Practice-based learning and the impacts of COVID-19: doing it for real?

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Abstract

This is the fifth article in a series exploring interprofessional education during the COVID-19 pandemic. This article focuses on the experiences and adaptations employed in relation to practice-based learning and placement provision. Forming an integral part of many professional programmes, changes in provision and approaches to practice-based learning and placements will be explored, drawing on theory and findings from existing literature and illustrated with case study reports. Opportunities for innovation, the challenges for incorporating interprofessional practice learning, and evidence-informed guidance for future practice will be considered.

Keywords: practice-based learning, student placements, interprofessional education, simulation, COVID-19 pandemic, online learning, emergency remote teaching, interprofessional practice learning

Introduction

The consequences of the COVID-19 pandemic have impacted particularly acutely for practice-based learning and placement provision in health and social care programmes worldwide, necessitating reconfigurations in programme delivery and more flexible approaches for practice-based learning and work placements. Higher education institutions, together with their practice partners in the UK, were mandated to work with guidance and emergency standards issued by the professional, statutory, and regulatory bodies to support students in securing progression and transitioning into the workplace without compromising quality, standards, and public safety (Nursing and Midwifery Council (NMC) 2021; Quality Assurance Agency 2021).

As identified in the first article in this series (Power et al. 2021), opportunities for interprofessional education, where different professions can learn with, from and about each other, are key to fostering collaborative practice and improving the quality of care (Centre for the Advancement of Interprofessional Education (CAIPE) 2002). The possibilities of incorporating interprofessional practice-based learning (Anderson and Lennox 2009; Anderson et al. 2016; Brewer and Barr 2016 Barr et al. 2017) adds a further dimension where curricular, logistical and resource implications influence how much of an individual student's learning experience is facilitated in intradisciplinary, profession-specific rather than interdisciplinary, interprofessional groups (Thistlethwaite 2013; Langlois et al. 2020; Yamashita et al. 2021).

This article, the fifth in the series on interprofessional education, will focus on the experiences and adaptations used in relation to practice-based learning and placement provision during the COVID-19 pandemic. Changes in provision and approaches to practice-based learning and student placements will be explored, drawing on theory and findings from existing literature. This analysis will be illustrated with case study reports and reflections from academics working with a range of professional groups. Consideration will be given to opportunities for innovation and evidence-informed guidance for future and alternative approaches to practice-based learning and placements that seek to incorporate remote and online learning opportunities while continuing to meet the required quality and standards.

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Practice-based learning: territory and constituents

Practice-based learning is an integral part of many health and social care professional programmes, providing situated and experiential learning opportunities that contribute to meeting the learning outcomes and competencies required for safe and effective professional practice. For midwifery pre-registration education, the programme must 'provide an equal balance of 50 percent theory and 50 percent practice learning' (NMC, 2019:10). Practice-based learning is conceptualised as distinct from 'classroom' and 'theory-based' learning in that it enables students to gain real world experiences where they can apply the knowledge and skills learned during their programmes and develop their capabilities through observation and participation in a variety of work-based settings (Thistlethwaite 2013). While practice-based learning is normally associated with situated workplace learning undertaken in placements, it can also include simulations, role plays and case-based learning which may take place outside the workplace (Hutchings and Loftus 2012). However, what can be counted as 'practice hours' varies in different professional programmes. For example, nursing programmes can use simulation hours in lieu of practice hours whereas, midwifery programmes cannot. This means that midwifery students must complete 2,300 clinical/service user facing hours in addition to 2,300 hours of theory (some of which may include simulation).

Such practice-based learning strategies offer a wide spectrum of learning opportunities from developing core clinical skills, such as taking a blood pressure measurement or performing a vaginal examination, to developing interprofessional skills, such as shared decision making, communication, team-working and leadership, facilitated in, for example, ward scenarios or intensive care simulations (Alinier et al, 2004, Pearson and McLafferty 2011; Gorantla et al. 2019; Anderson & Bennett 2020).The resources deployed can encompass real patients, actors, online simulations, and fully-interactive patient simulators; hence the territory and constituents of practice-based learning strategies can be very diverse.

As highlighted by Thistlethwaite (2013), practice-based learning is not solely about preparation for practice after qualification; it is also about situated and relational learning in and about practice through authentic experience of doing and becoming part of a community of practice. Higgs (2012) offers a critical frame of reference for understanding the aims, strategies, and contexts for achieving practice-based learning or 'doing it for real', drawing on key theoretical foundations to suggest, as an education strategy, practice-based education:

- Is *situated* within *practice-relevant contexts*
- Involves *reflexivity, participation* and *dialogue*
- Occurs in many *communities of practice* (including workplace, academic and multidisciplinary communities)
- Involves a process of *socialisation* into professional/occupational worlds, roles, identities and career paths
- Involves engagement, through industry *partnerships*, in practice-based teaching and learning activities
- Develops *capabilities and behaviours* that will enable graduates to contribute to local communities and society as responsible citizens and professionals who display ethical conduct and duty of care

The value of the informal, hidden curriculum of situated learning for legitimate peripheral participation in relevant practice contexts cannot be underestimated, whether within clinical or community settings, or comprising multiple encounters between students, service users and their families, clinical teachers,

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practice supervisors and other health and social care staff (Lave and Wenger 1991; Roberts and Kumar 2015). The potential for experiential learning through participation, dialogue and reflexivity over time, not only introduces students to the workplace and gives them a sense of preparedness for practice, but also involves a process of socialisation and engagement with different communities of practice, influencing the direction and development of professional identities, capabilities, and behaviours (Dewey 1933; Kolb 1984; Vygotsky 1978; Wenger 1998). The interplay of situated and relational opportunities provides a rich social space for learning, founded on social-constructivist and situated learning theories, all of which endorse the pre-eminence of the 'gold standard' for practice-based learning and reinforce the argument that healthcare is innately relational (Hutchings et al, 2013; Roberts and Kumar 2015; Langlois et al. 2020).

