Making the transition from physiotherapy student to interprofessional team member.

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Abstract

Objectives To explore final-year physiotherapy students’ perceptions and experiences of interprofessional learning in the university and placement setting.

Study design Focus group and mixed qualitative and quantitative questionnaire.

Setting Coventry University.

Participants Third-year physiotherapy students at Coventry University.

Methods The final-year physiotherapy cohort was invited to complete a questionnaire containing a mix of closed- and open-ended questions. Eight volunteers from the same cohort took part in a focus group.

Results The questionnaire achieved a response rate of 97% (97/100), and the focus group transcript revealed several themes. The majority of students identified an impact of interprofessional learning on their awareness and understanding of professional roles (74%, 72/97) and issues (71%, 69/97). The students also valued the role of other professionals (63%, 61/97), and recognised the support they could offer (60%, 58/97). These findings were reinforced and developed with respect to interprofessional working in the focus group discussion. Students were aware of increased personal and professional confidence which supported their developing identity as physiotherapists. They also recognised an ability to seek out ways to improve working relationships and to refer patients on to the most appropriate professional. Many students recognised the significance of clinical placements in their interprofessional learning (69%, 67/97), and identified that face-to-face interaction facilitated the social aspect of team working.

Conclusions Interprofessional learning is effective in improving student physiotherapists’ awareness of roles, issues and ability to develop collaborative working relationships, thus potentially leading to improved patient care.

Keywords Interprofessional learning; Interprofessional education; Physiotherapy; Collaborative working; Professional identity

Introduction

Physiotherapists are an integral part of the clinical healthcare team, and thus need to understand other practitioners’ roles and communicate effectively in order to provide high-quality, coordinated patient care [1]. Interprofessional learning (IPL) has been identified as a way to help professionals develop the skills necessary to promote true collaborative working as a reality rather than rhetoric. The term ‘IPL’ suggests that people from two or more professions in health or social care engage in learning with, from or about each other, and its importance has been highlighted where patients have been at risk or have come to harm [2]. Suggested benefits of IPL are: developing group and organisational relations with mutual understanding and respect; understanding of differing roles with established common values, knowledge and terminology; changes in attitude and behaviour to reduce stereotyping and rivalry; and enhancing collaboration in practice [3]. Such benefits apply to individual physiotherapists, the profession as a whole and patient care, as the interprofessional team may have increased confidence that their input is valued, and they may network more effectively and perceive change as an opportunity, rather than a threat, to their own individual profession.

Government policy advocates that undergraduate health and social care students are prepared for collaborative work-
ing. IPL addresses this requirement by formally promoting the sharing of knowledge and experience of team working [4,5]. However, universities implement IPL in a variety of ways [6,7]. Research on IPL on training wards or in clinical practice [8] suggests that it increases understanding of teamwork and communication skills. However, such approaches are difficult to sustain due to limited professional representation and interested/experienced clinical educators [9–11].

Suggesting that there is no off-the-shelf, ideal IPL approach, Stew [12] highlights the importance of a sound theoretical underpinning. Many IPL strategies adopt a social constructivist pedagogy based on the principle that learning is not a purely individually constructed process; a framework of collaborative, interprofessional, situated learning emphasises how actively involved learners construct new meaning by problem solving collaboratively with peers and a facilitator [13]. Cooper et al. [14] highlight an increase in students’ confidence in their own professional identity, valuing other roles and improved preparation for placements where first-year students engage in IPL.

Social identity theory [15] suggests that an individual’s sense of professional identity affects interprofessional relationships. Differing group objectives can lead to hostile relationships [16]; however, appropriate socialisation offers students the opportunity to experience rewarding interactions enabling the identification of similarities between groups and the formation of positive relationships [17]. Tunstall-Pedoe et al. [18] and Mandy et al. [19] found that some professional groups were reluctant to engage in preregistration IPL and maintained negative stereotypical views of others, highlighting the challenge presented by IPL.

Students attracted to physiotherapy are thought to have certain cognitive patterns and learning styles, and by the process of professionalisation, they master the skills and values of the profession and assume their professional identity [20,21]. This assertion suggests that each healthcare professional may have a different cognitive map and look at situations very differently. However, studies have shown that preregistration doctors, dieticians, physiotherapists and nurses show signs of high identification with their professional group, yet possess strong willingness to engage in IPL [22].

