Extending conceptual understanding: How interprofessional education influences affective domain development

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Extending conceptual understanding: How interprofessional education influences affective domain development

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ABSTRACT

Interprofessional learning (IPL) can influence affective domain development of students through teaching activities that facilitate learning with, from, and about other professions. Current quantitative evidence offers limited explanation of how this learning is achieved within IPL programmes. This article tests a conceptual framework drawn from theories on IPL and affective domain development (attitudes, values, and behaviours) to explain what works for whom, when, and in what circumstances. The objectives of the study were twofold: to evaluate the impact of the IPL programme on the student’s attitudes and values, and to identify behaviour changes in clinical practice towards interprofessional working. Using an action research approach, based in practice, an IPL programme was delivered over 6 weeks. Students from five professions, nursing, radiography, physiotherapy, social work, and podiatry (n = 63), participated over the two action research cycles and in semi-structured focus groups (n = 37). The recorded personal experiences of the IPL activities on the students were examined in relation to the type of activity; impact on the affective domain of learning (attitude, value, or behaviour) and self-reported outcome on application to their practice. Modification in affective domain development was measured to identification or internalisation stage for 30 of the students. Self-reported outcomes on application to practice included direct impact on patient care, personal resilience building, improved communication, and ability to challenge practice. This article presents a conceptual framework not evident in current research, in regard to what IPL works for whom, in what circumstances, and when. IPL activities that address a personal reward or incentive and are delivered over four weeks, imitating ‘circles of care,’ that explore self-assessment, team building, and reflection can lead to sustained change in values, attitudes, and behaviours.

Introduction

The World Health Organization (World Health Organisation, 2010) recognises interprofessional education (IPE) as a central component in strengthening health systems, responding to the increasing complexity within the health and social care sector. The assumption being that if health professionals are trained together, they should be better placed to work collaboratively post qualifying. Elements of IPE are encouraged in all aspects of health and social care and mandatory within many prequalifying educational programmes (e.g., Cusack & O’Donoghue, 2012; Forte & Fowler, 2009). The significance of IPE in undergraduate programmes is recognised globally and has been implemented and evaluated in many countries, notably, Canada, Australia, the United States, and across Europe (e.g., Reeves et al., 2016; Sunguya, Hinthong, Jimba, & Yasuoka, 2014). At least two-thirds of Universities, in the United Kingdom (UK), include IPE within their health and social care programmes, a significant component of professional training (Barr, Helme, & D’Avray, 2014).

Evidence from robust IPE evaluations provides a strong rationale to support delivery (e.g., Reeves, Boet, Ziegler, & Kitto, 2015; Thistlethwaite, Kumar, Moran, Saunders, & Carr, 2015) with IPE activities shown to impact on professional knowledge and skills, change attitudes, and improve communication and confidence (Reeves, Perrier, Goldman, Freeth, & Zwarenstein, 2013). Interprofessional Learning (IPL), the desired outcome of IPE, has been demonstrated to reduce clinical errors and improve patient outcomes (Brock et al., 2013; Reeves et al., 2013). Despite this, current evidence does not explain how IPL influences a change in student attitudes and values; ‘what works for whom and in what circumstances’ (Olson & Bialocerkowski, 2015, p. 242). Evidence is inconclusive with respect to IPE achieving sustained attitude, value, and behaviour change on university-based students (Lapkin, Levett-Jones, & Gilligan, 2013). One-off IPE events are unlikely to change attitudes, whereas repeated IPE or a longitudinal programme will lead to attitudinal change (Stephens, 2015). There is, however, still limited evidence that demonstrates the transferability of IPE outcomes to a student’s clinical practice setting (Lapkin et al., 2013; Reeves et al., 2016). This article provides new evidence.
Background

Educational taxonomies often underpin health and social care programmes from curriculum design, developing learning objectives, and measuring attainments (e.g. Anderson and Krathwohl 2001; Bloom, Mesia, & Krathwohl, 1964; Steinaker & Bell, 1979). Taxonomies are based on the characteristics of knowledge, skills, and attitudes otherwise known as the domains of cognitive, psychomotor, and affective learning. The affective domain is considered by many as vague or ill-defined (Brett, Smith, Price, & Huitt, 2003; Neuman & Forth, 2008).

