Interprofessional education for qualifying social work

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Interprofessional education for qualifying social work

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1 Introduction

1.1 IPE agendas

The interprofessional education (IPE) movement in the UK may be traced back to the 1960s when a series of discrete initiatives marked the beginnings of parallel interprofessional movements in different fields of practice. As Hugh Barr, associated with the Centre for Advancement of Interprofessional Education and a leading commentator on IPE has highlighted,[66] early initiatives were 'isolated, reactive and often short-lived', but progressed to become 'less reactive and remedial and more proactive and preventive' (p 11).

Drawing on a wide range of sources, Barr has outlined how IPE has subsequently developed to meet a range of differing agendas. These include:

- modifying negative attitudes and perceptions
- remedying failures in trust and communication between professions
- developing collaborative competences
- securing collaboration in implementing policies, improving services and effecting change
- coping with problems that exceed the capacity of any one profession
- enhancing job satisfaction and easing stress
- creating a more flexible workforce
- countering fragmentation as professions proliferate in response to technological advance
- integrating specialist and holistic care.

The turn towards IPE has been described by Colyer, Helme and Jones[73] as a 'paradigm shift' away from established patterns of teaching and learning in professional education, towards creating:

> '… a synergy between individuals that seems to generate situated experiential learning different from the propositional and practical knowledges of the different professions' (p 18).

These claims for IPE are not insignificant. In addition, Barr[66] has argued that IPE:

> '… has worked to restore equilibrium as working relationships have been destabilised, the unquestioned authority once enjoyed by the established professions challenged, hierarchies flattened and demarcations blurred, as new professions have grown in influence, consumers have gained power, and a better informed public has expected more' (p 14).

Nevertheless, in spite of the apparent significance of IPE, many initiatives have remained localised, vulnerable to short-term investment and changeovers of key staff. As Freeth and colleagues[83] have noted: 'Positive long-tem outcomes are often more challenging to achieve, with organisational change required to embed interprofessional education and its benefits' (p 13). Not least, as Adams[64] and Whittington[106] have argued, IPE carries the promise of overcoming

fragmentation, but the threat remains of undermining individual professional identities, traditions and monopolies over knowledge and power.

1.2 Review aims and questions

1.2.1 Rationale and aims

This review of IPE for qualifying social work was commissioned by SCIE as an extension of an earlier knowledge review on qualifying social work education about partnership.[100] The present review widens and extends the IPE focus of its predecessor. It aims to provide a systematic synthesis and evaluation of research knowledge about IPE and its outcomes at qualifying social work level.

1.2.2 Review questions

The central review questions are:

- what is known about the nature, contexts and participants in IPE in qualifying social work?
- what is known about the effectiveness of IPE in qualifying social work, and what promotes or hinders successful outcomes?

The review includes a wide range of empirical research relevant to these questions, setting them in policy and research contexts. In examining the first research question, the review highlights the range of approaches, contexts, disciplines and participants involved in IPE that are evidenced, along with the goals espoused, status of IPE within uni-professional programmes, pedagogical processes, settings and content. In examining the second research question, the review considers the range and nature of outcomes evaluated, the findings reported, and barriers or facilitators to IPE identified. It examines the research evidence not just for 'whether IPE works' but 'what works, in what contexts and with whom'.

The rationale for the review is three-fold:

- Firstly, there is a strong policy thrust towards interprofessional collaboration and integrated services, for which professionals increasingly require education and training.
- Secondly, this policy thrust has now been articulated in formal requirements for education of social and health care professionals, at qualifying level.
- Thirdly, there has been a recognised lack of sophistication in consideration given to outcomes in social work education.[99] This review is one of several recent initiatives seeking to generate a sound knowledge base to support stakeholders involved in planning and delivery of the social work degree programme[*].

[*] From the recommendations of John Carpenter's report for SCIE[99] has emerged the *Outcomes of Social Work Education* (OSWE) project, also supported by the Social Policy and Social Work Higher Education Academy Subject Centre (www.swap.ac.uk). This includes six universities in England collaborating to undertake outcome-based research and to evaluate the process.

