

Canadian Medical Education Journal
Revue canadienne de l'éducation médicale



Coming to terms with the languages we use in medical education: hidden meanings and unintended consequences
Réflexion sur notre usage de la langue en éducation médicale : sens cachés et conséquences fortuites

Maria Athina Martimianakis and Marcel F. D'Eon

Volume 12, Number 2, 2021

URI: <https://id.erudit.org/iderudit/1077187ar>

DOI: <https://doi.org/10.36834/cmej.72505>

[See table of contents](#)

Publisher(s)

Canadian Medical Education Journal

ISSN

1923-1202 (digital)

[Explore this journal](#)

Cite this document

Martimianakis, M. & D'Eon, M. (2021). Coming to terms with the languages we use in medical education: hidden meanings and unintended consequences. *Canadian Medical Education Journal / Revue canadienne de l'éducation médicale*, 12(2), e1–e8. <https://doi.org/10.36834/cmej.72505>

© Maria Athina Martimianakis and Marcel F. D'Eon, 2021



This document is protected by copyright law. Use of the services of Érudit (including reproduction) is subject to its terms and conditions, which can be viewed online.

<https://apropos.erudit.org/en/users/policy-on-use/>

érudit

This article is disseminated and preserved by Érudit.

Érudit is a non-profit inter-university consortium of the Université de Montréal, Université Laval, and the Université du Québec à Montréal. Its mission is to promote and disseminate research.

<https://www.erudit.org/en/>

Coming to terms with the languages we use in medical education: hidden meanings and unintended consequences Réflexion sur notre usage de la langue en éducation médicale : sens cachés et conséquences fortuites

Maria Athina Martimianakis,¹ Marcel F D'Eon²

¹University of Toronto, Ontario, Canada; ²Augusta University, Georgia, USA

Correspondence to: Dr. Maria Athina (Tina) Martimianakis, MA, MEd, PhD; email: tina.martimianakis@utoronto.ca

Published: April 30, 2021. CMEJ 2021, 12(2) Available at <http://www.cmej.ca>

© 2021 Martimianakis, D'Eon; licensee Synergies Partners

<https://doi.org/10.36834/cmej.72505>. This is an Open Journal Systems article distributed under the terms of the Creative Commons Attribution License.

(<https://creativecommons.org/licenses/by-nc-nd/4.0>) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is cited.

We began this editorial to correct the common misuses of terms and concepts we repeatedly found in articles that came across our desks. Our editorial evolved into an overview of the power of language generally and a clarion call to consider hidden meanings and unintended consequences of the languages we use in medical education.

Editorial work includes correcting improper uses of language and suggesting better ways to communicate. There are many examples of uses and misuses of language that attract attention from reviewers and editors during the peer review process. At CMEJ for example we often encounter misuses of the term 'validity.' Authors often refer to validity as a property of an instrument (i.e. 'valid instrument'), improperly implying that the function and utility of an instrument is transferable across contexts. Sometimes the word 'limitation' is incorrectly used to refer to a design feature instead of an unfortunate circumstance that sabotaged the research such as an unexpected low sample size, a pandemic, etc. "Non-cognitive" is another but thankfully its use is waning.¹ Authors often write 'the data revealed' or 'themes emerged from the analysis,' or 'NVivo analysis showed' incorrectly attributing agency to data or software to generate meaning and interpretation of findings. However, our interest in language goes beyond correcting its misuses and adding clarity. We are also intrigued by the growing body of work that explores the power of language in health care and health education.

Language has substantial effects. It helps us communicate, focus our attention and organize our activities. It contributes to shared meaning making and intersubjectivity. It can exclude and oppress or liberate and expand our appreciation of how the world works. In other words, language not only helps us express our thoughts, but in addition in material ways it shapes how and what we think. Indeed, whole languages orient the speaker to the world differently when it comes to space, time colour and relationships with objects.² We can presume similar effects happening across different epistemic cultures. What then can we learn about the field's priorities by exploring language use in health professions education? Paying attention to our language use in educational contexts helps us notice and appreciate how values are transmitted through interactions, curricular materials, and the roles and identities we assume when engaging in educational work.