Practice-based learning and interprofessional education

Interprofessional education is designed primarily to enhance students' knowledge and understanding of the professional roles and responsibilities within the health and social care team. This has the aim of enhancing communication and teamworking skills and ultimately ensuring students are suitably prepared for interprofessional or collaborative practice upon graduation (Morphet et al. 2014; Thistlethwaite 2015). Interprofessional education is primarily delivered through campus based, simulation, online or practice-based learning activities. Case-based scenario learning and simulations have developed as an important part of clinical education and interprofessional education curricula, providing opportunities for practice in structured, safe, and supportive learning environments (Lindqvist et al. 2005; Bligh and Bleakley 2006; Ricketts 2011 Nasir et al. 2017). Simulation-based education offers opportunities to develop interprofessional interactions, bridging "theory to practice", as theoretical knowledge learned in the classroom can be applied through hands-on practice on simulators prior to real patients (Gorantla et al. 2019). However, evidence suggests that maximum impact is achieved where this can be delivered within authentic interprofessional practice based learning settings, constituting students from two or more professional groups (Barr and Low 2013; Anderson et al. 2016; Brewer and Barr 2016; Naumann et al, 2021).

Such experiences are considered an essential component in facilitating the integration of the theory of interprofessional education into interprofessional or collaborative practice (Gilbert 2014; Fraher and Brandt 2019; O'Leary et al. 2020; 2021; Naumann et al. 2021). These experiences provide a place for students to learn and collaborate together as they perform their own professional activities, before assuming their professional roles upon successful completion of their studies (Lapkin et al. 2012; Morphet et al 2014; Brewer and Barr 2016). CAIPE guidelines (Barr et al, 2017) advocate each healthcare student be exposed to at least one interprofessional practice experience during the course of their training and the NMC Standards (2019:11) require student midwives to become proficient in 'interdisciplinary and multiagency team working' by the end of their programme of study. A number of successful interprofessional practice-based learning experiences are cited within the literature, including the Leicester Model (Anderson and Lennox 2009; Anderson et al. 2016) and initiatives within satellite clinics, emergency departments, operating theatres, labour wards and nursing homes (Reeves et al. 2013, Naumann 2021).

The global reach and provision of interprofessional education for collaborative practice has been strongly endorsed by the World Health Organization (2010) as a key evidence-informed strategy for improving the quality of care for service users, patients, families, carers, and communities through enabling effective teamworking. It is also promoted by international networks of educators and

researchers worldwide, as exemplified in current guidance from CAIPE (Barr et al. 2017) and Interprofessional.Global (Khalili et al. 2019). Yet while the benefits of such experiences in developing a competent workforce are recognised and even considered by some to constitute 'essential learning experiences' (Morphet et al. 2014: 197), these opportunities can be nonetheless challenging to embed within health and social care curricula and even more so to implement within the practice setting (Reeves et al. 2006; Reeves 2008; Piterman et al. 2010; Morphet et al. 2014; O'Leary et al. 2020). The challenges and complexities involved in developing and sustaining team-based interprofessional practice placements have led many universities to rely on interprofessional learning in the classroom, online, and/or simulated contexts (Brewer and Barr 2016). However, with the advent of the pandemic, it is increasingly apparent that both interprofessional education and collaborative practice are needed now more than ever (Singh and Matthees 2021).

Practice-based learning and achieving competencies

The territory and constituents of practice-based learning and interprofessional education are diverse. The question of what constitutes 'doing it for real' is made all the more challenging during times of uncertainty and the rapid change wrought by the pandemic. Guidance and emergency standards issued by relevant professional, statutory, and regulatory bodies, including the General Medical Council (2021), the Health and Care Professions Council (2020) and the NMC (2021), continue to emphasise the upholding of quality and public safety, whilst encouraging opportunities for creativity and innovation in practice-based learning within the constraints of meeting required learning outcomes. The NMC (2021) emergency and recovery standards stated that: 'Practice learning in direct contact with healthy or ill people and communities in audited practice learning placements is considered optimal' (NMC 2021: 11), This confirms the 'gold standard' of practice-based learning; however, they specify that, where this optimal experience of practice-based learning is constrained or not possible, alternative learning opportunities using simulation, virtual and digital learning and other contemporary approaches may be deployed. Such learning opportunities include 'peer learning; actors; high and low fidelity including manikins/environments; and virtual and online practice learning training programmes involving authentic case studies, reflection and interaction with people' (NMC 2021: 9) with the proviso that appropriate student supervision and assessment are in place, up to a maximum of 300 hours (8 weeks). The NMC (2021) also recommend that implementation of alternative methods give due consideration to involving and learning with other health care professionals. Implementation should also align with the interprofessional education competencies for midwifery, outlined in the third article in this series (Sy et al. 2022).

COVID-19 adaptations and innovations

The COVID-19 pandemic has presented many new challenges for health and social care educators, particularly in relation to practice-based learning experiences. COVID-19 restrictions and social distancing requirements affected traditional and established methods for delivery of practice-based learning in face-to-face and real-time simulation experiences, whether scheduled to take place within the higher education institution or within the clinical or community setting. Many practice-based learning opportunities, whether uniprofessional or interprofessional, have experienced significant disruption, being postponed as programmes were mandated to rephase their delivery, or requiring the adoption of innovative, alternative approaches to existing provision, with rapid transitions to remote and online learning. The impacts for educators and students worldwide have proved considerable (Hickland et al. 2020; Winship et al. 2020; Bartlett et al. 2021; Lawton et al. 2021; Marchant 2021).

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It is from this theoretical and evidence-informed position that consideration will be given to the COVID-19 adaptations and opportunities for innovation within practice-based learning and interprofessional practice-based learning, drawing on the literature and illustrated by case study reports and reflections from academics working with a range of professional groups. The case studies were acquired from members of CAIPE and their affiliated institutions, who were invited to outline how they had responded to the provision of practice-based learning and student placements during the pandemic, identifying changes in provision and approaches in the pivot to alternative forms of practice-based learning and placement provision and the resultant impact for students and staff.

Partnership working and barriers for interprofessional practice-based learning

Case study 1 (Box 1) reflects the impact of COVID-19 on established provision of interprofessional practice-based learning, describing a well-evaluated approach involving an interprofessional simulation session between medical and nursing students from two different universities delivered in the hospital setting and facilitated by hospital clinical staff. The case study describes how this was halted as a result of the pandemic.

Box 1. Case study 1: University of Bradford:

From established interprofessional practice-based learning provision to stasis

Prior to lockdown, all our pre-registration nursing students had the opportunity to attend an interprofessional simulation session, in practice, with medical students from another university. These were delivered in the hospital setting and facilitated by clinical staff from the hospital alongside a representative from the university. Up to 10 nursing and 10 medical students would attend with the opportunity to participate in one simulation and observe and feedback on two others, which could be observed by video link. The first- and second-year nursing students would attend with the fourth-year medical students and the third-year nursing students attended with the fifth-year medical students. These needed careful co-ordination to ensure the students were in practice at the same time.

