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Using a meta-ethnographic approach to explore the nature of facilitation and teaching approaches employed in interprofessional education

Scott Reeves
Ferruccio Pelone
Julie Hendry
Nicholas Lock
Jayne Marshall
Leontia Pillay
Ruth Wood

Faculty of Health, Social Care and Education, Kingston University and St George's, University of London, UK

Corresponding author

Professor Scott Reeves
Kingston University & St George's, University of London
St George's Hospital, Cranmer Terrace, London, SW17 0BE, UK
s.reeves@sgul.kingston.ac.uk

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Abstract

Background: Interprofessional facilitators and teachers are regarded as central to the effective delivery of interprofessional education (IPE). As the IPE literature continues to expand, most studies have focused on reporting learner outcomes, with little attention paid to IPE facilitation. However, a number of studies have recently emerged reporting on this phenomenon.

Aim: To present a synthesis of qualitative evidence on the facilitation of IPE, using a meta-ethnographic approach.

Methods: Electronic databases and journals were searched for the past 10 years. Of the 2,164 abstracts initially found, 94 full papers were reviewed, and subsequently 12 papers were included. Two researchers independently completed each step in the review process. The quality of these papers was assessed using a modified critical appraisal checklist.

Results: Seven key concepts embedded in the included studies were synthesised into three main factors which provided an insight into the nature of IPE facilitation. Specifically, the synthesis found that IPE facilitation is influenced by 'contextual characteristics'; 'facilitator experiences' and 'use of different facilitation strategies'.

Conclusions: IPE facilitation is a complex activity affected by contextual, experiential and pedagogical factors. Further research is needed to explore the effects of these factors in IPE.

Keywords: Interprofessional education; Interprofessional facilitation; teaching, learning; meta-ethnography

Introduction

Interprofessional education (IPE) is as an activity that occurs when two or more professions learn together on an interactive basis to improve collaboration and the quality of care (Barr *et al.*, 2005). The rationale for the development of IPE is that learning together can enhance interprofessional practice which, in turn, can improve the delivery of health and social care services as well as enhance patient safety practices (Barr *et al.*, 2005; World Health Organization, 2010). Encouragingly, evidence for the effects of IPE has been growing over the past few years. As a result, an increasing amount of IPE scoping and systematic reviews have synthesised the evidence base. Collectively, these reviews have indicated that this form of education can help to nurture interprofessional collaboration (Hammick *et al.*, 2007; Reeves *et al.*, 2016) and improve healthcare outcomes in several fields such as mental health (Pauzé & Reeves 2010; Curran *et al.*, 2012), delirium care (Sockalingam *et al.*, 2014), diabetes care and domestic violence management (Reeves *et al.*, 2013).

While there has been a growth of IPE reviews reporting the effectiveness of this type of education on participants' collaborative competence and ability to deliver safe and effective care (Brandt et al., 2014; Lawlis et al., 2014; Reeves et al., 2013, 2016; Sunguya et al., 2014), little attention has been placed on the facilitation/teaching processes employed by individuals who deliver IPE. In addition, while there has been a growth of qualitative IPE studies, there has been no attempt to synthesise this type of research to assess the nature of the growing qualitative evidence base. This paper presents the findings from a meta-ethnography that synthesised available qualitative research to understand the nature of IPE facilitation.

Background

The role of the IPE facilitator (also referred to as teacher, mentor, preceptor, supervisor) has long been seen as fundamental in the literature (e.g. Cleghorn & Baker 2000, Howkins & Bray 2008). IPE facilitators are regarded as key in setting the learning climate and also creating a comfortable, positive and collaborative learning environment (e.g. classroom, practice placement, online learning). To date, the IPE literature has offered a series of possible attributes required for staff to facilitate interprofessional learning in an effective manner. These include experience of collaborative practice, conflict resolution skills, flexibility, confidence and a good sense of humour (Holland 2002; Freeth *et al.*, 2005; Howkins & Bray 2008). However, it has been found that most IPE facilitators often do not have the required attributes to successfully facilitate interprofessional collaborative learning (Reeves 2000; Steinert 2005). Consequently, Madden et al. (2006) have recommended that a range of faculty/staff development opportunities should be provided to IPE facilitators. While such activities can help prepare facilitators for their IPE work, it has been argued that faculty/staff development needs to be regularly offered to maintain facilitation competence (Howkins & Bray 2008). It has also been argued that IPE facilitators need to be effective role models for interprofessional collaboration (Selle et al., 2008). Indeed, a report by Lindblom et al. (2007) revealed that students stressed the importance of interprofessional role modelling to help them learn how to collaborate more effectively in clinical settings. Given the importance of the IPE facilitator role and the growth of the IPE literature, combined with a lack of attention to qualitative synthesis, a meta-ethnography was undertaken to synthesise available qualitative research in the IPE literature.

