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Technology-Enhanced CPD: Sailing Safely Through the COVID-19 Storm and Building a Better New Normal

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Abstract: COVID-19 has shocked our CME/CPD world and the broader educational system. It has activated existing semi-dormant forces, creating a perfect storm of changes. While the crisis will hopefully be over soon, other forces are here to stay. This paper discusses (1) the interaction between the newly emboldened forces, (2) strategies we can use to navigate through the COVID storm safely, and (3) how we can utilize all available forces to create long-lasting positive change in CME/CPD.

Keywords: technology, COVID, technology-enhanced learning, complexity, digital competency, technology-enhanced CPD

COVID-19 has Transformed Our Lives

How we work, socialize, and learn. Its impact is significant. The United Nations Educational, Scientific, and Cultural Organization website, en.unesco.org/covid19/educationresponse, reports 1.3 billion learners worldwide have been affected. Learners and educators have been tirelessly looking for solutions to address their emerging needs, creating a dynamic, fast-changing sociotechnical mosaic. The newly created power dynamic and the resulting cultural change may have permanent effects. It will be harder to request a return to the "old normal" after professional societies have organized highly interactive virtual annual meetings; after online interactions with patients have become routine; and after the internet has become a standard element of our personal lives.

Perfect Storm

Although COVID-19 epidemic is the most painful, unwanted, acute force of change in education, it is not the only one. The other big powers may not be as apparent. They have been supporting improvements, but they have not forced us to change our practices significantly. Therefore, many of us have not noticed their importance. Now it is time to notice them. Together with COVID-19, they create a perfect storm that may lead to deep changes in sociotechnical health care systems.

DISCUSSION

The powers producing the storm are (1) sophisticated mature and emerging technologies, (2) a digitally competent workforce, (3) accreditation criteria that encourage innovation, (4)

growing recognition that technology-enhanced learning delivers better outcomes, and (5) our understanding that health care is a complex, profoundly social endeavor.

Although the COVID-19 crisis itself will pass, the five powers noted above are here to stay. They will continue to be propelled by the cultural change COVID-19 crisis created. We can use them to create a substantial improvement—a better new normal. To get the most out of this change, we should strategically use all of them. The iceberg image below illustrates the complex, social, and not-so-visible nature of many of these powers (Fig. 1).

Technology and Digitally Competent Learners

Supercomputers have become part of our daily routines. From a first-year college student to an experienced health care provider and from a CPD provider to a health care administrator, we all have super-connected supercomputers in our pockets and on our desktops, and we use them. Therefore, being digital is not just an attribute we assign to young people and IT professionals. Not anymore. It is who we are—all of us. We all have some experience with social media and technology-enhanced learning/CPD. New advances in technology are further digitalizing our reality. Gone are the times when technology-enhanced CPD was perceived as a foreign body, something that did not match our social learning practices. Digital technology has become ubiquitous, just as written and spoken languages (which are also sophisticated technologies) have become ubiquitous throughout our history.

Accreditation-Enhanced Innovation

Cervero and Gaines[1] confirmed that Continuing Medical Education/Continuing Professional Development (CME/CPD) which improves performance and patient outcomes "is more interactive, uses more methods, involves multiple exposures, is longer, and is focused on outcomes that are considered important by physicians." Yet historically, it was challenging to put all those elements into the activity types predefined by the Accreditation Council for Continuing Medical Education (ACCME). That is not the case anymore. The activity type "Other" allows us to combine various learning formats in innovative ways, without any restrictions.

Disclosures: The author declares no conflict of interest.