The simulation activities remained similar for all years, with slight adaptations to reflect the level and experiences of the students. For example, one simulation activity involved an actor simulating a patient with delirium. The third-year nursing/fifth year medical students included a health care assistant that was unhelpful and did not offer further information. However, for the first- and second-year nursing students/fourth year medical students, more advice was offered such as signposting them to the patient's medical notes.

Students generally enjoyed working together and came away with a better appreciation of what each did and therefore how they could work better together in practice.

While other interprofessional education activities, including those with patients, were quickly moved to online delivery, these simulations stopped during lockdown and have not yet been restarted. Although the use of virtual simulation was explored, there was no appetite for this within the Trust at the time.

Long before the advent of the COVID-19 pandemic, online approaches to interprofessional learning have been documented as a means of resolving some of the inherent challenges to interprofessional education delivery, including barriers of capacity, logistics and scalability to achieve high quality interactions in interprofessional groups (Clouder 2008). The increased reliance on technology during the pandemic is thus not surprising and has enabled some institutions, particularly those where interprofessional education is already strongly embedded, to move large-scale immersive learning experiences to a virtual platform, developing online simulations and revising practice-based learning experiences and reflections to accommodate simulated environments in a virtual context (Langlois et al. 2020; Power et al. 2022). While the feasibility of developing a virtual interprofessional simulation was explored as a means of continuing interprofessional practice-based learning while

maintaining social distancing, case study 1 demonstrates the tenuous and fragile nature of interprofessional practice-based learning provision. It reveals barriers that can emerge in times of crisis and change management and where novel technology enabled solutions may themselves act as a barrier. Some barriers may prove more difficult to overcome, for example differences in professional requirements and regulations and resistance to taking ownership and commitment to interprofessional learning (Clouder 2008; Lawlis et al. 2014). This case study highlights the significance of ongoing partnership working strategies between higher education institutions and their practice partners to help minimise risk factors and negotiate complexity, supported by robust team approaches and staff development to secure a shared vision and interprofessional culture that can maintain and sustain interprofessional learning (Hutchings and Quinney 2015).

Embracing opportunities for adaptation and innovation

A number of successful and innovative transitions and approaches to practice-based learning and interprofessional practice-based learning during the COVID-19 pandemic have been cited within recent literature and are further illustrated in the subsequent case studies. Case study 2 (Box 2) identifies challenges in the provision of practice-based learning faced by staff and students as the impacts of the pandemic emerged and the commitment and resilience of the healthcare programme teams in developing alternative provision, encompassing face-to-face and online provision via online resources, simulations, and blended placements. The adaptations were mainly uniprofessional but with some learning between professional groups and plans to further capitalise upon the effective framework for simulated practice that has evolved.

Box 2. Case study 2: Bournemouth University:

From negotiating challenges to a springboard for innovation

The pandemic created extensive challenges for healthcare programmes requiring specific practice experiences to be achieved to effectively prepare a student for registered practice. Challenges included reduced placement provision as services were reconfigured, limited staff to support learners in practice and initial concerns around provision of personal protective equipment and the safety of letting students be in practice because of the risks associated with COVID-19 (especially some students who were considered clinically vulnerable).

While the university supported the initiative for senior students from some programmes to return to placement under the paid placement framework, this was not available or appropriate for all students. Therefore, representatives from healthcare programme teams designed and delivered a range of alternative experiences to replace the traditional placement, ensuring that they were reflecting requirements of the regulatory bodies while also providing effective learning against the backdrop of COVID-19 restrictions around education provision.

The physiotherapy programme designed and delivered an online placement where second-year undergraduates were provided with real life cases depicting key conditions that they analysed in small groups to provide treatment plans for that individual, while also considering professional approaches to care.

Further innovation evolved as the pandemic continued and some services reverted to more usual ways of working, albeit with continued reduction in placement availability. In some areas, students undertook a blended placement, split between a clinical service and a research project; the latter overseen by university personnel or other professions such as a medic, providing an additional opportunity for insights into other professions.

The need to facilitate alternatives to practice placement provided opportunities to innovate and provide

learning between professional groups. Students from the physiotherapy and operating department practice programmes worked together in the clinical simulation setting to develop knowledge and skills around airway management and associated respiratory care.

Enhanced use of simulation was provided for paramedic science students who undertook a simulated event depicting a major incident that required intervention from paramedics. Additional simulation experiences were designed for all years of nursing students using a blend of virtual learning resources augmented with face-to-face experiences in the simulation suite at the university.

These initiatives were evaluated as an acceptable alternative to traditional placement provision. However, concerns around confidence and gaining sufficient experience in the clinical setting were cited regularly and will need to feature in further placement planning for students.

The restrictions provided a springboard for considering innovations to replace elements of the usual placement pattern. During the pandemic this has been implemented to ensure student progression was subject to minimal disruption and was done at pace. Going forward consideration of staffing resources and provision of sufficient simulation facilities is needed. Clear protocols for a virtual clinical activity need formalising if this facet of placement activity is to be developed further. The requirements of the regulatory body and programme approval arrangements are key to informing the breadth of alternative activities; the parameters for embracing new ways of interprofessional practice learning in an alternative setting, would benefit from further mapping of programmes.

With an effective framework of simulated practice in place, this university is well positioned to capitalise upon the excellent practices that evolved as a result of the COVID-19 pandemic.

Adopting novel solutions

Case study 3 (Box 3) focuses on the development of a novel solution introducing a 'pop-up hospital', Waterside General, a simulated inpatient and community setting, providing authentic scenario-based learning as an alternative to clinical placements. Developing into a 6-week virtual placement, it included 'real people' drawn from the university's service user group, adopting the roles of patients, and opportunities to learn from other professions.

Box 3. Case study 3: University of Northampton:

Waterside General - From a pop-up hospital to virtual placements

Providing opportunities for nursing students to practise hands-on patient care has been challenging during the pandemic. A novel solution with a 'pop-up hospital' was devised to allow 'alternative' clinical placements for first-year nursing students to continue. 'Waterside General' created a simulated inpatient and community setting, with third-year nursing students playing the different patient roles in scenarios encompassing all four nursing fields. University staff from a bank of associate lecturers and permanent staff adopted the roles of practice assessors.

