

Journal Watch
September 2019

Articles included in review:

Search Date – September 28, 2019
Academic Medicine - September 2019
Teaching and Learning in Medicine
Medical Teacher

1. Continuing professional development to foster behavior change: From principles to practice in health professions education.

Authors: Ramani, S McMahon GT, Armstrong EG.

PMID: 31131672

DOI: [10.1080/0142159X.2019.1615608](https://doi.org/10.1080/0142159X.2019.1615608)

Med Teach 2019 Sep;41(9); 1045-1052.

Abstract

Healthcare professionals need to continuously improve their knowledge, skills and performance to effectively function in an ever-changing healthcare environment. They depend on continuing professional development programs (CPD), either within or outside their institutions, to reflect on and update their clinical practice. Professional growth requires more than knowledge transfer; it requires curiosity, humility, self-awareness and a motivation for mastery. Educators can build on these factors and create effective learning experiences to develop complex skills including communication, interprofessional collaboration, teamwork, leadership and reflective practice. CPD program leaders should adopt an evolved approach to program design that leverages adult learning principles, active learning and longitudinal curricula, while identifying and overcoming system barriers to change, and targeting meaningful behaviour and health outcomes. In this article, we describe principles and strategies that CPD leaders can apply to their own programs, categorized under three steps: (1) Program design, (2) Program implementation and (3) Program evaluation. Under each step, we provide theoretical principles as well as practical tips, focusing on strategies that can motivate and facilitate change.

2. Meaningful feedback through a sociocultural lens.

Authors: Ramani S, Konings KD, Ginsburg S, van der Vleuten CPM

PMID: 31550434

DOI: [10.1080/0142159X.2019.1656804](https://doi.org/10.1080/0142159X.2019.1656804)

Med Teach 2019 Sep 24:1-11.

Abstract:

This AMEE guide provides a framework and practical strategies for teachers, learners and institutions to promote meaningful feedback conversations that emphasise performance improvement and professional growth. Recommended strategies are based on recent feedback research and literature, which emphasise the sociocultural nature of these complex interactions. We use key concepts from three theories as the underpinnings of the recommended strategies: sociocultural, politeness and self-determination theories. We view the content and impact of feedback conversations through the perspective of learners, teachers and institutions, always focussing on learner growth. The guide emphasises the role of teachers in forming educational alliances with their learners, setting a safe learning climate, fostering self-awareness about their performance, engaging with learners in informed self-assessment and reflection, and co-creating the learning environment and learning opportunities with their learners. We highlight the role of institutions in enhancing the feedback culture by encouraging a growth mind-set and a learning goal-orientation. Practical advice is provided on techniques and strategies that can be used and applied by learners, teachers and institutions to effectively foster all these elements. Finally, we highlight throughout the critical importance of congruence between the three levels of culture: unwritten values, espoused values and day to day behaviours.

3. Interventions for undergraduate and postgraduate medical learners with academic difficulties: A BEME systematic review: BEME Guide No. 56

Authors: Miriam Lacasse, Marie-Claude Audétat, Élisabeth Boileau, Nathalie Caire Fon, Marie-Hélène Dufour, Marie-Claude Laferrière, Alexandre Lafleur, Ève La Rue, Shirley Lee, Mathieu Nendaz, Emmanuelle Paquette Raynard, Caroline Simard, Yvonne Steinert & Johanne Théorêt

Medical Teacher, 41:9, 981-1001, DOI: 10.1080/0142159X.2019.1596239

Abstract:

