposition being presented in the abstract or title of paper (a proposition is a declarative statement about a concept or the relationship between concepts. These may be relational and non relational). i.e. is a theory/proposition being tested deductively	YES/NO
Is reference made explicitly to an established theory in this paper?	YES/NO
Is the theory/concept or proposition applied to an IPE curriculum (either description evaluation, research, theoretical piece/reflection)*	YES/NO
CURRICULUM	
Is there evidence that the curriculum is written down in some form (curricula on paper) Papers may describe how the and by whom the curriculum is delivered (curricula in action)*	YES/NO
Does this paper describe the design of an interprofessional curriculum, the evaluation of an interprofessional curriculum, or describe research to understand the outcomes/processes of an interprofessional curriculum ?*	YES/NO
Is the curricula (presented, evaluated or researched) a planned event*	YES/NO
Are there intended outcomes to the event?*	YES/NO
Are interprofessional learning outcomes evident?*	YES/NO
It is designed for the many not the individual? *	YES/NO

20 papers whole team

Poor agreement on what theory is

Try, try, try again

Second pilot with SH, RP, CJ

More simplistic framework

Inter rater reliability

Unacceptable inter rater reliability

Reviewer Check	Accepted (yes theory, Yes IPE)	Rejected (no theory, Yes IPE)	Rejected (no theory, No IPE)	Total
Sarah/Carol measure of Disagreement	5/25 (20%)	2/10 (20%)	0/15 (0%)	50
Sarah/Richard measure of Disagreement	9/25 (36%)	9/15)(60%)	0/10 (0%)	50

Seeing inside each other's heads:

- Each person extracts into MS Word abstract and titles of allocated papers stored on Mendeley.

- Each paper abstract reviewed for presence of IPE and presence of theory.

- Potential theory highlighted.

- Comments annotated by both reviewer 1 and 2.

related to community health and successful partnerships have b
community agencies.

C GD

Agree GD

Salvatori, P.S., Berry, S.C. & Eva, K.W., 2007. Implementation and e
interprofessional education initiative for students in the health p
in Health and Social Care, 6(2), pp.72–82. Available at: 10.1111
6861.2007.00152.x.

This paper reports the results of a 2-year pilot study that involved 13
various health professions in 13 interprofessional education proj
western Ontario, Canada. The educational model was based on
problem-based, self-directed, small group learning and combine
placement with a series of interprofessional tutorials and other s
experiences. Project evaluation entailed the use of both quantita
outcome measures. Student ratings revealed a high level of lear
There was no change in student perceptions of interprofessional
between pre-test and post-test. A difference was observed betw
with rehabilitation students having more positive perceptions th
Qualitative analysis of student journals revealed four major ther
into interprofessional roles and the potential for collaboration; (

Formulas   Data   Review   View

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ot empirical

	B	C	D	E
	empirical	methodology	curriculum on paper/in delivery/student learning	theory
ractitioner as policy ns of an ducation. *Journal of* -77. Availa				a social policy approach
ation of a ng into clir curricula of *rapie, Psyc* 56–64. Av PT=JS&PAG 2.				self-efficacy related to communicative competer
essional co l of Interpr ucation, 4 365-			y/ student	Referrs to socio-cultural theory
nizing the Student At Clinical Ger			learning	pre/post test attitudinal
aspx?direct=true&db= e. terprofessional ality improvement. 8. Available at:	Not empirical	Patient safety and quality improvement (PSQI)	in delivery & student learning/ student led	Quality Improvement

