Development of and First Experiences with a Framework (EASI) for Options and Implementation Opportunities for Online Clinical and Communication Skills Learning

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ABSTRACT: A preparatory framework called EASI (Evaluate, Align, Student-centred, Implement and Improve) was developed with the aim of creating awareness about interim options and implementation opportunities for online Clinical and Communication Skills (CCS) learning. The framework, when applied requires faculty to evaluate current resources, align sessions to learning outcomes with student-centred approaches and to continuously improve based on implementation experiences. Using the framework, we were able to generate various types of online CCS learning sessions for implementation in a short period of time due to the recent Covid-19 pandemic. Importantly we learnt a few lessons post-implementation from both students and faculty perspective that will be used for planning and delivery of future sessions. In summary, the framework was useful for creating or redesigning CCS sessions which were disrupted during the pandemic; however post-implementation experience suggests the framework can also be used for future solutions in online CCS learning as healthcare systems and delivery are increasingly decentralised and widely distributed.

KEYWORDS: Online learning, online clinical and communication skills, preparatory framework

Introduction

Pandemics, natural disasters or socio-political unrest can lead to closures of universities, limiting student-patient interaction and disrupt clinical learning opportunities. National security and public health safety will take precedence over clinical teaching sessions that are designed to provide opportunities for experiential learning with authenticity.¹,² While the aim is to minimise any risks for the stakeholders, students and clinical teachers are anxious about the impact these disruptions will have on student competencies. They find it challenging to teach or learn Clinical and Communication Skills (CCS) with limited onsite face-to-face interactions and short turnaround times. This paper aims to create an awareness about interim options and implementation opportunities in online CCS delivery based on our inter-institutional perspectives and recent experiences from implementing CCS learning online.

Online learning offers the opportunity for flexibility in learning and increased accessibility to learning materials. Another important rationale for online learning is the worked-out examples principle.³ Deep understanding is gained when worked-out examples for initial cognitive skill acquisition are provided in online learning. The worked-out example principles advocate multiple guidelines that include the guideline of self-explanation elicitation, help guideline, easy-mapping guideline, structure-emphasising guideline and meaningful building-blocks guideline. This principle emphasises the importance of having a structured framework to ease the challenges faced by the clinical teachers in converting the CCS teaching to online mode. A framework helps, not only in the implementation phase but also for monitoring and to improve the quality and effectiveness of the implementation.⁴ Continuous evaluation supports accountability, allowing the clinical teachers to learn the strength and weakness of the implementation and promote further development. Although literature has some publications on converting face-to-face learning to online approaches,⁵-⁷ they do not focus on CCS learning⁶ or is limited to a specific aspect of CCS learning.⁸ A simple guide for contextual design, conversion, implementation and continuous improvement related to CCS teaching and learning would be useful to educators. This paper aims to provide an easy guide to faculty for online CCS teaching and learning using a preparatory framework (refer to Figure 1) called EASI (Evaluate, Align, Student-centred, Implement and Improve).
A Preparatory Framework for Online CCS Teaching and Learning: EASI

The EASI framework (Evaluate, Align, Student-centred, Implement and Improve) was developed based on a 4-step approach. The key assumptions underpinning the EASI framework are instructional design principles and constructivist learning theories with practicalities that schools already have online learning repositories and learning management systems.

The diagram shown in Figure 1 is based on a PowerPoint template from SlideModel.com

**Evaluate the readiness of resources and stakeholders**

Evaluate existing CCS learning repositories to determine whether these resources are suitable interim options to replace the face-to-face sessions or whether new ones need to be created or modified. Other considerations include the user-friendliness of the existing learning management system and web conferencing platforms, audio-visual options and quality, number of participants, recording facilities, features for screen sharing, and data privacy. The internet connection stability of faculty, students, and Simulated Patients (SPs) and their willingness to participate in the online CCS sessions should also be evaluated. Data on readiness will help in designing an online CCS that is within the capacity, acceptance threshold, and expectations of stakeholders.