However, a systematic review identified through content analysis that the most common components of the affective domain are the development of attitudes, values, motivation, beliefs, and emotions (Savickienë, 2010); that is, attitudes can be defined as both positive and negative appraisal of an object, individual, group, and theory (Savickienë, 2010); values, a concept, or ideal that one feels intensely about, which affects the way one comprehends or construes events (Kaplan, 1986); motivation, a deliberate form of positive or negative engagement with the learning process (Brett et al., 2003); beliefs, the individual’s perception of reality (Maier-Lorentz, 1999); and emotions, which when defined comprise three subcomponents: feelings, cognition, and behaviour (Rungapadiachy, 1999). According to Epstein (1977), learning in the affective domain can be characterised by a three-staged process that measures the influence of types of communication on the development and assessment of student values, attitudes, and behaviour (Table 1).

The first two stages of development (compliance and identification) are types of conformity and can revert to previously held attitudes and values, as they are both extrinsically motivated and require constant reinforcement. However, the third-stage internalisation is when a student embraces the new values and they become part of their belief system (Epstein, 1977). Limitations of the framework are apparent: It was developed in 1959 and the original study tested the framework on the effect of communications and social influence on black Americans before the process of desegregation. Other frameworks for pharmacists, social workers, and nurses have subsequently been developed; however, non-provide a measure for the degree of affective domain development, nor have been tested in the field (Brown & Ferril, 2009; Neumann Allen and Friedman 2010; Miller, 2010).

Grounded in theories of social psychology and applied to nurse education from an original research study (Kelman, 1958), stages one and two of Epstein’s framework are attitudinal; however, stage three is value based. Within the theory of planned behaviour (Ajzen, 1989), attitudes are affected by social norms and factors that limit translating attitude into behaviour. For example, if colleagues all agree that interprofessional working (IPW) is marvellous, students will normally conform to that attitude to meet perceived pressure from social norms. However, if students are subsequently mistreated by other professions, they may change their attitude, as this impacts on how they behave to those who have little regard for them. Values, on the other hand, attain a higher order in social psychology. Internalisation is reached as attitudes and values become congruent. Therefore, because one professional from a different group to the students is rude and offensive, the student would recognise this is not representative of others and their positive attitude to IPW remains intact.

Research studies measuring the outcomes of IPE on attitudinal change (Norris et al., 2015; Reid, Bruce, Allstaff, & McLernan, 2006) utilise pre-validated interprofessional instruments which limit the psychometric integrity, validity, or reliability of the tool (Oates & Davidson, 2015). Predominantly, these instruments rely on collecting quantitative data at attitudinal level only and are therefore unable to reveal subtle and intricate nuances in affective domain development captured using qualitative methods (Schreiber et al., 2014). A qualitative approach that is more reflexive, drawing on theories measuring attitudinal and behavioural changes, would be more sensitive. Epstein’s (1977) conceptual framework has been used to measure change in values and attitudes of 755 student nurses across seven countries, engaging in enrichment activities including IPE/L. A judgement was made about the level of change in student’s values, attitudes, and beliefs by extracting student citations from the included papers, and when applied within a meta-synthesis the findings provided a deeper understanding of the impact IPE/L activities have on student affective domain development (Stephens, 2015). Four dependent variables were uncovered which were mapped in diagrammatic form to aid further analysis, ‘Educational activities, based on cultural encounters within real clinical situations, that are repeated over time and enable the student to evaluate and reflect on their own learning directly influence affective domain development’ (Stephens, 2015, p. 8).

This article reports the findings of a study that tested and extended the application of Epstein’s (1977) conceptual framework in practice: measuring the influence of an IPL programme on student affective domain development, assessing changes in values, attitudes, and student behaviour.

Interprofessional learning programme

Academics and Practice Education Facilitators (PEFs) (University and National Health Service based) developed an

<table>
<thead>
<tr>
<th>Stage</th>
<th>Descriptor (Example)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance</td>
<td>Assuming an attitude congruent with a group if under surveillance: &lt;br&gt; E.g. stating to others in a group that interprofessional working is beneficial to patient care, when it is known all the groups already feel that it is important.</td>
</tr>
<tr>
<td>Identification</td>
<td>Assuming a different behaviour to establish or satisfy a relationship: &lt;br&gt; E.g. instead of ignoring the radiographer when they arrive on the ward to take a portable x-ray, engaging with them and helping to reposition the patient in order to learn more about the process or the person and their role.</td>
</tr>
<tr>
<td>Internalisation</td>
<td>Embracing new values because it is congruent with own value system: &lt;br&gt; E.g. a student works within an interprofessional team for a clinical placement and their way of working (a blurring of boundaries) becomes the norm, inherent of their values of what is quality care.</td>
</tr>
</tbody>
</table>
IPL programme for final year pre-registration/qualification students (Chaffe et al., 2013). The programme was built upon theories later encapsulated by Barr’s (2013, p. 4) ‘coherent, compatible and inclusive frame of reference’ including: adult learning (Knowles, 1984), reflection (Schon 1983), contact theory (Tajfel, 1981), identity theory (Vygotsky, 1978), and situated learning (Lave & Wenger, 1990). Learning outcomes focused on interprofessional knowledge, attitudes, and skills (see Figure 1 online supplementary file); objectives of the programme were exploration of communication, team building, therapeutic relationships, and clinical/professional skills. The programme was 6 weeks in length and each session lasted 2 hours with weekly homework activities. The IPL programme was delivered across three NHS sites, in two cycles: first in 2012 and again in 2014. IPE activity that preceded the programme was varied from a module in year one for some healthcare professions, to one-off days for others.