The challenge is to provide opportunities for students to understand one another’s cognitive maps through early socialisation in order to reduce interprofessional prejudice, increase knowledge of roles and improve team working. These outcomes form the basis of Parsell and Bligh’s ‘readiness for IPL’ (RIPLS) framework, which has synergies with the module learning outcomes which are evaluated in this study [23]. Here, information technology is used as it offers the opportunity for this type of learning and facilitates flexible scheduling, which reduces logistical barriers to IPL [24].

**Aim**

The aim of this study was to explore final-year physiotherapy and dietetics students’ perceptions and experiences of their IPL whilst on BSc Honours courses at Coventry University. The students had participated with students from 13 different disciplines, in health and social care, in a process of IPL delivered using the WebCT Online learning platform over a 3- and 4-year period, respectively. This atypical approach to IPL was not simply a case of sharing an online module, but involved the students in interprofessional, interactive activities facilitated by trained staff, as recommended by the World Health Organization [24]. The Interprofessional Learning Pathway (IPLP), which ran annually, involved online discussion based on patient scenarios. It allowed flexible engagement in the exploration of knowledge, experience, values and models of practice whilst in asynchronous, virtual learning sets. A mandatory assessment based on learning outcomes required reflection of learning, and acknowledgement and understanding of alternative perspectives.

The data in this paper relate to the physiotherapy students alone, as the findings relating to dietetic students were considered separately to allow consideration of profession-specific issues [25].

Ethical approval was sought and gained from Coventry University Research Ethics Committee.

**Methods**

This study adopted a mixed method approach, utilising a questionnaire and focus group. This promoted a means of systematically addressing the complexity of the topic, and allowed qualitative and quantitative findings to be compared, contrasted and integrated to mutually inform the study [26].

**Questionnaire**

A survey questionnaire was used to obtain information from a large number of students in a convenient and timely manner, ensuring anonymity and reducing bias [27]. The use of closed-ended questions gave an opportunity for statistical analysis, and open-ended questions allowed themes to be identified [28].

The questionnaire was devised following a thorough review of the recent IPL literature. Twenty-second-year students completed a pilot questionnaire to enhance face validity [29]. Subsequently, to address content validity and further enhance face validity, the draft questionnaire was circulated to experts within Coventry University for comments and suggested changes, of which there were several.

As well as demographic data, the questionnaire included open- and closed-ended questions in the following areas:

- The importance of IPL in helping learning on other academic modules.
- The relevance of IPL modules to clinical practice.
- The significance of IPL on clinical placement compared with university learning.
- The impact of IPL on the student: awareness of interprofessional issues, roles, value of other roles, interprofessional working and professional identity.
Students ($n = 100$) were informed of the aims and method of the study, and those who opted to complete the questionnaire did so independently.

Statistical Package for the Social Sciences Version 16 (SPSS Inc, Chicago, IL, USA) was used to perform all data analyses. Descriptive statistics using frequency tables and charts were used where appropriate. Missing values on the attitude scales were recorded as ‘no opinion’ or ‘neutral’.

**Focus group**

The focus group approach was appropriate for this study as it brings together a group of people to discuss a topic of mutual interest to both themselves and the researcher, and enables the collection of rich in-depth data [30]. Analysis of the questionnaire findings informed the development of the focus group questions.

The third-year physiotherapy students were invited to volunteer to join the focus group, and 12 students gave their informed consent to take part. It is acknowledged that this volunteer sample was potentially biased, as the participants may have held strong views about their experience [26].

A facilitator, with expertise in the method and no involvement in the IPL module, ran the focus group session, with three members of the research team as observers. Eight physiotherapy students were selected at random from the volunteers to take part in the session, which lasted for approximately 1 hour. The facilitator began the session with broad, open questions, thus encouraging the students to participate fully, identify the positives and negatives, express their ideas and discuss their perspectives.

The session was recorded and transcribed. Two members of the research team carried out an initial analysis of the transcript independently. Themes were identified and evidence was noted, which required considerable interaction with the data. Following this, the researchers shared the themes and explored the findings further [31].

