

British Journal of Midwifery

The impact of Covid-19 on the delivery process of Interprofessional Education: it's not all bad news --Manuscript Draft--

Manuscript Number:	
Full Title:	The impact of Covid-19 on the delivery process of Interprofessional Education: it's not all bad news
Short Title:	
Article Type:	Professional
Keywords:	Interprofessional Education, COVID-19, online learning, Emergency Remote Teaching, delivery process
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The impact of Covid-19 on the delivery process of Interprofessional Education: it's not all bad news

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Abstract

During the COVID-19 outbreak, most face-to-face teaching and practice-based learning placements were suspended. Universities were required to provide ongoing health and social care education using online technology. Like most teaching, IPE was affected by the pandemic and the suspension of face-to-face teaching. With the focus on the changes that occurred in the delivery of IPE during COVID-19, this paper will provide an international perspective through facilitators' case reports. It will consider the key factors that enabled a rapid shift from face-to-face to online IPE, and the key aspects that had to change. A crisis can offer an opportunity to stop, re-analyse, reflect, and reinvent learning. The significant changes reported from literature and our case reports reflect on remote and online learning in IPE, duration of IPE sessions, individual and team learning aspects, and facilitation skills. Despite the challenges of emergency remote teaching in IPE, the enablers can outweigh the barriers.

The impact of Covid-19 on the delivery process of Interprofessional Education: it's not all bad news

Abstract

During the COVID-19 outbreak, most face-to-face teaching and practice-based learning placements were suspended. Universities were required to provide ongoing health and social work education using online technology. Like most teaching, IPE was affected by the pandemic and the suspension of face-to-face teaching. With the focus on the changes that occurred in the delivery of IPE during COVID-19, this paper will provide an international perspective through facilitators' case reports. It will consider the key factors that enabled a rapid shift from face-to-face to online IPE, and the key aspects that had to change. A crisis can offer an opportunity to stop, re-analyse, reflect, and reinvent learning. The significant changes reported from literature and our case reports reflect on remote and online learning in IPE, duration of IPE sessions, individual and team learning aspects, and facilitation skills. Despite the challenges of emergency remote teaching in IPE, the enablers can outweigh the barriers.

Keywords: Interprofessional Education, COVID-19, online learning, Emergency Remote Teaching, delivery process

The COVID-19 pandemic has had a major impact on societies and individuals. Social distancing measures were introduced to stop the spread of the virus. As a result, most levels of teaching and learning transferred from face-to-face to online. Universities tried to provide ongoing health and social care education through so-called emergency remote teaching (ERT). Face-to-face teaching and practice-based learning placements were suspended (Sani et al., 2020). This transformation happened unexpectedly and had to be accomplished in a short period of time (Iglesias-Pradas et al., 2021).

As outlined in Power et al. (2021) interprofessional collaborative practice is essential for providing high-quality, effective health care. Globally, universities have introduced interprofessional education (IPE) for students to learn with from and about each other to improve the quality of care (CAIPE, 2002; World Health Organization, 2010). Like most teaching, the delivery of IPE was affected by the pandemic and the suspension of face-to-face teaching (Langlois et al., 2020). It is valuable to consider how facilitators coped with this shift and ensured the ongoing delivery of IPE. The aim of this paper is to focus on the delivery of IPE during the pandemic. It will provide an international perspective through facilitators' case reports and will reflect on key aspects that had to change as well as factors that enabled a rapid shift from face-to-face to online IPE. As acknowledged by Khalili (2020), there are challenges and opportunities for IPE during COVID-19. Therefore, this paper will reflect on the lessons learnt and offer recommendations to guide future remote and online IPE.