**Methods**

The project’s aim was to evaluate the impact of the IPL programme on the student’s affective domain development, and the objectives are twofold: to evaluate the impact of the IPL programme on the student’s attitudes and values, and to evaluate the impact of the IPL programme on self-reported behaviour changes in clinical practice towards IPW.

Action research was the chosen method of inquiry as the project involved the participation and partnership of stakeholders from higher education and practice who co-produced, delivered, evaluated, and reshaped the IPL programme to transform attitude change (Stringer, 2014). Using action cycles, the researchers explored the impact of the IPL programme on attitudes and behaviours of students, using the findings from the first cycle to shape the second. Advantages of action research in this context included: high-level findings of direct practical relevance and application of the project to academics and practice education staff; the interrogation of real-time qualitative data by all members of the group developing research capabilities of those involved; and increased understanding of programme issues and impact of IPL activities within education and practice arenas (Waterman & Hope, 2008). The complexity of action research was challenging, particularly experiencing delays working within a group involving stakeholders and organisations as membership fluctuated (Bennet, 2004). Each study member had to become reflective and analytical about their own practice in the development, delivery, and evaluation of the study programme and the impact on practice. This is based upon the element of ‘reconnaissance’, within action research cycles requiring analysis and reflection of the situation instead of simply investigating the issue (Elliott, 1991). There was a need to recognise that homogeneity across groups can lead to competing, contested and changing versions of the programme and lack of repeatability of the studies (Bryman & Bell, 2011).

### Sampling

The self-selecting target population consisted of 700 third-year students across a range of pre-registration programmes within the professions of nursing (adult, child, mental health, and learning disabilities), physiotherapy, podiatry, radiography, and social work. Some of the students were undertaking a joint programme of study (learning disability nursing/social work).

In total, over the two IPL programme cycles, 63 students from five different professions were recruited and allocated to one of the three NHS sites, where the programme was delivered. Fifty-five were women and eight men; aged between 20 and 48 years (Table 2). The sample size, rather than seeking generalisation, provided rich qualitative data related to the impact on affective domain development, student experience, learning and impact of the IPL programme (Baker & Edwards, 2012).

**Data collection**

A total of six focus groups were conducted (three during each programme/action cycle at week 6) to provide an opportunity for students to describe their experiences in a time-limited, discursive, and interactive environment (Gustavsen, 2001). Group interviews enabled the researchers to explore similarities and differences in student attitudes and values towards IPW and the impact of any behavioural change on clinical practice.

Focus groups were held on NHS sites, semi-structured, 40–45 minutes in length, digitally recorded (with consent), and confidentiality pre/post session reinforced. Interviews were facilitated by academics and clinicians involved in programme development and delivery, but to avoid bias, not undertaken at the site where data were collated. An interview

### Table 2. Sample demographics of the IPL programme students and focus groups participants.

<table>
<thead>
<tr>
<th>Group</th>
<th>Professions</th>
<th>No. of students</th>
<th>Age</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total No. of IPL programme students n = 63</td>
<td>Adult Nursing Student 26</td>
<td>18–30 = 41</td>
<td>F = 55</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Children’s Nursing Student 7</td>
<td>30–40 = 15</td>
<td>M = 8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mental Health Nursing Student 5</td>
<td>40 – 50 = 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Joint Programme Learning Disability/Social Work Student 6</td>
<td>50–60 = 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Focus Groups participants n = 37</td>
<td>Physiotherapy Student 3</td>
<td>18–30 = 26</td>
<td>F = 34</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social work Student 10</td>
<td>30–40 = 8</td>
<td>M = 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Podiatry Student 2</td>
<td>40–50 = 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adult Nursing Student 14</td>
<td>50–60 = 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Children’s Nursing Student 5</td>
<td>30–40 = 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mental Health Nursing Student 5</td>
<td>40–50 = 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Joint Programme Learning Disability/Social Work Student 4</td>
<td>50–60 = 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Physiotherapy Student 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social work Student 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Podiatry Student 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Radiography Student 2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
guide was used to keep the discussion focused across the three groups, but allowed students’ flexibility to share their experience about the content, style of delivery, added value, and involvement in the programme. Discussions were recorded and transcribed verbatim, but also managed to ensure one or two individuals did not dominate the sessions inhibiting others speaking (Holloway & Wheeler, 2010).

