

new approaches. In the field of anaesthesiology, we describe the use of the Anesthesia Education Toolbox,¹ an online learning management system with resources for in-person and asynchronous learning.

2 | WHAT WAS TRIED?

1. The COVID-19 pandemic created a clear sense of urgency to develop and collate shared educational resources to support non-clinical learning.
2. Educational leaders of institutions subscribed to the toolbox were asked to join a task force to prioritise learning needs.
3. We aimed to create an engaging virtual learning curriculum for anaesthesia residents that would provide at-home learning.
4. We promoted sessions and solicited participants, content experts and facilitators by email and posting to social media.
5. We were able to collaborate effectively using videoconferencing.
6. We developed a daily virtual learning session, allowing residents from across the country to engage with peers and subject matter experts. We used existing resources in the toolbox and structured them into a schedule covering 1 hour of content per day, considering active learning, sequencing and Bloom's taxonomy. Content experts and facilitators could present their own material if desired. Participant engagement occurred by using the chat or polling feature, or asking questions via microphones. Participation has averaged from 40 to 160 people from more than 10 institutions in the USA and Canada. The sessions are recorded and catalogued in the toolbox for future use.
7. We are in the process of expanding the daily content, with the goal of developing an enduring curriculum.

8. This innovation is now a required part of the curriculum for our learners.

3 | WHAT LESSONS WERE LEARNED?

Rather than individual programmes transitioning their in-person teaching to an online platform, it is possible to quickly and efficiently restructure existing resources from multiple institutions to create an online synchronous educational experience. The innovation lies with coordinating multiple institutions to share resources to support resident learning. Doing so takes someone to assess available resources and resident needs, identify an accessible online platform, and organise the curriculum and faculty members. Presenters are encouraged to gain experience with the online platform prior to their lecture. Having an experienced moderator for each session helps them run smoothly. The time of 13.00 hours Pacific Standard Time has worked well for learners in all time zones. Access to resources was enhanced by making the toolbox free for all programmes across the country. Initial feedback indicates content is more robust and better received by having faculty members from multiple institutions who are national leaders in the specialty. Thus far, 63% of participants have attended more than one session.

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DOI: 10.1111/medu.14190

Online faculty development using cognitive apprenticeship in response to COVID-19

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1 | WHAT PROBLEMS WERE ADDRESSED?

Despite the coronavirus disease 2019 (COVID-19) pandemic, it is still necessary to develop good assessment tools to evaluate the

competence of our students. Our medical education department, therefore, changed its face to face workshops on 'how to create multiple choice questions (MCQs)' into online ones. It was the first time our medical education department had created questions online.

2 | WHAT WAS TRIED?

Cognitive apprenticeship concepts were adopted when designing and implementing the training workshop. We started with full instructions on how to use Zoom™ cloud (Zoom Video Communications Inc., San Jose, CA, USA) through video and a technical training session offered before the workshop. Video-recording of a lecture explained the guidelines adopted by the assessment unit regarding the MCQ design. A document including frequently asked questions regarding the design of MCQs was also disseminated 2 days before the synchronous meeting. During the meeting, we started by 'modelling' with a short presentation on how to write a high-quality MCQ. Then, 'coaching' and 'scaffolding' was achieved by dividing participants into groups based on their specialty, with each group having an online coach (facilitator). Using breakout rooms in Zoom cloud, each group worked together and received tips from their coach for correcting poorly constructed MCQs. One coach was assigned to each group of 3-4 trainees. 'Reflection' was then performed individually and asynchronously by sending the trainee an email containing a file of MCQs' designed by them previously' with a request to critique and reflect on their quality. Upon returning the file the trainee received feedback. Additionally, 'articulation' was performed by asking learners to write down step-by-step instructions on how to modify their previously constructed MCQs, leading to a second round of feedback. Finally, learners engaged in 'exploration' as they were asked

to create new MCQs and send them via email for further feedback. The quality of the newly designed questions was judged against a checklist for assessing the quality of MCQs adopted, revealing newly designed MCQs that were higher in quality than those submitted pre-workshop.

3 | WHAT LESSONS WERE LEARNED?

1. Proper design of hands-on activities can change faculty staff minds.
2. Offering multiple and different opportunities for hands-on activities to the trainee with constructive feedback can improve the outcomes of faculty development activities.
3. It is important to provide appropriate scaffolding to faculty staff when they perform assigned activities to support their learning.
4. Providing additional experience to practice (and check ability to transfer newly acquired knowledge and skills) is valuable.
5. Unexpectedly, when we were able to achieve what had been done in previous face to face training sessions, trainees reported less interference and better participation was achieved by conducting the workshop online.

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DOI: 10.1111/medu.14198

Online team-based learning sessions as interactive methodologies during the pandemic

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1 | WHAT PROBLEMS WERE ADDRESSED?

The medical education system is currently facing robust challenges as a consequence of the coronavirus disease (COVID-19) pandemic. One of them is the maintenance of interactive learning techniques such as team-based learning (TBL). Team-based learning is an interactive teaching method that is learner centred and instructor directed. It sequentially involves self-work followed by teamwork.

After providing the reading material, students are commonly asked to solve 10-20 multiple choice questions, known as the individual readiness assurance test (iRAT). Students are then assigned to answer the same questions when working together in teams, the team readiness assurance test (tRAT).

Immediate feedback, often facilitated by using scratch-off cards, is one of the cornerstones of TBL. Afterwards, the instructor may clarify additional points as needed.¹