Impact of COVID-19 on Teaching an Undergraduate Children's Nursing Module.

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Abstract.

Innovative teaching practices are constantly developing within nurse education. The nursing curriculum does not exist in isolation and it must reflect the changing nature of health, health service delivery and society. Nursing curriculums must be dynamic, flexible, adaptable and subject to continuous review. As a result of continuous curriculum reviews, integrating blended learning and the promotion of critical thinking the students and lecturers in the School of Nursing and Midwifery in Trinity College Dublin were in a good position to respond to the situation caused by the COVID-19 pandemic which rapidly unfolded in March 2020. This paper outlines the delivery of a children's nursing module using 100% online methods, instead of traditional face-to-face methods, due to the restrictions associated with COVID-19. Delivering a module 100% online was a new experience for lectures and students alike! While blended leaning was not new, the notion of delivering 100% of a module on a professional registration programme was certainly a new undertaking. However, in the course of the module it became apparent that the students were well attuned to digital interaction.

Keywords: Blended learning, COVID-19; Children's nursing, Nurse education, Online learning.

1. Innovative practices with online teaching.

Innovative practices must constantly evolve to meet the dynamic, ever-changing needs of students and challenges presented in education (Serdyukov, 2017). Engaging in educational innovation results in improved student learning and enthusiasm (Liou, Cheng, Tsai & Chang, 2013). However, embracing and incorporating innovative teaching practices requires the development of new skills, disrupts normal routines, involves stepping outside of ones' comfort

zone and taking on extra work to learn these new practices (Fraser, 2019). Innovative teaching is a process of moving towards creative learning through implementing new methods of teaching to benefit students to achieve their potential and must be evidence-based (Sharma, 2017; Neuman et al., 2009). As a result of COVID-19, innovative practices were implemented within this module to ensure student learning was not disrupted as a result of face-to-face teaching restrictions.

Originally, this module should have been delivered face-to-face using lectures, tutorials and clinical skills workshops. During these sessions with students, multiple methods of teaching would be used including group activities, presentations, case study completion and demonstrating practice skills. Significant adjustments had to be made relating to online teaching as a result of COVID-19, using Blackboard learn+ (Blackboard) as the platform for student learning. Blackboard is a web-based, online educational platform for teaching, learning and sharing knowledge. Within Blackboard, the use of polls, blogs and Blackboard collaborate were used to encourage interaction, host live sessions and create discussion boards. Traditional teaching strategies were revolutionised to improve students' learning experiences and to facilitate lifelong learning. The use of these innovative teaching methods engaged students and encouraged them to create their own learning rather than be passive learners. Students reported on the *"smooth transition to well organised content online",* which was positive. Lecturers were initially concerned that student motivation levels would be a cause of concern with the loss of the face-to-face lectures. However, the students' eagerness to learn was very noticeable throughout the module delivery. Piaget (1936) outlines that when people encounter something that is inconsistent with or contradicts what they already know or believe, this produces a state of disequilibrium and people are then driven to eliminate this through a process of equilibration. The recognition of nursing and the unique contribution that nurses make to the healthcare service was also well documented during the pandemic, which may have served as an impetus to learn and perform well on this module.

2. Benefits of online learning.

Traditional learning environments have been referred to as 'boring' by the millennial generation, as they are not addressing their learning needs (Casey, Brown, Kaplaros, Hogan & Dubrovski,

2010). These students see technology as a necessity and educational innovation is required to incorporate technology into teaching, to engage and increase participation (Casey et al., 2010). There are many benefits to online teaching reported in the literature, including having a positive impact on meeting students' diverse needs (Adibelli & Boyaci, 2018), improving student achievement in education, assisting students in obtaining a greater understanding of knowledge (Dil, Uzun & Aykanat, 2012) and supporting students' progress towards identified learning goals (Maass, Cobb, Krainer & Potari, 2019). The outcome of innovation in nursing education is excellence in clinical practice and the growth of an environment that supports creativity and risk-taking (National League for Nursing, 2004). However, implementing innovations can be demanding and time-consuming for lecturers (Maass et al., 2019), and integrating technology into teaching can be challenging which is reflected within the literature (Mackay et al., 2017). When faced with the challenges caused by COVID-19, the lecturers needed to adapt quickly and created interactive sessions for the students, which encouraged student participation (Frazer, Sulliva, Weatherspoon & Hussey. 2017).

