

February 2017 Articles you may enjoy (abstracts and links)

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1. **Effective methods of teaching and learning in anatomy as a basic science: A BEME systematic review: BEME guide no. 44**
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(what we always suspected- students admitted by lottery perform at least as well as those who have gone through a rigorous selection process)
10. **Pulling together and pulling apart: influences of convergence and divergence on distributed healthcare teams**

1. Effective methods of teaching and learning in anatomy as a basic science: A BEME systematic review: BEME guide no. 44

C. Dominique Losco, William D. Grant, Anthony Armson, Amanda J. Meyer & Bruce F. Walker
Medical Teacher published online January 27, 2017

Abstract:

Background: Anatomy is a subject essential to medical practice, yet time committed to teaching is on the decline, and resources required to teach anatomy is costly, particularly dissection. Advances in technology are a potential solution to the problem, while maintaining the quality of teaching required for eventual clinical application.

Aim: To identify methods used to teach anatomy, including those demonstrated to enhance knowledge acquisition and retention.

Methods: PubMed, CINAHL, ERIC, Academic OneFile, ProQuest, SAGE journals and Scopus were search from the earliest entry of each database to 31 August 2015. All included articles were assessed for methodological quality and low quality articles were excluded from the study. Studies were evaluated by assessment scores, qualitative outcomes where included as well as a modified Kirkpatrick model.

Results: A total of 17,820 articles were initially identified, with 29 included in the review. The review found a wide variety of teaching interventions represented in the range of studies, with Computer Assisted Instruction/Computer Assisted Learning studies predominating in terms of teaching interventions, followed by simulation. In addition to this, CAI/CAL and simulation studies demonstrated better results overall compared to traditional teaching methods and there is evidence to support CAI/CAL as a partial replacement for dissection or a valuable tool in conjunction with dissection.

Conclusions: This review provides evidence in support of the use of alternatives to traditional teaching methods in anatomy, in particular, the use of CAI/CAL with a number of high quality, low risk of bias studies supporting this.

To read more:

<http://www-tandfonline-com.ezproxy.library.uvic.ca/doi/citedby/10.1080/0142159X.2016.1271944>

<http://www-tandfonline-com.ezproxy.library.ubc.ca/doi/citedby/10.1080/0142159X.2016.1271944>

2. Should we assess clinical performance in single patient encounters or consistent behaviors of clinical performance over a series of encounters? A qualitative exploration of narrative trainee profiles

Marjolein Oerlemans, Patrick Dielissen, et al

Medical Teacher published online January 27, 2017

Abstract:

Background: A variety of tools have been developed to assess performance which typically use a single clinical encounter as a source for making competency inferences. This strategy may miss consistent behaviors. We therefore explored experienced clinical supervisors' perceptions of behavioral patterns that potentially exist in postgraduate general practice trainees expressed as narrative profiles to aid the grading of clinical performance.

Methods: We conducted semistructured interviews with clinical supervisors who had frequently observed clinical performance in trainees. Supervisors were asked to describe which behavioral patterns they had discerned in excellent and underperforming trainees, during different stages of training, in their careers as clinical supervisor. We analyzed the interviews using a grounded theory approach.

Results: The analysis resulted in a conceptual framework that distinguishes between desirable and undesirable narrative profiles. The framework consists of two dimensions: doctor–patient interaction and medical expertise. Personal values appear to be a moderating factor.

Conclusions: According to experienced clinical supervisors, consistent behaviors do exist in GP trainees when observing clinical performance over time. The conceptual framework has to be validated by further observational studies to assess its potential for making robust and fair assessments of clinical performance and monitor the development of consultation performance over time.

