Inside-out: normalising practice-based IPE

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Abstract
Practice-based interprofessional education (IPE), a key feature in developing a collaboration-ready workforce, is poorly integrated in healthcare curriculums. This study aimed to synthesise educator perspectives on implementing practice-based IPE and develop recommendations to inform sustainable practice-based IPE. An ethnographic case study was carried out at a school of allied health. Data collection involved six observations, 11 interviews and a review of eight documents. Reflexive thematic analysis, informed by Normalisation Process Theory, established two key themes. First, we found that strategic planning is needed, with a coherent implementation agenda and planned reflection on activities. Second, building partnerships with placement partners was identified as essential. This can be achieved by supporting and championing practice-based IPE activities developed by placement sites and establishing how university and clinical educators can work collaboratively to deliver sustainable practice-based IPE. These conditions create a favourable environment for normalising practice-based IPE in healthcare curriculums, benefitting students, patients, and the overall healthcare service.

Keywords Interprofessional education · Practice-based · Normalisation Process Theory

Background
Healthcare graduates are expected to be collaboration-ready practitioners (Thistlethwaite 2015; World Health Organisation 2010). To achieve this objective, policy-makers, regulators and educators recommend incorporating interprofessional education (IPE) into healthcare education programmes (Khalili et al. 2019; Steven et al. 2017). This can involve classroom, simulated and practice-based IPE. Practice-based IPE involves students from two or more professions learning together at clinical sites (Morphet et al. 2014), facilitating development of collaborative working skills (Rees et al. 2018). The Centre for Advancement in Interprofessional Education (CAIPE) recommend each healthcare student have at least one interprofessional placement during training (CAIPE 2017).
Practice-based IPE is complex to implement (Sargeant 2009), necessitating the interaction of different professions from health and education systems in busy clinical settings. Students and clinical educators aim to simultaneously deliver optimal patient care and achieve educational objectives. University staff coordinate placements, support educators and students, and oversee student assessment. Furthermore, practice education is traditionally uniprofessional (Reeves 2008), with practice-based IPE representing a considerable change to practice (Boshoff, Murray, Worley and Berndt 2020). While practice-based IPE has increasingly featured in interprofessional literature recently (Brewer and Barr 2016), research has primarily focused on evaluating student experiences (Roberts and Kumar 2015). Few studies have considered issues relating to sustainability and relationships between health and education systems (Herath et al. 2017). A recent meta-synthesis highlighted the issue of sustainability, with limited evidence of practice-based IPE projects extending beyond three years (O’Leary, Salmon, Clifford, O’Donoghue and Reeves 2019). Therefore, we require detailed accounts and analyses of issues relating to implementing practice-based IPE, as these influence student opportunities for developing collaborative working skills before entering the workforce.

Theories which acknowledge and account for complexity can support us to understand how new practices, such as practice-based IPE, become (or do not become) embedded in practice (Fenwick, Nerland and Jensen 2012). Moreover, theoretically informed explanations are increasingly sought in interprofessional research (O’Leary and Boland 2020). Normalisation Process Theory (NPT) considers how specific mechanisms enacted by the people involved (agents) can promote or inhibit adoption of new practices (May and Finch 2009). Key mechanisms are outlined below (Fig. 1), based on de Brún, O’Reilly-de Brún, O’Donnell, and MacFarlane (2016). Activation of these mechanisms influences whether a new practice becomes normalised, adopted (accepted but not normalised) or rejected (May et al. 2007).

Fig. 1 Mechanisms of Normalisation Process Theory informed by de Brún et al. (2016)
Research question and aims

This study is part of a larger research project that addresses the question: how does practice-based IPE become embedded in a school of allied health? The specific aims of this paper are:

1. To generate a theoretically-informed account of the process of normalising practice-based IPE.
2. To develop recommendations for implementing sustainable practice-based IPE in healthcare curriculums. These recommendations could inform other complex changes in healthcare education.

Methodology

Research design

This research was framed as an ethnographic case study (Parker-Jenkins 2018), underpinned by a critical realist paradigm (Bhaskar 2008). As such our aim was not to discover an objective truth but to generate an account that most closely reflected participant experiences (Fletcher 2017) Gear, Eppel, and Koziol-Mcclain (2018), advocate integrating theory throughout the research process, rather than applying to discrete sections. As such, we considered NPT throughout the research, including development of data collection instruments and data analysis. Drawing on principles of participatory health research, an Advisory Panel of relevant stakeholders was convened (Salsberg et al. 2015). The Advisory Panel were involved in formulating the research proposal, reviewing ethics applications, contributing to design of data collection tools, and providing feedback on data analysis. Ethical approval was provided by the Research Ethics Committee of the Faculty of Education and Health Sciences, University of Limerick (Approval 2018–12-30).