Initially 150 students undertook an 8-hour shift over weekends in small cross-field teams, working their way around acute and community settings, depicting the kinds of nursing experiences they may encounter in practice. Some dramatic events were added to the learning opportunities: including a patient who collapses with a cardiac arrest, a heated argument and a fire necessitating evacuation.

Waterside General was well evaluated by students and staff as a safe space for students to learn. Feedback included 'experiencing all four fields of nursing was memorable: it helps with understanding about the multidisciplinary team. We had a flavour of what each of us does and how we can all work together, which is so important when you're delivering person-centred care.'

This feedback informed the ongoing development of learning opportunities and as the pandemic continued to affect practice learning opportunities in the clinical setting, the nursing team developed a 6 week 'virtual'

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placement at Waterside General for 160 students to complement time in clinical practice. The virtual placement was made as authentic as possible, with each week having a different topic, starting with getting to know the area and team, followed by a week where each field of nursing taught field-specific skills to all the students. Each week ended with students undertaking shifts with members of the university's service user group, 'real people' adopting the roles of patients (including children). The virtual placement culminated in a final week of skills and scenarios with service users acting as patients.

Scenarios were developed around current issues, for example a long covid patient was presented. Students watched videos recorded by the service user and then in teams discussed and agreed on a care plan and completed appropriate referrals to physiotherapy and occupational therapy. This led to further learning opportunities, with the introduction of a session delivered by a senior lecturer in physiotherapy to discuss their role within the interprofessional team.

Other interprofessional scenarios included a session facilitated by the university's campus police force around their involvement in mental health support when called to incidents on campus. These scenarios provided students with real-world case studies to reflect on and triggered valuable discussions and learning around the role of the police officer in the wider public health agenda.

Future plans for Waterside General include developing more scenarios with an interprofessional focus to provide students from a wider range of professions to learn with from and about each other in a 'safe space'.

Case studies 2 and 3 demonstrate how the challenges resulting from the pandemic have paradoxically presented educators with the opportunity to 'reimagine, reinvigorate, and innovate' their delivery (Takizawa et al, 2021: 181). Simulations and scenarios focused on real-life cases and people continue to provide a vital dimension for creating authentic practice-relevant spaces and virtual placements during the pandemic and are reflected in the literature worldwide. For example, Prasad et al (2020) at Monash University, Melbourne, describe an online, synchronous interprofessional simulation experience, previously conducted as a face-to-face learning activity. The obstetric and neonatal simulation workshop is run remotely for medical and midwifery students to experience perinatal emergency management. Langlois et al. (2020) identify further examples of simulations widely used in exposure and immersion level interprofessional learning that have been adapted for the virtual platform. This includes the Teamworks! Program, delivered virtually at the University of Toronto where student groups engage in shared decision making. Similarly, interprofessional simulations at Dalhousie University have students participate in a variety of practice-based simulations; and Indiana University has teams of learners collaborate to provide interprofessional care to individuals living in the community, focusing on a person with complex chronic conditions, and health coaching for a person living with long-term mental and physical disabilities and his/her caregiver.

Pottle (2019) (pre-pandemic) and Mateen and Kan (2021) further highlight the possibilities of the world of virtual reality. They offer a new method of simulation with the benefits of an 'anytime, anywhere' educational delivery, enabling multi-participant, immersive and realistic delivery of practice based interprofessional education at scale. Taylor et al. (2021) discuss virtual placements as an alternative to traditional clinical placements, drawing on the example of a simulated clinical placement developed for dietetic students at Coventry University, where students immerse themselves in a virtual placement experience. While this innovation is profession-specific there are plans to develop and adapt the use of a virtual placement framework in a range of professions.

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From adapting for sustainability to realigning and reconceptualising interprofessional practice-based learning

Continuing the themes of adaptation for sustaining practice-based learning, the final two case studies, case study 4 and case study 5 (Boxes 4 and 5), demonstrate how opportunities to reinvent the curriculum can reinvigorate and lead to reconceptualising interprofessional practice-based learning. Case studies 4 and 5 offer the opportunity to compare and contrast two well-established interprofessional education programmes to review the question of what constitutes doing practice-based learning and interprofessional practice-based learning 'for real'. Each of the programmes describe how they adapted to fully online delivery as a result of COVID-19 while holding to established practice-based models and approaches.

Case study 4 (Box 4) builds on a long-established and strongly embedded model and approach to the provision of interprofessional practice-based learning, the Leicester Model. This is an experiential learning approach using steps adapted from Kolb's (1984) learning cycle to develop critical analysis and problem-solving (Anderson and Lennox 2009; Anderson et al, 2016).

Box 4. Case study 4: University of Leicester and De Montfort University:

Adapting and sustaining interprofessional practice-based learning by shifting from face-to-face to technology enhanced remote learning

Initial reflections were that so much of practice-based interprofessional education in the city focused on the central role of patients and access to patients to visit their homes in the community; this was lost. A pedagogical model is used, the Leicester Model of practice-based learning, which uses the steps of the Kolb learning cycle, in which actual patients were the trigger for interprofessional student work. Access to patients in hospital settings was also lost.

However, use of the experiential learning model continued, for example, in medicines optimisation. A call was sent out to patients (>100 in the patient and carer group) to come forward if they had complex prescriptions and the ability to use IT, asking for help. There was a high response rate, and 10 people were identified whose stories were recorded. GP colleagues and clinical pharmacists worked with university staff to give students access to summary care records, patient's observations and biochemical markers and prescriptions so they could work together to reconcile prescriptions; students found ways to work together online. Teaching was adapted with a blended approach and workbooks reworked to offer pre-course work, and online class and time for students to work together using different e-platforms.

Patient stories were well received, and the GPs and clinical pharmacists came to the student presentation feedback sessions online to hear the students present their medication review and debate and discuss the choices they made and changes, if any, that should be followed up with the patient prescription.

As a result, practices in geographical areas were used where before it was difficult to gain access because students could not travel to them easily. In this way, capacity for more students has grown. All 330 medical and 220 pharmacy students complete this learning online and immersed in-practice. The course will continue using a blended approach. Student evaluations of this course remained positive and interprofessional student groups continue to contribute to everyday clinical work.