**Results**

**Questionnaire**

Ninety-seven physiotherapy students completed the questionnaire and three abstained. Eighty-five students were female (88%, 85/97), 12 students were male (12%, 12/97) and 79% (77/97) of all students were aged 20–24 years.

**IPL at university and on clinical placement**

Table 1 shows the numbers and proportions of responses to the importance, relevance and significance of IPL in university and clinical settings.

Thirty-one percent (30/97) of students felt that IPL facilitated learning on other university-based modules. Fifty-eight percent (56/97) of students thought that the IPL modules were relevant to clinical practice, and the remaining 26% (25/97) failed to see its relevance to practice. Sixty-nine percent (67/97) of students rated their IPL during clinical placement as significant compared with their university learning.

**Impact of engagement in IPL**

Seventy-four percent (72/97) of students felt that IPL had a positive impact on their awareness of other professional roles, and 71% (69/97) felt that it increased their awareness of interprofessional issues (Table 2). Positive impact was also expressed towards students’ value of the roles of other professionals (63%, 61/97), and their awareness of the need for support from other professions (60%, 58/97).

Almost half of the responding students (45% 44/97) suggested that engagement in IPL had a positive impact on interprofessional relationships in clinical practice, and their ability to work as part of a multidisciplinary team (47%, 46/97) and with other professionals (45%, 44/97). However, an approximately equal proportion indicated that they thought there was no impact in these areas.

Approximately one-third of students (35%, 34/97) felt that their understanding of their own professional role and their professional identity as a physiotherapist was positively affected by engagement in IPL. However, over 56% (54/97) felt that it had no impact. Approximately 50% (49/97) reported that engagement in IPL had no impact on their feeling about being a member of the physiotherapy profession. However, the students expressed little negative impact overall.

**Table 1**

<table>
<thead>
<tr>
<th>Importance of interprofessional learning in helping learning on other university-based modules</th>
<th>Rating</th>
<th>$n$ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Important</td>
<td>30 (31)</td>
<td></td>
</tr>
<tr>
<td>No opinion</td>
<td>8 (8)</td>
<td></td>
</tr>
<tr>
<td>Unimportant</td>
<td>59 (61)</td>
<td></td>
</tr>
<tr>
<td>Relevance to clinical practice of the interprofessional learning modules</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevant</td>
<td>56 (58)</td>
<td></td>
</tr>
<tr>
<td>No opinion</td>
<td>16 (15)</td>
<td></td>
</tr>
<tr>
<td>Irrelevant</td>
<td>25 (26)</td>
<td></td>
</tr>
<tr>
<td>Rate the significance of your interprofessional learning during clinical placements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significant</td>
<td>67 (69)</td>
<td></td>
</tr>
<tr>
<td>No opinion</td>
<td>9 (9)</td>
<td></td>
</tr>
<tr>
<td>Insignificant</td>
<td>21 (22)</td>
<td></td>
</tr>
</tbody>
</table>

**Table 2**

<table>
<thead>
<tr>
<th>Impact of engagement in interprofessional learning for physiotherapy students ($n = 97$).</th>
<th>Impact</th>
<th>$n$ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness of other professional roles</td>
<td>Positive</td>
<td>72 (74)</td>
</tr>
<tr>
<td></td>
<td>No impact</td>
<td>18 (19)</td>
</tr>
<tr>
<td></td>
<td>No opinion</td>
<td>3 (3)</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td>4 (4)</td>
</tr>
<tr>
<td>Awareness of interprofessional issues</td>
<td>Positive</td>
<td>69 (71)</td>
</tr>
<tr>
<td></td>
<td>No impact</td>
<td>21 (22)</td>
</tr>
<tr>
<td></td>
<td>No opinion</td>
<td>6 (6)</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td>1 (1)</td>
</tr>
</tbody>
</table>
The qualitative comments offered by the students were analysed and grouped as positive or negative aspects of engaging in IPL. Students valued a supportive e-learning group facilitator and appreciated that any precourse clinical experience was an advantage. They enjoyed the interesting patient scenarios and valued the 24-hour access to the online module. However, students found the limited engagement of some professional groups, such as medical students, frustrating. They felt that some professional groups were not directly involved in some aspects of the patient scenario, and considered that learning about their roles was prevented. The students felt that their increasing clinical experience was not reflected in the complexity of the patient scenarios as they engaged in the third-year IPL module.