1.3 Policy and practice background to IPE

1.3.1 Policy and IPE for health and social care

Both Barr[66] and Miller, Woolf and Mackintosh[92] have provided helpful outlines of the history of IPE in health and social care. Worldwide, European and UK initiatives stretching back as far as the 1970s[e.g.107,93] have emphasised the importance of multi-disciplinary teamwork supported by shared learning. New Labour's modernisation agenda has rapidly accelerated the development of IPE with at least two objectives:

- to work together to ensure improved outcomes for patients
- to address unnecessary boundaries between professions, increase flexible working and develop new roles, with the aim of improving service response and quality of care[92].

1.3.2 Policy initiatives and guidance

In the UK, the Department of Health (DH) and NHS have taken the lead in development of these modernising policy initiatives, requiring health professionals to work together to ensure seamless services for patients, and underpinning subsequent interprofessional learning initiatives for health and social care.[77,78,79] Among the educational initiatives to emerge have been the Common Learning Pilot and Allied Health Profession sites, launched by the NHS Plan.[79] Corresponding guidance for training of doctors,[86] nurses, midwifes and allied health professionals[80,102,105] has supported these developments, at pre-registration as well as post-registration levels of professional training.

Higher education support for IPE in social work began to develop in the 1990s. Following far-reaching policy and legislative changes (Children Act, 1989; National Health Services and Community Care Act, 1990), the Central Council for Education and Training in Social Work (CCETSW) was funded by the government to provide support to improve social work education and training.

At the same time, the 'competence' approach to practice was adopted by CCETSW and integrated into the new Diploma in Social Work (DipSW). CCETSW supported several projects addressing IPE. These included *Multidisciplinary teamwork: models of good practice*[71] focusing on competence in a multidisciplinary settings, a review by Weinstein[105] examining developments in IPE, and a review by Whittington and Bell[13] examining learning for interprofessional competence in social work.

Further endorsement of the IPE agenda in higher education came from joint work by the NHS Executive and the Committee of Vice Chancellors and Principals, culminating in the 2003 Universities UK (UUK) paper *Partners in care*[104] highlighting the importance of education initiatives to support interprofessional social and health care. The Higher Education Academy (HEA) also supported IPE development in health and social care through, for example, the Triple Project providing opportunities for IPE practitioners to come together to explore experiences of IPE, map themes and issues, and provide web resources.

1.3.3 IPE for practice with children, young people and families

Relatively little policy attention has been paid to IPE addressing fields of practice other than health. The gap in relation to preparing professionals in children's services is particularly striking, especially in the light of the recommendations of the Climbié inquiry[90] highlighting significant failures of interprofessional practice. This situation may be set to change following the publication of the Department for Education and Skills (DfES) Green Paper *Every child matters: change for children*[74] which focuses on integrated working as a key feature of improved services.

This sits alongside various current initiatives, in line with the Children's Workforce Strategy, to strengthen the workforce, develop flexible career pathways between sectors, improve information sharing among practitioners, develop a common approach to assessment, and support new ways of working, especially in relation to multi-agency teams.[72] It remains to be seen whether there will be a similar response to the changing profile of children's services within the professional education establishment, as there was from the United Kingdom Central Council for Nursing and Midwifery (UKCC) and the NHS in relation to training for adult health and social care professions.[103]

1.4 Regulatory context for IPE in qualifying social work

The new social work degree was introduced in England in October 2003 and in Scotland, Wales and Northern Ireland in October 2004. In each country, learning to work in collaboration with professionals from other agencies and disciplines is now a key requirement for qualifying social work education.[75,76,97,98,101] The present commission is located within the remit of SCIE to inform the planning and delivery of social work education in this context.

The requirements relevant to the learning, teaching and assessment of 'interprofessional work' in qualifying social work education are slightly different in each country. They are set out in Table 1.