Background: Clinical teachers often struggle to report unsatisfactory trainee performance, partly because of a lack of evidence-based remediation options. **Objectives:** To identify interventions for undergraduate (UG) and postgraduate (PG) medical learners experiencing academic difficulties, link them to a theory-based framework and provide literature-based recommendations around their use. **Methods:** This systematic review searched MEDLINE, CINAHL, EMBASE, ERIC, Education Source and PsycINFO (1990-2016) combining these concepts: medical education, professional competence/difficulty and educational support. Original research/innovation reports describing intervention(s) for UG/PG medical learners with academic difficulties were included. Data extraction employed Michie's Behavior Change Techniques (BCT) Taxonomy and program evaluation models from Stufflebeam and Kirkpatrick. Quality appraisal used the Mixed Methods Appraisal Tool (MMAT). The authors synthesized extracted evidence by adapting the GRADE approach to formulate recommendations. **Results:** Sixty-eight articles met the inclusion criteria, most commonly addressing knowledge (66.2%), skills (53.9%) and attitudinal problems (26.2%), or learner personal issues (41.5%). The most common BCTs were *Shaping knowledge, Feedback/monitoring, and Repetition/substitution*. Quality appraisal was variable (MMAT 0-100%). A thematic content analysis identified 109 interventions (UG: $n = 84$,

PG: $n = 58$), providing 24 strong, 48 moderate, 26 weak and 11 very weak recommendations. **Conclusion:** This review provides a repertoire of literature-based interventions for teaching/learning, faculty development, and research purposes.

4. **Clinical Process Modeling: An Approach for Enhancing the Assessment of Physicians' Clinical Reasoning**

Authors: Cook, Robert J and Durning , Steven J

PMID:1460923

DOI: [10.1097/ACM.0000000000002730](https://doi.org/10.1097/ACM.0000000000002730)

Abstract

To ensure the validity of test interpretation and use, educators must be able to connect the dots between the tasks examinees perform on a test and the decisions educators make based on the results of that test. Toward that end, in this article, the authors introduce an approach called clinical process modeling, which combines clinical reasoning and principled assessment design. The goal of this approach is to better align test item development with the assessment of physicians' application of knowledge. Clinical process modeling involves creating complex decision trees that can mirror clinical reasoning illness scripts and include the steps and pathways a physician could take to address a specific patient presentation from initial presentation to correct diagnosis and therapy. Once created, these decision trees can be used to inform the assessment development process. To illustrate this approach, the authors describe how they developed one such clinical process model for a common presentation of low back pain from the field of internal medicine. They explain the steps they took to develop their model and the corresponding test item. They conclude by discussing potential future directions and additional implications for this work, emphasizing how clinical process models can be used to inform other educational processes and clinical practice.

5. **Expert Consensus on Inclusion of the Social Determinants of Health in Undergraduate Medical Education Curricula**

Authors: Mangold, K, Bartell, TR, Doobay-Persaud AA, Adler MD, and Sheehan KM.

Acad Med. 2019; 94:1355–1360. doi: [10.1097/ACM.0000000000002593](https://doi.org/10.1097/ACM.0000000000002593)

Abstract

PURPOSE:

Accreditation bodies have mandated teaching social determinants of health (SDH) to medical students, but there has been limited guidance for educators on what or how to teach, and how to evaluate students' competence. To fill this gap, this study aimed to develop an SDH curricular consensus guide for teaching SDH to medical students.

METHOD:

In 2017, the authors used a modified Delphi technique to survey an expert panel of educators, researchers, students, and community advocates about knowledge, skills, and attitudes (KSA) and logistics regarding SDH teaching and assessment. They identified the panel and ranked a comprehensive list of topics based on a scoping review of SDH education studies and discussions with key informants. A total of 57 experts were invited.

RESULTS:

Twenty-two and 12 panelists participated in Delphi rounds 1 and 2, respectively. The highest-ranked items regarding KSA were "Appreciation that the SDH are some of the root causes of health outcomes and health inequities" and "How to work effectively with community health workers." The panel achieved consensus that SDH should constitute 29% of the total curriculum and be taught continuously throughout the curriculum. Multiple-choice tests were ranked lowest as an assessment method, and patient feedback was ranked highest. Panelists noted that SDH content must be a part of standardized exams to be prioritized by faculty and students.

CONCLUSIONS:

An expert panel endorsed essential curricular content, teaching methods, and evaluation approaches that can be used to help guide medical educators regarding SDH curriculum development.

6. Minding the Form That Transforms: Using Kegan's Model of Adult Development to Understand Personal and Professional Identity Formation in Medicine.