Methods

Mindful of a range of methodological debates related to meta-ethnography as this approach evolves (Atkins et al., 2008; Toye et al., 2014), the synthesis reported in this paper was framed by an established meta-ethnographic approach (Noblit & Hare, 1988) and also applied a pre-existing protocol (Reeves et al., 2015).

The synthesis was guided by the following objectives:

1. To synthesise the available qualitative research related to the involvement of staff who facilitate IPE in health and social care.

2. To investigate the potential influence of IPE contextual factors (e.g. professional mix, space and time constraints) and teacher characteristics (e.g. expertise and attitudes, perception of learners) on the IPE they facilitate.
3. To identify any gaps in the IPE evidence, and suggest a future agenda for research.

Inclusion criteria

For the purposes of this review, IPE was defined as an activity that occurs “when members (or students) of two or more professions learn with, from and about one another to improve collaboration and the quality of care” (Barr *et al.*, 2005). Specifically, this review focused on studies reporting the delivery of IPE by teachers (also termed facilitators, mentors, preceptors and coaches) to learners.

Studies which met the following criteria were included in the review:

1. They were defined as an IPE study according to the definition presented above.
2. Teachers were involved in the delivery of IPE to learners from health and/or social care backgrounds.
3. The studies were qualitative in nature, such as, phenomenological studies, ethnographic studies, grounded theory studies or case studies (Hancock *et al.*, 2002).

Search strategy

Nine electronic databases were systematically searched for relevant peer-reviewed papers: Applied Social Sciences Index and Abstracts (ASSIA), British Education Index (BEI), CINAHL Plus, EMBASE, ERIC, Healthcare Management Information Consortium (HMIC), MEDLINE and PsycINFO. A MEDLINE search strategy was formulated in to address the review objectives and the inclusion criteria (Reeves *et al.*, 2015), when necessary this was adjusted to implement on other bibliographic databases. Search results were limited to the past 10 years and to papers written in English.

Additional papers were obtained searching the reference lists of included studies and also from hand searching the last ten years of two journals, namely *Medical Teacher* and *Journal of Interprofessional Care* that publish the largest number of IPE research.

Study selection

The selection process was conducted in two stages – title/abstract screening followed by full-text paper screening. After duplicates were removed, two reviewers from the team independently screened all titles and abstracts produced from the searches. Studies were not considered further when their abstract or their title (when the abstract was unavailable) clearly pointed out that: (1) the focus was not IPE; (2) the study was a systematic review, a quantitative study, a commentary and/or had not been peer-reviewed.

Full-text articles of any relevant titles/abstracts were obtained and screened with reasons for exclusion added. At this stage of the screening process, one reviewer independently scanned the reference list of the included studies for potentially eligible articles that were not identified through the electronic searches.

Both the abstract and the full-text screening were performed in parallel by two members of the review team working in pairs, with discrepancies resolved by a third reviewer. Furthermore, each stage was guided by a check-list to ensure consistency among the review team in applying the eligibility criteria.

Study selection, including reasons for exclusion, is summarised in Figure 1. In the final stage of the selection process a total of 11 papers were excluded because they either did not focus on facilitators' experiences in delivering IPE (n=6) or they evaluated learners' perceptions of IPE facilitation (n=5) rather than focusing on the facilitators' own perspectives as defined in the inclusion criteria. Twelve studies (Cooper & Spencer-Dawe., 2006; Lindqvist & Reeves., 2007; Rees & Johnson., 2007; Anderson & Thorpe., 2010; Carlson et al., 2011; Egan-Lee et al., 2011; van Soeren et al., 2011; Chipchase et al., 2012; Clouder et al., 2012; Hanna et al., 2013; Evans et al., 2014; Jakobsen & Hansen., 2014) met the inclusion criteria and were included in the synthesis.

INSERT FIGURE 1 ABOUT HERE

Data abstraction and synthesis

For each included study, two reviewers independently extracted the following information:

- Details of study characteristics – study objectives, methodology, sample, study setting and the year of publication;
- Results information – key themes or concepts identified in the studies (distinguishing between first and second order interpretation);
- Context information – details about the IPE teaching and learning processes;
- Study quality – criteria for assessing the methodological quality of included studies were based on the Critical Appraisal Skills Programme (CASP) tool (CASP 2006). This tool was slightly modified so that each of the items collectively provided an aggregate score which indicated study rigor. These criteria covered issues such as, appropriateness of the research design to address the study aims, appropriateness of sampling/recruitment procedures and appropriateness of data collected.

The approach to synthesising the included studies (aggregating information, re-interpretation, developing a synthesis) was informed by the approach developed by Noblit & Hare (1988), and adapted by Britten et al. (2002). In doing so, the included papers were read and re-read by the review team to gain a detailed understanding of their contents. From this work *second order*

interpretations (i.e. original author interpretations of data) were collated to identify key concepts. This informed a subsequent stage of analysis in which the review team's own *concepts* and *second order interpretations* were compared and contrasted in order to develop a series of synthesised *third-order interpretations* (key factors) based on the evidence in the included papers.

