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1. Collaborative learning of clinical skills in health professions education: the why, how, when and for whom

Martin Tolsgaard, Kulamakan Kulasegaram and Charlotte Ringsted
Medical Education January 2016 50(1) 68-78

Abstract

Objectives This study is designed to provide an overview of why, how, when and for whom collaborative learning of clinical skills may work in health professions education.

Why Collaborative learning of clinical skills may influence learning positively according to the non-medical literature. Training efficiency may therefore be improved if the outcomes of collaborative learning of clinical skills are superior or equivalent to those attained through individual learning.

How According to a social interaction perspective, collaborative learning of clinical skills mediates its effects through social interaction, motivation, accountability and positive interdependence between learners. Motor skills learning theory suggests that positive effects rely on observational learning and action imitation, and negative effects may include decreased hands-on experience. Finally, a cognitive perspective suggests that learning is dependent on cognitive co-construction, shared knowledge and reduced cognitive load.

When and for whom: The literature on the collaborative learning of clinical skills in health science education is reviewed to support or contradict the hypotheses provided by the theories outlined above. Collaborative learning of clinical skills leads to improvements in self-efficacy, confidence and performance when task processing is observable or communicable. However, the effects of collaborative learning of clinical skills may decrease over time as benefits in terms of shared cognition, scaffolding and cognitive co-construction are outweighed by reductions in hands-on experience and time on task.

Conclusions Collaborative learning of clinical skills has demonstrated promising results in the simulated setting. However, further research into how collaborative learning of clinical skills may work in clinical settings, as well as into the role of social dynamics between learners, is required.

To read more:

<http://onlinelibrary.wiley.com.ezproxy.library.uvic.ca/doi/10.1111/medu.12814/full>

<http://onlinelibrary.wiley.com.ezproxy.library.ubc.ca/doi/10.1111/medu.12814/full>

2. Towards a pedagogy for patient and public involvement in medical education

Sam Regan de Bere and Suzanne Nunn

Medical Education January 2016; 50(1); 79-92

Abstract

Context

This paper presents a critique of current knowledge on the engagement of patients and the public, referred to here as patient and public involvement (PPI), and calls for the development of robust and theoretically informed strategies across the continuum of medical education.

Methods

The study draws on a range of relevant literatures and presents PPI as a response process in relation to patient-centred learning agendas. Through reference to original research it discusses three key priorities for medical educators developing early PPI pedagogies, including: (i) the integration of evidence on PPI relevant to medical education, via a unifying corpus of literature; (ii) conceptual clarity through shared definitions of PPI in medical education, and (iii) an academically rigorous approach to managing complexity in the evaluation of PPI initiatives.

Results

As a response to these challenges, the authors demonstrate how activity modelling may be used as an analytical heuristic to provide an understanding of a number of PPI systems that may interact within complex and dynamic educational contexts.

Conclusion

The authors highlight the need for a range of patient voices to be evident within such work, from its generation through to dissemination, in order that patients and the public are partners and not merely objects of this endeavour. To this end, this paper has been discussed with and reviewed by our own patient and public research partners throughout the writing process.

To read more:

<http://onlinelibrary.wiley.com.ezproxy.library.uvic.ca/doi/10.1111/medu.12880/full>

<http://onlinelibrary.wiley.com.ezproxy.library.ubc.ca/doi/10.1111/medu.12880/full>

and the commentaries:

Some activity but still not much action on patient and public engagement (John Spencer)

<http://onlinelibrary.wiley.com.ezproxy.library.uvic.ca/doi/10.1111/medu.12931/full>

<http://onlinelibrary.wiley.com.ezproxy.library.ubc.ca/doi/10.1111/medu.12931/full>

Patient and public involvement in medical education: is a new pedagogy necessary?

(M. Brownell Anderson)

<http://onlinelibrary.wiley.com.ezproxy.library.uvic.ca/doi/10.1111/medu.12953/full>

<http://onlinelibrary.wiley.com.ezproxy.library.ubc.ca/doi/10.1111/medu.12953/full>

3. Feedback-giving behaviour in performance evaluations during clinical clerkships

Harold Bok, Debbie Jaarsma et al

Medical Teacher January 2016 38 (1); 88-95

Abstract

Context: Narrative feedback documented in performance evaluations by the teacher, i.e. the clinical supervisor, is generally accepted to be essential for workplace learning. Many studies have examined factors of influence on the usage of mini-clinical evaluation exercise (mini-CEX) instruments and provision of feedback, but little is known about how these factors influence teachers' feedback-giving behaviour. In this study, we investigated teachers' use of mini-CEX in performance evaluations to provide narrative feedback in undergraduate clinical training.

