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A Placement Replacement Module Developed Through COVID-19: Incorporating Spiral Learning, Case-based Learning and Simulated Pedagogical Approaches

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Abstract

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Keywords

Simulated practice, reflection, technology enhanced learning, case-based learning, virtual placements

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A Placement Replacement Module Developed Through COVID-19: Incorporating Spiral Learning, Case-Based Learning and Simulated Pedagogical Approaches

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ABSTRACT

The coronavirus (COVID-19) pandemic changed life across the world at an unprecedented speed, in ways that were unimaginable prior to March 2020. As '*new normals*' emerge, the impact on everyday life is being realized and some rapid innovations are worthy of review and retaining, such as an occupational therapy student virtual Placement Replacement Module (PRM). The occupational therapy specific module was developed to replace prohibited face-to-face, practice-based education. It was designed to support the consolidation of professional knowledge and facilitate the application of practice-based skills, crediting the students with 120 practice placement hours, as agreed with the Royal College of Occupational Therapists (RCOT). This education innovation, based on a spiral learning approach, delivered over five weeks enabled 30 first year students to engage in a range of on-line placement related activities, incorporating the use of reflective diaries, case-based learning, and simulated practice. The evaluation of student feedback showed that authentic learning activities, immersive feedback, and the opportunity for shared learning can facilitate the consolidation of academic knowledge. In particular, it can help develop professional and therapeutic communication skills and clinical and professional reasoning and build personal and professional confidence. As this is believed to be the first PRM of its kind, the purpose of this paper is to describe the education innovation and share the outcomes that resulted from the student evaluation. Other Higher Education Institutions (HEI) are encouraged to think how similar on-line modules could replace face-to-face occupational therapy placements or be included in knowledge consolidation and preparation for placement.

Introduction

Occupational therapy pre-registration programs that are approved by the World Federation of Occupational Therapists (WFOT) require students to successfully complete 1000 hours in practice in accordance with Royal College of Occupational Therapists (RCOT) educational standards (RCOT, 2019). Traditionally, practice placement hours are attained from completing a number of in-person placements across all fields of practice, consolidating the academic learning from bio-psycho-social models of practice with occupational science (Yerxa, 1990). In this model the student is supported by a practice educator, an expert in their field, to apply the principles of occupational therapy practice to a particular service user group to enable service users to achieve their desired, individual occupational goals.

As a result of the pandemic, the government in the United Kingdom (UK) imposed restrictions which created a significant amount of panic across the nation (Office of National Statistics, 2020). In response to a suddenly changed landscape across all aspects of life and the risk posed to life, all clinical areas across the National Health Service (NHS) were under pressure to urgently restructure services to accommodate unknown yet increasing numbers of critically ill people. Inevitably, practice placements for all health care students became less of a priority, with Higher Education Institutes (HEI) needing to protect students and mitigate further risks to the NHS (Pelly et al., 2020). As a consequence, student placements were cancelled.

In England, one solution to meeting the unfolding health care crisis and ensuring front line services were supported was to recruit final year nursing and allied health professional (AHP) students into the work-force (Health Education England [HEE], 2020a). Under new legislation, the Health and Care Professions Council (HCPC) held a voluntary, opt-in COVID-19 temporary register for all final year AHP students who had successfully completed all their clinical placements, enabling an immediate commencement in practice with appropriate remuneration. A similar arrangement was put in place for second-year students, who were able to opt-in to a 60% practice - 40% academic split. However, there were no national recommendations for first year students, placing them at potential disadvantage if placements were cancelled with no opportunity to reclaim valuable practice placement (PP) hours and experience (HEE, 2020a).

The cancellation of a six-week occupational therapy placement at one UK south coast Russell Group University brought to the forefront three key concerns for 30 first year students.

1. The loss of 240 PP hours; a quarter of the total number of hours required for HCPC registration, creating student anxiety about the future of their learning.
2. The loss of opportunity to consolidate student learning and apply it to practice; creating concern about their ability to reach the requirements of level 5 study.
3. Loss of motivation and dis-engagement in the course if students would have to wait another year before going on placement.