It is possible to consider the 3P (presage, process, and product) model of teaching and learning to reflect on the delivery process of IPE during the COVID-19 pandemic. This model was proposed by Biggs (1993) and discussed within the context of IPE by Freeth and Reeves (2004). "Presage" factors are essential to ensure learning can take place, such as facilitators' and learners' characteristics, and the context for learning and teaching (Freeth & Reeves, 2004). The "process" involves planning and delivering IPE and consists of teaching and learning approaches such as remote and online learning and the facilitation style. The final stage of the model refers to the "product" factors such as developing attitudes, perceptions, knowledge, skills, behaviour, and impact on practice (Freeth & Reeves, 2004).

In the focus of this paper the delivery "process" of IPE in ERT is of interest. Freeth and Reeves (2004) divide the process into eight categories which will be discussed throughout the paper. These categories include: Selecting uniprofessional, multiprofessional or IPE, selecting the appropriate stage, duration, teams versus individual learning, remote and online learning, opt-in or compulsory learning, assessments, and facilitation. Based on findings from existing literature and a selection of

international experiences from Austria, England, Qatar, and Scotland, the delivery process of IPE in ERT will be discussed.

International experiences with ERT in IPE

The following will outline the key factors that had to change in the delivery “process” of ERT for IPE. This information is based on international case studies, which were generated from academics and students, who have had experiences of engaging with IPE during COVID-19. They identified key aspects that they had to change in the IPE delivery process as well as the enablers and challenges they had experienced (see Supplement A).

The “process” categories which were affected by the changes are summarized in Supplement B. The mode of delivering IPE sessions had to change in all of the cases due to the COVID-19 pandemic. Prior to the pandemic, all IPE sessions from our selected case reports were delivered in person, face-to-face, with students, facilitators, and patients and service users in the same physical location or via a blended approach, using online platforms as well as face-to-face teaching. All of the case reports indicated that the IPE sessions transitioned to a fully online learning experience. This shift to online learning potentially impacted and affected other factors of the delivery process such as the duration of IPE sessions, the learning activities, and the facilitation skills.

Online synchronous teaching and learning often utilized Microsoft Teams, whereas asynchronous teaching and learning processes utilized online platforms such as Blackboard, Google Jamboard, and Padlet. Even though various teaching tools and modes of delivery were offered, in two of the case reports, the usual interprofessional mix of the students was not possible when the IPE sessions transitioned to online learning (as reflected in the cases from Austria and Scotland). However, an interprofessional mix of students was still maintained through the students who were able to be involved. In terms of accessibility of student groups, the experience from England showed that the level of attendance increased at the ERT IPE sessions in comparison to delivering IPE face-to-face.

Regarding the duration of IPE sessions, Qatar and England experienced a number of changes. In Qatar, for example, facilitators made the decision to shorten the IPE activities from three hours face-to-face (as originally organised) to a two-hours online session. In comparison, some IPE sessions in England extended their IPE to one week with synchronous online sessions and asynchronous group work.

It was apparent that the amount of support required by IPE facilitators increased with the transition from face-to-face to ERT IPE. As reported from Qatar and England, additional facilitators and IT-

support staff were required to ensure all students were assigned to an interprofessional group and to ensure technical problems were resolved as they arose during the IPE activities. Although it was crucial to have facilitators dedicated to each virtual room, their input varied depending on the group activities. For example, in Scotland, the facilitators remained in the background to avoid disrupting the interprofessional group discussions.

According to all our international case studies, ERT did not significantly impact on the levels of learners that were brought together for IPE, nor did it impact on the intended learning outcomes. Various levels of learners participated in IPE and learning outcomes in all our case reports remained the same during ERT. Key factors that changed in regards to assessments and tools utilized to demonstrate students' achievements of learning outcomes are beyond the scope of the present paper. This will, however, be discussed in more detail in the sixth article in our series: "The impact of COVID-19 on the assessment of Interprofessional Education: overcoming barriers". The changes are summarised in Supplement B.

Discussion and lessons learned

As highlighted by Langlois (2020) IPE was either offered in form of ERT or suspended during the COVID-19 pandemic. Our international case reports from Austria, England, Qatar, and Scotland have demonstrated that IPE is still possible throughout crisis times and under unusual circumstances. Even though changes had to occur globally within a limited time, facilitators intuitively facilitated IPE in an evidence-informed manner.