Findings

Summary and context of included articles

The characteristics of the 12 included studies are presented in Table 1. The geographic setting for the studies varied with five studies from the United Kingdom, three from Canada and one each from Australia, Denmark, Sweden and Vietnam. Within these studies IPE was delivered in a classroom context (4 studies), a practice-based setting (2 studies), a mixture of classroom and practice settings (2 studies), via an online methods (3 studies) or simulated learning environment (1 study).

With regard to the facilitation approach employed, most of the studies described IPE activities co- led by two facilitators (Cooper & Spencer-Dawe., 2006; Jakobsen & Hansen., 2014; Hanna et al., 2013; Anderson & Thorpe., 2010; van Soeren et al., 2011) or single facilitators (Lindqvist & Reeves., 2007; Carlson et al., 2011; Egan-Lee et al., 2011; Evans et al., 2014; Rees & Johnson., 2007). Clouder et al., (2012) in contrast, reported on the experiences of peer facilitators in an online IPE context, while one study was focused on the role of the clinical supervisor in facilitating IPE in practice placements (Chipchase et al., 2012).

The number of facilitators involved in the included studies ranged from four (Chipchase *et al.*, 2012) to 58 (Anderson & Thorpe., 2010). The facilitators were from a range of professional backgrounds, including, nursing (6 studies), physiotherapy (5 studies), occupational therapy (4 studies), medicine and social work (3 studies) and speech pathology (2 studies).

INSERT TABLE 1 ABOUT HERE

Study methods and quality appraisal

The 12 qualitative studies included in this review, involved six case studies, three phenomenology studies, one ethnography, one participatory action research study as well as a study that described employing a 'qualitative approach' (see Table 1). A variety of methods were used to collect study data. Focus groups were most common used (Anderson & Thorpe, 2010; Carlson et al., 2011; Chipchase et al., 2012; Cooper & Spencer-Dawe., 2006; Hanna et al., 2013; Jakobsen & Hansen, 2014; Lindqvist & Reeves, 2007; Rees & Johnson, 2007; van Soeren et al., 2011), followed by individual interviews (Anderson & Thorpe, 2010; Carlson et al., 2011; Chipchase et al., 2012; Cooper & Spencer-Dawe, 2006; Egan-Lee et al., 2011; Hanna et al., 2013; Clouder et al., 2012; Rees & Johnson, 2007), observations (Carlson et al., 2011; Hanna et al., 2013; van Soeren et al., 2011), written reflections (Cooper & Spencer-Dawe, 2006; Jakobsen & Hansen, 2014; Clouder et

al., 2012) and telephone interviews (Evans et al., 2014; Lindqvist & Reeves, 2007). In general, most studies gathered two or more types of qualitative data (Table 1).

In terms of methodological quality, all studies clearly described the research question, the methods of data collection and analysis (see Table 2). Only three studies considered researcher reflexivity (Carlson et al., 2011; Egan-Lee et al., 2011; Rees & Johnson, 2007). Most of the studies failed to provide any information on the sampling strategy (Clouder et al., 2012); those that did generally used a simple convenience sample (Chipchase et al., 2012; Cooper & Spencer-Dawe, 2006; Jakobsen & Hansen, 2014; Rees & Johnson., 2007; van Soeren et al., 2011). Based on the modified critical appraisal tool (CASP 2006), it was found that the included studies were generally robust in nature.

INSERT TABLE 2 ABOUT HERE

Key findings from the synthesis

The synthesis generated seven key concepts which were linked to the second order interpretation embedded in the 12 selected studies. These concepts were synthesised into three main factors (third-order interpretations). As a result of this synthesis, IPE facilitation was found to be mainly influenced by the following factors: contextual characteristics; facilitator experiences and use of different facilitation strategies (See Table 3). Below, details are provided relating to how these three factors affect the nature of IPE facilitation.

INSERT TABLE 3 ABOUT HERE

In relation to the 'contextual characteristics' factor, the synthesis revealed that *logistical/organisational* and *information technology* issues contributed to facilitators' ability to facilitate IPE. In terms of *logistical/organisational issues*, the synthesis indicated that IPE facilitation was an additional activity which needed to be managed on top of facilitators' normal profession-specific workloads. However, for facilitators engaged with interprofessional e-learning the asynchronous aspect of their role ensured flexibility as it could be fitted around profession-specific workloads (Anderson & Thorpe, 2010; Evans et al., 2014). The synthesis also revealed that a lack of resources and organisational support could impede facilitators' work (Anderson & Thorpe, 2010). In addition, large cohorts of students created difficulties for facilitators with regards to impeding interaction between learners (Rees & Johnson, 2007). In respect of the effect of e-learning technologies, the synthesis indicated non-verbal communication between facilitators and learners could undermine learning processes (Hanna et al., 2013). Technical problems were also identified as a potential issue as they impacted on the delivery mode. However it was reported that skilled facilitators used any technological problems they encountered as a positive learning experience to encourage students to problem solve solutions on a collaborative basis (Evans et al., 2014).