Take for example the term 'traditional.' When used to reference teaching methods, it can mean conventional, basic, long-established.³ Sometimes it is used in a quasi-derogatory way to reference didactic, ineffective, unsophisticated methods – the use of the term 'didactic' itself problematic. Didactic in its linguistic roots, means intending to teach. In its contemporary quasi- derogatory usage, it has come to epitomize passive, boring, pedantic, teacher centric, uninspiring process of delivering information usually to a large group. While ubiquitous, we

cannot recall ever seeing it refer to innovative or avant-garde teaching.

Often, cultural investments in innovation have spurred the use of the terms traditional and didactic to build up the liberating function of a proposed educational intervention and denigrate the old. There is a real need to engage in ongoing study both the affordances and limits of all educational methods in the context of their use, even those deemed innovative or traditional.

Movements to reclaim terms from derogatory usage are finding their way into healthcare. The term 'traditional' is increasingly used to reference the vast knowledge, way of life, healing and educational practices of indigenous peoples around the world. These knowledge forms require safeguarding from the encroachment of western knowledge systems, the term 'traditional' thus used to denote unique heritage and something precious to preserve and to continue learning from.^{4,5,6}

Language involves on-going negotiation. The meaning of words is in a condition of constant flux. There are unique insights we can derive from studying how we deploy words, who speaks them and in what context – but more on this in just a bit.

Let's now turn to the use of the word 'unique.' It often appears in the introduction of scholarly papers, along with terms like novel and phrases such as 'this is the first/only study of its kind' to build up the importance of the work that follows. We can think of such terms as academic heralding, accompanied by a drumroll that signals to the reader to pay attention to what follows. Using these turns of phrases can be misleading because they do not reflect how knowledge is built. It is almost impossible to verify that a study is the first of its kind or novel (to whom). The usage of such phrasing conveys more about our field's preoccupation with innovation as a value than the likelihood of encountering something of which there is little known, and therefore worthy of the reader's attention. Why not skip the rhetorical flourish and let the readers themselves decide the value of what they are reading?

Some terms become important in the development of a knowledge field, because of their role in culturally reinforcing the field's values. References of 'soft' versus 'hard' skills for example reveal in part the field's bias towards procedural and mechanical interventions and skills.^{7,8} More recent variants of the above binary are 'expert' and 'non-expert' competencies, that also carry

gendered dimensions. The use of the term 'intrinsic' has the potential to serve as a corrective to the above binary by reinforcing the idea that expert knowledge cannot be separated from the attitudes, behaviours, and practices that underpin the application of this knowledge (i.e. the medical expert non-medical expert roles are quite integrated). Yet, even intrinsic is problematic as its other meanings can also create confusion (innate, for example) and it fails to identify a characteristic that distinguishes the medical expert role from the other so called essential supportive roles. Perhaps trying to describe and assess the complex act of doctoring through what have become rigidly defined sub-roles sets us up to see doctoring in one particular way that cannot contain the complexity of the role itself and inevitably leads us to a contradiction.

When educators look for 'authentic' learning experiences, it implies that some learning experiences are 'inauthentic' or contrived. The danger is to equate constructed learning opportunities such as simulated experiences, as substandard to training that includes or involves actual patients. However, simply being close to patients does not automatically lead to learning. The same applies to motivation where authentic may describe vocational or job-related motivation compared to personal relevance or performance-oriented forms of motivation.⁹ To this end, we should be deliberate about how we conceptualize authentic learning experiences and even more so how we reference patients in our writing. Speaking about 'patients' (and learners as well) in the possessive perpetuates paternalistic relationships that go against current efforts to reinforce the voices of the patient and learner in healthcare. Notice the difference between these two utterances: 'this is my patient' versus 'I am your doctor.' The latter is intended to convey an obligation to fulfil a service. The subject is the patient who has agency which is lacking in 'this is my patient.' Consider also how phrases such as 'patient ownership' and 'patient exposure' objectify patients.

Reified terms, in the sociological sense, have a distinct role in shaping educational practice, as they perpetuate established thinking by virtue of being treated as naturally occurring. For example, the terms curriculum and teacher, are used in ways that presuppose that they are separate and exist independently of one another. These abstract concepts, through use, are related to as if they were concrete fixed elements of any and each educational space. However, they are neither naturally occurring objects nor are they independent of one another. Most often they are

studied in isolation. When we treat the role of teacher as separate from the packaging and standardization of curricular content, we fail to consider how the interpretation and application of knowledge in combination with how a teacher educates impacts the acquisition and application of knowledge by the learner. While we can standardize materials and systematize delivery, it is impossible to automate teaching. By appreciating how the relationship between curriculum and teaching is co-constituting, faculty development can avoid turning into a regulation of teacher behaviours, and more appropriately focus on amplifying the cognitive, social, and cultural activities necessary for developing the learners and the teachers.^{10,11,12,13}