To read more:

<http://www-tandfonline-com.ezproxy.library.uvic.ca/doi/full/10.1080/0142159X.2017.1270427>

<http://www-tandfonline-com.ezproxy.library.ubc.ca/doi/full/10.1080/0142159X.2017.1270427>

3. Ultrasound in undergraduate medical education: a systematic and critical review

Zac Feilchenfeld, Tim Dornan, Cynthia Whitehead and Ayelet Kuper

Medical Education published on-line January 24, 2017

Abstract:

Context The use of point-of-care ultrasound (POCUS) in clinical care is growing rapidly and advocates have recently proposed the integration of ultrasound into undergraduate medical education (UME). The evidentiary basis for this integration has not been evaluated critically or systematically.

Objectives We conducted a critical and systematic review framed by the rationales enumerated in academic publications by advocates of ultrasound in UME.

Methods This research was conducted in two phases. First, the dominant discursive rationales for the integration of ultrasound in UME were identified from an archive of 403 academic publications using techniques from Foucauldian critical discourse analysis (CDA). We then sought empirical evidence in support of these rationales, using a critical synthesis methodology also adapted from CDA.

Results We identified four dominant discursive rationales with different levels of evidentiary support. The use of ultrasound was not demonstrated to improve students' understanding of anatomy. The benefit of ultrasound in teaching physical examination was inconsistent and rests on minimal evidence. With POCUS, students' diagnostic accuracy was improved for certain pathologies, but findings were inconsistent for others. Finally, the rationale that ultrasound training in UME will improve the quality of patient care was difficult to evaluate.

Conclusions Our analysis has shown that the frequently repeated rationales for the integration of ultrasound in UME are not supported by a sufficient base of empirical research. The repetition of these dominant discursive rationales in academic publications legitimises them and may preclude further primary research. As the value of clinical ultrasound use by medical students remains unproven, educators must consider whether the associated financial and temporal costs are justified or whether more research is required.

To read more:

<http://onlinelibrary.wiley.com.ezproxy.library.uvic.ca/doi/10.1111/medu.13211/full>

<http://onlinelibrary.wiley.com.ezproxy.library.ubc.ca/doi/10.1111/medu.13211/full>

4. Tackling wicked problems: how theories of agency can provide new insights

Lara Varpio, Carol Aschenbrener and Joanna Bates

Medical Education published on-line first February 6, 2017

Abstract:

Objectives

This paper reviews why and how theories of agency can be used as analytical lenses to help health professions education (HPE) scholars address our community's wicked problems. Wicked problems are those that resist clear problem statements, defy traditional analysis approaches, and refuse definitive resolution (e.g. student remediation, assessments of professionalism, etc.). We illustrate how theories of agency can provide new insights into such challenges by examining the application of these theories to one particular wicked problem in HPE: interprofessional education (IPE).

Methods

After searching the HPE literature and finding that theories of agency had received little attention, we borrowed techniques from narrative literature reviews to search databases indexing a broad scope of disciplines (i.e. ERIC, Web of Science, Scopus, MEDLINE and PubMed) for publications (1994–2014) that: (i) examined agency, or (ii) incorporated an agency-informed analytical perspective. The lead author identified the theories of agency used in these articles, and reviewed the texts on agency cited therein and the original sources of each theory. We identified 10 theories of agency that we considered to be applicable to HPE's wicked problems. To select a subset of theories for presentation in this paper, we discussed each theory in relation to some of HPE's wicked problems. Through debate and reflection, we unanimously agreed on the applicability of a subset of theories for illuminating HPE's wicked problems. This subset is described in this paper.

Results

We present four theories of agency: Butler's post-structural formulation; Giddens' sociological formulation; cultural historical activity theory's formulation, and Bandura's social cognitive psychology formulation. We introduce each theory and apply each to the challenges of engaging in IPE.

Conclusions

Theories of agency can inform HPE scholarship in novel and generative ways. Each theory offers new insights into the roots of wicked problems and means for contending with them.