Setting

This school was initially set up as a Department of Clinical Therapies within a Faculty of Education and Health Sciences, comprising four distinct programmes: a postgraduate speech and language therapy, occupational therapy and physiotherapy programme and an undergraduate physiotherapy programme. More recently a post-graduate programme in human nutrition and dietetics commenced. From the early 2010’s, the school identified IPE as a priority area. A period of curriculum review in the mid 2010’s involved development of five IPE modules which students complete at the university and alignment of practice education timetables across programmes. Reorganisation of individual departments into a School of Allied Health took place in 2018. The school is staffed by administrators, academic staff, and a practice education team (PET). The PET is responsible for sourcing placements, supporting students during placements, and assisting educators with student facilitation and assessment. Depending on the specific programme and roles, some PET members work alongside academic staff at the university, while others are based in clinical settings. Although development of PET roles
and responsibilities at this school may have evolved differently among Irish universities and differ structurally from other international sites, the key feature of relevance for this paper was their designated roles in implementing and embedding a new model in the sphere of practice education.

Data collection

The first author observed and interviewed PET members based at the university \((n = 7)\) and clinical sites \((n = 4)\) (Table 1). Participants were predominantly female, and perspectives were informed by interprofessional clinical and educational experiences in the Republic of Ireland and internationally. Participants worked in roles for a median time of five years (ranging from under two years to greater than 10 years). As observation is a cornerstone of ethnography, this was the initial method of data collection. Preliminary observations informed development of interview guides and directed the researcher to relevant documents. Observations involved planning meetings for practice-based IPE, educator training and site visits. The maximum number of participants at an observation was eight and these eight participants were represented in different combinations across observations. The role of the researcher was fully observational initially. As participants became more familiar with the researcher, the role became more observer as participant (Kawulich 2005). For example, answering questions related to interprofessional literature. Therefore, the researcher had acquired peripheral membership but did not become a core member or contributor (Adler and Adler 1994). A copy of the interview guide is available in Supplementary Material.

Data analysis

Data was organised using NVivo 12 software, with reflexive thematic analysis employed as the analytical approach (Braun and Clarke 2019). As such, findings were not predetermined but generated by the interaction of data, theoretical and paradigm influences, and researcher analytic skills (Braun and Clarke 2019). Consequently, findings are presented by integrating theoretical concepts and citations from the raw data, including field notes and quotations. To promote transparent analysis and reporting, we used the 15-Point Checklist of Criteria for Good Thematic Analysis Process (Braun and Clarke 2006). Reflexive strategies included sharing data interpretations among the research team and Advisory Panel to interrogate preliminary themes (Smith and McGannon 2018). Analytical memos and development of visual displays enhanced analytical rigour (Bazeley 2009).

Table 1  Data collection summary

| Method      | Time/quantity of data                                      |
|-------------|-----------------------------------------------------------|
| Observation | 6 observations over 10 h (observation duration was 20 to 120 min) |
| Interviews  | 11 (average length of 39.5 min within a range of 26–73 min) |
| Documents   | 8 (Module handbooks, regulatory documents, placement resource packs) |
Findings

Participants were committed to developing practice-based IPE while grappling with making this a reality. Although some deliberate steps were taken to establish practice-based IPE in this school, it was not yet an integrated practice education model in the curriculum. Using the mechanisms of Normalisation Process Theory (NPT), we sought to tell the story of this complex endeavour recognising that it does not fall into a linear start-middle-end narrative. Rather we documented an ongoing process of adapting to evolving circumstances and realities. To explain the pivotal aspects of the process we developed two overarching themes—strategic planning and building partnerships—and discuss these using NPT mechanisms (Fig. 2).

Strategic planning

This theme examines the planning and monitoring processes relating to practice-based IPE. The NPT mechanisms of coherence (how the stakeholders value and make sense of the new practice) and reflexive monitoring (how the new practice is evaluated and monitored) (de Brún et al. 2016) are used to interpret participant experiences and outcomes.

Coherence

Participants clearly and collectively valued practice-base IPE, giving multiple examples of how this model enhanced patient care and believing it was needed to prepare students for the reality of clinical practice:

[Practice-based IPE] is hugely important because if we don’t prepare the students in their training they can’t be prepared to do it immediately when they graduate … we’re always trying to find ways of improving healthcare delivery …. and to

Fig. 2 Overview of key themes
Interprofessional education seems like a very logical place to start, to get students working together. [Interview 3].