Terms that are part of discursive apparatuses have the power to organize activity beyond the utterance of the word. Discourses are terms that are established in the cultural and structural make-up of educational spaces and create a governing mentality for how to participate in these spaces, including how to learn. They contribute to the conceptual space that constitutes the learning environment. For example, as a word, collaboration does more than signal a desire to work together on a task by the person uttering it. Collaboration embedded in a discourse has context specific manifestations that include practices, roles, values and accountabilities which together set expectations for how to collaborate. The ideas and practices that make up the discursive narrative of collaboration construct the socio-political conditions for self-regulation, i.e. for governing one's conduct to established norms and organizational and societal expectations. In places where discourses of collaboration dominate, resisting teamwork is difficult, or outright impossible. Being labelled a poor team-player or uncollaborative will impact the capacity of the person to succeed. However, the rules for engaging in positive forms of collaboration are dynamic. Appreciating the discursive dimensions that go along with being collaborative opens up considerable possibilities for understanding how learning is socio-culturally reinforced when health professionals enact collaboration.¹⁴ Studying terms as discourses offers insights into hidden curriculum effects and can contribute to more nuanced quality improvement efforts to optimize the learning environment.¹⁵

Some words come to dominate fields, becoming what Kenneth Burke terms a "god term," elevated in importance above other concepts and ideas.¹⁶ Competence has been identified as one such term in health professions

education. As Lingard writes "competence is a rhetorical trump card, regularly played as the last word in debates about how health professions education should function." God terms signal important preoccupations that are likely linked to resources and investments of time. They represent the motivations of a community or context. In health professions education the use of the term competence creates an individualistic orientation to education which is also paralleled in the way health care providers are expected to perform their work in the health care contexts. Appreciating the power of such a word, starts by asking the question, what does this orientation deflect attention from?¹⁶ Professionalism is another god term with a vast literature debating its definition, describing its application and measuring its effect as an educational and social lever for regulating health care practice.

There are several established approaches and traditions for studying the ways that language shapes how we think and what we do beyond the examples we have cited above, and of course entire disciplines devoted to studying language. There is important work to be done to shift our field's preoccupation from taxonomic debates.¹⁷ (i.e. calls to narrow or broaden definitions of important constructs like professionalism and competence) to operationalizing the exploration of language and its impact in the context of its use. We encourage our readers to explore the many examples of such research and to consider in their own writing and educational practice terms they go to frequently and reflect on the use of those terms, including the hidden meanings and the effects their use may create.

Therefore, as you read through the articles we have published in this issue, cast a keen eye towards those hidden meanings and unintended consequences of the language the authors have chosen to use. We all benefit from a deeper exploration and analysis of the ideas we convey and the way we write about our worlds.

Editorials

[Reused Reviews: the CMEJ announces a new policy to recycle peer reviews](#) Jennifer O'Brien and Brent Thoma, on behalf of the CMEJ,¹⁸ introduced the new *Reused Reviews* policy. This policy gives authors the option to submit high quality but previously declined papers to the CMEJ through an expedited review process. They anticipate that this initiative will preserve the resources of our reviewers and editors and provide authors with another opportunity to showcase their work after it has been updated and improved.

Major Contributions

In [First year medical student experiences with a clinical skills seminar emphasizing sexual and gender minority population complexity](#),¹⁹ Biro, Song, and Nyhof-Young reported a qualitative evaluation study to explore how first-year medical students experienced a sexual and gender minority (SGM) clinical skills seminar. They found that recognizing the lived experiences of SGM community members, developing allies, and promoting faculty development are necessary elements of future curricular interventions in this area.

[Physician engagement in regularly scheduled rounds](#) by Bass and team²⁰ explored physicians' perceptions about the factors that contributed to their engagement in rounds in the hospital setting. They suggested that medical educators should focus on the elements that maximize physician engagement, such as collegial interactions and active participation.

[Technology readiness of medical students and the association of technology readiness with specialty interest](#) by MacNevin and co-authors²¹ examined the relationship between medical students' inclination to utilize new technology and the association with specialty interest. They found that "technology-ready" students were more interested in "technology-focused" specialties. They encouraged further research with increased sample sizes to obtain better information on the relationship between technology readiness and specialty interest.