Data analysis
Epstein’s (1977) three-stage process was used as an analytical framework and applied to the collective student responses from the two action research cycles. For example, the personal experiences of the IPL activities on the students were examined in relation to the type of activity, the impact on the affective domain of learning (attitude, value, or behaviour), the self-reported outcome on application to their practice, then a stage from Epstein’s framework coded to each comment. Table 3 provides three examples of data collated: to assess the influence of the programme on the changes in values, attitudes, and behaviour of the students involved. Rigour in this process was established through a second independent researcher analysis, establishing thematic and analytical code consensus (Higginbottom, 1998). For example, it was agreed that internalisation was measured when a quotation from a student reported a change in values or behaviours that was congruent with their value system.

Ethical considerations
Ethical approval was granted from the University’s Ethical Approval Panel and from the NHS National Research Ethics Service (NRES). Written and verbal consent was obtained from all the participants in accordance with the Data Protection Act (1998).

Results
The results within the article are presented concurrently within three core themes: affective domain development through IPL—what works for whom, when; outcomes on patient/client care—evidencing the impact of the IPL; and conceptual framework for IPL and affective domain development.

Affective domain development using IPL: what works for whom when
The action research cycle findings demonstrated ways in which the affective domain, particularly student attitudes and values to IPW and changes in self-reported behaviour in practice, was modified as a direct result of IPL. The first cycle of action research established four key themes of what themes the IPL programme should encompass and these were used as a model for the second cycle. From data saturation, four sub-themes emerged: Identifying what good collaborative practice is, Professional identity, Learning alliance, and Circles of care.

Identifying what good collaborative practice is. Significant modification of affective domain to internalisation stage from both cycles of the study was influenced by the student’s comments about their observations and reflections of themselves and others working interprofessionally in practice. The students related their thoughts to theories of IPL that they had been introduced to during their attendance on the programme; for example, an adult student nurse reported on seeing the theories of learning styles and team roles come alive. The students who participated wanted to know what

| Table 3. Exemplars of the impact on the affective domain and self-reported application to clinical practice. |
|---|---|---|---|
| Student | Affective domain impact: Attitude, value or behaviour | IPL activity | Self-reported outcome: Application to practice |
| 3.1 Social Work student | Attitude and behaviour | Communication activities and reflection on this activity | For me it sort of raised my awareness of how much child protection is like a factor in children’s nursing and so I sort of thought when I go into a children protection team for my next placement I’m going to make sure that I try and get some exposure to going into hospitals and dealing with that side of things’ |
| 3.5 Children and Young Peoples student nurse | Values and behaviour | All activities | ‘I completed a ward round audit because it was a new initiative that the ward that I’m working on had taken up and it was really useful the activities that I’ve done from here because it made me more aware of my own abilities and the importance of communication with the doctors that I was doing it with because normally I wouldn’t communicate that much with the doctors but in that situation I had to ensure that the link was there between the nurses and the doctors and whichever patients were involved as well so it was useful’ |
| 3.6 Adult student nurse | Attitude | Communication, therapeutic relationships and team building activities and reflection on these activities. | ‘I think because I’m working in the community with a different number of staff it kind of fitted in really nice in a professional sense because there’s that many different team workers and it made my understanding of their jobs and their assessments because a social worker does an assessment which is slightly different than say a nurse does for her and the criminal justice do a different system of assessing so it kind of all linked in for me, I think I was quite lucky on the placement that I’ve got’ |
good collaborative practice was to assist in their future careers and the delivery of teamwork, joining the programme to learn more about different professional roles and responsibilities:

I felt in a better position to appreciate the diverse roles of other professions, which would help when making referrals and when in multidisciplinary meetings. (S2)

One student who had a negative interprofessional experience in practice during the programme surmised her thoughts:

I think it was interesting looking at the different dynamics of a team and looking at how, like, why some teams work and some teams might not work so well and looking at the reason behind that and how you can...like you said before about your team, how you can help yourself, either to fit into that team to find a role that you can take to be part of that team or if it doesn’t work so much and you’re kind of an outsider to the team, you can kind of understand why; it might not be, like, necessarily a fault of your own, it might just be the way that that team works. (S20)