The following three issues, *facilitator preparation and support*, *collaborating and co-facilitating* and *using IPE facilitation as a professional development opportunity*, contributed to the 'facilitator experiences' factor. It was found that *initial preparation and on-going support* for facilitators was required in order to meet the demands of this complex role (Rees & Johnson, 2007, Lindqvist & Reeves, 2007, Evans et al., 2014; Egan-Lee et al., 2011). Furthermore, it was reported that regular opportunities should be offered for facilitators to share knowledge, experiences and ideas (Rees & Johnson., 2007, Lindqvist & Reeves, 2007). With regards to the second issue, it was found that *co-facilitation* was key to developing collaboration between IPE facilitators (Hanna et al., 2013) and regular planning and discussion between facilitators could promote formal and informal collaboration (Jakobsen & Hansen., 2014). Co-facilitation could ensure learners' different professional experiences could be connected which in turn offered more learning opportunities (van Soeren et al., 2011). Where a more experienced IPE facilitator supported a new facilitator, co-facilitation was regarded as effective in providing direct learning experiences for a neophyte (Egan-Lee et al., 2011). It was also reported that service users who co-facilitated IPE along with professional facilitators could provide positive, enjoyable and valuable IPE experiences for students (Cooper & Spencer-Dawe., 2006). The use of IPE facilitation as a *professional development opportunity* was found to be an important element as it allowed facilitators to enhance their interprofessional facilitation knowledge and skills (Egan-Lee et al 2011; Clouder et al., 2012; Evans et al., 2014). Engagement in IPE also provided facilitators with opportunities to form new relationships with colleagues and students from other professions which could further promote their knowledge of each other's roles (Anderson & Thorpe., 2010) as well as offer opportunities to consider changes to their own clinical and professional practice (Cooper & Spencer-Dawe, 2006).

In relation to the 'different facilitation strategies' factor, *employing differing interprofessional teaching approaches* and *using interprofessional approaches and experiences to enrich the learning*, contributed to facilitators' ability to facilitate IPE. When employing *differing interprofessional teaching approaches*, the synthesis identified that IPE facilitators employed a range of facilitation techniques to encourage effective student learning. These focused on the following: employing learner and teacher-centric approaches (van Soeren et al., 2011); using shared reflection (Carlson et al., 2011); providing effective instruction before the IPE and offering feedback after the learning (van Soeren et al., 2011; Clouder et al., 2012); exploring different knowledge domains and professional responsibilities (Carlson et al., 2011); and displaying enthusiasm, humour and empathy to help promote collaborative learning (Lindqvist & Reeves., 2007).

Regarding the issue of *using interprofessional approaches and experiences to enrich the learning*, it was found that IPE facilitators employed a number of techniques, which included, supporting collaboration by ensuring learners took patient care decisions by mutual consent of all team

members (Carlson et al., 2011), offering regular interprofessional briefing sessions (Chipchase et al., 2012) and drawing on their previous experiences of interprofessional collaboration to inform their facilitation work with learners (Lindqvist & Reeves., 2007).

Discussion

As presented above, the synthesis of the qualitative IPE facilitation literature indicated that this type of activity is influenced by three main factors: the nature of the context in which the IPE is delivered can either support or impede the facilitators work; the nature of the facilitators' experiences in relation to, for example, preparation, on-going support and co-facilitation; and the use of different facilitation strategies can enhance the nature of IPE experience for learners.

Based on these findings, one can argue that when designing future IPE experiences, curricular developers need to be mindful of these facilitation factors in the recruitment, preparation and on-going support of facilitators, as attention to each factor can improve the overall experience of teaching and learning for both facilitators and learners. Specifically, the synthesis revealed a need for initial professional development for all new facilitators to help them cope with the complex role of facilitating IPE. Furthermore, the use of co-facilitation (between two facilitators from different professional backgrounds) was found as a means of enhancing the quality of interprofessional teaching and learning. In addition, it was reported that engaging service users in the IPE facilitation process can provide additional value to the IPE learning experience. The use of different approaches to interprofessional teaching (e.g. offering a learner-centric approach, providing students with opportunities for shared reflection, displaying enthusiasm, humour and empathy) was also reported to affect the IPE learning experiences. The synthesis also identified that interprofessional e-learning could be facilitated in ways which could provide stimulating learning experiences, albeit was dependent on effective technology and the facilitator's ability to overcome the challenge in engaging all students.