Methods: We designed an exploratory qualitative study using an interpretive approach. Focusing on the usage of mini-CEX instruments in clinical training, we conducted semi-structured interviews to explore teachers' perceptions. Between February and June 2013, we conducted interviews with 14 clinicians participated as teachers during undergraduate clinical clerkships. Informed by concepts from the literature, we coded interview transcripts and iteratively reduced and displayed data using template analysis.

Results: We identified three main themes of interrelated factors that influenced teachers' practice with regard to mini-CEX instruments: teacher-related factors; teacher–student interaction-related factors, and teacher–context interaction-related factors. Four issues (direct observation, relationship between teacher and student, verbal versus written feedback, formative versus summative purposes) that are pertinent to workplace-based performance evaluations were presented to clarify how different factors interact with each other and influence teachers' feedback-giving behaviour. Embedding performance observation in clinical practice and establishing trustworthy teacher–student relationships in more longitudinal clinical clerkships were considered important in creating a learning environment that supports and facilitates the feedback exchange.

Conclusion: Teachers' feedback-giving behaviour within the clinical context results from the interaction between personal, interpersonal and contextual factors. Increasing insight into how teachers use mini-CEX instruments in daily practice may offer strategies for creating a professional learning culture in which feedback giving and seeking would be enhanced.

To read more:

<http://www.tandfonline-com.ezproxy.library.uvic.ca/doi/full/10.3109/0142159X.2015.1017448>

<http://www.tandfonline-com.ezproxy.library.ubc.ca/doi/full/10.3109/0142159X.2015.1017448>

4. The effectiveness of webcast compared to live lectures as a teaching tool in medical school

Jean-Phillipe Vaccani, Hedveh Javidnia and Susan Humphrey-Murto

Medical Teacher January 2016 38 (1). 59-63

Abstract

Objective: The purpose of this study is to investigate whether webcast lectures are comparable to live lectures as a teaching tool in medical school.

Methods: Three Otolaryngology-Head&Neck Surgery (OTO-HNS) lectures were given to third year medical students through their regular academic curriculum with one group receiving lectures in a live lecture format and the other group in a webcast format. All lectures (live or webcast) were given by the same lecturer and contained identical material. Three outcome measures were used: a student satisfaction survey, performance on the OTO-HNS component of their written examination, and performance on an OTO-HNS OSCE station in the general end of year OSCE examination session.

Results: Students performance on the written examination was equal between the two groups. The webcast group outperformed the live lecture group in the OSCE station. The majority of students in the

webcast group felt it was an effective learning tool for them. Most viewed the lectures more than once, and felt that this was beneficial to their learning.

Conclusion: Webcasts appear equally effective to live lectures as a teaching tool.

To read more:

<http://www-tandfonline-com.ezproxy.library.uvic.ca/doi/full/10.3109/0142159X.2014.970990>

<http://www-tandfonline-com.ezproxy.library.ubc.ca/doi/full/10.3109/0142159X.2014.970990>

5. Working memory, reasoning, and expertise in medicine—insights into their relationship using functional neuroimaging

Pam Hruska, Olav Krogholm....Bruce Wright and Kent Hecker

Advances in Health Sciences Education: Theory and Practice First online: 04 November 2015

Abstract

Clinical reasoning is dependent upon working memory (WM). More precisely, during the clinical reasoning process stored information within long-term memory is brought into WM to facilitate the internal deliberation that affords a clinician the ability to reason through a case. In the present study, we examined the relationship between clinical reasoning and WM while participants read clinical cases with functional magnetic resonance imaging (fMRI). More specifically, we examined the impact of clinical case difficulty (easy, hard) and clinician level of expertise (2nd year medical students, senior gastroenterologists) on neural activity within regions of cortex associated with WM (i.e., the prefrontal cortex) during the reasoning process. fMRI was used to scan ten second-year medical students and ten practicing gastroenterologists while they reasoned through sixteen clinical cases [eight straight forward (easy) and eight complex (hard)] during a single 1-h scanning session. Within-group analyses contrasted the easy and hard cases which were then subsequently utilized for a between-group analysis to examine effects of expertise (novice > expert, expert > novice). Reading clinical cases evoked multiple neural activations in occipital, prefrontal, parietal, and temporal cortical regions in both groups. Importantly, increased activation in the prefrontal cortex in novices for both easy and hard clinical cases suggests novices utilize WM more so than experts during clinical reasoning. We found that clinician level of expertise elicited differential activation of regions of the human prefrontal cortex associated with WM during clinical reasoning. This suggests there is an important relationship between clinical reasoning and human WM. As such, we suggest future models of clinical reasoning take into account that the use of WM is not consistent throughout all clinical reasoning tasks, and that memory structure may be utilized differently based on level of expertise.