Remote and online learning: The transition from face-to-face IPE to ERT imposed challenges regarding meeting learning outcomes, and access to IPE. Even though our case reports indicated that the intended learning outcomes remained the same during ERT, facilitators still had to ensure that those were addressed adequately by the new mode of delivery (Alrasheed et al., 2021). If IPE continues to be offered online or as a hybrid model, evaluation and assessments of the attained learning outcomes are warranted. Nonetheless, advantages of remote and online learning in IPE should not be overlooked. Literature as well as case reports from England highlight the flexible participation for students and facilitators. IPE can continue within the curriculum, fit around, homelife, homeschooling, and placements (Seymour-Walsh et al., 2020; Tang et al., 2018). The Austrian, English, and Scottish experiences have shown that IPE is accessible to more students (as evidenced by the increase in student numbers (Almendingen, 2021) when offered remotely. Firstly, students who usually would be on placement were able to participate in the IPE sessions. Secondly,

time was saved by the fact that students or facilitators did not have to travel to other faculties or locations.

Interprofessional education: Even though some challenges occurred, ERT in IPE was still possible. Some student groups were not able to attend the IPE sessions, as reported from Austria and Scotland. Furthermore, virtual encounters with other professions were not as sustainable as face-to-face meetings, as indicated by Austrian students and facilitators. However, recent literature and accounts from our case reports suggest that the use of online learning and videocommunication tools enabled online interactions between various student groups where these would have been otherwise suspended (Alrasheed et al., 2021; Singh & Matthees, 2021). These IPE student groups usually comprise of a broad range of health and social care students such as students of medicine, nursing, physiotherapy, occupational therapy, social work, speech and language therapy, nutrition and dietetics (Liaw et al., 2021; O'Shea et al., 2019; Reeves et al., 2017). Our case studies confirm a broad range of health and social care student in IPE sessions (see Supplement B).

Duration of IPE sessions: It has previously been highlighted that online learning can be more time-consuming (Jones et al., 2020) with various factors influencing it. Firstly, students taking part in online lectures are more likely to be distracted by various other factors such as smartphone, families and friends (Seymour-Walsh et al., 2020). This indicates that content must be repeated frequently and more breaks are necessary. Secondly, students' engagement in online lectures tend to be limited, therefore expectations must be discussed with students before the lecture starts (Seymour-Walsh et al., 2020). However, our case reports from Qatar and Scotland indicated that online IPE sessions were shortened from three to two hours and from four days to a three-hour online session, respectively. This might be due to the limited time resources to plan the ERT in IPE.

Individual and team aspects of learning: Online IPE can enhance the communication between students from different health care professions and foster better understanding for other professionals' roles. Pre-sessional learning prior to the IPE sessions was necessary to ensure that both students as well as facilitators were adapting to the new technologies used. Our case studies from England mentioned students' and facilitators' differing levels of digital competencies and confidence. Whilst support with digital technology was available to facilitators (as highlighted in the case reports from Austria and Qatar), students had to adapt to the new online learning tools independently. This required the development of additional resources offered by the universities such as workbooks and guidelines.

Facilitation: The ideal group size is essential to consider when facilitating group discussions in IPE. Large group discussions have not been proven beneficial in an online learning environment, as case

reports from some English Universities and Qatar indicate. International experiences from current literature and our case reports highlight that small groups enhance interprofessional communication and learning (Jaques and Salmon 2007, Yamashita et al., 2021). In instances where small IPE groups were not already used' this demanded a higher number of facilitators and IT support staff. Experiences from Scotland showed that minimum involvement of facilitators in synchronous learning environments were beneficial to promote group-discussions.

