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Virtual care is growing, but who will train upcoming learners to practice it?

Jihyun Lee¹  | Frederick Kron^{2,3}

¹Department of Dental Education, School of Dentistry, Seoul National University, Seoul, Republic of Korea

²Department of Internal Medicine, Section of General Internal Medicine, Yale School of Medicine, New Haven, Connecticut, USA

³Department of Family Medicine, University of Michigan Medical School, Ann Arbor, Michigan, USA

Correspondence

Jihyun Lee, School of Dentistry and Dental Research Institute, Seoul National University, 103 Daehak-ro, Jongno-gu, Seoul 03080, Republic of Korea.
Email: leej1@snu.ac.kr

In this issue of *Medical Education*, Shepherd and colleagues report on their qualitative exploration of how faculty and learners experience learner integration into virtual care (VC).¹ This provocative study raises questions into the paradox and contradiction of faculty and learner VC integration, and invites further reflection and discussion. Given the inevitable adoption of VC following the COVID-19 pandemic, and the subsequent hasty efforts to accommodate learners, the work could not be more well-timed.

The paradox and the contradiction the authors identify reflect the desire of the faculty participants to keep VC as a part of their practice, but for most, without involving learners. Faculty paradoxically saw VC as valuable and not valuable—helpful for patients but not for learners. This contradiction is not surprising given that the original intended beneficiaries of VC were patients, not learners. As the authors note, learners have historically been an afterthought when the medical profession responds to disruption. To the faculty, clinical education via VC should neither demand extra effort nor cost, nor bother their more critical patient care task; rather, it should flow smoothly, in the same way as in-person learner training had long proceeded. Since faculty found it challenging to integrate learner training into their pandemic VC delivery—with its unfamiliar, disrupted, and overwhelming workflow—their reluctance is not surprising.

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Although VC has been around for 30 years, it has mostly been a niche technology that never enjoyed mainstream adoption by the majority of potential users. Several theories explaining factors affecting the adoption of innovation have been proposed, and can add a theoretical layer to the authors' interpretations. Among the most intensively researched of these is the Theory of Planned Behaviour (TPB),² which posits that behavioural intention is influenced by three factors: one's *attitude toward a behaviour* (the degree to which a behaviour is positively valued), *subjective norms* (perceived social approval for engaging in a behaviour), and *perceived behavioural control* (the degree to which performance of a behaviour is self-determined). Among faculty, the value of these three factors with respect to VC and subsequent learner integration into mandated VC, tends to be negative, making them less inclined to adopt it. Thus, for those who regard VC as an inferior learning platform (attitude), perceive a diminished educational mandate (norm), and experience disrupted routines and time management challenges (control), the behavioural intention to adopt the innovation of VC learner training will be low. To our knowledge, no effort has been made to optimise the determinants of VC training to give it positive value for faculty.

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What can we do to facilitate successful VC integration for learners at this point? The answer may be three-fold: communicate

persuasively with faculty; design finely-tuned instructional interventions that optimise VC affordances; and devise alternative virtual learning experiences.

First, if we are to see the diffusion of this innovation, individual faculty must be persuaded about the advantages of VC training, which have not been well-explicated so far. Shepherd and colleagues urge a shift in the messaging about clinical education in VC, such that it is viewed not as a substitute for in-person training but as a valuable complement for a richer educational experience. From the TPB framework, such messaging can increase the perceived value of learner integration into VC (attitude). In addition, messaging can be designed to convey that such learner training is easy to control and responsive to the choices of faculty (control). Finally, messaging can enhance the perceived social approval for this training approach by emphasising the responsibility of faculty as educators (norm).

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Instructional interventions must help learners realise the unique affordances of VC and acquire needed competencies for future practice. The study interviews revealed that VC as a learning medium is a good set-up for teaching 'informed consent, privacy issues and VC etiquette, and communication' 'observing learners non-intrusively', and efficient assessment (p. 18). In other words, VC functionally offers these affordances to learners, and VC curriculum design should embrace them. These affordances cannot guarantee particular learning outcomes; however, a well-designed instructional intervention should be geared toward VC fluency equipped with the VC competencies.³

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Lastly, learner's clinical exposure in the virtual setting needs to be diversified, perhaps by devising alternative virtual learning experiences. A virtual patient (VP) is a promising modality that can be

readily adopted for clinical training by simulating real-life clinical scenarios, in which learners emulate the role of health care providers.^{4,5} The affordances of VP training are active learning in contrast to passive observation, personalised exercises in a nonthreatening environment, and performance assessment with opportunities for reflection and feedback. Its distributed nature avoids logistic complexity and can provide time-spaced learning to support training transfer. Virtual nurse agents tailored to patient demographics could perform pre-visit screening and provide after visit discharge instructions.⁶ Software for converting a virtual visit into an in-person visit can be developed to offer pushbutton simplicity. Integration of VC with the most widely used EHRs could streamline workflow and offer time savings for providers, enabling them to direct more time to education. A virtual OSCE (a clinical test using simulated patients who learners interview, examine, diagnose, and manage) can also be one of the alternatives used.⁷

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While practitioners may be enthusiastic teachers when the training methods and content are well established, they are not necessarily inclined to, or experienced with, pedagogic innovation. Even if they are, the task of innovation is not in the purview of any one individual working in a large healthcare system. This underscores the need for institutions to form VC advisory committees to discern the most efficient and educationally enriching VC practices and procedures. As the authors indicate, educators should certainly be informed by research, but must balance that with organisational constraints and the needs of practitioners in their home institution.

ORCID

Jihyun Lee  <https://orcid.org/0000-0001-9357-5345>

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Character-based leadership in medicine: A valuable concept that is not without challenges

Ali Asghar Hayat  | Mitra Amini

Clinical Education Research Center, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran

Correspondence

Ali Asghar Hayat, Clinical Education Research Center, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran.

Email: ali.hayat63@gmail.com

What determines effective leadership in medicine? In this issue of *Medical Education*, Torti et al explore this question by reporting on a study in which they interviewed healthcare professionals to assess the fit between perceptions of effective physician leadership and the character-based models of leadership that have been generated in other domains.¹ The authors highlight that debate about the competencies required for leadership persists despite widespread acknowledgement that leadership is important to medicine and, thus, needs to be taught in medical schools. Most of that teaching, they argue, focuses on cognitive competencies that are necessary but insufficient. The findings reported in the paper suggest that character-based leadership, a conceptual framework that articulates a role for various dimensions of character when defining effective leadership, can help medical education move beyond models that solely promote cognitive competencies.¹ In this commentary, we attempt to expand upon this particular work by outlining a variety of other models and issues that we as a field would do well to take into account.

To be clear, the additional comments we offer are meant to complement rather than discount the value of character-based leadership as a framework given that we have found other work in this domain helpful to our own thinking. For example, Hackett and Wang talk of three types of leadership that draw on overlapping but distinct elements of leaders' character: Authentic leadership demands clarity of values, integrity, honesty, altruism, kindness, fairness and

accountability; servant leadership requires integrity, altruism, humility, fairness and justice; and transformational leadership emphasises justice, equality, peace and humanitarianism.^{2,3} Ethical leadership theories similarly emphasise the role of character in leadership effectiveness in a manner that has enabled identification of a variety of ethical consequences for employees including increased incidence of honest behaviour and heightened citizenship.^{4,5} Such outcomes can be particularly imperative in healthcare organisation as the development of moral values and work attitudes in healthcare workers seems self-evidently likely to impact on care provision.^{4,5}

That said, there are several challenges related to the character-based leadership framework that should be considered as we contemplate the relationship between character, leadership effectiveness and organisational outputs.

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