The IPL programme enabled the students to identify what good collaborative practice was, having the ‘space’ to discuss with others and reflect on what they saw in practice. In both cycles of the study, the students reported that when they returned to their placement areas they could reflect in action from the knowledge and skills they had developed. One student (S30) reflected on her observations of role blurring between an occupational therapist, a physiotherapist, and nursing staff recognising and conceptualising this model from the explicit theoretical discussions in the programme:

The one that I’m on now is really good because the Physio’s and the Occupational Therapists are based on the ward and the Nurses, staff, I mean, they all really work together as a team and it’s not: Oh well that’s job, that’s my job, they all pitch in, so, it has been good to see it in a positive light after attending these sessions as well. (S4)

**Professional identity**

Affective domain development to identification and internalisation stages occurred in both cycles of the programme from activities that developed self-awareness and how this might impact on working together for the benefit of patients and clients. The changes students described demonstrated an element of reflective practice was being used to determine professional growth.

Students demonstrated affective domain development to identification level as comments suggested maintenance of a satisfying relationship within the group. They remarked that the programme (learning style, personality type, teamwork, and self-perception inventories applied to teamwork activities) increased self-awareness—being final level students they had a good understanding of their professional identity;

...more self-aware...because I came in here feeling a lot more like a professional...having fun, but representing our individual professions as well. (S7)

I think it increases self-awareness, it’s been a big thing for me. (S13)

Evidence of affective domain development to internalisation level was demonstrated when a student described how one of the activities from the programme had helped her realise she had the potential for leadership, which surprised her:

I completed a ward round audit...the activities I’ve done from here...made me more aware of my abilities and the importance of communication with the doctors... Normally I wouldn’t communicate that much with the doctors...I had to ensure...links...between nurses and the doctors and whichever patient were involved ...It was useful. (S13)

Affective domain development for some was being reinforced, from personal insight into a nurse’s role and responsibilities a physiotherapy student’s views were changing because of persuasion. For others, it was being embraced as it fell within the student’s scope of acceptance. Unexpected outcomes that were reported included increased confidence. One social work student realised that others saw the group member differently to how they saw themselves; enhanced by attending the 6-week programme and given time to reflect on her findings.

In the first cycle, delivering the programme within a professional setting received mixed results, whilst some deemed the setting as irrelevant; in the second cycle, students suggested the practice setting was important. Within the practice setting, students retained their professional identities, whereas a course delivered at the university often the ‘student identity’ dominates. One student (S7) described having a ‘different mindset... a more professional mindset’ when engaging in the IPL sessions in practice compared to university. This resulted in positive feedback in relation to location and impact on values, attitudes, and behaviours: ‘being in practice we were coming together as professionals rather than as students’ (S7).

**Learning alliance**

‘Group dynamics’ was a theme which emerged from the first cycle of action research, students reporting on being able to learn from, with, and about each other. Further analysis from cycle two transformed the theme to ‘learning alliance’ between students and facilitators. The group dynamics and flat hierarchy had considerable effect on the affective domain development of the students to internalisation stage. Students enjoyed the activities that required them to work in teams recognising that patients benefit from professionals working together, ‘it’s (working together) only going to be a positive outcome’ (S15).

Students appreciated the exercises where they learnt about different team roles and how they recognised the roles they themselves take on, as well as the roles that other members of the wider professional team occupy. Students commented on the positive dynamics within the groups, identifying they were better than teams in practice and/or university. One student reflected on previous experiences of group work:

... everyone is just arguing, fighting and crying and it’s all going wrong, so it was nice to contribute where it is actually, like, oh this is how group work should be! (S1)

Students across groups agreed that they felt a sense of equality between the group facilitators and the group members:

We have sat down together as a group of professionals and it is very equal, there is no hierarchy. (S9)
I didn’t feel that anybody in the room treated us as though we were students really... lecturers or qualified nurses or whoever was in that room were all kind of equal. (S5)

From the group analysis, students indicated that as they approached registration they were now being taken seriously as a professional; their opinion mattered, leading to the confidence and ability to share knowledge and skills, which in turn changed attitudes about each other:

It will help me be more relaxed and at ease now I am a third year about contacting somebody outside of my nursing environment', and 'I think it makes you aware of your limitations for example when I was asked to make a decision on a patient’s care I was able to say well I’m not sure maybe I do need to pass it on. (S34)

Before I used to like...you would see someone come in the ward maybe to see a patient you just greet them and they’ll tell you what they are there for and that’s it, but now you know you’re able to ask them, you know have a proper conversation with them be curious about their role and what they are doing for your patient and hand that over. (S27)

The participant’s rationale for attending the programme varied although there was consensus that the majority wished to learn more about other professions and reflect on practices previously observed, ‘that’s pretty much the same reason why I joined as well’ (S10). Others had enrolled on the programme to: add to their CVs or were encouraged by their personal tutor; and one to dismiss myths about their profession and develop positive attitudes about others.