<http://onlinelibrary.wiley.com.ezproxy.library.uvic.ca/doi/10.1111/medu.13160/full>

<http://onlinelibrary.wiley.com.ezproxy.library.ubc.ca/doi/10.1111/medu.13160/full>

5.Learner : preceptor ratios for practice-based learning across health disciplines: a systematic review

Peter Loewen, Michael Legal, Allison Gamble et al

Medical Education Volume 51, Issue 2, February 2017 Pages 146-157

Abstract:

Context

Practice-based learning is a cornerstone of developing clinical and professional competence in health disciplines. Practice-based learning systems have many interacting components, but a key facet is the number of learners per preceptor. Different learner : preceptor ratios may have unique benefits and pose unique challenges for participants. This is the first comprehensive systematic review of the topic. Our research questions were: What are the benefits and challenges of each learner : preceptor ratio in practice-based learning from the perspectives of the learners, preceptors, patients and stakeholder organisations (i.e. the placing and health care delivery organisations)? Are any ratios superior to others with respect to these characteristics and perspectives?

Methods

Qualitative systematic review of published English-language literature since literature database inception, including multiple health disciplines.

Results

Seventy-three articles were included in this review. Eight learner : preceptor ratio arrangements were identified involving nursing, physiotherapy, occupational therapy, pharmacy, dietetics, speech and language therapy, and medicine. Each arrangement offers unique benefits and challenges from the perspectives of learners, preceptors, programmes and health care delivery organisations. Patient perspectives were absent. Despite important advantages of each ratio for learners, preceptors and organisations, some of which may be profession specific, the 2 : 1 and 2+ : 2+ learner : preceptor ratios appear to be most likely to successfully balance the needs of all stakeholders.

Conclusions

Regardless of the learner: preceptor ratio chosen for its expected benefits, our results illuminate challenges that can be anticipated and managed. Patient perspectives should be incorporated into future studies of learner: preceptor ratios.

To read more:

<http://onlinelibrary.wiley.com.ezproxy.library.uvic.ca/doi/10.1111/medu.13144/full>

<http://onlinelibrary.wiley.com.ezproxy.library.ubc.ca/doi/10.1111/medu.13144/full>

and the Commentary: Supervisor expertise to optimize learner-preceptor ratios:

<http://onlinelibrary.wiley.com.ezproxy.library.uvic.ca/doi/10.1111/medu.13237/full>

<http://onlinelibrary.wiley.com.ezproxy.library.ubc.ca/doi/10.1111/medu.13237/full>

6. Death During Simulation: A Literature Review

Heller, Benjamin J.; DeMaria, Samuel; Katz, Daniel MD; et al

Journal of Continuing Education in the Health Professions 36 (4) Fall 2016; p. 3160322

Abstract:

Introduction: One of the goals of simulation is to teach subjects critical skills and knowledge applicable to live encounters, without the risk of harming actual patients. Although simulation education has surged in medical training over the last two decades, several ethically challenging educational methods have arisen. Simulated death has arisen as one of these challenging issues and currently there is no consensus regarding how to best manage this controversial topic in the simulated environment. The goal of this review is to analyze how simulated mortality has been used and discover whether or not this tool is beneficial to learners.

Methods: In May 2016, the authors performed a literature search on both Pubmed and the Cochrane database using multiple variations of keywords; they then searched bibliographies and related articles.

Results: There were 901 articles acquired in the initial search. The authors eliminated articles that were not relevant to the subject matter. After adding articles from bibliographies and related articles, the authors included the 43 articles cited in this article.

Discussion: As a result, the authors of this article believe that death, when used appropriately in simulation, can be an effective teaching tool and can be used in a responsible manner.

To read more:

http://ovidsp.tx.ovid.com.ezproxy.library.uvic.ca/sp-3.23.1b/ovidweb.cgi?&S=PGKFFPPOMKDDFGPENCHKHBFHBLBEAA00&Link+Set=S.sh.22.23.26%7c14%7csl_10

http://ovidsp.tx.ovid.com.ezproxy.library.ubc.ca/sp-3.23.1b/ovidweb.cgi?&S=PGKFFPPOMKDDFGPENCHKHBFHBLBEAA00&Link+Set=S.sh.22.23.26%7c14%7csl_10