As noted above, the tool used in this synthesis to assess the methodological quality of the 12 included studies (CASP 2006) revealed that this empirical work could be generally regarded as rigorous in nature. However, the synthesis of the studies revealed that facilitation occurred in a range of different types of learning contexts, specifically, classrooms, practice placements, simulation and e-learning. Further research is needed to explore each of these learning contexts in more depth to identify issues of convergence and divergence between them in order to develop a better appreciation of the approaches IPE facilitators adopt to effectively engage with learners. Further research is also needed to explore the nature of co-facilitation as well as the use of peer facilitators in the classroom, the clinical supervisors' role and service users in facilitating IPE in practice placements. In addition, as most of the included studies relied on self-report data in the form of interviews or focus groups (data that generate perceptions about facilitation practices rather than actual practices) more effort is needed to undertake observational studies of IPE facilitation. In doing so, one can generate studies that provide directly observed accounts of the

nature of facilitators' work which would form a rigorous evidence base from which to improve IPE facilitation practice. Finally, as the IPE facilitation literature grows, it is recommended that an update of this synthesis is undertaken to understand how newer research into IPE facilitation complements the findings reported in this paper, or provides new insights into the nature of IPE facilitation.

There are a number of strengths related to this synthesis. These include: the prospective registration with the Prospero review database (Reeves et al., 2015), the use of an established approach to undertaking meta-ethnographic work (Noblit & Hare., 1988; Britten et al., 2002); a broad search covering eight electronic databases as well as journal hand searches and search of the reference lists of included papers. As a result, this review has provided a comprehensive account of qualitative research into IPE facilitation. Nevertheless, while best practices for reviewing and synthesising qualitative evidence were employed, there are inevitably limitations in this work. The search was limited by excluding the grey literature and including studies only published in English. As a result, a small number of potential studies may have been missed. In addition, only studies published in the past 10 years were included in this synthesis, excluding the findings from any earlier work. It is also acknowledged that there a more general bias within the literature for publishing research that reports positive results which can mean that IPE facilitation studies reporting more negative findings may struggle for publication.

Concluding comments

This synthesis of 12 qualitative studies of IPE facilitation indicated seven key concepts linked to second-order interpretations that were embedded in this work. These concepts were synthesised into three third-order interpretations which suggested that IPE facilitation is influenced by contextual characteristics, facilitator experiences and use of different facilitation strategies. In undertaking this synthesis it is anticipated that this review will help those responsible for developing and implementing IPE activities to make informed judgements in the use of facilitation approaches and techniques. In addition, this synthesis may provide useful information to staff/faculty developers in terms of possible identifying areas where professional development for both new and experienced IPE facilitators could be targeted.

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Figure 1 - Study identification flow chart