1.5 Previous systematic reviews of IPE

This is the first review of IPE to focus specifically on IPE in qualifying social work education. Existing reviews and commentaries on IPE[66,82,103] have focused on post-qualifying education, where to date the majority of IPE initiatives have taken place. While these may include social work education elements, these have not been a majority focus. Though their findings have been informative, it is not easy to disaggregate from them evidence or messages directly relevant to qualifying social work education.

Two particular systematic reviews of IPE in health and social care, undertaken by the Centre for the Advancement of Interprofessional Education (CAIPE) and reported by Barr and colleagues[70] have provided both context and contrast for this study. They examined IPE in all areas of health and social care, at all levels, focusing on outcome studies alone. The first used Cochrane review criteria – restricting inclusion to randomised control trials, controlled pre- and post-test, or interrupted time series studies – and admitted only those addressing

organisational or 'patient' change outcomes. It found no studies eligible for consideration. The second review, undertaken by the Joint Evaluation Team, was more inclusive of research methodologies and of outcomes considered. It found 353 studies worthy of consideration, with 107 of sufficient methodological quality for full review. However, just 20 (19 per cent) of these were about pre-qualifying IPE, and it was not possible to filter from them those involving social work. The CAIPE reviews have highlighted that the purposes, strategies, rationale and effectiveness of IPE are all contested, and that there are to date relatively few robust evaluative studies.[66,82]

These reviews, along with much of the related work undertaken by CAIPE over the last 15 years, have provided helpful frames of reference for the present review, which for the first time places IPE in qualifying social work at the centre of the picture.

Table 1 Requirements for teaching, learning and assessment of 'interprofessional work' in qualifying social work education

	Guidance	**Requirement**
United Kingdom	Code of Practice for Social Care Workers (2002)	'Working and respecting the roles and expertise of workers from other agencies and working in partnership with them' (6:7.)
	Quality Assurance Authority Benchmark Statement for Social Work (1999)	Refers to 'Factors and processes that facilitate effective inter-disciplinary, interprofessional and interagency collaboration and partnership' (3.1.5 Social Policy, Administration and Social Work Subject Benchmark Statement).
England	National Occupational Standards for Social Work (NOS) (2003)	Key Role Three: requires social workers to develop and maintain professional relationships within and outside the organisation; to work within multi-disciplinary teams and multi-organisational teams, networks and systems (Unit 22); and to establish and maintain effective working relationships within and outside the organisation (Unit 23).
	Department of Health Requirements for Social Work Training (2002)	'All social workers will learn and be assessed on partnership working' (p 16).

Table 1 continued

	Guidance	Requirement
Wales	All Wales Framework for Assessment (2005) (brings together the Care Council rules, Assembly Requirements, NOS and Benchmark Statement)	Unit 17: 'Work within multi-disciplinary, multi-organisational networks and teams'.
Scotland	Standards in Social Work Education (2003) (incorporate the NOS and Benchmark Statement for Social Work)	'Students must understand factors leading to effective interprofessional working'.
	The Key Capabilities (KC) in Child Care and Protection (2005):	To allow qualifying social work students to map their specific learning in this area whilst achieving the more generic Standards in Social Work Education. One of ten key issues addressed is cross-agency and interprofessional working. A key element in the agenda for change is collaboration with other professional educators.
Northern Ireland	Northern Ireland Framework Specification for the Degree in Social Work (2003) (Includes: NOS; Benchmark Statement; Essential knowledge areas specific to NI; Statement of expectations from users & carers; Codes of Practice)	'Knowledge of interprofessional working, working in partnership with colleagues and provider organisations'.

1.6 Definitions

The reviews of IPE cited above confirm that there is no ready consensus on what is meant by 'interprofessional education', in theory or in practice. Lack of clarity in the definition extends through policy and research. Some debate concerns whether or not IPE must involve interactive learning or may be uni-professional, and whether its focus must be on collaborative work between professionals, or merely on topics of common interest. The definition currently used by CAIPE[83] is 'occasions when two or more professions learn with, from and about each other to improve collaboration and the quality of care' (p 11). The emphasis is on the interactive element of learning – that students from different professions learn *with* each other, with the potential for new knowledge and understanding to be generated through that interaction. However, others, including Miller,[58] have used

the term ‘interprofessional learning’ to describe what is effectively shared learning, whereby students from different disciplines learn together about topics of common interest, but not necessarily about each other or about collaboration. Meanwhile, informal knowledge of the social work education field suggests that qualifying students frequently learn about collaborating with other professions, but do so separately from them. An added complication is whether social work students undertaking practice learning in interprofessional settings, but without students from other disciplines, may be defined as undertaking IPE or not.