Conclusion

The IPE delivery processes discussed within our case reports enable us to reflect on the opportunities and challenges that online IPE can offer to learners and facilitators. Globally, facilitators were required to make quick decisions regarding the provision of IPE during the COVID-19 pandemic, with little time to make evidence-informed decisions. However, it is valuable to note that facilitators and students in our case reports intuitively channeled the core principles involved in the process of delivering authentic IPE. In some instances, face-to-face IPE may be necessary, particularly where students need to be in close physical proximity to each other, where a specific context and environment is an important learning outcome, for example, in some simulation-based education. In other situations, delivering IPE in a blended mode – combining face-to-face and online activities, may be more appropriate. As highlighted by the Austrian and English case reports in this paper, online IPE can reduce travel time for students and facilitators, can overcome the challenge of finding a venue to accommodate a large number of students. We conclude that it may be useful to offer online IPE when different faculties from different regions or countries are involved.

Despite the challenges of ERT in IPE, our case reports suggest that the enablers may outweigh the barriers. This paper should serve as motivation for facilitators to plan and deliver IPE and help it to remain a priority during challenging times.

Abbreviations

ERT	Emergency remote teaching
IPE	Interprofessional education

Acknowledgements

Thanks to all member of the CAIPE Experience Research Subgroup for contributing to this series of articles.

Conflict of interest

The authors declare no conflict of interest.

Key points

During COVID-19 IPE had transitioned from in-person, face-to-face activities to fully online learning.

The transition impacted the delivery “process” in various ways and quick decisions had to be made.

Our case reports from Austria, England, Qatar, and Scotland highlight the changes, enablers, and challenges regarding the transition to fully online IPE.

We conclude that facilitators and students in our case reports intuitively channeled the core principles involved in the process of delivering authentic IPE.

In some instances, face-to-face IPE may be necessary, whereas in other situations, delivering IPE in a blended mode may be more appropriate.

Reflective questions

How did the COVID-19 pandemic influence the delivery process of IPE?

What are the key aspects that will be able to transfer to a post-pandemic IPE?

Why is it essential to reflect on the presage, process, and product factors when thinking of ERT in IPE?

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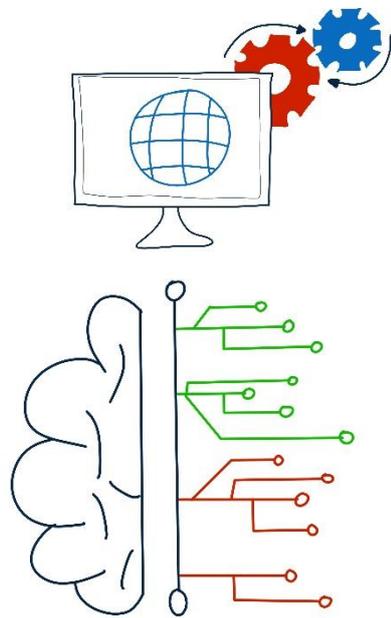
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Supplement A: Case reports from Austria, England, Qatar, and Scotland



Icons drawn by LCW

Key aspects that had to change:

- In-person IPE was suspended
- Theory-based IPE sessions were offered online (e.g. teaching health care students about roles and responsibilities professions in the interprofessional team)
- IPE sessions which focused mainly on practical experiences were suspended

Enablers for ERT in IPE:

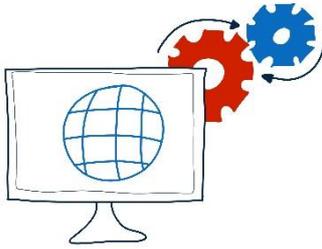
- IPE more accessible and reduced need for travel between faculties/locations
- IT support and resources provided by university
- Peer support and interprofessional discussion via teams chat

Challenges for ERT in IPE:

- Meeting other students face-to-face encourages more sustainable contact, than when peers meet online.
- Practical sessions are not transferable to an online setting
- External teaching staff did not get the chance to be as well prepared as staff from the university