This education innovation was developed in response to the students' concerns outlined above, with the over-riding objective of keeping their educational program on track. The academic team with a strong and established philosophy of spiral learning embedded across the curriculum (Bruner, 1960), used this pedagogical approach to develop a five-week Practice Replacement Module (PRM). Spiral learning builds on previous knowledge by visiting and revisiting prior topics to consolidate learning and increase depth of knowing (Bruner, 1960) and can be seen across the five weeks, incorporating previously taught topics such as reflective practice (Kinsella, 2001) and case-based learning (Cattaneo, 2017) ahead of the simulated practice (Gaba, 2007). The program team consulted with RCOT and were guided by national briefings and recommendations (RCOT, 2020). The intent of this paper is to describe the contents of the PRM and to share the outcomes of the student evaluation.

Description

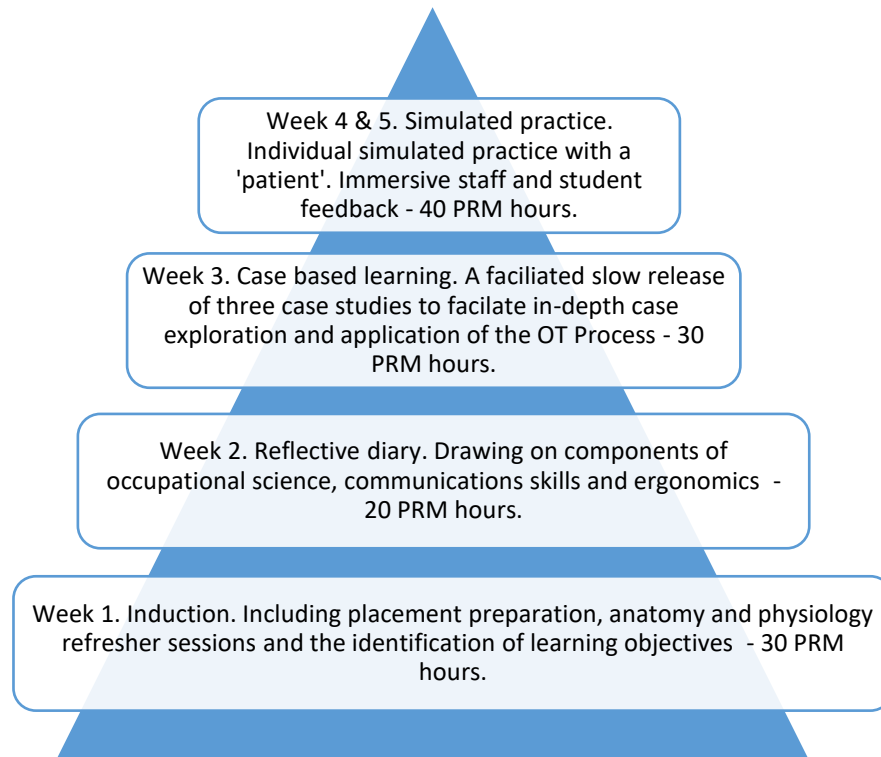
The PRM was delivered virtually using Microsoft Teams over five weeks of timetabled activities (see Figure 1). Teaching and learning methods included PowerPoint presentations, large group discussions, small group facilitated feed-back sessions, and simulated practice. Attendance and involvement with the activities was recorded using a daily attendance register and via tracked engagement with Blackboard, a virtual learning environment.

The students were required to develop a portfolio of evidence gathered from across the five weeks. This evidence was then discussed with their University based academic tutor before being credited with the 120 PRM hours.

Across the five weeks, each set of learning activities built on the experience and knowledge gained from the previous week, replicating the spiral learning approach (Bruner, 1960). The activities were also designed to replicate a growing sense of confidence and independence, typically witnessed as students become more accustomed to their placement environment. With this being the students' first placement, and for some their first experience of working with a 'service user', the PRM started with an induction week and finished with each student having the opportunity to interview a 'service user', write up clinical notes, and provide feedback to their peers.