Focus group

Initial impressions of IPLP

The first theme identified from the focus group data was practical in nature. Students identified positive and negative features of the online format. Notwithstanding the flexibility of 24-hour access, frustration was expressed over the lack of timely and concise interaction from other group members. However, for team working, the students suggested that IPLP broke down barriers, reduced interprofessional rivalry and increased their understanding of others’ roles. For instance:

‘You come to appreciate why other professionals do what they do and then you don’t necessarily think, ‘well why are they doing that’, you think, ‘I understand more now why they do that’.’

Defining and understanding roles on clinical placement

Students felt that IPLP provided an opportunity to find out about other professional roles, thus allowing them to refer patients more appropriately. This had a direct impact on patient care. Students felt that they were more proactive in asking for opportunities to shadow other professionals whilst on clinical practice. Comments included:

‘I found that rather than me being invited, I just sort of asked and said ‘can I come in?’ and ‘can I shadow you?’ This may have been partly due to the IPLP experience and realising that other roles were important.’

‘I think it gave me the opportunity to learn about some of the conditions they deal with as well. So if I came across that, I would instantly think ‘oh well maybe I’m not the most appropriate’.’

Students recognised that they were better prepared for face-to-face interaction with other professionals. For example:

‘I think the fact that you’ve got more understanding of people’s roles means that you can talk to them more easily, and I think the people that I worked with anyway appreciated the fact that we’d taken the time to actually understand what it was that they did. So you got on much better with them from the start.’

Confidence building

IPLP had a positive effect on the students’ self-esteem; they were more able to express their knowledge of their own role and contribution to team working, resulting in them feeling valued, proud and more confident in communicating and working with other professionals. Comments included:

‘People said ‘Oh I didn’t realise physios did that’ and that was a really nice feeling.’

‘You feel quite valued then don’t you?’

‘I think it made me feel more confident talking to other professionals because I knew what they were able to do and what I could do, then they could help.’

IPLP and qualification

The students perceived that once qualified, the IPLP would contribute to their professional practice and they might also benefit from experienced professionals’ appreciation of the learning experience they had gained:

‘I think you’ll have more appreciation and respect for somebody else and have more respect for your other professions and I think it’s going a really long way to integrating core, single assessments.’

Discussion

Research findings suggest that the IPLP intended learning outcomes of sharing knowledge and understanding and developing respect for other professional roles had occurred, thereby confirming that IPL had occurred at the preregistration level, thus supporting other research [14,22].

The vast majority of students felt that engagement in IPL had a positive impact on their awareness and understanding of other professional roles, interprofessional issues and how they valued other roles and the support they offer, which in turn helped to reduce barriers and interprofessional rivalry. These positive outcomes reflect other research [32] identifying the breaking down of traditional barriers to team working, including professional tribalism. However, the comments made by students about the lack of medical student interaction support the findings of Tunstall-Pedoe et al. [18] who identified this student group to be poor communicators and weak team players. These comments suggest that any negative stereotypical views that the physiotherapists had about medics had potentially been reinforced by engagement in IPL [19]. Such negative reinforcement needs to be addressed as team working requires effective communication [23].

A small but significant number of negative responses from students (26%, 25/97) suggesting that IPL was irrelevant to clinical practice appears to contradict other findings. Hind et al. [22] suggest that the level and nature of contact with
other professionals can influence the attitudes held by students. It is possible that some students had little or negative experiences of working with course tutors, online facilitators and other professionals on clinical practice, which had negated their ability to apply and benefit from their learning. Alternatively, this anomaly could be due to the students feeling that they had been presented with an idealised version of professions in university, which did not match the real work carried out by professionals they had contact with in practice [21].

Although collaborative working is based on understanding professional roles and valuing team members, students must also be willing and able to work as part of a team. Questionnaire responses were equally divided between the positive and negative impact of IPL on students’ ability to develop interprofessional relationships, to work as part of a team and to work with other professionals. This could be a reflection on the study method, in that the questionnaire was completed individually and did not allow the discussion of ideas and recognition of learning that may not have been immediately obvious, or could reflect a lack of opportunities within the clinical placement to develop as part of a team.

