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LETTER

Factors That Enhance and Hinder the Retention and Transfer of Online Pre-Clinical Skills Training to Facilitate Blended Learning [Letter]

Nabil Ansari*, Ali Yalcinkaya*, Akalya Ganeshamoorthy*

Faculty of Life Sciences and Medicine, King's College London, London, UK

*These authors contributed equally to this work

Correspondence: Nabil Ansari, Faculty of Life Sciences and Medicine, King's College London, Great Maze Pond, London, SE1 1UL, United Kingdom, Tel +44 7846175853, Email Nabil.ansari@kcl.ac.uk

Dear editor

We read with great interest this study by Enoch et al,[1] exploring factors affecting the transfer of online pre-clinical skills training to facilitate blended learning. As UK-based medical students who have experienced the emphasis placed on virtual teaching as a result of COVID-19, we would like to share our perspectives on this study.

Although we greatly appreciate the efforts taken to involve a number of medical students and tutors, sampling bias introduced in the questionnaires poses a limitation. The findings from Instruments A and B reflect features of the single institution and cohort included.

The potential for prior competency among 3rd year medical students in the domains taught produces selection bias when analysing findings from Instrument A. Ratnapalan et al describes technical, cognitive, and communicative competence underpinning medical student success.[2] Students over time excel or struggle to varying degrees within these domains, whether this is due to psychoeducational attributes, behavioural attributes, social support, financial difficulties or other.[2] Piloting 1st year medical students leaves little time for students to develop medical competence, minimising the development of prior competency as a confounding variable when concluding that the FC approach augments transfer of learning.

Additionally, institutional characteristics provide compounding selection bias when determining the efficacy of the flipped classroom (FC) approach. Studies on the differences between UK medical schools alone find contrast in the average spend on students, student-staff ratios, educational performance measures, average entry grades, and student satisfaction all with a reliability coefficient exceeding 0.8.[3] The aforementioned variables would influence the delivery and reception of the FC approach between institutions. Although we agree that the FC approach augments transfer of knowledge to the clinical skills laboratory (CSL) in this setting, these findings may not be reproduced if the study was held at another institution.

Another limitation we noted was the use of a 6-point Likert scale to gather quantitative data. Having an even number of points leaves no room for a neutral or undecided response. Chyung et al develop evidence-based recommendations on deciding when to include a midpoint.[4] They establish that a mid-point enables participants familiar with a topic to express a truly indifferent opinion as opposed to collecting forced and biased responses. The main issue with mid-point implementation are fears over the neutral option being used as a "dumping ground" where topics are not understood.[4] In the study of Enoch et al, respondents are familiar with the survey topic as they evaluate their experience of the FC approach - mid-point inclusion is appropriate. We propose in addition to a 7-point Likert scale that an option for "I don't know" be added to prevent misuse of the midpoint.

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In summary, we agree that the FC approach augments transfer of knowledge to the CSL, but encourage multi-centre study in the future, involving 1st year medical students and with modifications to the Likert-scale. It would also be extremely beneficial to trial the FC approach with an objective measure such as an OSCE exam to demonstrate efficacy further.

Disclosure

The authors report no conflicts of interest in this communication.

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