Figure 1

Illustration of the Week by Week Learning Program and Credited Hours



Week 1: Induction

- Students were introduced to the standard placement assessment form and learning contract. They engaged in a discussion to explore how the PRM could help them meet their placement objectives and were re-introduced to the program's online portfolio recording system, a dynamic repository to store, build, and reflect on their PRM learning and beyond.
- Students identified up to five personal learning outcomes (PLO) for the PRM which were reviewed at the end of the PRM.
- Students engaged in bespoke (custom designed) online and self-directed learning tasks relating to refresher sessions for anatomy and physiology, equipment analysis, moving and handling legislation and safe practice, followed by an online 'quiz' to test their understanding.

Week 2: Reflective Diary

- Students engaged in facilitated occupational analysis and reflection to consolidate their learning and reflect on their working environment, their effectiveness at communication and aspects of occupational science as applied to them, while working at home during the national 'lockdown'.
- Students were free to structure their reflections in any medium that suited and produced poems, drawings, and more formal reflections.
- Portfolio evidence of engagement in the reflective process and identification of key learning to take forward to their next placement was identified.

Week 3: Case-Based Learning

- Three different case studies were facilitated by lecturers with specialist knowledge across physical, mental health and learning disability fields.
- Daily online discussion forums, structured around the Occupational Therapy Process Intervention Model (OTIPM; Fisher & Marterella, 2019), were facilitated by staff to generate breadth and depth of inquiry. Each student was expected to engage in the daily professional discussions for each case.
- Each student produced three case studies for review in their portfolio.

Weeks 4 & 5: Simulated Practice

- Each student engaged with a 'service user' and gained immersive feedback (Gaba, 2007) on their interaction. The 'service users' were played by actors who usually assist with training counselors for the Samaritans, a UK-wide suicide prevention helpline. Feedback focused on verbal and non-verbal communication skills, use of professional language, and observable behaviors.
- After each interview students wrote and shared a set of notes following the Subjective, Objective, Analysis and Plan (SOAP) approach. In small online, breakout groups the content was explored to develop clarity and clinical reasoning.
- Each student produced a reflection on their simulation experience and set of case notes for their service user, detailing occupation- focused, client-centered goals and a service user specific intervention plan.

Evaluation

In total 30 first year BSc students participated in the PRM. The cohort consisted of three males and three international students from Hong Kong, with an age range from 18 – early 50's. As this was a new, innovative approach to placement education, conducted virtually, student feedback was essential to enable a thorough review of the teaching modality from the student perspective. The students were asked to complete the Simulation Satisfaction Evaluation Scale (SSES) (Levett-Jones et al., 2011), and a questionnaire which summarized their learning outcome achievement and where they felt the PRM was most helpful.

Simulation Satisfaction Evaluation Scale (SSES)

The SSES is an 18-item scale that measures student satisfaction of simulation. It considers three aspects of the simulation process: debrief and reflection, clinical reflection and clinical learning, asking the student to rate their level of agreement with each item from 1= strongly disagree to 5= strongly agree. The SSES has demonstrated adequate construct validity and reliability in paramedic simulated education (Williams & Dousek, 2012). Despite being originally developed to use in nursing education (Levett-Jones et al., 2011), the SSES was easily adapted to occupational therapy education by changing just one of the 18 items from *'the simulation helped me recognise the deteriorating patient'* to *'the simulation helped me to recognise the client's occupational needs'*.

Personal Feedback and Evaluation

In order to capture the students' overall experience of the PRM they were asked to complete a questionnaire which detailed what they felt about their placement being cancelled, the value of the PRM as a replacement activity, which areas of the PRM they found most helpful, and progress on their learning outcomes. In total, 25 questionnaires were returned.

Outcomes

Simulation Satisfaction Evaluation Scale (SSES)

Twenty nine out of 30 completed SSES were returned. Across all 18 items, the satisfaction ranged from 93% - 100 %, with 93% (n=27) of students agreeing or strongly agreeing that *'the facilitator's questions helped me to learn'* and 100 % (n=29) agreeing or strongly agreeing with the following items:

- *The facilitator provided constructive criticism during the debriefing*
- *The facilitator summarised important issues during the debriefing*
- *I had the opportunity to reflect on and discuss my performance during the debriefing*
- *Reflecting on and discussing the simulation enhanced my learning*
- *I received feedback during the debriefing that helped me to learn*
- *The facilitator made me feel comfortable and at ease during the debriefing*
- *The simulation developed my clinical reasoning skills*
- *This was a valuable learning experience*
- *The simulation caused me to reflect on my clinical ability*
- *The simulation helped me to apply what I learned from the case study*

In contrast, 10% of students were unsure if the simulation helped *'develop my clinical reasoning'* or *'tested (my) clinical ability'* and just 3% were unsure if the stimulation enabled them to *'demonstrate clinical reasoning'*, *'recognise the client's occupational needs'*, or *'recognise my clinical strengths and weaknesses'*.