[Exploring resident perceptions of initial competency based medical education implementation](#) by Oswald et al.²² aimed to study residents' opinions of the initial implementation of the nationally developed Competency Based Medical Education (CBME) model, Competence by design. They found that residents had a mixed reaction to the implementation: some found it to be a "make-work project," while others found it helpful and acknowledged the importance of shared responsibility for learning and assessment. The authors hope that their work will help with future stages of implementation.

Brief Reports

[Utilization of evidence-based tools and medical education literature by Canadian postgraduate program directors in the teaching and assessment of the CanMEDS roles](#) by Doja and co-authors²³ evaluated the extent to which program directors use evidence-based tools to teach and assess the CanMEDS competencies. They reported low utilization and

awareness of the existing tools and encouraged leaders to examine methods to improve this knowledge gap.

[Factors influencing rheumatology residents' decision on future practice location](#) by Barber et al.²⁴ surveyed all Canadian rheumatology residents to identify postgraduate practice decisions. They found that most respondents wanted to practice close to home. These results highlighted the need to address the maldistribution of rheumatologists.

In [Dedicated Assessors: description of an innovative education intervention to facilitate direct observation in the clinical setting](#),²⁵ Amy Acker and team described a project that allowed staff physicians to directly observe residents while not on duty not to disrupt the busy flow of a hospital. They reported an increase in quality feedback with less disruption to patient care.

Review Papers and Meta-Analyses

[Mindfulness-based stress reduction for medical students: a narrative review](#) by Emma Polle and Jane Gair²⁶ investigated the benefits of mindfulness-based stress reduction (MBSR) to improve the psychological well-being of undergraduate medical students. They found MBSR training was associated with improvements in stress, mood, and psychological distress. However, they encouraged future work studying the associations between MBSR and empathy and burnout.

Black Ice

[Ten ways to get a grip on designing and implementing a competency-based medical education training program](#) by Hsu et al.²⁷ aims to help educators successfully navigate competency-based medical education (CBME) through careful planning and design before and throughout the implementation process. They contended that a successful implementation requires the broad engagement of trainees, faculty, and committee members.

[Six ways to get a grip on teaching medical trainees on the convergence of Indigenous knowledges and biomedicine, within a culturally-safe Indigenous health curriculum](#) by Sayal, Richardson, and Crawford²⁸ provided practical recommendations for educators when teaching on this topic. Their recommendations, such as inviting Indigenous community members to help facilitate and teach, aimed to successfully mingle Indigenous knowledges with biomedicine in medical school curriculum.

Canada

[An equity-oriented admissions model for Indigenous student recruitment in an undergraduate medical education program](#) by Rita Henderson and co-authors²⁹ shared lessons learned for developing an admissions strategy for recruiting students from medically underserved communities. They promoted an equity-based instead of a quota-based approach in admissions practices.

You Should Try This

[Implementation and evaluation of “I-Guide,” a pilot near-peer Internal Medicine mentorship program](#) by Mahmood et al.,³⁰ aimed to increase medical student interest in Internal Medicine through mentorship between residents and medical students. They found that their program successfully increased medical student interest in Internal Medicine, and they encouraged implementation across other Canadian institutions.

[Development of a medical education podcast in obstetrics and gynecology](#) by Black and team³¹ described how they responded to a gap in medical education by creating a podcast specific for Canadian medical students and residents that covers obstetrics and gynecology (Ob/Gyn) content. They described the process for creating an accessible and high-quality resource, hoping that readers would be able to replicate it within their own specialties.

[Teaching bone marrow procedures at pelvic and sternal sites: a high fidelity anatomy simulation](#) by VanderMeulen and co-authors³² described a workshop that allowed students to practice hands-on procedures on cadavers. Their results showed improved comfort and knowledge of bone marrow procedures; and they demonstrated cadaveric simulation as a feasible measure for procedural competence

Commentary and Opinions

[Impact of COVID 19 pandemic on the academics and psychology of final year medical students](#) by Joshi and team³³ described some of the challenges medical students face due to the switch to online education in India. They noted the loss of hands-on learning, potentially disrupted e-learning due to unpredictable internet, and increased anxiety. They hoped that by raising awareness of these potential issues, medical schools could modify the academic programs accordingly.