Research highlights that online teaching is as effective (McCutcheon, Lohan, Traynor & Martin, 2015; Nguyen, 2015; Kirtman, 2009), if not more effective than traditional face-to-face teaching (Ni, 2018). Although the literature indicates students can experience anxiety and resistance with online learning (Clair, 2015; Uzunboylu & Tuncay, 2010), this was not demonstrated in these classes, with students report the experience as 'enjoyable' and 'engaging'. Students reported a *"great level of knowledge and enthusiasm from the lecturers"* alongside *"great communication from the lecturers"*, *"comprehensive notes"* and *"good engagement with the module team"*.

3. Delivery of online module content.

As nurse educators we must constantly assess and evaluate the use of innovative teaching strategies through feedback from the students, which was an important element of the process (Husain & Khan, 2016). Students were invited on numerous occasions to provide feedback on different aspects of module delivery. The module lectures provided great flexibility to the students as lectures were delivered live via Blackboard collaborate, with PDF notes provided to support the lectures. In addition to this Panopto recordings and PowerPoint presentations with voice over recordings of lectures were made available for the students. It was important to

provide this level of support to the students during the early weeks of the pandemic. Using this variety of options for content delivery allowed us to keep the students engaged and provided various methods of learning for them. The students acknowledged this variety of teaching methods as beneficial in the module feedback.

4. Delivery of the clinical skills component of the module online.

Clinical skills teaching is one of the many strategies used in TCD to deliver the essential components of the undergraduate nursing BSc programme. This is a vital part of the curriculum for pre-registration learners (Frances & O'Brien, 2020) and ensures a balance of various methods of teaching/learning, as per NMBI guidelines (2015). Pre COVID-19, the clinical skills content was delivered using innovative face to face methods. These included the use of low and high-fidelity child, toddler and adolescent mannequins for the demonstration and practice of specific psychomotor skills. These skills were taught within a recognised learning framework where students develop their psychomotor skills through the cognitive, associative and autonomous phases of skill learning.

These phases form the basis of skills development and are outlined by Oermann, Muckler & Morgan (2016). The cognitive phase is the introductory phase, where the skill is contextualised by the tutor and students learn why, when and how the skill is used, including the equipment required and the sequencing of steps; this allows the student to grasp the technique and procedure of the skill. The second phase is the associative phase where students practice their skills, often focusing on key steps, in order to improve their performance and the third phase is the autonomous phase where students continue to practice their skills in order to become proficient and to improve their skills. These phases of teaching/learning skills were typically carried out in the clinical skills department, with the third phase facilitated further within the clinical practice setting, where a named preceptor would plan specific learning experiences with the student in order to progress their level of competence (NMBI, 2015).

As the COVID-19 restrictions unfolded, these skills were required to be delivered online, which

was initially worrying since teaching clinical skills is different to teaching traditional lectures (Harmon, Clark, Dyck & Moran, 2016). The skills sessions for this children's specific module included; lumbar puncture, skin assessment, seizure care, care of a child in a plaster cast and neurovascular observations. Staff were cognisant of the need for quality online learning material, that met students' learning objectives and took into consideration the framework required for the acquisition of psychomotor skills. With these concerns in mind, a range of online resources that students could access via Blackboard were developed. These included; separate folders for each skill with specific instructions and activities that students needed to achieve for each skill; voice recordings of PowerPoint presentations; links to reputable online resources, video demonstrations of the skills for students to practice.

Whilst developing the online resources, consideration was very much focused on the need for students to be allowed the opportunity to attain the introductory and associated phases of learning skills as outlined by Oermann et al. (2016), within the confines of COVID-19 restrictions. The use of voice recorded PowerPoint presentations and online resources allowed students to attain the introductory phase of learning and utilise the information to contextualise the skill. Students were then instructed to revisit the recorded video demonstrations as often as required and to practice the skill at home whilst utilising and referring to the online resources. In a review of the literature by Stone, Cooke & Mitchell (2019) on the use of online videos for clinical skills teaching and how it influenced their confidence, they reported that when skills are supported by a comprehensive educational framework, it is a positive step in improving students' confidence in skills development. They reported students found videos an easy way to learn and understand skills, with increased motivation and self-ownership. Students within our module reported similar benefits to self-ownership including *"being able to do the work at your own pace"* and *"being able to take a break when you need to"* as positives of online learning. This is consistent with other research that reports positive associations with online learning (McKenzie & Murray, 2010). The skills that were being taught did not require specialist clinical equipment, therefore were constructed in a way that students could utilise online documentation such as neurovascular observation, seizure and skin assessment charts, revisit online demonstrations and practice at home. The use of an online discussion board also afforded students the opportunity to reflect, engage with their tutor and ask questions, at a dedicated time after they viewed and practiced their skills. This feedback and reflection is an essential part of learning and the acquisition of skills (Shinnick, Woo, Horwich & Steadman, 2011) and it was felt that this

may somewhat mitigate the lack of face to face teaching.