Introduced preliminary data extraction phase

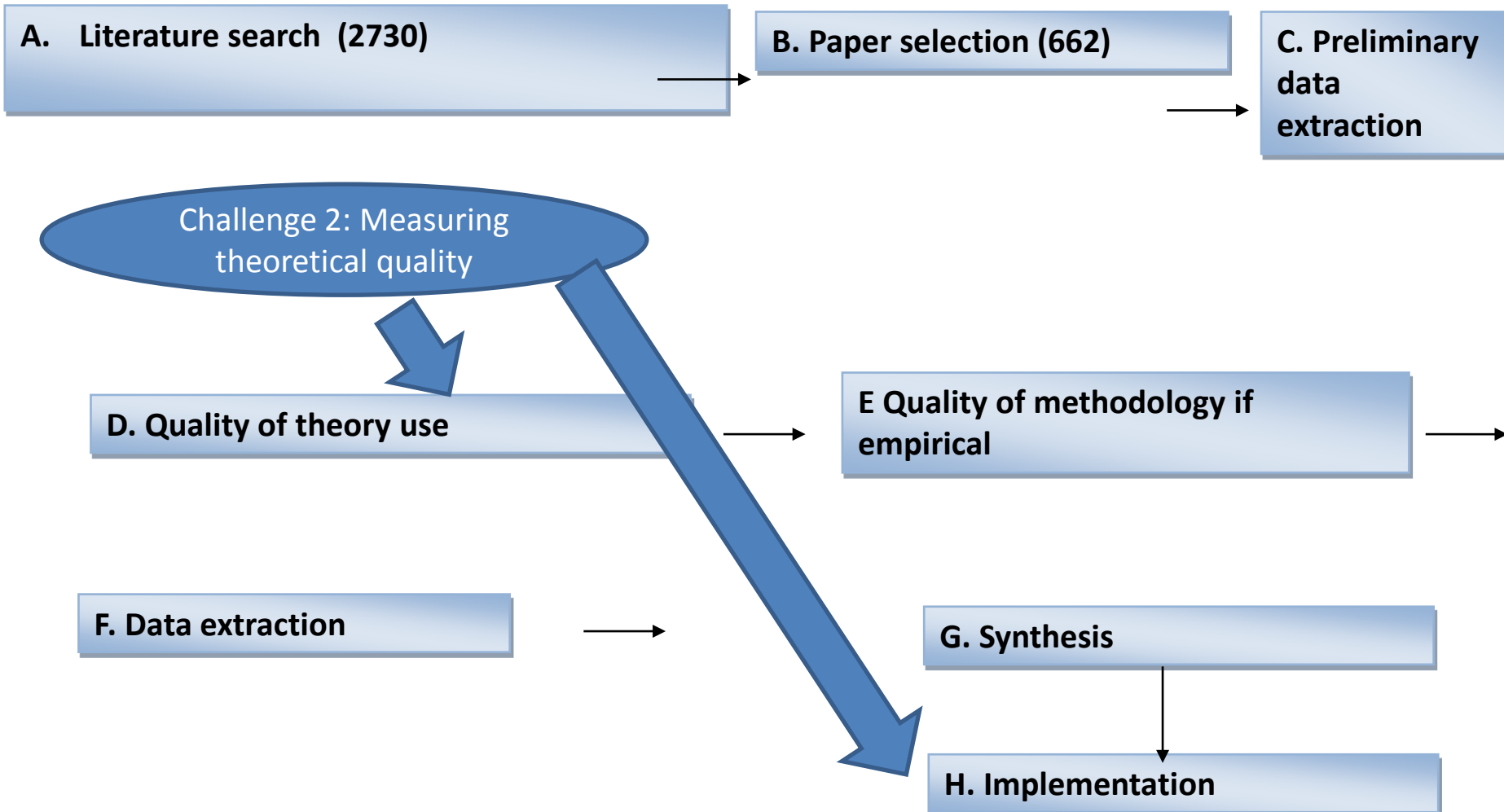- highlighted theory

- empirical/non empirical

- Coles and Grant model

Iterative definition of what is theory

SARAH	WHAT THEORY IS	WHAT THEORY IS NOT
	It is when authors have given an explanation of why they have done something, chosen to measure something. Individual concepts , builds to proposition link to theory; so identify concepts for benefit of doubt. It is when they make a prediction and test it. (e.g. when they have applied a predesigned model/framework to structure their thinking (e.g. Kirkpatrick) About using a predetermined framework to help describe, explain, predict or measure a phenomenon.	What theory is not. It is not an education model, because this is when they have said what they have done and not why they have done. It is not what students learn at the university, that they then put into practice, i.e. when they say I learn about what communication was and then tried to communicate in practice. It is not simply describing the outcomes expected of IPE (e.g. we taught them communication skills). It has to articulate why communication skills are necessary (predict what they do)