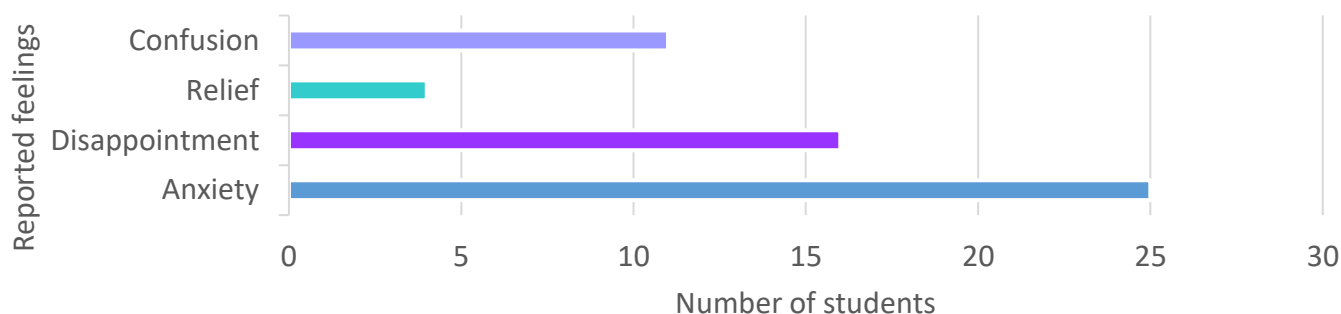
Personal Feedback and Evaluation

Feelings in Relation to the Cancellation of P1

Unsurprisingly, 100% of students (n=25) expressed feelings of worry or anxiety at the cancellation of placement, with 44% (n=11) expressing feelings of confusion and 24% (n=6) expressing specific anxiety about missing hours and graduating late. Additionally, 62% (n=16) reported disappointment at the cancellation, with 54% (n=13) explicitly citing feelings of sadness, loss, and being ‘fed-up’. In contrast, 16% (n=4) of students were relieved at the cancellation of placement. Of these, one student related this to ‘not having to juggle home schooling with placement’ and three students were relieved to be able to ‘stay away from the virus’ (see Figure 2).

Figure 2

Summary of Feelings Reported in Relation to Cancellation of Placement for Year 1 Occupational Therapy Students



The Value of the PRM as a Replacement for Placement

Despite initial concerns, 59% (n=15) of the students felt the PRM replicated placement, with most citing the authenticity of the simulated practice as a helpful way for them to practice skills and prepare for their next placement.

‘It (simulated practice) was a very valuable learning opportunity that really gives us the feeling that we are on a physical placement and are really talking to patients’.

‘The actors were amazing and it made it feel so realistic – made me feel really excited for when we get to go out on placement’.

‘It gives you a feel of what actually takes place in real life and also helps you identify where your strengths and weaknesses in communication are and how you can improve going forward’.

However, 25% (n=6) of students reported finding the PRM intense, hectic or challenging with 16% (n=4) finding the whole experience stressful, draining or anxiety provoking. Despite these feelings, they were still able to identify how the activity had helped them develop and prepare for future placements.

'Overall I found it very stressful and an emotional rollercoaster- but I loved it!

'I was pushed out my comfort zone like I would have been on placement'.

'If we didn't have these weeks than placement 2 would be extremely difficult and over whelming'.

Aspects of the PRM That Were Most Helpful

When asked to consider which aspect of the PRM was most helpful a high proportion of the students 64% (n=16) noted the benefit of shared learning; in particular the value of large group peer observation, small group feedback, and the opportunity to contribute to online group discussions.