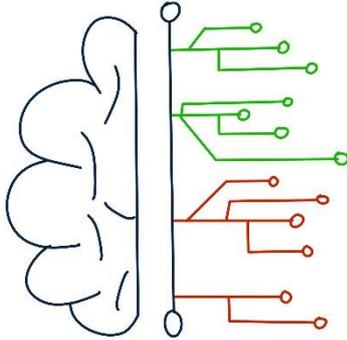
Figure 1 CASE REPORT FROM AUSTRIA

Key aspects that had to change:



- The use of online learning platforms and virtual learning environments
- Changes to staff facilitation (e.g. additional staff, changes to the facilitation role, staff education and support)
- Written guidance on how to access and use online learning platforms
- Drop-in activities over the time period of one week replaced three-hours workshops

Enablers for ERT in IPE:



- Existing online learning platforms accounts, no need to set up new organisational accounts
- ERT offered flexible participation for staff and students which fit around teaching, homelife, homeschooling and placements.
- Online learning mitigated logistical considerations such as room bookings
- Attendance was high as students were not required to travel to campus
- The IPE Lead has a particular interest in e-learning and so the process was not as difficult as it could have been with someone who might not feel as confident in an online environment

Icons drawn by LCW

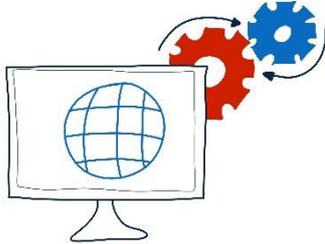
Challenges for ERT in IPE:

- Two-week time pressure to convert learning to an online platform due to national lockdown
- Electronically communicating the new format to students – not all students followed instructions/guidance
- Students' levels of digital competence and confidence can vary greatly which impacts on their ability and confidence to fully engage online
- Students have online learning overload and so may not be motivated to engage with IPE if they see it as an add-on, rather than mandatory element of their programme of study

FIGURE 2 THREE CASE REPORTS FROM ENGLAND, NOTE THAT THIS IS A SUMMARY OF EXPERIENCES AND NOT ALL OF THE CHANGES, ENEBALERS, AND CHALLENGES APPLY TO ALL THE ENGLISH SITES.

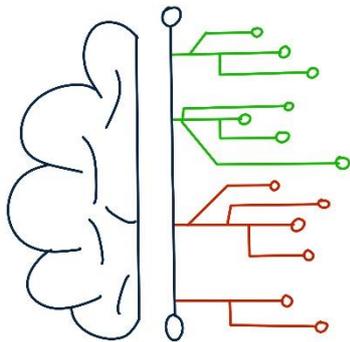
Key aspects that had to change:

- Duration of online IPE: shortened from three hours face-to face to two hours online
- Use of online platforms: Microsoft Teams
- Coordinator, lead facilitator and facilitators for online learning experience
- Large group-discussions were replaced by small group discussions via video-communication platforms
- Each group was assigned a facilitator to ensure discussion and reflection in small groups
- Chatgroups for immediate communication between facilitators through WhatsApp



Enablers and facilitators for ERT in IPE:

- An existing program was incorporated into the curriculum
- An orientation session was given to all the facilitators about technical aspects and facilitating the IPE session virtually
- Student and facilitator orientation packs emailed prior to the sessions
- Having an IPE coordinator to deal with all the logistics and arrangements.
- A lead IPE facilitator was assigned for each IPE activity to oversee the whole processes and offer support when needed while going in between virtual breakout rooms. The lead facilitator recorded a 5 min introduction introducing the activity screened to all students at the start.
- Ice breakers and the use of google Jamboards



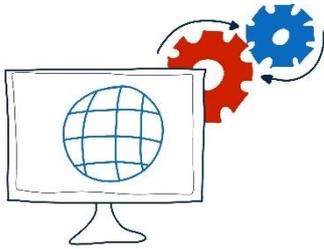
Icons drawn by LCW

Barriers and challenges for ERT in IPE:

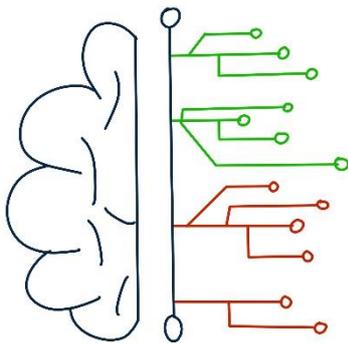
- The need for more facilitators to ensure one is assigned to each group
- The majority of the students did not switch on cameras
- Technical challenges affecting student engagement
- Healthcare students outside Qatar University were not able to participate

FIGURE 3: CASE REPORT FROM QATAR

Key aspects that had to change:



- In-person teaching was suspended, and video-communication platforms were used to deliver IPE
- Online session was timetabled for three hours instead of a activity previously ran over four days
- One member of staff was allocated to two groups and was given guidance to be very much 'in the background' and only interject on the students' request or to provide clarification or guidance if required about the clinical aspects of the case.



Icons drawn by LCW

Enablers for ERT in IPE:

- Engagement from allied health professionals practice supervisors – enabling students to log on in practice environments
- Minimal input from staff – even with cameras off, discussion amongst students was potentially reduced when staff were in the Teams meeting.
- Multi-faceted case study – opportunities to learn with, from and about other professions.

Challenges for ERT in IPE:

- Conflicting schedules made it impossible for all health care student groups to participate in the emergency remote IPE
- Lack of access to a laptop/computer - students trying to access online learning and video-communication platforms via a smartphone or tablet had difficulty viewing the documents used in the discussion.

FIGURE 4 CASE REPORT FROM SCOTLAND

Supplement B: Table of “process” elements that had to change in IPE

Country	Austria	England	Qatar	Scotland
Process dimension				
Interprofessional mix of students	Students from allied health professions (occupational therapists, physiotherapists, dietetics and nutrition, speech and language therapists, radiotherapy), health care and nursing, and medicine Students from industrial design, product development, energy, transport, and environmental management	Students from adult nursing, children’s nursing, dental nursing, early childhood studies, health and social care, Learning Disabilities nursing, Mental health nursing, midwifery, occupational therapy, operating department practitioner, paramedic science, physiotherapy, podiatry, social worker	Students from biomedical sciences, dental medicine, human nutrition, medicine, pharmacy, physical therapy, public health	Students from allied health professions, pharmacy, and medicine
Duration of IPE sessions	Change from one-day activity to half-day IPE sessions.	IPE activities spanned one week, consisting of a mixture of synchronous online sessions (lasting 2.5 hours) and asynchronous groupwork (instead of a three-hour workshop).	IPE activities shortened from three hours (in person) to two hours online ERT.	Three hours of synchronous online IPE activity (including breaks) occurring 4 times on 4 separate days accommodating approximately 300 students
Facilitation	Online facilitation of IPE sessions which were more	Online learning offers opportunities to use more	IPE coordinator required for organisation of all the logistics	Minimal input from facilitators ensured the discussion

Supplement B: Table of “process” elements that had to change in IPE

	theory based as opposed to practical, hands-on experience	innovative learning and teaching approaches Facilitation and encouraging student participation challenged by students not switching on cameras	A lead IPE facilitator oversees the IPE activity.	amongst students was not inhibited
Content	Students learned about differing professional perspectives and the roles different professions can have across different faculties and institutions	Simulation in hospital settings were suspended. Some of the content was delivered with additional material (i.e. workbook, guidelines for participating in online learning environments)	Students and facilitators joined online interprofessional teams. Large group discussions were replaced with the small group discussions. A video in the beginning outlined the following IPE activities	After an introduction on interprofessional teamwork, students reviewed case studies of patients in secondary care environments. Further IPE activities covered group discussions on the similarities and differences in their professional roles. In a debriefing session, students reflected on key learning points

TABLE 1: KEY “PROCESS” FACTORS THAT HAD TO CHANGE FOR ERT IN IPE IN AUSTRIA, ENGLAND, QATAR, AND SCOTLAND.