This case study is juxtaposed with case study 5 (Box 5) which uses another well-established method for interprofessional learning, the team observed structured professional encounter (TOSPE), informed by the McMaster-Ottawa Team observed structured clinical encounter (TOSCE) (Solomon et al, 2011), to develop practice skills, specifically related to building collaborative competence.

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Box 5. Case study 5: Glasgow Caledonian University

Team observed structured professional encounter (TOSPE): from demonstrating collaborative competence to recognising practice-based learning

Practice-based learning was disrupted by the pandemic affecting the immediate availability and timing of workplace learning opportunities for students in allied health, nursing and social work pre-registration / pre-qualifying programmes. This sparked a range of innovative plans as well as a general reconsideration of the nature, structure, and form of what constitutes practice-based learning. One example was a third-year undergraduate module that changed to fully online delivery as a result of the pandemic, providing essential opportunities for students to develop and maintain their practice skills, specifically related to collaborative competence.

The method of TOSPE was developed as part of the School of Health and Life Sciences interprofessional education framework in 2014. The method was developed as a core means of interprofessional learning, teaching and assessment (both formative and summative). It involved interprofessional groups of students developing and demonstrating ~~their~~ collaborative competence through a range of classroom-based and desk-top simulations focused on case scenarios with the interprofessional care planning team meeting being the main vehicle. The simulation scenarios were carefully developed to ensure constructive, horizontal, and vertical alignment across different programmes. This ensured that whilst the scenarios were relevant to the Scottish / UK context of practice, they were also appropriately challenging, contextually relevant, and appropriate for the stage of each student on their respective programme of study. Over the course of the 12-week module, each student had the opportunity to engage in four encounters as part of their learning. This provided valuable opportunities for peer feedback and formative feedback from their facilitator (an academic member of staff). Students were assessed on their ability to demonstrate effective interprofessional communication and collaboration, management of conflict, interprofessional team functioning, and awareness of human factors.

During the pandemic, delivery of the module and TOSPEs successfully transitioned to a fully online experience and has proved to be highly successful in terms of student achievement, progression, and satisfaction. Facilitators have been positive about the online delivery experience. It is anticipated that the online TOSPEs will continue to have a central place in the module after the pandemic given the new and emerging methods of video consultation and team collaboration in the workplace (e.g., Near Me/Attend Anywhere) and its contribution to the facilitation of digital capabilities in students.

Prior to the pandemic, the module was clearly focused on the development of collaborative competence in the classroom using primarily low-tech simulations, based on case scenarios and artefacts (referral letters, extracts from case records / charts) that formed the basis of the TOSPEs. They had not been considered a 'formal' practice-based learning module and therefore did not accrue any placement hours. The pandemic has highlighted the need to reconsider this configuration and explore how each professional discipline involved in the module might capitalise on both the learning and the potential for hours to be formally recognised as part of the programme structures. This also reflects the shift in many professional bodies where simulation can be considered towards placement hours.

Table 1 identifies the educational strategies at work in a comparative analysis of case studies 4 and 5 and what constitutes doing practice-based learning and interprofessional practice-based learning 'for real' adapted from Higgs's (2012) critical frame of reference for practice education. The question of being situated in practice relevant contexts is addressed in each of these case studies by immersion in case scenarios whereby the stories of clients, families, and carers provide the essential ingredient and trigger for facilitating authentic, relevant, person-centred practice-based learning (Pulman et al. 2012). Team working and collaboration is transposed into 'interprofessional working practice' by students actively working together, to achieve optimum outcomes. These outcomes are task-oriented, whether to reconcile a prescription for a real client, or to create an interprofessional care plan, but also relationally oriented, focused on people learning together. Students from different professional groups develop an increasing awareness of each other's contributions to care and, in doing so, further develop their own professional identities. The students are also working

with and learning from professional and clinical experts and clients, through receipt of advice and feedback, either directly or indirectly. In case study 4, while clients were no longer directly available to meet with students in their own homes, some clients were prepared to do so in the online environment. Looking to the future, while many more volunteers would be required to manage student capacity, this approach in direct relationship with clients, lends itself to opportunities for telehealth and video consultation.

Table 1. Comparative analysis of educational strategies

Education strategy	Case study 4	Case study 5
Situated learning in relevant practice contexts	Students immersed in practice to analyse pre-recorded stories of 'live' clients supplemented by summary case records and prescriptions	Students immersed in practice to review authentic person-centred client and family/carer case scenarios and supporting artefacts (referral letters, extracts from case records, charts)
Experiential learning though participation, dialogue, and reflexivity over time	Medical and pharmacy students work together engaging in critical analysis and problem-solving to reconcile prescriptions over two days	Students work together in small interprofessional groups to review client case scenarios and develop care plans, engaging in interprofessional communication and collaboration, undertaking four formative team observed structured professional encounters (TOSPEs) over a 12-week module
Development of professional identities, capabilities, and behaviours	Students deliver an online presentation before engaging in debate and discussion with clinical experts (GP and clinical pharmacist) and teaching staff to agree changes if any that should be made to the prescription.	Regularised interprofessional working practice observed and reviewed by peers and academic facilitator
Preparedness for practice	Observed behaviour not graded but interprofessional practice-learning recorded in ~~a~~ professional portfolio reflective account or short essay	Summative TOSPE assessment to demonstrate effective interprofessional communication and collaboration, management of conflict, interprofessional team functioning, and awareness of human factors
Socialisation and engagement with communities of practice	Opportunity for online debate and discussion with clinical experts	Developing awareness of different professions' contributions to care and influencing development of professional identity
Partnership working	Clinical staff join teachers for students' online presentations While clients are no longer directly available to meet with students in their own homes, some contributed by volunteering their recorded stories	Case scenarios created in partnership with professional and clinical practice representatives

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The two case studies represented here, demonstrate alternative blends of task-oriented product outcomes and relationally-oriented process outcomes positioned at different points on a continuum of interprofessional practice-based learning design according to student composition and orientation, constructive alignment between learning activities and intended learning outcomes (Biggs and Tang 2011), and the time period devoted to interprofessional practice-based learning provision. While experiential learning with active participation and dialogue are at the heart of these two case studies, the period of time devoted to student immersion in authentic practice experiences varies between a short, intensive 2-day problem-solving task oriented approach (case study 4) and regularised practice (case study 5) over a 12-week period.