Furthermore, as part of a curriculum review, placement timetables were reorganised to ensure students across programmes had overlapping placement timetables, as it was understood students needed greater opportunities for practice-based IPE. This was a lengthy process, following which momentum for further change was depleted:

That took a good two to three years to develop and then further time to cement it down … it was quite hard to get things up and moving again and generate some energy around this [practice-based IPE] again. [Interview 5].

The PET felt a responsibility for directly developing and facilitating practice-based IPE.

When we talk about each student having IPE on placement … that is a huge number of placements that we need to facilitate, and you still have a huge commitment to what you’re already doing. [Interview 2].

Yet time had not been given to developing a collective implementation strategy for actualising practice-based IPE in the curriculum. For example, there was not an agreed collective definition of practice-based-IPE for the site:

There are differing opinions on what it is and what shape it takes and what we can classify as interprofessional education on placement. [Interview 1].

Consequently, there was ambiguity about what the team were aiming to achieve:

We need a plan for what we’re actually going to do … so if we could agree that we’re going to aim for a certain amount for the next placement. [Interview 8].

In NPT terms this aspect of the coherence mechanism is described as individual specification, which considers if people are clear on what they need to do for the new model to become integrated.

The limited clarity contributed to fragmented activity, as there was not a clear agreement on the key components and activities comprising practice-based IPE. The prevailing feeling was that practice-based IPE remained fledgling in the curriculum:

The term ‘two steps backwards for any one step forward’ was used by one participant to describe practice-based IPE as it currently stands. Other team members agreed, noting how much time and energy has been given to aligning timetables and the limited opportunities for practice-base IPE this has yielded to so far [Field Note March 2019].

However, planning and progress was also influenced by practice education factors beyond PET control. For example, forward planning was stymied by the fact placements are being sought, withdrawn and finalised until very close to placement start dates:

You can only plan so much in advance because even people tell us they are taking a student next year but that could fall through at the last minute [Interview 2].

Thus, there were significant challenges in planning for future practice-based IPE. However, there was also past practice-based IPE that could inform strategic planning and it is this aspect we next discuss.
Reflexive monitoring

Learning from previous endeavours is captured by the NPT mechanism of reflexive monitoring. This mechanism involves communal and individual appraisal of the new practice, to enhance implementation (Agreli et al. 2019). At an individual level, participants reviewed specific projects with those involved and documented these locally. This helped them refine what was and was not effective in terms of developing practice-based IPE. However, there was a concern that collective utilisation of these learnings to inform the future of practice-based IPE was limited:

That information sits with myself now because the other people have moved on … we need to capture this learning from experience now if we’re going to move this forward [Interview 5].

The ever-present placement sourcing and support demands was a recurring factor which limited team opportunities for collective reflection:

During today’s observation participants spoke about they know there is a lot of knowledge and experience dispersed among the group, but it is challenging to find the time and space to collate this and act on it. The group termed this ‘developmental work’ and differentiated it from ‘operational work’. The demands of the latter limited opportunity for the former [Field Note June 2019].

To address these issues, a dedicated practice-based IPE sub-group was established. Members included staff based at the university and clinical sites. This created an opportunity for collective reflection. The following field note details how feedback from a site-based tutor led the PET to reflect on their role:

The group heard feedback about a project that was rolling over from one placement to the next at one placement site. This had been established by clinical tutors at the site and a PET member had given support and advice in setting it up. The group responded positively to this. There was discussion about the difference between projects developed within placement sites and those introduced from outside by the PET. They reflected on their experiences of limited sustainability of the latter. The overall conclusion was that projects developed within placement sites were more likely to continue as the educators on the ground have ownership and control of them [Field Note June 2019].

By having an opportunity to reflect on practice-based IPE, past learnings and member experiences were utilised to take steps towards refining practice-based IPE planning and delivery. As such the PET role evolved to one of consultant for clinical educators, rather than directly developing or facilitating practice-based IPE. Thus, we next consider the relationship between the PET and clinical educators in implementing practice-based IPE.
Building partnerships

For practice-based IPE to become fully embedded, partnerships with clinical educators were key. We consider this theme through two further NPT constructs: cognitive participation (recruiting others for implementation of the new practice) and collective action (actions needed to make the practice work) (de Brún et al. 2016).

Cognitive participation

Interaction with clinical educators is core to the PET work of placement delivery. As such engaging this group is essential for integration of practice-based IPE. In NPT terms this is a mechanism known as cognitive participation. The PET noted that they had grappled with this over many years and felt that initial efforts may have lacked enough collaboration with clinical educators:

Initially the therapists [clinical educators] weren’t involved … I think that maybe afterwards the therapists felt that maybe they should have been more involved [Interview 8].