The government drive to ensure the establishment of IPL has encouraged the development of new learning programmes, and led to the search for the most appropriate time and place for implementation. Sixty-nine percent (67/97) of students felt that the clinical placements contributed significantly to their IPL in comparison with university learning. However, most academic modules occurred before placement and could have helped the students to make sense of clinical practice. Engagement with other professionals online may have given the students the willingness and confidence to share knowledge and skills with other professionals whilst on clinical practice. This is supported by the focus group discussion on the impact that the university-based IPL had on clinical working and relationships with other professionals. Students identified increased confidence in opening up lines of communication, seeking out observational opportunities and finding ways to improve their working relationships with others. As members of the multidisciplinary team, students had a good understanding of roles and responsibilities, and could refer the patient to the correct person, thus improving quality of care.

The importance of clinical placement experience was also highlighted by the focus group as providing opportunities for face-to-face interaction with other professionals. This allowed the social aspects of working as a team to be experienced, which led to friendships being built and the development of supportive working. This finding supports the idea that IPL is a component part of the student’s move from novice learner (reflecting on self and own professional role, initially within the university setting) to practitioner (where reflection is more holistic and team orientated) [32].

Despite these positive reports, 21% (20/97) of student questionnaire responses rated the significance of IPL on clinical placement as unimportant. Further exploration would be needed to establish if this was due to lack of or negative interaction with other professionals on placement. This could be significant as there is a strong link between outcomes of team working and the adoption of a team-based approach to learning, which ultimately affects the holistic care of patients. Team working whilst on clinical placement does require a student to feel secure in their own professional identity, and Adams et al. [21] suggest that individuals are more able to adopt a professional identity if they have the ability to structure knowledge in response to changing situational demands. This cognitive flexibility develops over time, and some individuals will take longer to establish their new professional identity, which may affect their engagement in IPL. The lack of professional identity may result in role insecurity, which leads to inflexible role boundaries and reluctance towards role sharing. This has been used as an argument for post-rather than preregistration IPL [33].

Parsell and Bligh’s RILPS [23] identifies the importance of the balance between professional identity acquisition and the ability to share expertise with others through team working. The focus group participants expressed an increased personal and professional confidence which supported their developing identity as physiotherapists, and reported experiencing increased self-esteem, giving them the ability to clearly discuss their role with a sense of developing expertise [22,32]. However, the students also recognised that others valued their profession, and they felt valued and proud as members of that profession. These findings contradict the questionnaire findings in which half of the students perceived no impact of IPL on their identity as physiotherapists. However, the exploration of sense and value associated with identity was not possible within the questionnaire, and this may have prompted the more negative response. Alternatively, the focus group, as a volunteer sample, may have represented individuals with a more mature sense of self-identity, which supported their interprofessional engagement.

**Implications**

Training for health professionals has traditionally focused on discipline-specific learning; this is no longer feasible as the workforce is expected to be responsive, flexible and adaptable, and to work effectively within collaborative teams. To sustain such a workforce and support graduates in an increasingly competitive job market, early introduction and experience of IPL is essential.

The results of this study add to the current available evidence, suggesting that IPL can be successfully introduced early in the education programme and can be based both in academic modules and in clinical practice. Parsell and Bligh [34] argue that certain criteria must be met for IPL to be successful; these include professional satisfaction, enhancing practice, and respecting the integrity and contribution of others. This is a challenge, particularly when introducing and developing a new innovative online approach.
Although this study demonstrated a change in physiotherapy students’ knowledge about roles and interprofessional issues, it has not established if this will result in improved collaboration and enhanced team work, and thus lead to better quality of care for patients. A longitudinal study following graduates into clinical practice would help to establish the relevance of IPL to clinical practice and its impact on patient care. The involvement of clinical educators in a study to evaluate students’ application of knowledge and learning about interprofessional working could provide further information on the value of IPL on the course. The parallel study of dietetics students’ experiences of IPL suggests that there are some similar findings, such as increased confidence in promoting their role to others in clinical practice [25], that might be generalisable across professions. However, there are also profession-specific issues that would provide an interesting focus for further comparative research.

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