5. Challenges associated with transitioning to online teaching.

Online learning is currently very much part of the higher educational experience and much research has been conducted in relation to students' experiences of such learning (Abdelaziz, Samer Kamel, Karam & Abdelrahman, 2011, Koch, Andrews, Salamonson, Everett & Davidson, 2010). Despite the very strong presence of online teaching and learning in higher educational settings, little is currently known from the perspective of academic staff in relation to the transition from traditional teaching methods to online teaching and learning platforms (Porter at al. 2020). When the COVID-19 pandemic reached Ireland, the nursing lecturers in the School of Nursing and Midwifery, Trinity College Dublin, like all other University lecturers, had to move fast to 'get modules online' quickly. Although the practice of teaching and learning online was already part of the educational experience in Trinity, lecturers previously spent a significant amount on the planning and coordination of modular online content. The arrival of COVID-19 meant that swift decision making had to take place to ensure that student learning would continue, albeit exclusively online for foreseeable future until the pandemic subsided.

Research by Porter, Barbagallo, Peck, Allen, Tanti & Churchill (2020) pertaining to the experiences of academics and the development and implementation of exclusively online nursing curricula identified three key themes essential for success, namely 'get ready', 'get set' and 'go'. Owing to the COVID-19 pandemic, the need to get modules online was immediate and therefore there was no opportunity for the usual planning or development as described by Porter et al. (2020) or as would be preferred by the lecturers involved. The urgency associated with ensuring that the students' education would continue without the usual face-to-face teaching methods meant that there was little time for thorough planning, and this would inevitably be the source of great concern for module leaders and lecturers alike. Despite this however the lecturers involved drew on their knowledge and experience of blended learning to prioritise potential challenges and collectively developed a swift strategy to deal with such issues. The relevant module descriptor was reviewed, and a map was created to ensure a diversity of online teaching methods to enhance student engagement, facilitate diverse learning needs and

maintain student interest. Resources within the School were enlisted to ensure that each student had a laptop or computer access since such resources are essential for the successful delivery of online content (Koch et al. 2010). Students who did not have these facilities were provided with same on a loan basis from the School.

Although the student body of the 21st century are very familiar with an assortment of social media platforms and many aspects of life now are addressed online, it was important not to assume that all students would have the IT skills necessary to navigate this new exclusive online teaching methodology. Previous research has identified that students can often lack the IT skills necessary for online educational engagement (Abdelaziz et al. 2011). The lecturers in this paper had, from the outset, highlighted the importance of students' ability to engage with lecturers online and for this reason a link lecturer was chosen to make phone contact with each student one week following the commencement of the exclusive online learning. This strategy proved to be very worthwhile as students had the opportunity to speak with a lecturer directly about any problems which they were encountering, solutions could be reached quickly, and students felt supported. The availability of lecturers and their readiness to communicate with students on a one-to-one basis, in addition to a group basis, was very much welcomed by the students and reflected in the module evaluation feedback.

Students reported the following in relation to communication with lecturers:

> *"Great support from and accessibility to lecturers".*

Another student reported:

> *"The lecturers are very hands on and make it clear that they are available to help".*

It was also evident from the module evaluation that a good balance had been achieved in relation to the diversification of the online content for the module. One student reported:

> *"I found the transition from face to face to online really refreshing and worked really well with working and managing a work load in conjunction with lectures. the content covered was comprehensive and really engaging."*

One unanticipated positive aspect of the exclusive online content was that students were more inclined to engage with one another in addition to engagement with the lecturers which enhanced their learning experience. One student reported:

"I also found that there was more engagement among students when it came to questions and class activity".

Through using technology, students can learn by creating, rather than merely consuming content delivered by the lecturer (Oermann, 2015). Using technology requires lecturers knowing when and how to use it, whilst considering will it facilitate and enhance learning compared with other teaching methods (Shellenbarger & Robb, 2015). In response to experience gained with online teaching from COVID-19, the continued use of technology within teaching practices will be implemented to enhance future practice.

6. References.

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