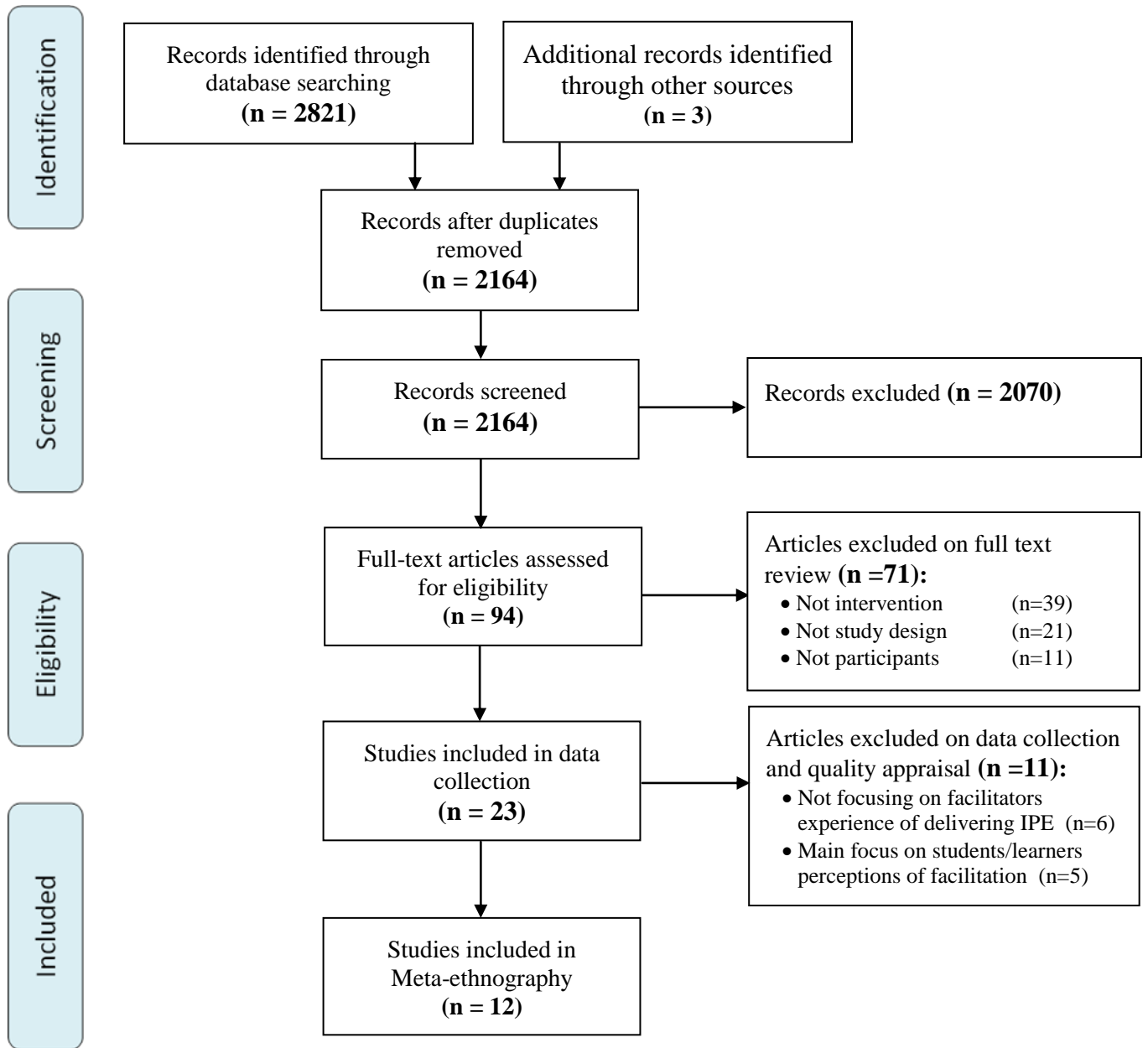


Table 1: Study characteristics

Intervention		Aim(s)/research question(s)	Methods		Participants type (number)	Country	Study
IPE type	Facilitator approach		Study design	Methods of data collection			
Classroom based	Single facilitator	“To investigate what key factors facilitators perceive as important in allowing them to support the IPL process in an effective manner” (p 403)	Single case study	Focus group, Telephone interviews	Medicine, nursing, speech and language therapy, occupational therapy and physiotherapy (Total = 13)	UK	Lindqvist & Reeves, 2007
	Single facilitator	“To establish an infrastructure for IPE and rigorously evaluate both its outcomes and the process by which such outcomes had transpired” (p 503)	Phenomenology	Focus group, Individual interviews	‘Allied Health’ (6); Nursing(4); Policy studies (3); Maternal and Child Health (1); Mental Health/Learning Disabilities (1) (Total = 15)	UK	Rees & Johnston, 2007
	Co-facilitation	“To investigate the involvement of service users in the delivery of IPE for undergraduate students”(p 605)	Case study	Focus group, Individual interviews, written reflections	Not specified (Total = 7)	UK	Cooper & Spencer-Dawe, 2006
	Co-facilitation	“To evaluate whether the clinical tutors could create a safe and challenging learning environment in another setting to that of the ITU” (p 407)	Case study	Focus group, Written reflections	Nursing (4), Physiotherapy (2), OT (2) (Total = 8)	Denmark	Jakobsen & Hansen, 2014
Practice based	Clinical supervision	“To develop a detailed qualitative account of the views of medical and allied health students, and their supervisors in the context of an interprofessional clinical placement” (p 466)	Case study	Focus group, Individual interviews	Physiotherapy (2), OT (1), Speech pathology (1) (Total = 4)	Vietnam	Chipchase et al., 2012
	Single facilitator	“To describe how nurses act when facilitating interprofessional student teams at a clinical training ward” (p 310)	Ethnography	Focus group, Individual interviews, Observations	Nursing (Total = 8)	Sweden	Carlson et al., 2011
Classroom and Practice based	Single facilitator	To provide “...insight into their [neophyte facilitators] perceptions and experiences in preparing for and delivering IPE” (p 333)	Multiple case study	Individual interviews	Nursing (8), Dietetics (3), Medicine (3), OT (3), Physiotherapy (3), Social work (3) (Total = 21)	Canada	Egan-Lee et al., 2011
	Co-facilitation	“To explore the impact of leading an IPE curriculum on teachers, who were at the forefront of establishing a new IPE curriculum ...” p 492)	Phenomenology	Focus group, Individual interviews	Not specified (Total = 58)	UK	Anderson & Thorpe, 2010
Online	Single facilitator	“To explore the facilitators’ experience of online asynchronous and synchronous IPE facilitation of pre-licensure students” (p 1052)	Phenomenology	Individual interviews	Dietetics, Medicine, Nursing, OT, Physiotherapy, Social work, Speech pathology	Australia	Evans et al., 2014

					(Total = 19)		
	Co-facilitation	“What is the experience of IPE facilitators in the online environment and what supports are most useful” (p 299)	Case study	Focus group, Individual interviews, Observations	Nursing (2), Dental Hygiene (1), Medicine (1), Pharmacy (1), Physiotherapy (1), Social work (1) (Total = 7)	Canada	Hanna et al., 2013
	Peer facilitation	“..To explore the range of cognitive, personal and instrumental gains for peer facilitators in the online IPLP...” (p 461)	Participatory action research	Individual interviews, written reflections	Not specified (Total = 8)	UK	Clouder et al., 2012
Simulation	Co-facilitation	To examine “the nature and complexity of interprofessional processes as they are undertaken within a simulated learning context” (p 433)	Case study	Observations, Focus group	Lead facilitators (2), Clinical site facilitators (7) (Total = 9)	Canada	van Soeren et al., 2011