Circles of care
Identified within the first cycle of action research was that participants began to appreciate the importance of IPW, which through comparative analysis across group interviews evolved into a theme named ‘circles of care’. To impact on affective domain development and IPW practice, an IPL programme should include members of the interprofessional team replicating the practice setting to enhance learning and impact the patients’ journey through health and social care systems.

Affective domain development to identification stage was categorised in comments from the students as they discussed the way in which professionals should be encouraged to develop a broader perspective of each other’s roles and different students (S2, S9, S17) reinforced that ‘the groups should have a broader representation of different professions.’ Students mentioned professionals such as doctors, speech and language therapists, occupational therapists, and dietitians to help develop their knowledge and skills.

The impact of circles of care was important to gather appreciation and develop respect. As one respondent noted:

For me personally, coming to this research programme has actually, changed my perception about other professionals, you know, to kind of look beyond the presenting scenario at the time and to appreciate other professionals involved and respect what they do and to be able to work together for the benefit of the client, the people. (S2)

Students noted that an important member missing from the programme was a service user, reinforcing the significance of the patient voice:

A case study example of a service user telling us their story and then we all work as a team to say what our role would be within that would have been useful to their development. (S9)

Students had opportunities to communicate to their mentors/practice educators the learning they acquired from the programme when they returned to practice each week. Mentor/practice educator interest varied dramatically post programme discussions, some were considered as negative and ‘stuck in their ways’. The students expressed frustration and although they acknowledged there were those in practice who held these views, they were committed to developing positive relationships with the wider multi-professional team to improve patient outcomes and team working. This demonstrated affective domain development to internalisation, instead of satisfying the culture of the ward, embracing the ethos of IPW:

You know if I was to go in as a qualified nurse and not be one of these nurses to sit behind the desk I might have a few people turn their nose up at me but then ultimately they will sit there and realise well really I can’t sit there and do nothing if she is one of those people that’s up and about doing stuff and that has a ripple on effect because you’ll have one more nurse that starts being more proactive and ultimately you have nursing assistants that do the same and then it will work out that within this one ward they are more proactive and it will work but it’s just like a time thing and I suppose you’ve got to be one of them people to take that lead to make sure it does work. (S4)

As the students were nearing the end of their respective programmes, they understood that by enrolling on the programme they could grasp new knowledge from a transforming learning experience before their transition ended:

For me I thought it would help me to work with other professions when I finally qualify so that’s why I’m here mainly just to be a potentially better practitioner. (S21)

Outcomes on patient/client care: Evidencing impact of the IPL

Confidence and competence
All students reported that by attending the programme they had become more confident in their abilities to work with other professions. Examples related to confidence in future communications and understanding each other’s roles and responsibilities in the care of service users.

Self-reported application to practice
Within the 6-week period that the IPL programme was delivered, attending students commented at the weekly debrief and reflection sessions how they were making an impact on patient outcomes from what they learnt.

For example, a Radiography student who had become more self-aware of her role when attending to clients with learning disabilities used the knowledge gained from the programme to ask for the ‘hospital passport’ (Department of Health, 2013).

A student nurse who worked on a busy ward could identify what good collaborative practice should look like and reflected on how poor the interaction was within the staff team in which she was working.
Discussion

Timing of any IPE was initially recommended after qualification ‘when practitioners had found their respective identities and had experience under their belts to share’ (Barr, 2002, p.8). Since 2002, IPE has progressed to include all years of undergraduate, pre-registration education programmes (Barr & Low, 2013). Within this study, however, final year students reinforced the appropriate timing of the programme close to qualification suggesting a maturity and readiness to look outward, receptive and confident to take part in interprofessional learning (Barr, 2002).

Delivering the programme over a 6-week period whilst on placement enabled the students to conceptualise the theoretical discussions from attending the programme (Barr & Lowe, 2013); IPW was becoming explicit, not implicit. The participants’ values, attitudes, and beliefs changed about the importance of good teamwork and the impact this has on the end user from being able to reflect on what they discussed and observed.

According to Lingard, Reznick, DeVito, and Espin (2002), when students are educated in silos the resulting impact in clinical practice is that professionals have narrow or misrepresented views of each other’s skills, roles, and identities. The programme was situated within the clinical setting where students could feel like a professional, behave and look like one too (Walker et al. 2014). Students (in the third year) were at a stage in their development where they could identify with their respective professions. However, being located in clinical practice with the session delivered by practice and academic staff, professional identity did not fragment, that is the students identified as themselves because of the situation as professionals and not as students (Brennan & Timmins, 2012). This enhanced their ability to explore theory–practice gaps as their attendance and participation in the IPL programme helped through ‘discursive constructions’ to move the student’s attitudes, values, and beliefs about each other and their professional identities from ‘legitimate peripheral participation’ (p. 733) to the hidden territory of interprofessional relations and clearer understanding of how important each profession is to the outcomes of patients.