Authors: Lewin LO, McManamon A, Stein MTO, and Chen DT

Acad Med. 2019;94:1299–1304. doi: 10.1097/ACM.0000000000002741

Abstract

The formation of a physician's professional identity is a dynamic process shaped by and intertwined with the development of that person's larger adult identity. Constructive-developmental Robert Kegan's model of adult development describes four mental lenses used for meaning-making and the trajectory through which they transform over time. These lenses determine the way people take in and integrate complex influences into forming their adult identities. When people use a particular lens to construct meaning, Kegan describes them as being "subject" to that lens: The lens "has them," and they are unaware of the ways it shapes their world. Transformations occur when individuals are able to take a lens to which they were subject and regard it objectively. Kegan's lenses that are relevant to medical educators are called instrumental-focused on rules and rewards; socialized-attending to social norms and expectations; self-authoring-seeking to build internal values; and self-transforming-seeing gaps in one's closely held value systems and being open to those of others. When individuals have difficulty facing current challenges, they begin to grow a more complex lens. Subsequent lenses bring the ability to deal with more complexity but also bring their own challenges. Familiarity with Kegan's model can help educators provide more effective support to groups of learners as well as individuals, support learners' transformational growth through the challenging situations inherent in medical education, and supply a common language for many important areas of medical education, including competencies and entrustable professional activities, remediation, leadership development, and curriculum planning.

7. Peer – supported faculty development and workplace teaching: an integrative review.

Authors: Campbell N, Wozniak H, Philip RL, and Damarell RA
Medical Education 2019: 53: 978–988 doi: 10.1111/medu.13896

Abstract

CONTEXT:

The use of peer support as a faculty development technique to improve clinical teaching is uncommon in medical education, despite the benefits of situating learning in the workplace. The authors therefore conducted a broad search seeking theoretical and empirical literature describing peer support strategies for clinical teachers in health care workplaces. This included descriptive and non-experimental studies that are often excluded from reviews. The review aimed to identify and assess existing initiatives and to synthesise key challenges and benefits.

METHODS:

An integrative literature review was undertaken (2004-2017), based on searches of eight international electronic databases and targeted manual searches. Key concepts, elements and models were mapped using an iterative, constant comparative method. An evaluative framework, drawing on previous research, informed conclusions regarding the quality of evidence.

RESULTS:

From a pool of 5735 papers, 34 met the inclusion criteria. The majority referred to studies conducted in the USA (59%) and in the medical profession (71%). Analysis revealed a trend towards using a collaborative model (56%), voluntary participation (59%), and direct workplace observation by a peer clinician (68%). Design features of the peer support strategy were commonly reported (65%), with half providing outcome measures (56%). Few papers reported on process evaluation (15%) or evidence of programme sustainability (15%). Despite logistical and time-associated challenges, benefits accrued to individuals and the workplace, and included improved teaching practices. Embedding the peer support strategy into routine organisational practice proved effective.

CONCLUSIONS:

The results indicated that a workplace-based peer support model is an acceptable and effective faculty development strategy for health care clinical teachers. Conceptualising workplace-based peer support via a sociocultural model that acknowledges the significance of educational design, peers as collaborators and the importance of workplace context and culture is emphasised. Future research should focus on clarification studies informed by contemporary models of faculty development, in which factors impacting the health care workplace are considered.

8) An Institutional Approach to Fostering Inclusion and Addressing Racial Bias: Implications for Diversity in Academic Medicine

Authors: Diaz T, Navarro JR, Chen EH

Teaching and Learning in Medicine

Published online: 28 Sep 2019

<https://doi.org/10.1080/10401334.2019.1670665>

Abstract:

Abstract

While an increasingly diverse workforce of clinicians, researchers, and educators will be needed to address the nation's future healthcare challenges, underrepresented in medicine (UIM) perspectives remain relatively absent from academic medicine. *Evidence:* Prior studies have identified differential experiences within the learning environment, lack of social supports, and implicit bias in evaluations as barriers to the academic interests and successes of UIM learners. The UCSF Differences Matter initiative has shown that interventions focused on recruiting diverse academic faculty, building strong social communities, facilitating cross-cultural communication and understanding, and mitigating disparities in summative assessments can positively affect the educational experience for UIM learners and contribute to their academic success. *Implications:* Institution-level initiatives are needed to foster a culture of inclusion, teach cultural humility, and build a culture of trust within academic medicine. Such initiatives should aim to teach a common language to discuss diversity issues and place the responsibility of fostering inclusion on all members of the academic community. Our own institutional experience with systemic cultural reform challenges others to develop novel approaches toward fostering inclusion in academic medicine.

9. Twelve tips for conducting educational design research in medical education

Authors: Chen W and Reeves TC

Teaching and Learning in Medicine

Published online:

<https://doi.org/10.1080/0142159X.2019.1657231>

Abstract

Despite a steady growth in educational innovations and studies investigating the acceptance and effectiveness of these innovations, medical education has not realized sufficient improvement in practice and outcomes from these investments. In light of this lack of impact, there has been a growing call for studies that more effectively bridge the

gap between research and practice. This paper introduces Educational Design Research (EDR) as a promising approach to address this challenge. Twelve tips are provided to inspire and guide medical educators to conduct EDR to achieve the dual goals of tackling a significant educational problem in a specific context while at the same time advancing the theoretical knowledge that may be used to improve practice elsewhere.

10. Setting priorities for health education research: A mixed methods study.

Authors: Palermo C, King O, Brock T, Brown T, Crampton P, Hall H, Macauley J, Morphet J, Mundy M, Oliaro L, Paynter S, Williams B, Wright C, and E Rees C.

MEDICAL TEACHER 2019, VOL. 41, NO. 9, 1029–1038

<https://doi.org/10.1080/0142159X.2019.1612520>

Abstract

Introduction: Identifying priority research topics that meet the needs of multiple stakeholders should maximize research investment. **Aim:** To identify priorities for health education research. **Methods:** A three-stage sequential mixed methods study was conducted. Priorities for health education research were identified through a qualitative survey with 104 students, patients, academics, and clinicians across five health sciences and 12 professions (stage 1). These findings were analyzed using framework analysis and transposed into a quantitative survey whereby 780 stakeholders rated and ranked the identified priorities. Descriptive statistics identified priorities, exploratory factor analysis grouped priorities and differences between stakeholders were determined using Mann-Whitney *U* tests (stage 2). Six individual or group interviews with 16 participants (stage 3) further explicated the results from previous stages. **Results:** Of 30 priorities identified, the top were: how best to ensure students develop the required skills for work; how to promote resiliency and well-being in students; and ensuring the curriculum prepares students for work. For the majority of priorities, no significant differences were found between different stakeholder groups. **Conclusions:** These findings will be used to inform health educational research strategy both locally and nationally. Further research should explore if setting priorities can be translated effectively into education research policy and practice.

11. Twelve Tips for Developing Clinical Reasoning Skills in the Pre-Clinical and Clinical Stages of Medical School

Authors: Khin-Htun S, Kushairi A

Medical Teacher, 41:9, 1007-1011, DOI: 10.1080/0142159X.2018.1502418

Abstract

Clinical reasoning (CR) is a complex skill required in future clinicians. The best way to develop CR has not been fully elucidated in existing literature. Barriers to CR development include content, environmental, and teacher or expert physician factors. We have reviewed literature, interviewed medical students and teaching staff at the University of Nottingham, and evaluated our teaching delivery. We identified twelve strategies to combat barriers to CR learning at our university. The foundation for CR must be built early through lectures and case-based learning. We emphasize the irreplaceable nature of ward-based learning and add on methods of optimizing time on wards. Placement on acute wards with trained teaching staff to facilitate CR

teaching was suggested. Ward time should be supplemented with symptom-focused teaching, patient workshops, simulation sessions, virtual case banks, and clinical skills practice. However, ward time is the utmost priority and must not be replaced.