'I enjoyed working collaboratively with the cohort and have felt the experience helpful as we have learned in a shared environment which we would not have had on placement'.

'I think for me the part of the last weeks has helped me the most is being part of different groups and being pushed out of my comfort zone to speak my ideas and put my learning across'.

'We had the opportunity to learn through observation as well as doing'

'A great way to learn from others and I learn best doing and from other people so it (simulated practice) worked really well for me'.

Identification and Evaluation of Learning Objectives

By the end of week one all students were asked to have identified up to five PLOs and be prepared to evaluate these at the end of week five. In total, 108 individual PLOs were identified and evaluated, with each student identifying between three to four each. At the end of the PRM students were asked to self-rate how well they thought the PRM had helped them meet their PLOs, grading each objective as '*completely met*', '*mainly met*', '*partly met*' or '*not at all met*'. Of the 108 PLOs, 28% (n=30) were viewed to be '*completely met*', 62% (n=67) were '*mainly met*', 9% (n=10) were '*partly met*,' and 1% (n=1) was '*not met at all*'.

The PLOs identified were grouped into four main areas; development of professional and clinical skills (n=39), personal growth (n=35), development of communication skills (n=18), and consolidation and application of theory (n=16).

Development of Professional and Clinical Skills. The development of professional and clinical skills was the most frequently identified area for development. Included within this area was a desire to increase understanding of the occupational therapy process, being able to identify intervention goals and develop intervention plans. Students also wished to develop and articulate their clinical reasoning, improve their note writing skills, and be able to prioritize tasks and manage their time effectively.

Personal Growth. Learning objectives in relation to personal growth was the second most commonly identified area for development. Included within this area, students wished to develop skills to enable them to reflect and respond appropriately to feedback, achieve personal balance, increase their resilience, and develop an overall sense of increased confidence.

Communication Skills. The third most commonly identified area for development was communication skills. This included communication with peers, lecturers, and service users as well as practicing and developing specific communication skills such as active listening and the use of silence.

Consolidating and Application of Knowledge. The last identified area for development was the consolidation and application of knowledge. Here students identified a desire to move from theory to practice and welcomed the opportunity to 'test out' their knowledge of occupational therapy models, occupational science, and specific therapeutic skills along with an understanding of policy and legislation in practice in a 'real-life' setting. Student comments supporting the findings for each PLO area are shared in Figure 3.

Figure 3*Examples of Quotes from Students for Each PLO Theme*

Discussion

Preparation

The structure and activities developed in the PRM were designed to replicate engagement and learning that might occur during a traditional placement, including assisting the student to effectively prepare for placement. Preparation is known to be a factor that may enhance pro-activeness on placement (Mulholland et al., 2006) and, as such the initial focus of the PRM was on solid preparation and the identification of learning outcomes. Good preparation allows time and space to explore concerns and anxieties, reinforce the expectations of professional practice and test out solutions to a range of possible eventualities (Spiliotopoulou, 2007). Preparation was imperative to alleviate concerns that the PRM was a second-best option and to reassure those students who reported feelings of anxiety, confusion, and disappointment. As part of the preparation process, familiarization of the placement paperwork and the identification of PLO's added a sense of realism and gave the students ownership of their learning journey.

Authenticity

As the PRM was being conducted from the students' own homes, frequently a bedroom or kitchen table, it was important to capture and reflect on the wider environmental, technical, and social aspects that made the PRM unique and the authenticity of occupational disruption (Yerxa, 1990). The evaluation of the student feedback showed, despite some early student anxieties, the PRM was perceived by the students to be an authentic placement activity, addressing placement needs across the four key areas of development including 'professional and clinical skills', 'personal growth', the 'development of communication skills,' and the 'consolidation and application of theory', placing students in a confident position to embark on their second-year placement. The authenticity of the simulated practice in this PRM is clearly evident in the student evaluation and appears to have been a significant factor in the overall learning experience. Authenticity, with the opportunity for immediate feedback and reflection are just two aspects highly valued by students (Van Vuuran, 2016).