[Inspiration amidst crisis: e-learning in a medical school of Nepal during COVID-19 pandemic](#) by Pandey and Aryal³⁴

commented on how Nepal, with limited experience learning online has used the pandemic as an opportunity to develop online classes. They noted that while e-learning is still in its early stages in Nepal, COVID-19 has motivated medical schools to adopt forms of education that can be conducted using online resources more efficiently.

[How have digital resources been utilised in times of COVID-19? Opinions of medical students based in the United Kingdom](#) by Lau and co-authors³⁵ described some of the steps taken by their UK medical school to uphold education during the pandemic. They described the increased use of learning via digital technology and how digital technology may benefit medical education in the future.

In [The ongoing need for feminism in medicine](#), Sara El Jaouhari³⁶ maintained that feminism is essential in addressing ongoing gender biases in medicine. She noted that while there has been progress—including the increasing number of women practicing medicine—there is still much work to be done.

[Virtual education revolution during the COVID-19 pandemic: the introduction of national educational rounds in sport and exercise medicine](#) by Gelber and co-authors³⁷ commented on how the disruption of COVID-19 impacted the shorter one-year subspecialty programs offered by the College of Family Physicians of Canada. The authors commended the rapid implementation of educational initiatives and virtual education; and acknowledged how it successfully filled a gap in training caused by the pandemic.

[Pandemic productivity: competitive pressure on medical students during the COVID-19 pandemic](#) by Mehta, Li, and co-authors³⁸ commented on the competitive nature of extracurricular activities for medical students. Since contributing to pandemic aid efforts is one of the only extracurricular options available for students during the COVID-19 pandemic, they raised concerns that the lack of pandemic involvement could be viewed as a shortcoming on residency applications.

In [Clinical teaching culture in hospital pharmacy and medicine](#) by d'Entremont-Harris and team,³⁹ the authors maintained that pharmacy students could benefit from student-initiated learning opportunities and shadowing experiences similar to those accessed by medical students.

Letters to the Editor

[Re: “Development of a medical education podcast in obstetrics and gynecology”](#) was written by Kirubarajan⁴⁰ in response to the article by “Development of a medical

education podcast in obstetrics and gynecology” by Black and team.³¹ Kirubarajan applauded the development of the podcast to meet a need in medical education and suggested potential future topics such as interventions to prevent learner burnout.

Works in Progress

[Changes to pediatric resident medical education during COVID-19](#) by Eleny Romanos-Sirakis⁴¹ aims to use data from a single institution to create a survey to assess changes and level of resident engagement in pediatric residency programs across Canada. She will use the data to determine trends and learn from the experiences of other pediatric programs.

In their study, [Internal medicine residents’ and program directors’ perception of virtual interviews during COVID-19: a national survey](#),⁴² Relke and team are considering the experiences of residents and directors during virtual CaRMS interviews due to the COVID-19 pandemic. They hope the findings from this survey will help inform and improve the experience if subsequent years’ interviews are online again.

[Assessing online learning readiness and perceived stress among first year medical students during COVID-19 pandemic: a multi-country study](#) by Majumder and team⁴³ will study online preparedness of first-year students due to virtual learning during the COVID-19 pandemic. They will identify challenges and strategies for future online teaching.

Images

[We are all on the same team: the impact of COVID-19 on small businesses in Canada](#) by Dominic Ong⁴⁴ captured a photo of the Broadway Theatre in Saskatoon, SK, displaying a “Wear a Mask Protect Each Other” message. Ong used the image as a commentary on COVID-19 and mask-wearing as a societal good.

In the image [Life in the pandemic](#),⁴⁵ Valiyah Khurshid used a surrealist watercolour painting to represent the feelings of dissociations and distortion during the COVID-19. She aimed to create a sense of bonding through the collective experiences with the pandemic.

Conferences

[Canadian Conference on Medical Education 2021 Abstracts](#) contains the abstracts for the virtual conference for Canadian Conference on Medical Education (CCME).⁴⁶ The conference theme was Making Waves: Exploring the

Waters of Medical Education. CCME 2021 took place from Saturday, April 17-Tuesday April 20, 2021.

Enjoy!