7. Knowledge Syntheses in Medical Education: Demystifying Scoping Reviews

Thomas, Aliko PhD, OT; Lubarsky, Stuart MD, MHPE; Durning, Steven J. MD, PhD; Young, Meredith E. PhD
Academic Medicine Volume 92(2), February 2017, p 161–166

Abstract:

An unprecedented rise in health professions education (HPE) research has led to increasing attention and interest in knowledge syntheses. There are many different types of knowledge syntheses in common use, including systematic reviews, meta-ethnography, rapid reviews, narrative reviews, and realist reviews. In this Perspective, the authors examine the nature, purpose, value, and appropriate use of one particular method: scoping reviews. Scoping reviews are iterative and flexible and can serve multiple main purposes: to examine the extent, range, and nature of research activity in a given field; to

determine the value and appropriateness of undertaking a full systematic review; to summarize and disseminate research findings; and to identify research gaps in the existing literature. Despite the advantages of this methodology, there are concerns that it is a less rigorous and defensible means to synthesize HPE literature. Drawing from published research and from their collective experience with this methodology, the authors present a brief description of scoping reviews, explore the advantages and disadvantages of scoping reviews in the context of HPE, and offer lessons learned and suggestions for colleagues who are considering conducting scoping reviews. Examples of published scoping reviews are provided to illustrate the steps involved in the methodology.

To read more:

http://ovidsp.tx.ovid.com.ezproxy.library.uvic.ca/sp-3.23.1b/ovidweb.cgi?&S=PGKFFPPOMKDDFGPENCHKHBFHLEAA00&Link+Set=S.sh.47.48.51%7c16%7csl_10

http://ovidsp.tx.ovid.com.ezproxy.library.ubc.ca/sp-3.23.1b/ovidweb.cgi?&S=PGKFFPPOMKDDFGPENCHKHBFHLEAA00&Link+Set=S.sh.47.48.51%7c16%7csl_10

8. Why Medical Schools Should Embrace Wikipedia: Final-Year Medical Student Contributions to Wikipedia Articles for Academic Credit at One School

Azzam, Amin MD, MA; Bresler, David MD, MA; Leon, Armando MD; et al
Academic Medicine Volume 92(2), February 2017, p 194-200

Abstract:

Problem: Most medical students use Wikipedia as an information source, yet medical schools do not train students to improve Wikipedia or use it critically.

Approach: Between November 2013 and November 2015, the authors offered fourth-year medical students a credit-bearing course to edit Wikipedia. The course was designed, delivered, and evaluated by faculty, medical librarians, and personnel from WikiProject Medicine, Wikipedia Education Foundation, and Translators Without Borders. The authors assessed the effect of the students' edits on Wikipedia's content, the effect of the course on student participants, and readership of students' chosen articles.

Outcomes: Forty-three enrolled students made 1,528 edits (average 36/student), contributing 493,994 content bytes (average 11,488/student). They added higher-quality and removed lower-quality sources for a net addition of 274 references (average 6/student). As of July 2016, none of the contributions of the first 28 students (2013, 2014) have been reversed or vandalized. Students discovered a tension between comprehensiveness and readability/translatability, yet readability of most articles increased. Students felt they improved their articles, enjoyed giving back "specifically to Wikipedia," and broadened their sense of physician responsibilities in the socially networked information era. During

only the “active editing months,” Wikipedia traffic statistics indicate that the 43 articles were collectively viewed 1,116,065 times. Subsequent to students’ efforts, these articles have been viewed nearly 22 million times.

Next Steps: If other schools replicate and improve on this initiative, future multi-institution studies could more accurately measure the effect of medical students on Wikipedia, and vice versa.