<http://link.springer.com.ezproxy.library.uvic.ca/article/10.1007/s10459-015-9649-2/fulltext.html>

<http://link.springer.com.ezproxy.library.ubc.ca/article/10.1007/s10459-015-9649-2/fulltext.html>

6. The articulation of integration of clinical and basic sciences in concept maps: differences between experienced and resident groups

Sylvia Vink, Jan van Tartwijk, et al.

Advances in Health Sciences Education First online: 21 December 2015

Abstract

To determine the content of integrated curricula, clinical concepts and the underlying basic science concepts need to be made explicit. Preconstructed concept maps are recommended for this purpose. They are mainly constructed by experts. However, concept maps constructed by residents are hypothesized to be less complex, to reveal more tacit basic science concepts and these basic science concepts are expected to be used for the organization of the maps. These hypotheses are derived from studies about knowledge development of individuals. However, integrated curricula require a high degree of cooperation between clinicians and basic scientists. This study examined whether there are consistent variations regarding the articulation of integration when groups of experienced clinicians and basic scientists and groups of residents and basic scientists-in-training construct concept maps. Seven groups of three clinicians and basic scientists on experienced level and seven such groups on resident level constructed concept maps illuminating clinical problems. They were guided by instructions that focused them on articulation of integration. The concept maps were analysed by features that described integration. Descriptive statistics showed consistent variations between the two expertise levels. The concept maps of the resident groups exceeded those of the experienced groups in articulated integration. First, they used significantly more links between clinical and basic science concepts. Second, these links connected basic science concepts with a greater variety of clinical concepts than the experienced groups. Third, although residents did not use significantly more basic science concepts, they used them significantly more frequent to organize the clinical concepts. The conclusion was drawn that not all hypotheses could be confirmed and that the resident concept maps were more elaborate than expected. This article discusses the implications for the role that residents and basic scientists-in-training might play in the construction of preconstructed concept maps and the development of integrated curricula.

To read more:

<http://link.springer.com.ezproxy.library.uvic.ca/article/10.1007/s10459-015-9657-2/fulltext.html>

<http://link.springer.com.ezproxy.library.ubc.ca/article/10.1007/s10459-015-9657-2/fulltext.html>

7. What if professional codes of conduct were written by rural practitioners?

Glenn Regehr

<http://icenetblog.royalcollege.ca/2016/01/26/what-if-professional-codes-of-conduct-were-written-by-rural-practitioners/>

8. Curriculum Mapping: A Comparative Analysis of Two Medical School Models

Scott Cottrell, Jason Hedrick et al

Medical Science Educator First online: 19 January 2016

Abstract

Purpose

Curriculum mapping is integral to the curriculum oversight process. The purpose of this monograph is to describe two models for implementing curriculum mapping, which educators may adapt or adopt.

Practical Implementation

The West Virginia University School of Medicine model is characteristic of a decentralized model. Individual course and clerkship directors are responsible for detailing curriculum data. In contrast, Texas A&M utilizes an external software system to centrally manage the curriculum mapping process.

Discussion

Both models are viable strategies to map the medical school curriculum. The databases can provide fundamental information, which can be shared in national databases and leveraged to make informed curriculum changes.

To read more:

<http://link.springer.com.ezproxy.library.uvic.ca/article/10.1007/s40670-016-0225-z/fulltext.html>

<http://link.springer.com.ezproxy.library.ubc.ca/article/10.1007/s40670-016-0225-z/fulltext.html>

9. Enhancing Knowledge Retention of Cardiovascular Physiology Using Simulation

Maureen Hall, Maria Sheakley, et al

Medical Science Educator First online: 10 December 2015

Abstract

Background Basic science education plays an integral role in preparing medical students to be competent physicians and lifelong learners. Faculty in the preclinical years of undergraduate medical education, formerly focused on the transmission of biomedical principles and factual information, are now presenting concepts using clinical activities, with emphasis on clinical relevance, while advancing active learning and critical thinking.

Purpose The purpose of this study was to evaluate the outcomes of a simulation intervention on short-term student knowledge gain. We investigated whether integrating simulation using the Harvey after completing lectures on cardiovascular physiology in a basic science course led to significant knowledge increases in first year medical students.

Methods Wilcoxon rank sum (Mann-Whitney U) tests were used to test for significant differences in students receiving a lecture-only curriculum and students receiving a lecture-plus-simulation curriculum. Since this is an educational intervention, an a priori alpha level of 0.10 was specified. A two-sided test was used to analyze for differences between the curricula. All analyses were done using R software.

Results There were statistically significant differences between outcomes associated with teaching modalities for the summative course exam, comprehensive final exam, and the cumulative average of these two exams (p value = .0006, <.0001, and .0980, respectively). Students exposed to simulation plus lecture performed better on the summative exam, but not the final exam

Conclusions The use of simulation and cardiac physiology lectures for first year medical students was found to have a significant impact on students' cardiac physiology exam scores in the short-term. A longitudinal study is needed to see if there is long-term knowledge retention and improvement in clinical skills.