Marcel D'Eon, MEd, PhD

Editor, CMEJ

References

1. D'Eon M. Non-cognitive does not work; we need a new name. *Can Med Ed J*. 2015 Dec 11;6(2):e4-5. <https://doi.org/10.36834/cmej.36699>
2. Boroditsky, Lera. Does language shape thought?: Mandarin and English speakers’ conceptions of time. *Cogn. Psychol*, 2001;43:1-22. <https://doi.org/10.1006/cogp.2001.0748>
3. Traditional. *Merriam-Webster Online Dictionary*. 2021. Available at <https://www.merriam-webster.com/dictionary/traditional> [Accessed Apr 26, 2021].
4. Johnson L, Andre A, Baker J, et al. *wisdom engaged: traditional knowledge for northern community well-being*. University of Alberta Press. 2019.
5. Rogers BJ, Swift K, van der Woerd K. At the interface: Indigenous health practitioners and evidence-based practice. Prince George, BC: National Collaborating Centre for Aboriginal Health. 2019.
6. Weenie A. Curricular theorizing from the periphery. *Curric Inq*, 2008;38(5):545–557. <https://doi.org/10.1111/j.1467-873X.2008.00435.x>
7. D'Eon M. The science of communication, the art of medicine. *Can Med Ed J*. 2016;7(1):e1-3. <https://doi.org/10.36834/cmej.36717>
8. Walker K. Soft skills are too hard for too many people. *Forbes.com*. 2021. Available at <https://www.forbes.com/sites/karenwalker/2021/01/27/soft-skills-are-too-hard-for-too-many-people/?sh=24d67dddf7d0> [Accessed on Apr 26, 2021].
9. D'Eon M, Crawford R. The elusive content of the medical-school curriculum: a method to the madness. *Med teach*. 2005 Dec 1;27(8):699-703. <https://doi.org/10.1080/01421590500237598>
10. Mylopoulos M, Kulasegaram K, Woods N. Developing the experts we need: fostering adaptive expertise through education, *J Eval Clin Prac*. 2018; 24:674-677. <https://doi.org/10.1111/jep.12905>
11. Kulasegaram KM, Martimianakis MA, Mylopoulos M, Whitehead C, Woods N. Cognition before curriculum: rethinking the integration of basic science and clinical learning, *Acad Med RIME Review*, 2013;88(10):1-8. <https://doi.org/10.1097/ACM.0b013e3182a45def>