Table 2: Quality criteria and results

	Quality criteria	Anderson & Thorpe 2011	Carlson et al., 2011	Chipchase et al. 2012	Cooper & Spencer-Dawe 2006	Egan-Lee et al. 2011	Evans et al. 2014	Hanna et al. 2013	Jakobsen & Hansen 2011	Lindqvist & Reeves 2007	Clouder et al. 2012	Rees & Johnston 2007	van Soeren et al. 2011
1	Was there a clear statement of the aims of the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Is a qualitative methodology appropriate?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	Was the research design appropriate to address the aims of the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	Was the recruitment strategy appropriate to the aims of the research?	Yes	Yes	Not clear	Not clear	Yes	Yes	Yes	Not clear	Yes	No	Not clear	Not clear
5	Was the data collected in a way that addressed the research issue?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	Has the relationship between researcher and participants been adequately considered?	No	Yes	No	No	Yes	Not clear	Not clear	Not clear	No	Not clear	Yes	No
7	Have ethical issues been taken into consideration?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	Was the data analysis sufficiently rigorous?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	Is there a clear statement of findings?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	How rigorous is the research?	+	++	+	+	++	++	+	+	++	+	++	++

Note: ++ = 'high rigor'; + = 'good rigor'

Table 3: Key synthesis findings

Concepts	Second order interpretations	Third order interpretations
Logistical and organisational issues that affect facilitators' work	<p>"Many educators were teaching over and above their allotted timetables and a lack of resources and support with operational issues was evident" (Anderson & Thorpe., 2010; p. 499).</p> <p>Some facilitators were working in part-time or full-time clinical positions and were able to undertake their facilitation role outside of their normal working hours" (Evans et al., 2014; p. 1054).</p> <p>"[large cohorts of students] create significant difficulties which impact on staff engagement with IPE" (Rees & Johnson., 2007; p. 552).</p> <p>"Facilitators enjoyed the flexibility of the facilitation role and more specifically, the fact that the asynchronous aspect of their role could be fitted around other important aspects of their lives (Evans et al., 2014; p. 1054).</p>	The effect of contextual characteristics on facilitation
The influence of technology on facilitation	<p>"Even when technology worked smoothly, facilitators were acutely aware of the huge reduction in the non-verbal cues facilitators and participants use to communicate" (Hanna et al., 2013; p. 300).</p> <p>"Several facilitators described using the technological problems as a learning experience for the students. These facilitators talked about encouraging their student teams to problem solve solutions as to how they might involve team members that were having technological difficulties" (Evans et al., 2014; p. 1054).</p> <p>"Technological problems in the synchronous environment over time"; "Delayed group formation appeared to be associated with reduced interprofessional collaboration" (Hanna et al., 2013; p. 301).</p> <p>"Facilitators also mentioned that at times it was difficult to engage some students in the synchronous environment due to a lack of body language cues that are present in the face to face environment". (Evans et al., 2014; p. 1055).</p>	
The need for preparation and support	<p>"Existing staff development opportunities must be well planned and publicised in order to reassure facilitators and those contemplating the role, that adequate support is available and that opportunities exist for sharing knowledge, experiences and ideas" (Rees and Johnson., 2007; p. 553).</p> <p>"It was felt that the induction allowed facilitators to learn the basic principles of IPL" (Lindqvist & Reeves., 2007; p. 404).</p> <p>"As many of the facilitators had limited experience [...] they emphasized the overall importance of facilitator support" (Evans et al., 2014; p. 1054).</p> <p>"The [interprofessional] competencies of the clinical tutors must be continually trained and maintained (Jakobsen & Hansen., 2014; p. 411).</p> <p>"An important factor to consider in the preparation of IPE facilitators is an understanding of the complexities of facilitating different groups of professions due to heterogeneous learning needs as well as histories of interprofessional friction and issues relating to imbalances of power, status and authority" (Egan-Lee et al., 2011; p. 337).</p> <p>"It was felt that the weekly de-briefing sessions encouraged the facilitators to share experiences and obtain support from one another" (Lindqvist & Reeves., 2007; p. 404).</p>	How facilitator experience influence their facilitation work