Inter rater reliability not so bad

- Clarified individual decision making processes.

- Main problem: poor team communication and use of Mendeley and other logistics.

- Closer examination shows 100% agreement on IPE definition fine; and 90 to 95% agreement on theory.

- Some of theory disagreement related to more/less conservatism.

- Clearer articulation of theory required

Protocol and key challenges

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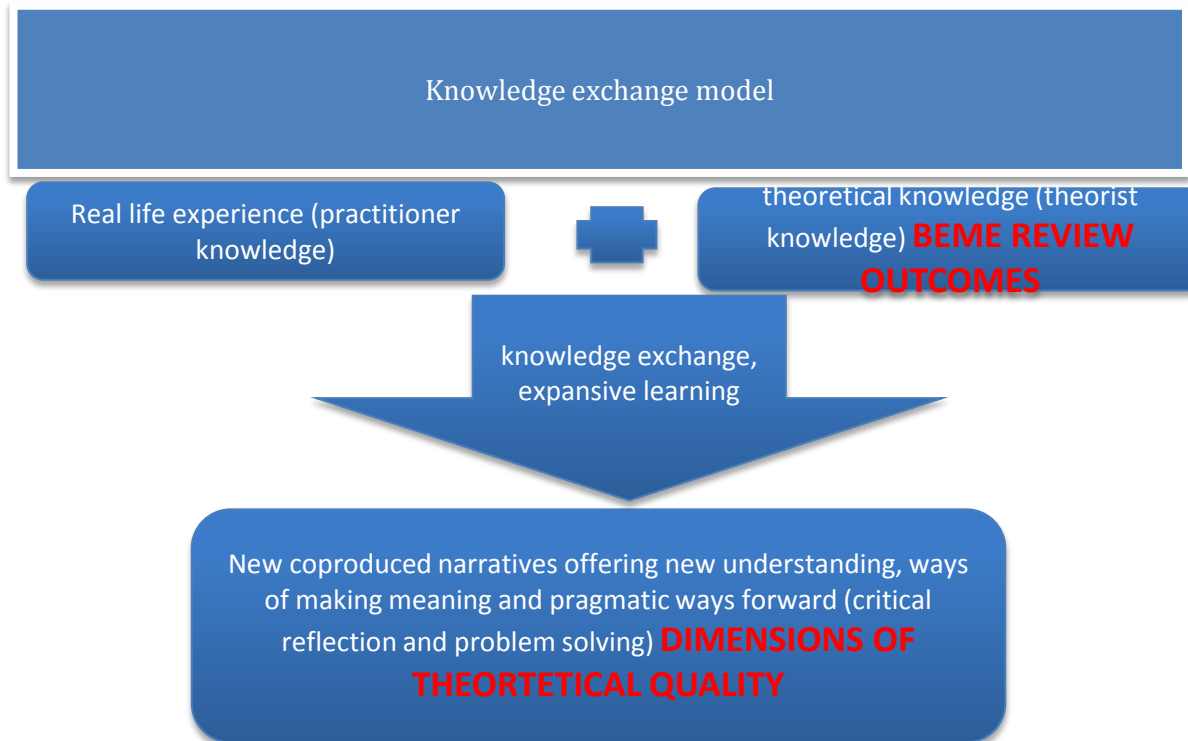
F. Data extraction