To read more:

http://ovidsp.tx.ovid.com.ezproxy.library.uvic.ca/sp-3.23.1b/ovidweb.cgi?&S=PGKFFPPOMKDDFGPENCHKHBFHBLBEAA00&Link+Set=S.sh.47.48.51%7c22%7csl_10

http://ovidsp.tx.ovid.com.ezproxy.library.ubc.ca/sp-3.23.1b/ovidweb.cgi?&S=PGKFFPPOMKDDFGPENCHKHBFHBLBEAA00&Link+Set=S.sh.47.48.51%7c22%7csl_10

9.A multi-site study on medical school selection, performance, motivation and engagement

A. Wouters, G. Croiset, N. R. Schripsema et al

Advances in Health Sciences Education (2017). doi:10.1007/s10459-016-9745-y (on-line first)

Abstract:

Medical schools seek ways to improve their admissions strategies, since the available methods prove to be suboptimal for selecting the best and most motivated students. In this multi-site cross-sectional questionnaire study, we examined the value of (different) selection procedures compared to a weighted lottery procedure, which includes direct admission based on top pre-university grade point averages (≥ 8 out of 10; top-pu-GPA). We also considered whether students had participated in selection, prior to being admitted through weighted lottery. Year-1 (pre-clinical) and Year-4 (clinical) students completed standard validated questionnaires measuring quality of motivation (Academic Self-regulation Questionnaire), strength of motivation (Strength of Motivation for Medical School-Revised) and engagement (Utrecht Work Engagement Scale-Student). Performance data comprised GPA and course credits in Year-1 and clerkship performance in Year-4. Regression analyses were performed. The response rate was 35% (387 Year-1 and 273 Year-4 students). Top-pu-GPA students outperformed selected students. Selected Year-1 students reported higher strength of motivation than top-pu-GPA students. Selected students did not outperform or show better quality of motivation and engagement than lottery-admitted students. Participation in selection was associated with higher engagement and better clerkship performance in Year-4. GPA, course credits and strength of motivation in Year-1 differed between students admitted through different selection procedures. Top-pu-GPA students perform best in the medical study. The few and small differences found raise questions about the added value of an extensive selection procedure compared to a weighted lottery procedure. Findings have to be interpreted with caution because of a low response rate and small group sizes.

To read more:

<http://link.springer.com.ezproxy.library.uvic.ca/article/10.1007/s10459-016-9745-y>

<http://link.springer.com.ezproxy.library.ubc.ca/article/10.1007/s10459-016-9745-y>

10. Pulling together and pulling apart: influences of convergence and divergence on distributed healthcare teams

L. Lingard, C. Sue-Chue-Lam, G. R. Tait, J. Bates et al

Adv in Health Sci Educ (2017). doi:10.1007/s10459-016-9741-2 (on-line first)

Abstract:

Effective healthcare requires both competent individuals and competent teams. With this recognition, health professions education is grappling with how to factor team competence into training and assessment strategies. These efforts are impeded, however, by the absence of a sophisticated understanding of the *relationship between* competent individuals and competent teams. Using data from a constructivist grounded theory study of team-based healthcare for patients with advanced heart failure, this paper explores the relationship between individual team members' perceived goals, understandings, values and routines and the collective competence of the team. Individual interviews with index patients and their healthcare team members formed Team Sampling Units (TSUs). Thirty-seven TSUs consisting of 183 interviews were iteratively analysed for patterns of convergence and divergence in an inductive process informed by complex adaptive systems theory. Convergence and divergence were identifiable on all teams, regularly co-occurred on the same team, and involved recurring themes. Convergence and divergence had nonlinear relationships to the team's collective functioning. Convergence could foster either shared action or collective paralysis; divergence could foster problematic incoherence or productive disruption. These findings advance our understanding of the complex relationship between the individual and the collective on a healthcare team, and they challenge conventional narratives of healthcare teamwork which derive largely from acute care settings and emphasize the importance of common goals and shared mental models. Complex adaptive systems theory helps us to understand the implications of these insights for healthcare teams' delivery of care for the complex, chronically ill.

To read more:

<http://link.springer.com.ezproxy.library.uvic.ca/article/10.1007/s10459-016-9741-2>

<http://link.springer.com.ezproxy.library.ubc.ca/article/10.1007/s10459-016-9741-2>