To read more:

<http://link.springer.com.ezproxy.library.uvic.ca/article/10.1007/s40670-015-0216-5/fulltext.html>

<http://link.springer.com.ezproxy.library.ubc.ca/article/10.1007/s40670-015-0216-5/fulltext.html>

10. Supporting Medical Students' Pursuit of Longitudinal Patient Experiences: Piloting an Innovative Visit Notification Tool at the Massachusetts General Hospital

Elmore, Shekinah N. MD, MPH; Kopecky, Kimberly E. MD; Jennings, Keith MBA; de Moya, Marc MD; Beresin, Gene MD; Wright, Douglas E. MD, PhD

Academic Medicine Volume 91(1), January 2016, p 70–74

Abstract

Problem: Both medical educators and students have an increasing interest in longitudinal patient experiences (LPE) that allow students to work with patients at multiple points in time, often across multiple clinical settings. Despite this interest in LPE, following patients over time and across health systems remains a challenge.

Approach: In August 2012–May 2013, with faculty support, two third-year medical students implemented a pilot program at the Massachusetts General Hospital (MGH) in the third-year block clerkship curriculum. One of the authors modified an existing novel, electronic visit notification tool P (VNT) that integrates with the electronic medical record (EMR) to help students follow patients longitudinally. Students added patients to their cohort after obtaining the patient's verbal consent. Each week, the VNT sent students e-mails notifying them of all scheduled appointments for their cohort patients at all Partners HealthCare–affiliated sites.

Outcomes: Each pilot student added approximately 20 patients to her cohort and followed 3–5 patients consistently. The pilot students felt the VNT made it significantly easier to follow patients over time, their appreciation of chronic illness care developed, and they gained a greater understanding of the integrated nature of patient care.

Next Steps: On the basis of student interest, the tool was made available to all MGH third-year students in March–May 2013 and offered to all MGH third-year students at the beginning of the next clinical year. Notification tools such as the VNT may enhance a hospital's existing EMR and facilitate longitudinal educational goals across all clinical clerkship models.

To read more:

http://ovidsp.tx.ovid.com.ezproxy.library.uvic.ca/sp-3.18.0b/ovidweb.cgi?&S=DLHLFPECCDDIFFMNCJKBAIBOBHMAA00&Link+Set=S.sh.22.23.26%7c27%7csl_10

http://ovidsp.tx.ovid.com.ezproxy.library.ubc.ca/sp-3.18.0b/ovidweb.cgi?&S=DLHLFPECCDDIFFMNCJKBAIBOBHMAA00&Link+Set=S.sh.22.23.26%7c27%7csl_10

11. Homelessness in the Medical Curriculum: An Analysis of Case-Based Learning Content From One Canadian Medical School

Matthew J. To ,Anna MacLeod & Stephen W. Hwang
Teaching and Learning in Medicine 28 (1) January 2016; 35-40

Abstract

Phenomenon: Homelessness is a major public health concern. Given that homeless individuals have high rates of mortality and morbidity, are more likely to be users of the healthcare system, and often report unmet health needs, it is important to examine how homelessness is addressed in medical education. We wanted to examine content and framing of issues related to homelessness in the case-based learning (CBL) curriculum and provide insights about whether medical students are being adequately trained to meet the health needs of homeless individuals through CBL.

Approach: CBL content at a Canadian medical school that featured content related to homelessness was analyzed. Data were extracted from cases for the following variables: curriculum unit (e.g., professionalism/ethics curriculum or biomedical/clinical curriculum), patient characteristics (e.g., age, sex), and medical and social conditions. A thematic analysis was performed on cases related to homelessness. Discrepancies in analysis were resolved by consensus.

Findings: Homelessness was mentioned in five (2.6%) of 191 CBL cases in the medical curriculum. Homelessness was significantly more likely to be featured in professionalism/ethics cases than in biomedical/clinical cases ($p = .03$). Homeless patients were portrayed as socially disadvantaged individuals, and medical learners were prompted to discuss ethical issues related to homeless patients in cases. However, homeless individuals were largely voiceless in cases. Homelessness was associated with serious physical and mental health concerns, but students were rarely prompted to address these concerns.

Insights: The health and social needs of homeless individuals are often overlooked in CBL cases in the medical curriculum. Moreover, stereotypes of homelessness may be reinforced through medical training. There are opportunities for growth in addressing the needs of homeless individuals through medical education.

To read more:

<http://www-tandfonline-com.ezproxy.library.uvic.ca/doi/full/10.1080/10401334.2015.1108198#abstract>

<http://www-tandfonline-com.ezproxy.library.ubc.ca/doi/full/10.1080/10401334.2015.1108198#abstract>