In recognition of the debate, and in the light of informal knowledge of the social work education field, IPE has been defined relatively widely, for the purposes of this review, as follows:

- interactive learning between social work students and others, learning with, from and about each other

and/or

- learning (uni-professional or between professionals) with specific focus on interprofessional collaborative practice.

A further question of definition has concerned the meaning of ‘professional’. This review has used the term to denote those working or learning to work in the whole range of relevant occupations, sectors, agencies and professions. ‘Other professionals’ may include employees and volunteers, qualified and unqualified practitioners.

1.7 Review objectives

In accordance with the review aims and its central questions (Section 1.2), the objectives were:

- to identify and clarify the concepts of interprofessional, interdisciplinary, multiprofessional, multidisciplinary, shared, collaborative and partnership-based education, that are in use in qualifying social work
- to identify the range of stakeholders, arrangements and contexts for IPE in qualifying social work education
- to identify the range of objectives of IPE espoused, in preparing students to work effectively with other professions and occupations, across professional disciplines and agencies
- to examine the range of approaches taken to teaching, learning and assessment of interprofessional education for qualifying social work, and the methods, processes, content and contexts of academic and practice learning
- to identify the range of outcomes of IPE considered, at the levels of participant reaction, student learning, transfer of learning into practice, delivery of services and benefits for service users and carers
- to evaluate what is known about the effectiveness of different approaches to IPE in achieving the range of outcomes identified

- to examine both processes and outcomes of IPE from the perspectives of the different stakeholders involved, including students, users and carers, educators and professionals

- to examine the theoretical frameworks underpinning IPE, in order to provide a theoretically-informed review of empirical research on the effectiveness of IPE in qualifying social work.

One further objective, linked to the review, but for analysis elsewhere, was: to examine potential for applying the TAPUPAS framework for social care knowledge[96] to categorise qualities of research included in the review.

1.8 Review team

The review team was interdisciplinary, comprising members with professional and research experience in social work and social work education, sociology, psychology and education. All but two members had previous experience of systematic reviewing.

1.9 Stakeholder advisory group

A stakeholder group was appointed at the outset of the project and consulted at key stages. The purpose was to engage a range of stakeholders with direct knowledge, experience and interest in IPE for qualifying social work, as partners in the design and development of the review, and as consultants on its conduct and synthesis. The membership of the group was:

- users/carers from two organisations (Brighton Housing Trust and East Sussex Disability Alliance)
- students from BA Social Work, Universities of Sussex and Brighton, and MA Social Work, University of Sussex, including one qualified nurse retraining in social work
- project manager, interdisciplinary Professional Learning Academy (West Sussex County Council)
- interprofessional education researcher (member of DH Common Learning Pilot Site evaluation team, Queen Mary College, University of London)
- interprofessional educator for qualifying social work (University of Sussex)
- social services training managers (Brighton and Hove City Council and East Sussex County Council)
- conveners of voluntary sector initiative to develop service user consultants (Brighton Housing Trust)
- independent reviewing officer, West Sussex County Council.

The nature and processes of stakeholder group members' contributions to the review are discussed in Methodology (Section 2.7) of this report.

2 Methodology

2.1 Approach to review and review questions

2.1.1 SCIE and EPPI-Centre approaches

SCIE research reviews are designed to identify, as far as possible, all relevant literature to inform answers to specific review questions, to evaluate and synthesise their findings, and extract messages to inform policy and practice. This review was conducted in accordance with SCIE guidelines, and to EPPI-Centre standards for systematic review. All stages of the review process were quality assured by a designated EPPI-Centre representative.