Participants felt this approach contributed to the fact projects had not continued without PET involvement. This contributed to reconsideration of the PET role in delivering practice-based IPE.

My role has changed to be somebody who promotes and champions it [practice-based IPE]... and encourages people to progress it themselves, [Interview 4].

While participants had reached this position via different and individual experiences, at the point of this research there appeared to be a consensus that the PET function was better conceptualised as supportive and consultative than directive:

At different times during the meeting three people used the term ‘planting a seed’. This was in the context of discussion exploring the PET function. There was consensus that their role is to generate awareness of practice-based IPE and how they can support clinical educators [Field Note August 2019].

Participants identified specific strategies they could utilise to sustain clinical educator engagement with practice-based IPE:

When we’re having our practice education conferences, getting back to those [clinical educators] and encourage them to submit so they know what they’re doing is valued, not just by us but in a wider sense. I think those kinds of things make the people who are driving it more encouraged to continue,[Interview 4].

As such the PET had revised their role in implementation. They then needed to establish how they could make this approach of supporting practice-based IPE workable in practice. To explore this, we use the mechanism of collective action in the next section.

Collective action

Participants acknowledged that practice-based IPE originating within the placement site increases the workability of the practice for clinical educators, who may feel more skilled and confident implementing a practice developed internally than for projects developed
outside the placement site. From a PET perspective, supporting internally developed practice-based IPE requires different skills and resources. In practice education, students are assessed using a national, uniprofessional competency assessment form. Each profession has its own national form. Participants noted that capturing student learning from diverse practice-based IPE using these tools was challenging:

The competencies are very grey. There is not a whole lot of depth to them. It would be nice to be able to capture, for everyone, interprofessional learning on placement and evaluate that and look at the competencies at the outcomes from it [Interview 4].

As practice-based IPE activity became more diverse, with initiatives emerging across placement sites, ensuring students had similar levels of opportunity was a key consideration for the PET. Participants explored how they could address these issues in sub-group meetings, at one stage inviting a visiting lecturer with experience in practice-based IPE to a meeting:

During the meeting there was a lot of discussion about developing or adapting a tool to capture how many students had practice-based IPE experiences and what activities this involved following placement. The visiting lecturer reflected on what had worked well and less well in their setting. As an initial action it was agreed that named members would research known tools.[Field Note September 2019].

As the research concluded these were the key issues participants were wrestling with – how to meaningfully include practice-based IPE in student assessment, capture the full scope of practice-based IPE activity occurring, and ensure equitable student experiences. Overall, the findings illustrate the complex and dynamic process of normalising practice-based IPE.

Discussion

Placement experiences strongly influence students and their future practice (Weiss, Passiment, Riordan and Wagner 2019). Therefore, practice-based IPE opportunities are required to prepare students for collaborative working (Fraher and Brandt 2019). Yet, embedding practice-based IPE is a complex process, as was the experience at this school. While this research was occurring, practice-based IPE, although accepted, was not part of routine practice (May et al. 2007).

In this section, we expand on participant experiences to generate recommendations for normalising practice-based IPE in practice education (Kreuter, De Rosa, Howze, and Baldwin 2004). However, practice-based IPE is a complex, multi-faceted endeavour that is influenced by context (Varpio, Aschernbrener, and Bates 2017). Therefore, applicability of recommendations is best determined by local stakeholders. That said, due to the theoretical influence of NPT, some recommendations may be applicable beyond practice-based IPE to other situations where educators seek to normalise a new and complex practice.

Participants reflected differing definitions of practice-based IPE, a common challenge across IPE (Olenick, Allen, and Smego 2010). It can be particularly difficult to clarify core features for practice-based IPE, as it can take many formats across a range of clinical settings (Reeves et al. 2016). An agreed broad working definition of practice-based IPE is recommended to develop a coherent IPE strategy. In reaching such a consensus, collaboration is required between those coordinating and those delivering practice-based IPE. In addition to the PET plans to monitor practice-based IPE post-placement, it would be useful to
prospectively map what type and level of practice-based IPE is broadly feasible with placement partners. We are aware that this is in the context of limited clinical placement availability across healthcare professions (Taylor, Angel, Nyanga, and Dickson 2017). However, advance mapping would allow the PET to develop a plan for practice-based IPE capacity per placement and how they may need to augment this to ensure students have comparable opportunities. As recommended by CAIPE, this type of shared planning and problem solving between the PET and clinical educators is beneficial for developing collaborative working relationships (Skinner, Robson, and Vien 2020), as well as shared ownership (cognitive participation) of practice-based IPE activities which supports sustainability (Gillespie et al. 2018). For example, if IPE opportunities cannot be facilitated for a group of students at identified placement sites, a member of the PET could facilitate case-based IPE tutorials for an interprofessional student group based on their clinical caseloads. In NPT terms this would activate the mechanism of collective action, with communication and skills sharing increasing the workability of practice-based IPE (Holtrop, Potworowski, Fitzpatrick, Kowalk, and Green 2016). In practical terms, delivery could utilise tele-health platforms to overcome logistical barriers such as students being on placement at different sites (Novak et al. 2016).