For students to be able to work effectively within the complexities of health and social care systems, Langlois et al. (2020) refer to the four essential Cs of communication, collaboration, critical thinking, and creativity required. The comparative analysis of the two case studies demonstrates that opportunities for reinventing the curriculum can lead to reconceptualisation of practice-based learning and interprofessional practice-based learning. They illustrate that it is feasible to redesign time-limited people-focused, relationally-oriented learning activities with task-focused outcomes of improving client care in unison with embedding interprofessional communication, collaboration and critical thinking skills in action for the development of professional identities, capabilities, and behaviours. Ultimately, these approaches can help students prepare for professional practice by 'doing' in association with reflective practice, peer support and supervision, thus informing and influencing their embodied understanding of 'becoming' and 'being' a professional practitioner (Todres 2008).

Conclusions and considerations for future provision of practice-based learning and placements

Going forward, the pandemic has led to the realisation that traditional conceptualisations of what is and what is not 'practice-based' learning need to be critically re-examined. The gold standard for practice-based learning was defined as 'learning in direct contact with healthy or ill people and communities in audited practice learning placements' (NMC 2021: 11). While this standard prevails, increasing pressures to provide, sustain and expand placements in partnership with practice providers remain, despite and beyond the impacts of the pandemic (Health Education England 2018; NHS Employers 2020).

While acknowledging that the practice-based learning and interprofessional practice-based learning experiences described in the case studies presented here can only be proxies for the complexities of the clinical workplace (Thistlethwaite 2013), this paper argues that opportunities for experiential learning in situated practice contexts contributes to the development of behaviours and capabilities, supporting preparedness for practice and initiating processes of socialisation into professional roles and identities. Further research may be needed to identify the most appropriate blends of task-oriented and relationally-oriented learning activities to achieve optimum outcomes for interprofessional practice-based learning, which can align interprofessional communication and collaboration with critical thinking and reflective practice.

As technological advances go hand-in-hand with human commitment to adaptation and innovation, a greater shift to further innovative opportunities for practice-based learning and interprofessional practice-based learning using simulation and virtual platforms is envisaged, for example, where health and social care programmes choose to build in experiential learning with telehealth to prepare students for future practice. The case studies demonstrate a culture of commitment to

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practice-based learning that has been harnessed to facilitate transitions to alternative practice-based learning and interprofessional practice-based learning strategies and address the challenges of COVID-19. The necessary realignment of practice-based learning and interprofessional practice-based learning provision, facilitated by greater use of technology enabled solutions, builds on earlier innovations, where inherent challenges to interprofessional education delivery (including the barriers of capacity, logistics and scalability) were addressed through deployment of technology enhanced learning to achieve high quality interactions in interprofessional groups (Clouder 2008).

Regrettably, new approaches to interprofessional practice-based learning may be put aside as curricular, logistical and resource implications exert influence and steer curriculum design towards prioritising profession-specific teaching and learning over interprofessional provision beyond COVID-19 (Langlois 2020; Power et al 2021). Such challenges highlight the tenuous and fragile nature of interprofessional practice-based learning provision and the continuing importance of partnership working for promoting and sustaining an interprofessional culture within and between academic and practice settings including primary, secondary and tertiary healthcare, and community and voluntary sectors.

The question of what is and what is not 'practice-based' learning will have continuing relevance beyond COVID-19 and its continuing development may form the springboard for furthering interprofessional practice-based learning provision.

CPD reflective questions

- How did the COVID-19 pandemic influence the provision of practice-based learning and student placements?
- How can the situated and relational space associated with the gold standard of placement provision be delivered outside the workplace?
- What are the key aspects that can be transferred to post-pandemic practice-based learning and interprofessional placement provision?

Upcoming article: The sixth article in this series will focus on the considerations and adaptions aligned to the assessment of interprofessional education including examples of the alternative assessment strategies used by faculty; the modality of assessment and the tools used; the student and faculty experience of remote/ online assessment and the challenges faced by both during the rapid pivot to remote learning and assessment.

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References

Alinier, G., Hunt, W.B., Gordon, R. (2004) Determining the value of simulation in nurse education; study design and initial results. Nurse Education in Practice, 4(3) 200-207.

Anderson, E.S., Bennett, S. (2020) Taking a closer look at undergraduate acute care interprofessional simulations: lessons learnt. Journal of Interprofessional Care, 34 (6) 772-783.

Anderson, E.S., Ford, J., Kinnair, D.J. (2016) Interprofessional Education and Practice Guide No. 6: Developing practice-based interprofessional learning using a short placement model. Journal of Interprofessional Care, 30 (4) 433-440.

Anderson, E.S., Lennox, A. (2009) The Leicester Model of Interprofessional education: developing, delivering and learning from student voices for 10 years. Journal of Interprofessional Care, 23(6) 557-73.

Barr, H., Low, H. (2013) Introducing interprofessional education. CAIPE.

Barr, H., Ford, J., Gray, R., Helme, M., Hutchings, M., Low, H., Machin, A., Reeves, S. (2017) Interprofessional Education Guidelines 2017. CAIPE. https://www.caipe.org/resources/caipe-publications

Bartlett, M., Howden, S., Jones, A., Martindale, L. (2021). Editorial: Innovation and creativity in a time of crisis. International Journal of Practice-based Learning in Health and Social Care, 9(1) ii–iv.

Biggs, J. and Tang, C. (2011) Teaching for quality learning at university. 4th ed. Society for Research into Higher Education & Open University Press. McGraw Hill.

Bligh, J., Bleakley, A. (2006) Distributing menus to hungry learners: can learning by simulation become simulation of learning? Medical Teacher, 28 (7) 606-613.

Brewer, M., Barr, H. (2016) Interprofessional Education and Practice Guide No. 8: Team-based interprofessional practice placements. Journal of Interprofessional Care, 30 (6) 747-753. https://doi.org/10.1080/13561820.2016.1220930

Centre for the Advancement of Interprofessional Education (CAIPE). Interprofessional education – a definition. 2002. https://www.caipe.org/about-us (accessed 1 September 2021)

Clouder, L. (2008) Technology-enhanced learning: conquering barriers to interprofessional education. The Clinical Teacher, 5 (4) 198–202.

Dewey, J. (1933) How we think. Boston: D.C.Heath.

Fraher, E., Brandt, B. (2019) Toward a system where workforce planning and interprofessional practice and education are designed around patients and populations not professions, Journal of Interprofessional Care, 33 (4) 389-397.