Analysis of the transcripts found that the positive group dynamics had a significant effect on the student’s values, attitudes, and beliefs about each other; that is, they felt they were being treated like a professional. These are intricately linked to the work of Bourdieu (1977) and how social order impacts on the opinions of the students being ready for collaborative learning. Developed from reflecting on the external social world and structures of their professional groups and practices, shaping their sense of their place within an interprofessional team. In the final year, students have learned to navigate the patterns of behaviour expected in the structured social space or field of their profession. The students had learned to respond and adapt to the new situations and reached a point ready to begin challenging this new understanding of themselves. They knew who they were as a professional, but felt that to further develop their identity, the need to augment this with further interactions with others (Sutherland, Howard, & Markauskaite, 2010).

From the focus group comments, it was noted that some students had been affronted by previous practice encounters and saw this as an opportunity to help other professionals internalise new values about them (Epstein, 1977). Their experiences had caused conflict between their current values, attitudes, and beliefs creating tension and anxiety, otherwise known as cognitive dissonance (Festinger, 1957), and they reported a need to resolve the tension between their original beliefs and those causing distress. However, instead of negatively reacting to the dissonance, the students affected saw the programme as a positive output. It is recognised from the literature that IPE increases ‘motivation, well-being, and retention’ (West, Guthrie, Dawson, Borill, & Carter, 2006, p. 4); however, the actions of these students also demonstrated emotional intelligence and maturity, the ability to critically think about one’s actions and act in a compassionate way (Francis, 2013).

The findings of the two study cycles suggested it would be more appropriate in future IPL programmes if students imitated the ‘circle of care’ for an individual patient’s healthcare system. This may include ‘patient, providers, other agents, and information repositories related to the patient’ (Price & Lau, 2013, p. 2). Using different case scenarios, students could attend the more relevant aspect of the programme that links to common circles of care they would experience, dependent upon their current placement setting or organisation speciality, thus increasing the effectiveness and application of IPL.

As the students were all third years, they were also experiencing a period of transition (Fisher, 2000). They were beginning to see a new sense of purpose as registered practitioners and therefore when visualising this new image, understood that this required a change. In the future, they would have to take responsibility for sustaining partnerships to meet the productivity of health and social care provision (Health and Care Professions Council 2008; Nursing and Midwifery Council, 2015).

The students had reported how the programme gave them more confidence to work interprofessionally. However, the term confidence requires further discussion. During the analysis, the researchers discussed what was meant by confidence from the focus group transcriptions and moderator notes; students interchangeably transposed the term confidence for competence and vice versa. Pfaff, Baxter, Jack, and Ploogg (2014) reported similar findings in their exploration of new nursing graduate’s confidence in interprofessional collaboration. Confidence in interprofessional interactions can be increased using IPE but also competence is increased when students have repeated interpersonal experiences with the same professionals. Competence requires self-confidence (Bandura, 1993), and students reported their self-efficacy and collective efficacy had increased through attending the IPL programme.

According to Reeves et al. (2013), evidence of the impact of IPW on professional practice and healthcare outcomes is lacking. Within this study, students did report the impact of their new-found knowledge, skills, and values on patient outcomes.

Greater self-awareness from homework activities and reflecting on this with the facilitators helped some participants to positively challenge practice and develop their professional identity; measuring this against the code of conduct in relation to acting as an advocate for patient care (HCPC 2008;
The learning alliance that had developed between the group members, and with the facilitators, helped a student to become secure in her own identity (Sutherland et al., 2010). The group gave her the chance to reflect on her experiences and albeit negative she was able to learn from this to develop coping strategies and resilience for the future (Jackson, Firtko, & Edenborough, 2007).

A conceptual framework emerged; a theoretical structure of assumptions, principles, and rules that holds together the ideas (Miles & Huberman, 1994) of IPL and the impact on affective domain and behaviour change in IPW (Figure 2). Whilst previous studies indicate that undergraduate student’s attitudes, values, and behaviours towards IPW can be influenced by the delivery of IPL programmes, attitudinal change was often short-lived and data collated quantitative in nature. In this study relationships between what IPL works for whom, in what circumstances, and when and the internalisation of new values, attitudes, and behaviours have been uncovered using in-depth qualitative methods, providing new evidence not previously found (Table 3).