A significant concern for participants was how to incorporate practice-based IPE meaningfully and equitably into student assessment, an issue reflecting global educator experiences (Anderson and Kinnair 2016). Uniprofessional activity is prioritised in traditional assessment tools, with some authors suggesting this not only limits but discourages IPE (Skinner et al. 2020). However, as in many jurisdictions, educators must currently work within the constraints of these tools. One potential solution is a practice-based IPE portfolio, as it offers flexibility regarding educational activities used to achieve target outcomes (Domac, Anderson and Smith 2016). As this research highlighted, initiatives developed within placement sites offer greater sustainability than externally devised projects. Therefore, a flexible approach to evaluating learning is particularly beneficial.

Mapping portfolio activities onto professional competencies would be beneficial to enhance student and educator engagement (Skinner et al. 2020). Updating the relevant placement module requirements through the relevant academic regulatory channels of the university is recommended to further strengthen the place of a portfolio, or other innovations in assessment. This creates a requirement of completion for each student. Many programmes already have portfolio requirements, in which cases it may be possible to adapt or add to the existing tool. Portfolios can be developed by students throughout their placements, evidencing the development of collaborative working skills during their overall course of study, a model which has been implemented in IPE at Dalhousie University in Canada (Dalhousie University 2020). While the portfolio should contribute to assessment of the identified placement competencies by clinical educators, students may benefit from PET input to support completion. For example, an interprofessional portfolio workshop each academic year, facilitation of which could be shared among PET members.

As well as monitoring the development of practice-based IPE and tracking activities, it is necessary to develop reflexive processes that collectively explore what worked or did not work and agreeing how this can be incorporated or avoided in the future (McHugh, Lawton, O’Hara and Sheard 2020). As experienced in this research, normalisation of IPE is a lengthy process and often experiences setbacks (El-Awaisi et al. 2016). Therefore, it is important to have processes in place to optimise learning from setbacks and to build on successful projects. Incorporating practice-based IPE review timelines into the school quality review process would support integration of this activity. It can also be useful to learn from experiences at other institutions. Linking with an experienced visiting lecturer
provided guidance on potential next steps to participants in this study. As practice-based IPE is still at an early stage of development in many settings, sharing of knowledge and learning is particularly beneficial (Davis, Janczukowicz, Stewart, Quinn and Feldman 2018).

**Strengths and limitations**

This research is based on experiences at one school, which comparatively to other sites may be well-resourced in terms of practice-based IPE. Yet the core findings relate to how people manage innovations within complex, interconnected systems. Furthermore, as data collection, interpretation and recommendations are theoretically informed, there is scope to apply these to other settings. Much interprofessional literature provides limited detail regarding methodological and theoretical constructs informing the study design (Institute of Medicine 2015). Thus, this theory infused research extends its contribution to overall IPE scholarship (Varpio, Paradis, Uijtdehaage and Young 2020). Data collection for this research was over a 10-month period, used multiple data collection methods and was preceded by a 12-month period of site familiarisation. On one hand this added to the credibility of the research, due to increased access for observation and depth of data provided in interviews. Conversely, it challenged the researcher in terms of keeping sight of the overall research agenda and not aligning with particular viewpoints. Reflexive journaling and debrief discussions mitigated this.

**Conclusions**

This paper provides unique insight into the steps taken and challenges encountered at a school seeking to develop a sustainable model of practice-based IPE. Specific strategies are needed for practice-based IPE to become embedded in healthcare curriculums. Strategic planning and collaborative reflexivity can support normalisation of this model in practice education. Robust partnerships and collaborative working between universities and placement partners are also needed to sustain this complex model. These conditions support normalisation of practice-based based IPE as a core aspect of practice-education, enhancing student and patient experiences.

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**Compliance with ethical standards**

**Conflicts of interest** The authors declare that they have no conflict of interest.

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