General Medical Council (2021) Temporary derogations to curriculum requirements to support Annual Review of Competence Progression (ARCP) where training has been disrupted by coronavirus (COVID-19). GMC.

Gilbert, J. (2014) Practice education and practice placements: universal problems. International Journal of Practice-based Learning in Health and Social Care, 2 (1) 1-5.

To cite this article: Hutchings M, McLarnon N, McDermott J, Watson, A., Power A, Anderson E S, Owens M. Practice-based learning and the impacts of COVID-19: doing it for real? *British Journal of Midwifery* 2022; 30(6):333-344. https://doi.org/10.12968/bjom.2022.30.6.333

Gorantla, S. Bansal, U., Singh, J.V., Dwivedi, A. K., Malhotra, A., Kumar, A. (2019) Introduction of an undergraduate interprofessional simulation-based skills training program in obstetrics and gynaecology in India. Advances in Simulation, 4 (6) https://doi.org/10.1186/s41077-019-0096-7

Health Education England 2018. Reducing pre-registration attrition and improving retention (RePAIR) Report. London: Health Education England.

Health & Care Professions Council (2020) COVID-19: Information for education providers https://www.hcpc-uk.org/education-providers/updates/2019/covid-19-information-for-education-providers/

Hickland, M.M., Gosney, E. R. and Katie L., Hare, K. L. (2020) Medical student views on returning to clinical placement after months of online learning as a result of the COVID-19 pandemic, Medical Education Online, 25 (1) https://doi.org/10.1080/10872981.2020.1800981

Higgs, J. (2012) Practice-based education: the practice-education-context-quality nexus. In Higgs, J., Barnett, R, Billett, S, Hutchings, M., Trede, F. (eds). Practice-Based Education: Perspectives and Strategies. Netherlands, Sense Publishers.

Hutchings, M., Loftus, S. (2012) Practice-based education outside the workplace: simulations, role plays and problem-based learning. In Higgs, J., Barnett, R, Billett, S, Hutchings, M., Trede, F. (eds). Practice-Based Education: Perspectives and Strategies. Netherlands, Sense Publishers.

Hutchings M., Quinney A. (2015) The flipped classroom, disruptive pedagogies, enabling technologies and wicked problems: responding to 'the bomb in the basement'. Electronic Journal of e-Learning, 13 (2) 106-119 www.ejel.org

Hutchings, M., Scammell, J., Quinney, A. (2013) Praxis and reflexivity for interprofessional education: towards an inclusive theoretical framework for learning. Journal of Interprofessional Care, 27 (5), 358-366.

Khalili, H., Thistlethwaite, J., El-Awaisi, A., Pfeifle, A., Gilbert, J., Lising, D., MacMillan, K., Maxwell, B., Grymonpre, R., Rodrigues, F. F, Snyman, S., Xyrichis, A. (2019). Guidance on global interprofessional education and collaborative practice research: discussion paper. A joint publication by InterprofessionalResearch.Global & Interprofessional.Global. www.research.interprofessional.global

Kolb, D.A. (1984) Experiential learning. London: Prentice Hall.

Langlois, S., Xyrichis, A., Daulton, B.J. et al. (2020) The COVID-19 crisis silver lining: interprofessional education to guide future innovation. Journal of Interprofessional Care, 34(5) 587–592.

Lapkin, S., Levett-Jones, T., Gilligan, C. (2012) A cross-sectional survey examining the extent to which interprofessional education is used to teach nursing, pharmacy and medical students in Australian and New Zealand Universities. Journal of Interprofessional Care, 26 (5) 390-396.

Lave, J., Wenger, E. (1991) Situated learning: Legitimate peripheral participation. Cambridge: Cambridge University Press.

Lawlis, T.L., Anson, J., Greenfield, D. (2014) Barriers and enablers that influence sustainable interprofessional education: a literature review, Journal of Interprofessional Care, 28 (4) 305-310.

To cite this article: Hutchings M, McLarnon N, McDermott J, Watson, A., Power A, Anderson E S, Owens M. Practice-based learning and the impacts of COVID-19: doing it for real? *British Journal of Midwifery* 2022; 30(6):333-344. https://doi.org/10.12968/bjom.2022.30.6.333

Lawton, V., Vaughan, R., Jones, T. M., Pacey, V. (2021). Rising to the challenge of COVID-19: Pivoting to online and project-based physiotherapy student placements in contemporary professional settings. International Journal of Practice-based Learning in Health and Social Care, 9(2) 21–38.

Lindqvist, S., Duncan, A., Shepstone, L., Watts, F., Pearce, S. (2005) Case-based learning in cross-professional groups – the development of a pre-registration interprofessional learning programme. Journal of Interprofessional Care, 19(5) 509–520.

Marchant, J. (2021). Understanding the allied health professions student experience of practice placements during the first wave of the coronavirus pandemic. International Journal of Practice-based Learning in Health and Social Care, 9(2) 39–48.

Mateen M, Kan CY. (2021) Education during COVID-19: Ready, headset, go! The Clinical Teacher, 18 (1) 90–91.

Morphet, J., Hood, K., Cant, R., Baulch, J., Gilbee, A., Sandry, K. (2014) Teaching teamwork: an evaluation of an interprofessional training ward placement for health care students. Advances in Medical Education and Practice, 5 197–204.

Nasir, J., Goldie, J., Little, A., Banerjee, D., Reeves, S. (2017) Case-based interprofessional learning for undergraduate healthcare professionals in the clinical setting, Journal of Interprofessional Care, 31 (1) 125-128.

Naumann, F., Mullins, R., Cawte, A., Beavis, S., Musial, J., Hannan-Jones, M. (2021) Designing, implementing and sustaining IPE within an authentic clinical environment: the impact on student learning, Journal of Interprofessional Care, 35 (6) 907-913.

NHS Employers (2020) Expanding placement capacity. https://www.nhsemployers.org/articles/expanding-placement-capacity

Nursing and Midwifery Council (NMC) (2019) Realising professionalism: standards for education and training. Part 3: Standards for pre-registration midwifery programmes. London: NMC.

Nursing and Midwifery Council (NMC) (2021) Current emergency and recovery programme standards. London: NMC.

O'Leary, N., Salmon, N., Clifford, A.M. (2020) 'It benefits patient care': the value of practice-based IPE in healthcare curriculums. BMC Medical Education, 20:424.