**Align with learning outcomes**

Alignment between learning outcomes and CCS teaching activities is essential for quality assurance and accreditation. Misalignment runs the risk of substituting hands-on skills development sessions with teacher-centred sessions online. Therefore, faculty need to carefully select learning outcomes that allow student interaction and skills demonstration online. Learning outcomes related to communication and history taking skills, reasoning, and decision-making skills are more suited for online learning than demonstrating procedural skills that require patient/manikin or SP contact. Aligning with learning outcomes shifts away from the cut and paste approach of face-to-face CCS sessions to online learning.

**Student-centred approaches**

Online learning is based upon instructional design principles that emphasise learner-centred approaches. This includes building rapport and trust, applying the FAIR principle, providing feedback, engaging the students, individualising and making the learning relevant. Online learning needs other considerations too, for example, defining roles and expectations, being flexible in scheduling, and recognise online learning visual fatigue. Table 1 shows examples of student-centred approaches which we have implemented in the recent months based on the constructivist learning theories.

**Implement and improve**

Implementation of online CCS sessions depends on the contextual situation of the health professional school. For the implementation, it is best to strategise the CCS teaching into both synchronous and asynchronous sessions and to space out the learning interval for both students and teachers. A backup plan should be devised in the event of technical difficulty during synchronous sessions. The implementation also requires reprioritisation of budget allocation and upskilling of the SP, students, and faculty. A plan for manpower optimisation (involving academics, Information Technology, timetabling, and E-Learning staff) should be generated. While implementing, it is good to have an eye on what improvements that can be made, hence there needs to be an evaluation process that is clearly communicated and harnesses the experiences of all stakeholders.
Lessons Learnt from Implementing Online Clinical and Communication Skills using the EASI framework

Based on our recent (March to June, 2020) experiences of implementing online CCS learning using the EASI framework, we learnt a few lessons from faculty and students perspective that will be useful for improving future online CCS learning.

1. Faculty and students are new to online CCS learning and will inevitably compare online sessions to what they have experienced in face-to-face sessions. Hence it is crucial to manage their expectations by clarifying the limitations and advantages of online learning where relevant. It should be emphasised that learning outcomes which cannot be addressed in online CCS learning will continue as face-to-face sessions.

2. Students may not know their roles in online learning, as some students were not prepared to engage audio visually. Hence students' roles and rules of participation in online CCS need to be communicated clearly prior to sessions.

3. Online learning fatigue can arise from continuous back to back sessions. Hence timetabling for online CCS sessions needs to be spaced out in consideration with other teaching and learning sessions.

4. The EASI framework can be contextualised for online CCS learning across a few health professions programmes. Hence the online learning materials and sessions can be shared across programmes, institutions, or promote interprofessional learning.

Conclusion and Future Opportunities for Online CCS Learning

To ensure that health professionals are ready for practice, it is acknowledged that CCS learning must occur in authentic clinical and community environments. However, disruptive events can reoccur with long-lasting effects. Hence it is a game-changing opportunity to create and redesign CCS learning approaches. Recent developments like the devolving hospital-based care to E-consultation, suggests specific efforts with online CCS may have a more prominent role in the curricula. Similarly, limited accessibility of students to teaching hospitals that are designated as Covid-19 treatment centres will increase dependency on online learning as it can address the delivery equivalence challenges in a distributed clinical learning environment. The digital transformation of healthcare systems also suggests that future health professionals need to work with technology to understand both the power and limitation of big data and artificial intelligence. Given the equity and accessibility issues, online learning provides opportunities for learning at various levels. Hence the EASI framework is not only suited for interim options but provides opportunities for future solutions in CCS learning.

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Author Contribution
VDN - conceived of the presented idea, supervised the project, derived the framework and wrote the manuscript
C-FS - wrote the manuscript with input from all authors.
SSSA, AM, KB, HME - All authors provided critical feedback and helped shape the conceptual framework and the manuscript.

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