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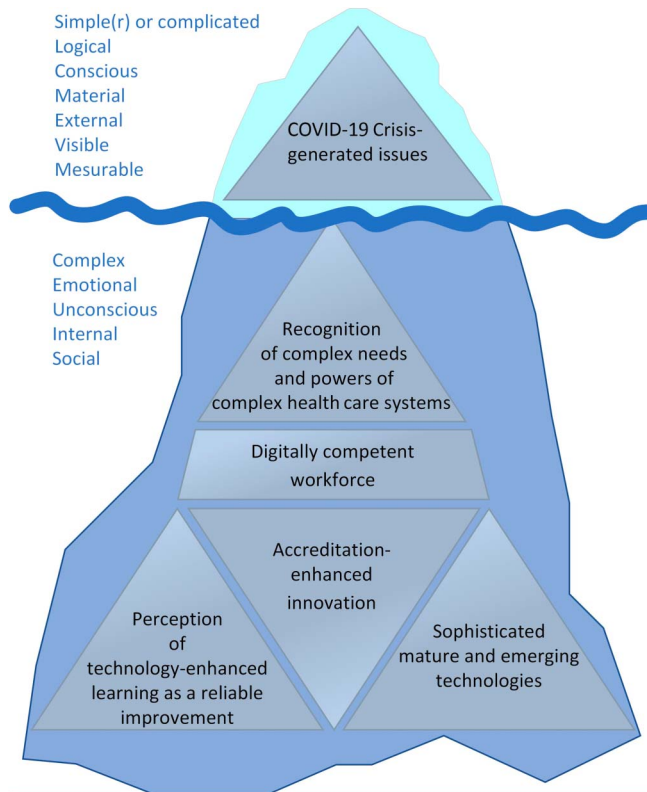
FIGURE 1. COVID-19 powers of change iceberg (based on change management iceberg).

Technology-Enhanced Learning Improves Outcomes

Almost half a century of research demonstrates that technology-enhanced learning is as effective as traditional learning.[2] Yet, it has been hard to prove that technology can help us deliver better learning outcomes. Commonly used research questions and research designs have contributed to those challenges. Researchers have often asked questions such as *Can we replicate outcomes of traditional learning formats in the online environment?* Furthermore, positivist, quantitative research design suggests that for the experiment to be valid, all other conditions except the technology in use should remain the same or be ignored. The challenge with that approach is that the additional or different learning results we achieve with technology are usually ignored. Furthermore, the usual focus has been on comparing two modalities, face-to-face and online education, and analyzing their benefits and disadvantages, instead of focusing on combining formats to maximize benefits and neutralize disadvantages.

Research examining blended learning focuses on the benefits technology-enhanced learning can offer if combined with traditional learning modalities. Consequently, it is not exposed to the challenges mentioned above. Therefore, it is no surprise that the systematic review and meta-analysis by Vallée et al[3] recently found that "[b]lended learning had a large, consistent positive effect on knowledge acquisition in comparison to traditional learning in health professions."

Recognition of Complexity

We are increasingly aware that health care is the most complex system humankind has created[4] and that the interprofessional health care workforce requires learning which matches that complexity. We also realize that complex challenges require complex solutions. Many challenges we experience are rooted in our attempts to use simple solutions for complex problems.

Technology adds a layer of complexity, and it connects the previous complex (sub) systems. Therefore, complexity science will play an increasingly important role in how we manage technology. At the same time, technology, if used strategically, will help us work better with the complexity of our world.

Complex systems are not something we can completely understand or control, but empowered by technology, we can dance with complexity better. "Dancing with systems" is a great metaphor Meadows[5] coined. It takes two to dance. We cannot predict all steps, but we can feel the beat and enjoy the next step. Technological innovations will be fruitful only if they are associated with continuous strategic improvements in our complex health care systems/practices.

CONCLUSION

Insight into the transformative powers we have available raises the question: How are we navigating through those changes? A clearly articulated mission and vision of technology-enhanced CPD, along with core strategies, can serve as a compass that provides clear direction during this turbulent time. Therefore, the question each of us can ask is: As our organization(s) sails through the storm, do we have a compass and do we know where we are and where we are going or are we letting the storm decide what will happen to our boat(s)?

Lessons for Practice

■ The COVID-19 crisis is simultaneously a threat to the existing CME/CPD system and an opportunity for innovation and improvement.

■ The crisis has exposed a series of latent powers. The main powers are mature digital technology, a digitally competent workforce, an innovation-promoting accreditation system, the understanding that technology can improve learning outcomes, and the recognition that learning is a complex social endeavor.

■ Strategic use of available powers can create a positive, transformative change in CME/CPD.

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