The diagrammatic representation of the Interprofessional Learning for Affective Domain Development Framework (IPL-ADD) is shown in Figure 2. Changes in attitudes, values, and behaviours of undergraduate students from across different professions were explored by examining what IPL works for whom, in what circumstances, and when. From the focus group interviews, student dialogue was concept mapped to structure the qualitative data and links were made across domains.

A relationship emerged; that to reach internalisation of new attitudes, values, and behaviours: self-assessment (professional identity), team building (learning alliance) and reflection had the most significant impact. Identification stage development transpired from students participating in any two of the IPL activities alongside reflection. Whereas, compliance was surprisingly reached from three or more activities, again alongside reflection.

The students were from mixed professional groups and no specific group was seen to be more prevalent at the internalisation stage of affective domain development than another; despite adult student nurses being the largest represented profession. This prevalence of affective domain development changed at identification and compliance stage, with student nurses being the largest number affected. However, what differed at each level of change in affective domain development was the student’s purpose for attending the programme. Students identified as reaching the internalisation stage preferred in-depth reasons for joining the IPL programme and linked this to a personal reward or incentive. Whereas, those students at identification stage, offered a personal reason or incentive, but this was more superficial in rationale such as to help with an essay resubmission, or to boost their curriculum vitae. Students identified at compliance level gave reasons for signing on to the programme mainly because it was suggested by their friends or personal tutor.

From this study, clinical practice was the social space in which to deliver the programme and allowed the augmentation of ‘circles of care’ so that students could see which professions they need to consider in better outcomes for the

<table>
<thead>
<tr>
<th>Circumstance for attending IPL Programme</th>
<th>What IPL Activities work</th>
<th>When</th>
<th>Level of affective domain development</th>
</tr>
</thead>
<tbody>
<tr>
<td>The students response for attending the IPL programme is clear, in-depth and linked to a personal reward/incentive</td>
<td>Self Assessment (Professional Identity), Team Building (Learning Alliance) &amp; Reflection</td>
<td>Clinical Practice (Circles of Care)</td>
<td>Internalisation (n=13)</td>
</tr>
<tr>
<td>The students response for attending the IPL programme is the same as their friend/peer and demonstrates some link to a personal reward/incentive</td>
<td>Any 2 of the IPL activities/themes &amp; Reflection</td>
<td>Clinical Practice (Circles of Care)</td>
<td>Identification (n=17)</td>
</tr>
<tr>
<td>The students response for attending the IPL programme is the same as their friend/peer and added nothing to the discussion, nor to a reward or incentive</td>
<td>Any 3 or more activities/themes &amp; Reflection</td>
<td>Clinical Practice (Circles of Care)</td>
<td>Compliance (n=7)</td>
</tr>
</tbody>
</table>

Figure 2. The Interprofessional Learning for Affective Domain Development (IPL-ADD) Framework; mapping of the interplay between concepts.
patients in which they cared for. Being in practice, they were coming together ‘as professionals rather than as students’ and not fragmenting their professional identity.

Being final year students strengthened the timing of the programme close to qualification, having learned to navigate the patterns of behaviour of their profession and reaching a point to begin challenging the new understanding of them.

In regard to study limitations, although the sample was purposive and self-selecting, students who agreed to participate may have been more receptive to and aware of the potential benefits of collaborative learning. Studies of programmes, where attendance is a requirement of pre-registration training, may provide contrasting results. Five professional groups were represented across the study. However, the individual groups did not contain the full range of these professions. Adult nursing students were heavily represented in two of the groups whereas podiatry and radiography students found themselves the sole representative of their profession, students identified this as a limitation of the programme. Including students on joint programmes does have implication as this group of students inherently have a readiness for interprofessional working. Using self-report behavioural change is not without weaknesses, such as room for response bias, acquiescent or extreme responding, self-enhancement, and lack of self-knowledge (McDonald 2008).

Concluding comments

This article draws together a conceptual framework, not currently described within the limited quantitative evidence base in the field of IPE. The study highlights relationships between what IPL works for whom, in what circumstances, and when. As such, it may provide useful evidence for higher education institutions across a range of settings in health and social care. Analysis and mapping of concepts would suggest that: the what, are activities that explore self-assessment (professional identity), team building (learning alliance), and reflection stimulate IPL. The who, IPL works for students of any profession who have a clear in-depth reason for joining the programme that links to a personal reward or incentive. The where, is IPL delivered in clinical practice imitating ‘circles of care’ over four weeks, and the when is in the third year of an undergraduate programme. The outcome is sustained change in values, attitudes and behaviours, to internalisation stage of affective domain development.

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Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

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