O'Leary, N., Salmon, N., Clifford, A.M. (2021) Inside-out: normalising practice-based IPE. Advances in Health Sciences Education, 26 (2) 653–666.

Pearson, E., McLafferty, I. (2011) The use of simulation as a learning approach to non-technical skills awareness in final year student nurses. Nurse Education in Practice, 11(6) 399-405.

Piterman, L., Newton, J.M., Canny, B.J. (2010) Interprofessional education for interprofessional practice: does it make a difference? Medical Journal of Australia, 193 (2) 92-93.

Pottle, J. (2019) Virtual reality and the transformation of medical education. Future Healthcare Journal, 6 (3) 181–185.

Power A., Park V., Owens M., Sy M. (2022) Academics' experiences of online interprofessional education in response to COVID-19. British Journal of Midwifery 30 (4) 222-228.

To cite this article: Hutchings M, McLarnon N, McDermott J, Watson, A., Power A, Anderson E S, Owens M. Practice-based learning and the impacts of COVID-19: doing it for real? *British Journal of Midwifery* 2022; 30(6):333-344. https://doi.org/10.12968/bjom.2022.30.6.333

Power, A., Sy M.P, Hutchings M. et al. (2021) Learning in lockdown: exploring the impact of COVID-19 on interprofessional education. British Journal of Midwifery, 29(11) 648–652. https://doi.org/10.12968/bjom.2021.29.11.648

Prasad, N., Fernando, S., Willey, S., Davey, K., Kent, F., Malhotra, A., Kumar, A. (2020) Online interprofessional simulation for undergraduate health professional students during the COVID-19 pandemic. Journal of Interprofessional Care, 34 (5) 706-710.

Pulman, A., Galvin, K., Hutchings, M., Todres, L., Quinney, A., Ellis-Hill, E. and Atkins P. (2012) Empathy and dignity through technology: using lifeworld-led multimedia to enhance learning about the head, heart and hand. Electronic Journal of e-Learning, 10 (3) 349-360 www.ejel.org

Quality Assurance Agency (QAA) (2021) Ongoing implications of the pandemic for placements and practice-based courses, including field work: Covid-19 support and guidance. Quality Assurance Agency for Higher Education www.qaa.ac.uk/covid-19

Reeves, S. (2008) Planning and implementing a collaborative clinical placement for medical, nursing and allied health students: a qualitative study. Medical Teacher, 30 (7) 699–704.

Reeves, S., Freeth, D., Glen, S., Leiba, T., Berridge, E-J., Herzberg, J. (2006) Delivering practice-based interprofessional education to community mental health teams: understanding some key lessons. Nurse Education in Practice, 6 (5) 246-253.

Reeves, S., Perrier, L., Goldman, J., Freeth, D., Zwarenstein, M. (2013) Interprofessional education: effects on professional practice and healthcare outcomes. Cochrane Database of Systematic Reviews, Issue 3.

Ricketts, B. (2011) The role of simulation for learning within pre-registration nursing education: a literature review. Nurse Education Today, 31(7) 650-654.

Roberts, C., Kumar, K. (2015) Student learning in interprofessional practice-based environments: what does theory say? BMC Medical Education, 15: 211

Singh, J., Matthees, B. (2021) Facilitating interprofessional education in an online environment during the COVID-19 pandemic: a mixed method study. Healthcare, 9, 567.

Solomon P., Marshall D., Boyle A., Burns S., Casimiro LM., Hall P., Weaver L. (2011) Establishing face and content validity of the McMaster-Ottawa team observed structured clinical encounter (TOSCE Journal of Interprofessional Care, 25(4):302-304.

Sy, M., Park, V., Nagraj, S. et al. (2022) Emergency remote teaching for interprofessional education during COVID-19: student experiences. British Journal of Midwifery, 30 (1) 47-55.

Takizawa, P., Honan, L., Brissette, D., Wu, B. J., Wilkins, K. M. (2021) Teamwork in the time of Covid. FASEB BioAdvances, 3 (3) 175-181.

Taylor, N., Wyres, M., Green, A., Hennessy-Priest, K., Phillips, C., Daymond, E. Love, R., Rebecca Johnson, R., Wright, J. (2021) Developing and piloting a simulated placement experience for students. British Journal of Nursing, 30 (13) (Nutrition Supplement) S19-S24.

Thistlethwaite, J. (2013) Practice-based learning across and between the health professions: a conceptual exploration of definitions and diversity and their impact on interprofessional education.

To cite this article: Hutchings M, McLarnon N, McDermott J, Watson, A., Power A, Anderson E S, Owens M. Practice-based learning and the impacts of COVID-19: doing it for real? *British Journal of Midwifery* 2022; 30(6):333-344. https://doi.org/10.12968/bjom.2022.30.6.333

International Journal of Practice-based Learning in Health and Social Care, 1 (1) 15-28. https://publications.coventry.ac.uk/index.php/pblh/article/view/256

Thistlethwaite, J. (2015) Interprofessional education: implications and development for medical education. Educación Médica, 16(1):68-73.

Todres, L. (2008) Being with that; the relevance of embodied understanding for practice. Qualitative Health Research 18 (11) 1566-1573.

Vygotsky, L. (1978) Mind in society: The development of higher psychology processes. Cambridge, Massachusetts: Harvard University Press.

Wenger, E. (1998). Communities of practice: Learning, meaning, and identity. Cambridge: Cambridge University Press.

Winship, J. M., Falls, K., Gregory, M., Peron, E. P. et al. (2020) A case study in rapid adaptation of interprofessional education and remote visits during COVID-19, Journal of Interprofessional Care, 34 (5) 702-705.

World Health Organization (WHO) (2010) Framework for action on interprofessional education & collaborative practice. Geneva: World Health Organization. https://www.who.int/publications/i/item/framework-for-action-on-interprofessional-education-collaborative-practice (accessed 7 January 2022)

Yamashita T, Osawa S, Ota K et al. 2021 Interdisciplinary groups perform better than intradisciplinary groups in online group discussion activities. Medical Education Online, 26 (1):1886649. https://doi.org/10.1080/10872981.2021.1886649

To cite this article: Hutchings M, McLarnon N, McDermott J, Watson, A., Power A, Anderson E S, Owens M. Practice-based learning and the impacts of COVID-19: doing it for real? *British Journal of Midwifery* 2022; 30(6):333-344. https://doi.org/10.12968/bjom.2022.30.6.333