Development

Typically, students on their first face to face placement would practice and start to develop their reflective skills and use this preparatory and self-reflective stage to begin experiential learning with service users. Similarly, in the PRM, the case-based learning week allowed students to build on the preceding preparation and reflection weeks to develop new learning in a learner-centered and creative form. The range of case studies reviewed is believed to have offered the students a broader clinical exposure than they would ordinarily experience on placement in an area of specialty, contributing to increased confidence and clinical skills development. This scaffolded, non-penalizing approach to learning encouraged the students to apply information to different contexts, developing links between pieces of knowledge (Cattaneo, 2017) and, facilitating new learning in terms of clinical reasoning (Murphy & Radloft, 2019) and critical thinking (Allen & Toth-Cohen, 2019) skills. Using and developing case studies can improve a

student's motivation to learn and solve practical problems (Qi et al., 2018) and this has been seen throughout the PRM to bring student learning to life and to confidently prepare students for their next placement.

Simulated practice is a technique where real life situations are replicated for educational purposes and the students are '*immersed*' in the situation and respond and receive feedback as if it were real (Gaba, 2007). Having the last two weeks of the PRM dedicated to simulated practice allowed further facilitation of new learning and consolidation in this immersive environment. Simulation in its diverse forms is becoming increasingly popular in healthcare professions education, including occupational therapy, as it can facilitate the development of clinical reasoning, problem solving and decision-making skills alongside building confidence for practice (Alinier, 2007; Bethea et al., 2014). In response to this, 71% of occupational therapy programs in the United States (US) now use simulation methods in routine education to increase these skills (Bether et al., 2014). The simulation experience in this PRM used human service simulation whereby students interviewed one of four different service users over a period of two weeks. This allowed for deep exploration of the service user context and their occupational needs, enabling the practice of clinical skills in a virtual environment (VanPuymbrouck et al., 2017), increasing confidence and preparing the students for future clinical practice (Brannan et al., 2008; Imms et al., 2018; Rutherford-Hemming & Jennrich, 2013; Thomas et al., 2017) in the same way learning develops during a typical first placement experience.

Simulated practice in occupational therapy education in the UK is recognized in the RCOT Educational Standards (RCOT, 2019) as a valuable teaching medium, yet remains a relatively new concept, awaiting to be embedded in curricular nationwide. However, there is currently no comprehensive guide to help clinical educators gauge the potential of the different tools and training approaches beyond appreciating that the greatest benefit comes from employing a range of responsive approaches (Alinier, 2007).

With the arrival of COVID-19 and the requirement to embrace alternative modes of education, simulation across all health care professions could be seen as a viable financial and clinical alternative to traditional placement experiences (Gospodarevskaya et al., 2019). In a randomized controlled trial, Imms et al. (2018) found there was no statistical difference in learning outcomes when comparing 40 hours (one week) of simulated placement to that same amount of time in a traditional placement. It is believed that the PRM was at the forefront of innovative technology enhanced learning (HEE, 2020b), rising to the challenges faced during a pandemic and providing the students with a positive and 'safe' learning environment (Van Vuuran, 2016). Immersing the students in authentic virtual learning and engagement not only enabled students to develop their own learning but contributed to a new realistic and representative clinical experience. As we move to establish a 'new normal' way of working, technology enabled care services (NHS Commissioning Assembly, 2015) are now leading the way. Students who engaged in this PRM are now extremely well placed to take on this next challenge.

Support

Alongside the formal support, which was built in across the five weeks, all students were able to receive additional pastoral support, as required, from their University academic tutor. Such support recognized that students not on placement were not exposed to the visceral, sensory, face-to-face experience of being with service users and observing occupational therapists at work and therefore were at increased risk of isolation, loneliness and potential absenteeism, as a result of the challenges of online learning.

In addition to academic and pastoral support, students kept reflective diaries. Knightbridge (2014) demonstrated that use of a reflective diary helped students understand experiential learning on alternative placements, facilitating recognition of their own personal growth and potential benefits as future professionals. Reflective diaries are frequently used within practice placements, as a critical component of the experiential learning cycle and as a method to capture the individual's unique learning experience (Boud, 2001). Engagement in the reflective process in the PRM appears to align with these findings, with students using their reflections to support identification and achievement of their 'professional and clinical skills' and the 'personal growth' learning outcomes.