12. Kulasegaram K. The subversive teacher, a declining species. in PK Rangachari, R Johnson {eds.) *Student-centered learning: subversive teachers and standardized worlds*. McMaster University, 2020. Available at <https://ecampusontario.pressbooks.pub/delharnish/chapter/the-subversive-teacher-a-declining-species/> [Accessed on Apr 26, 2021].
13. D'Eon M, Overgaard V, Harding SR. Teaching as a social practice: implications for faculty development. *Adv Health Sci Educ*. 2000 May;5(2):151-62. <https://doi.org/10.1023/A:1009898031033>
14. Martimianakis M, Fernando O, Schneider R, Tse S, Mylopoulos M. "It's not just about getting along": exploring learning through the discourse and practice of interprofessional collaboration. *Acad Med*, 2020;95(11S): S73–S80. <https://doi.org/10.1097/ACM.0000000000003637>
15. Martimianakis MA, McNaughton N. Discourse, governmentality biopower and the hidden curriculum. In: Hafferty F and O'Donnell J. (Eds) *The hidden curriculum in health professional education*. US: Dartmouth College Press. 2015.
16. Lingard L. What we see and don't see when we look at 'competence': notes on a god term. *Adv Health Sci Educ Theory Pract*. 2009 Dec;14(5):625-8. <https://doi.org/10.1007/s10459-009-9206-y>
17. Ellaway R. The hidden curriculum: taxonomic dilemmas and pattern languages. *Acad Med*. 2019; 94(1):10–11. <https://doi.org/10.1097/ACM.0000000000002480>
18. O'Brien J, Thoma B. Reused Reviews: the CMEJ announces a new policy to recycle peer reviews. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.72364>
19. Biro L, Song K, Nyhof-Young J. First year medical student experiences with a clinical skills seminar emphasizing sexual and gender minority population complexity. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.70496>
20. Bass A, Armson H, McLaughlin K, Lockyer J. Physician engagement in regularly scheduled rounds. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.69750>
21. MacNevin W, Poon E, Skinner T. Technology readiness of medical students and the association of technology readiness with specialty interest. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.70624>
22. Upadhyaya S, Rashid M, Davila Cervantes A, Oswald A. Exploring resident perceptions of initial competency based medical education implementation. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.70943>
23. Doja A, Eady K, Warren A, Wiesenfeld L, Writer H. Utilization of evidence-based tools and medical education literature by Canadian postgraduate program directors in the teaching and assessment of the CanMEDS roles. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.70183>
24. Shamis J, Widdifield J, Batthish M, et al. Factors influencing rheumatology residents' decision on future practice location. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.70348>
25. Acker A, Hawksby E, MacPherson P, Leifso K. Dedicated Assessors: description of an innovative education intervention to facilitate direct observation in the clinical setting. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.69260>
26. Polle E, Gair J. Mindfulness-based stress reduction for medical students: a narrative review. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.68406>
27. Hsu T, De Angelis F, Al-asaad S, et al. Ten ways to get a grip on designing and implementing a competency-based medical education training program. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.70723>
28. Sayal A, Richardson L, Crawford A. Six ways to get a grip on teaching medical trainees on the convergence of Indigenous knowledges and biomedicine, within a culturally-safe Indigenous health curriculum. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.70340>
29. Henderson R, Walker I, Myhre D, Ward R, Crowshoe L (Lindsay). An equity-oriented admissions model for Indigenous student recruitment in an undergraduate medical education program. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.68215>
30. Mahmood H, Zheng K, Elias S, et al. Implementation and evaluation of "I-Guide," a pilot near-peer Internal Medicine mentorship program. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.70315>
31. Black K, Drummond L, Jain V, Sagle M. Development of a medical education podcast in obstetrics and gynecology. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.71139>
32. VanderMeulen H, Laureano M, Hu G, et al. Teaching bone marrow procedures at pelvic and sternal sites: a high fidelity anatomy simulation. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.69475>
33. Joshi S, Joshi C, Sayana A, Joshi AK. Impact of COVID 19 pandemic on the academics and psychology of final year medical students. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.70528>
34. Pandey M, Aryal B. Inspiration amidst crisis: e-learning in a medical school of Nepal during COVID-19 pandemic. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.70759>
35. Lau EJS, Aslam A, Arshad Z. How have digital resources been utilised in times of COVID-19? Opinions of medical students based in the United Kingdom. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.70520>
36. El Jaouhari S. The ongoing need for feminism in medicine. *Can Med Ed J*. 2021; 12(2). <https://doi.org/10.36834/cmej.71053>
37. Gelber N, Dilworth N, Elliott W, Bradley L. Virtual education revolution during the COVID-19 pandemic: the introduction of national educational rounds in sport and exercise

- medicine. *Can Med Ed J.* 2021; 12(2).
<https://doi.org/10.36834/cmej.70949>
38. Mehta N, Li C, Bernstein S, Pignatiello A, Premji L. Pandemic productivity: competitive pressure on medical students during the COVID-19 pandemic. *Can Med Ed J.* 2021; 12(2).
<https://doi.org/10.36834/cmej.71039>
39. d'Entremont-Harris M, Huo B, Burgess S. Clinical teaching culture in hospital pharmacy and medicine. *Can Med Ed J.* 2021; 12(2). <https://doi.org/10.36834/cmej.70952>
40. Kirubarajan A. Re: Development of a medical education podcast in obstetrics and gynecology. *Can Med Ed J.* 2021; 12(2). <https://doi.org/10.36834/cmej.72073>
41. Romanos-Sirakis E. Changes to pediatric resident medical education during COVID-19. *Can Med Ed J.* 2021; 12(2).
<https://doi.org/10.36834/cmej.71042>
42. Nicole Relke, Soleas E, Lui J. Internal medicine residents' and program directors' perception of virtual interviews during COVID-19: a national survey. *Can Med Ed J.* 2021; 12(2). <https://doi.org/10.36834/cmej.71041>
43. Majumder M, Cohall D, Ojeh N, et al. Assessing online learning readiness and perceived stress among first year medical students during COVID-19 pandemic: a multi-country study. *Can Med Ed J.* 2021; 12(2).
<https://doi.org/10.36834/cmej.71609>
44. Ong D. We are all on the same team: the impact of COVID-19 on small businesses in Canada. *Can Med Ed J.* 2021; 12(2). <https://doi.org/10.36834/cmej.72120>
45. Khurshid V. Life in the pandemic. *Can Med Ed J.* 2021; 12(2).
<https://doi.org/10.36834/cmej.72076>
46. Canadian Conference on Medical Education 2021 Abstracts. *Can Med Ed J.* 2021; 12(2).
<https://doi.org/10.36834/cmej.72402>