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Challenge 2: Establishing Theoretical quality

Framework assessing use of theory in research(Fawcett 2005):

- Pragmatic Adequacy
- Parsimony (Einstein)
- Internal consistency
- Testability
- Operational adequacy
- Empirical adequacy

- **Papers selected on a minimum level of pragmatic adequacy**

Implementation: theory into practice

Knowledge exchange model

Real life experience (practitioner knowledge)

theoretical knowledge (theorist knowledge) **BEME REVIEW OUTCOMES**

knowledge exchange, expansive learning

New coproduced narratives offering new understanding, ways of making meaning and pragmatic ways forward (critical reflection and problem solving) **DIMENSIONS OF THEORTETICAL QUALITY**

- Running in parallel to BEME review
- Theoretical framework to knowledge exchange (Bernstein, Narrative, PBL)
- Workshops apply dimensions of theoretical quality and findings of BEME review (paper guides not enough for some).

Key challenges and take home messages for a BEME review on theory

- Theory specific challenges
  - Defining and identifying theory
  - Development of theoretical quality assessment tool
  - Implementation of theory into practice
- Take home message
  - Importance of sharing methodological challenges with fellow reviewers
  - Developing logistical solutions to improving communication between team members
  - Importance of piloting each phase of the protocol (incl. frameworks, communication strategies, database sharing and implementation)

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THANK YOU

QUESTIONS

INCLUSIVITY
AB (Inter-profession* N1 (curricul* OR workshop* OR train* OR program* OR learn* OR teach* OR educ* OR course* OR event* OR outcome*)) OR TI (Inter-profession*I N1 (curricul* OR workshop* OR train* OR program* OR learn* OR teach* OR educ* OR course* OR event* OR outcome*))

SPECIFICITY
Subject heading: interdisciplinarity

- SPEC... brarian favours use of subject headings to increase the specificity of the search.

- INCLUSIVITY: free search plus subject headings as inconsistency with which interprofessional (and related terms) means indexing system might lose relevant articles.

- lack of specificity to ensure we get full inclusivity.

- The price paid = A total of 2730 articles were retrieved through this search.

REASONS FOR LACK OF SPECIFICITY
- Inter disciplinarily= two different subjects not two professions

- Multiprofessional not interprofessional: focus on clinical content not building collaborative relationships. (1746 rejects 984 accepts)

- Theory means clinical skills taught in university and then applied in practice.

- Educational model rather than a theoretical model (322 rejects and 662 accepts)

Take home message: use the librarian improves validity of search

– Understanding the language of a librarian

• Issues of specificity and inclusivity

• Interpreting the syntax other reviewers have employed in their search strategies
  – (specific to subject headings, search engines)

• Insight and confidence in the validity of search
  – Dates journals indexed

PRAGMATIC ADEQUACY

- For a theory to have pragmatic adequacy it must be used in practice or, at the very least, its potential use in practice must be made obvious.

- By practice we mean the theory must have been used to underpin an interprofessional curriculum, the way it is delivered and/or the approach taken to its evaluation.

Contact hypothesis

- Stereotype change occurs if different professionals are brought together to work together under a set of set contact conditions (e.g. common goal, equality)

- The   contact hypothesis has high pragmatic adequacy as its use in structuring the condition s in which a curriculum is delivered (equality) and the content (a common task) are clearly articulated.

- Application to evaluation also clear (Measurement of professional stereotypes before and after)

- The evaluation measures professional stereotyping before and after the IPE intervention.

- Pragmatic adequacy is a precursor to the testability, operational and empirical adequacy of theory.

- Pragmatic adequacy has yet to be achieved, however, for Derrida's concepts of deconstruction, used by Thistelthwaite et al., (2013) to unpick the concept of collaboration.

- Although offering deep insights into how this term is used and what it may and may not describe, pragmatic application of the theory to IPE and the way a curriculum may be designed, delivered or evaluated is not yet established.