Summary

This paper has not formally investigated the benefits of the PRM or measured the difference between placements and replacement activities. However, the student evaluation has demonstrated how engaging students in a range of activities enabled learning objectives to be achieved across four key areas, offering students opportunities to practice and develop their emerging skills, grow in confidence and feel a state of readiness to move to their next level of learning. The evaluation of feedback from this PRM demonstrates the benefits of simulated practice alongside other virtual learning experiences and aligns well to the findings of Imms et al. (2018). The students benefited from the shared learning environment, the mix of activities and immersive feedback. On reflection, it is felt the PRM as a whole was greater than the individual parts and certainly much more than second best, allaying any initial anxiety from the cancellation of placement. With the ongoing challenges of containing and limiting the spread of the Coronavirus, balanced with the requirement for health care students, including student occupational therapists to be educated, a PRM with such a combination of learning opportunities might be considered by other educators as an alternative to a face to face placement. Positive student feedback can only help to highlight the value of virtual learning experiences and invite others to discuss the role of simulation in occupational therapy education and explore the potential to contribute to more than 40 out of 1000 practice placement hours (RCOT, 2019).

Implications for Occupational Therapy Education

The PRM was both a rewarding and positive experience for staff and students and in addition to addressing the initial challenges, has changed our collective view on virtual learning and simulated practice. However, on reflection there are a few points which we feel added to the overall success and a few things we would do differently next time.

What Went Well

- The authenticity of the experience; particularly in the simulated practice, where students felt as if they were 'talking to real patients'; staff role-playing patients would not have created such a realistic environment.
- The opportunity for immediate and immersive feedback for each student throughout the five weeks of the PRM, but particularly during the simulated practice weeks, allowed all students to reflect on and benefit from shared, critical learning.
- The focus on individual occupational disruption, placement learning outcomes and on developing a portfolio of evidence for discussion with a University based academic tutor, before 'sign off' was granted, enhanced commitment and engagement.
- The scaffolded and spiral approach to learning, gradually increased students' independence and confidence.
- The range of activities, the mix of case studies, and the creative use of a variety of interactive, on-line teaching platforms, coupled with the requirement to ensure an individual placement 'sign off' to be credited with placement hours.

What Could be Done Differently Next Time

- Without doubt, the PRM was intensive in terms of preparation and delivery. All case studies were new and written specifically for the PRM; to use case studies the students were already familiar with could have reduced the staff burden, reduced some of the student's anxiety and promoted deeper clinical reasoning.
- All sessions were prepared and delivered by the university academic staff due to the urgent nature of the project. However, co-producing and co-delivering with practice educators could further enhance authenticity.

Conclusion

The purpose of this paper was to describe the PRM as an education innovation and share the outcomes of the student evaluation. The PRM was developed during the COVID-19 pandemic to ensure occupational therapy students, whose placements were cancelled, were not disadvantaged due to loss of placement hours or the opportunity to consolidate their academic studies and apply theory to practice. The PRM, underpinned by pedagogical principles of spiral learning, brought together a range of established occupational therapy teaching approaches into an integrated, online module to replicate a first-year placement.

Evaluation of the PRM included a review of personal learning objectives, the overall usefulness of the PRM, and an evaluation of the simulated practice using the SSES. The learning objectives spanned four key areas including the development of professional and personal skills and personal growth. Out of 25 students, 23 (90%) identified that the PRM addressed (completely or mainly) their personal learning objectives. In addition to this, 64% (n=16) and 59% (n=15) of students valued the shared learning and authenticity of the experience respectively, with a minimum of 95% (n=24) satisfaction across all 18 domains of the SSES.

The PRM is believed to be the first time such an approach has been taken to replicate a face to face placement and credit the students with 120 practice placement hours, in line with RCOT guidance. As education continues to move towards a blend of online and face to face learning, the PRM has provided an initial template for online delivery and could be replicated by other institutions as a methodology for an alternative to a face to face placement, or as a minimum, placement preparation.

It is hoped that this evaluation can contribute to the knowledge base around virtual learning for occupational therapists and support an agreement for the RCOT to review the current limit of simulation hours. As the PRM is thought to be the first of its kind in the UK, research into the longer-term impact on clinical confidence and competency while on future placements is recommended.

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