<p>Collaborating and co-facilitating</p>	<p>"Analysis of the data supported the enhanced value of co-facilitation to enable collaborative online learning in IPE" (Hanna et al., 2013; p. 301).</p> <p>"The presence of more than one facilitator from different professional backgrounds helped connect different learners' experiences [and] capture more learning opportunities" (van Soeren et al., 2011; p. 438).</p> <p>"Forms of support could include co-facilitation opportunities for neophyte and experienced IPE facilitators. In such instances, new facilitators would have the opportunity to observe, mirror facilitation styles, and receive feedback" (Egan-Lee et al., 2011; p. 355).</p> <p>"For many educators team-teaching, or paired facilitation, enabled the observation of colleagues while teaching". (Anderson & Thorpe., 2010; p. 497).</p> <p>"All the facilitators had found the experience of working with service users [as co-facilitators] positive and enjoyable, acknowledging the educational value of the programme" (Cooper and Spencer-Dawe., 2006; p. 611).</p> <p>"A positive side effect of common planning and collaboration was that the tutors got to know each other better individually and professionally, thus enhancing future formal and informal collaboration concerning students' clinical learning" (Jakobsen & Hansen., 2014; p. 410).</p>	
<p>IPE facilitation as a professional development opportunity</p>	<p>"The facilitators saw the [facilitation] experience as an opportunity for their development of skills as a facilitator of learning, as an IPE facilitator and as an online facilitator" (Evans et al., 2014; p. 1053).</p> <p>"Facilitators acknowledged increased understanding of other professions [they] developed skills in organisation, communication, teaching, diplomacy, conflict resolution" (Clouder et al., 2012; p. 462).</p> <p>"Many facilitators noted that their facilitation experiences contributed to improvements in their knowledge of interprofessional concepts and approaches" (Egan-Lee et al., 2011; p. 336).</p> <p>"Leading the IPE curriculum had brought these educators together in the design and delivery of the curriculum and this has enabled them to further their knowledge of each other's professions" (Anderson & Thorpe., 2010; p. 496).</p> <p>"On a personal level, facilitators felt they had gained a valuable learning experience from working with service users in delivering IPE. Following their experiences, they described a number of changes they had made to their own clinical and professional practice to make service users more central to their work" (Cooper & Spencer-Dawe., 2006; p. 612).</p> <p>"Perceiving that the students were learning was personally satisfying for the facilitators, as they felt they had assisted that process through their facilitating roles" (Evans et al., 2014; p. 1053).</p> <p>"The opportunity to form new relationships with colleagues and students from other disciplines [was a key benefit of IPE facilitation]. In particular the associations with other professional colleagues had enhanced [facilitators' own] practice" (Anderson & Thorpe., 2010; p. 498).</p>	
<p>Employing differing approaches to interprofessional teaching</p>	<p>"Facilitators adopted one of two contrasting approaches which contributed to how they facilitated the debrief session. One approach seemed more 'learner-centric', while the other approach appeared to be more 'teacher-centric' in nature. These differing approaches resulted in contrasting types of interprofessional discussion amongst the learners" (van Soeren et al., 2011; p. 438).</p> <p>Facilitators employed "a reflective approach [...] as a conscious educational strategy with the intention to let students explore</p>	<p>Need to use a range of strategies for effective facilitation</p>

	<p>and learn (Carlson et al., 2011; p. 312).</p> <p>To be effective in their IPL role, facilitators felt that they needed to display a range of [collaborative] attributes such as enthusiasm, humour and empathy (Lindqvist & Reeves., 2007; p. 404).</p> <p>"Facilitators highlighted the importance of feedback from their students in consolidating their sense of self as professionals, supporting the notion that [inter]professional identity formation is intersubjective, dialogical and relational in nature" (Clouder et al., 2012; p. 463).</p> <p>"Facilitators should be prepared to minimize the effect of these negative emotions [feelings of fear of failure, and feeling unsafe] by increasing familiarity among participants. Providing ample instruction about what will happen during the simulation and gradual introduction of role-play [...] may create a more comfortable and safe learning climate" (van Soeren et al., 2011; p. 439).</p> <p>In "breaking down [hierarchical] barriers [facilitators needed to make] the different knowledge domains and professional responsibilities visible and understandable to students" (Carlson et al., 2011; p. 312).</p>	
<p>Using interprofessional approaches and experiences to enrich the learning</p>	<p>"Most facilitators attempted to infuse their IPL work with the range of important [collaborative] attributes they identified" (Lindqvist & Reeves., 2007; p. 404).</p> <p>"[Facilitators supported] team work by constantly reminding the students that all decisions regarding patient care had to be decided mutually by the team" (Carlson et al., 2011; p. 312).</p> <p>Facilitators need to "set up regular interprofessional briefing sessions that focused on clinical and collaborative aspects of their practice" (Chipchase et al., 2012; p. 468).</p> <p>"Facilitators felt that their previous experiences of [...] collaborating in health care teams were helpful to draw upon and inform their work with their student groups" (Lindqvist & Reeves., 2007; p. 404).</p> <p>"Facilitating interprofessional understanding [...] it was important for students to understand their own profession as well as that of the other team members" (Carlson et al., 2011; p. 311).</p> <p>"To stimulate enthusiasm and motivation to learn, the burden falls on facilitators to make learners aware of manageable gaps in their knowledge and at the same time heighten the practical relevance [linked to interprofessional collaboration] of the learning experience" (van Soeren et al., 2011; p. 438).</p> <p>"Facilitators felt that exposing students to one another in small learning groups provided them with a better knowledge of teamwork and also helped improve their interprofessional relationships" (Lindqvist & Reeves., 2007; p. 404).</p>	