This review built on search, keywording, data extraction, quality appraisal and synthesis strategies developed in an earlier study on partnership in qualifying social work education.[100] In addition, it drew on the search strategies and findings of other relevant systematic reviews, notably Freeth et al.[82] The review was question-led, with modest scope for the iterative process, to allow for some adjustment to search, inclusion or keywording strategies as discussed below.

2.1.2 Review structure

Review findings are reported in two main sections:

- Thematic analysis of the research field (Section 3), providing a thematic narrative synthesis of all the research included in the review. In this component of the report, studies were not quality assessed for trustworthiness, appropriateness or relevance. The thematic analysis complements and provides context for the in-depth review of data extracted studies.

- In-depth review (Section 4), providing a synthesis of a subset of evaluative studies examining outcomes of IPE in qualifying social work. Studies included were quality assessed to determine the weight of evidence attributable to them in answering the review questions.

The sub-questions addressed in each component of the review are set out in Table 2.

Table 2 Review sub-questions and structure

	Thematic analysis	In-depth review
What are the conceptual and theoretical underpinnings of IPE in qualifying social work?	x	x
What are the characteristics of IPE initiatives in qualifying social work?	x	x
What claims are made about outcomes of IPE in qualifying social work, and about what promotes or impedes them?	x	
What are the outcomes of IPE in qualifying social work education?		x
What are the factors that promote or obstruct IPE and its effectiveness in qualifying social work education?		x

2.2 Searching the literature

The review search strategy covered the following types of sources, systematically gathered from 15 electronic bibliographic databases, relevant websites, handsearching and consultation with expert contacts:

- empirical studies from peer reviewed sources
- research reports from non-peer reviewed sources
- professional and policy documents (background only)
- other relevant published/unpublished literature
- theoretical papers from peer reviewed sources (to inform the framework for synthesis).

Full details of the search strategy and databases used are given in Appendix 1. In total, 3,196 citations were yielded. These included exactly 1,000 duplicates, leaving 2,196 unique citations.

It should be noted at this point that despite comprehensive searching through the early stages of the review, references to two studies, published as components of the same report,[62,63] unfortunately escaped the attention of the review team. They were retrieved by chance in the closing stages of the project, at a point too late for inclusion in the review. They would have been eligible for inclusion in the thematic analysis, and for full quality appraisal. For information, an outline of the studies and their findings is presented in Appendix 6, with brief reference made to them where relevant during the course of the report. However, since these studies were not included in the processes of screening, inclusion and exclusion for the review, they are not represented in the figures provided below.

2.3 Inclusion and exclusion criteria

All studies identified through the search strategy were screened on the basis of title and abstract, in successive stages, according to inclusion and exclusion criteria agreed at each stage. These are given in Table 3. Details of the numbers of reports excluded on each criterion at each stage are given in Appendix 1. Ten per cent of all titles and abstracts were double-screened independently by two reviewers to ensure reliability. The process was quality assured by the EPPI-Centre representative on 20 titles and abstracts.

Table 3 Exclusion criteria

	Criterion description
Stage 1	Not social work education
	Not qualifying level social work education
	Not focused on education about interprofessional practice, or about other professions/professionals
	Policy document
	Training material
	Textbook
	Book review
	Bibliography
	Journalism/bulletin
	Language other than English
Stage 2	Publication date pre-1995
Stage 3	Conceptual or discussion piece
	Research review
	Other not empirical research

At Stage 1, 1,957 exclusions were made, the majority on the basis that reports were not focused on interprofessional education, not about qualifying level social work education, or not about social work education at all. As a result, 237 reports remained.

In view of time and resources available, decisions were made at this point, in consultation with SCIE and the EPPI-Centre, to focus more tightly the scope of review, and introduce additional exclusion criteria in sequential stages. At stage 2 all reports published before 1995 were excluded through screening of titles and abstracts[†]. There were 60 of these, leaving 177 to be retrieved and screened on full paper. Ten of the latter could not be retrieved, leaving 167.

At Stage 3, further exclusion criteria were introduced on reading of full papers, to restrict inclusions to empirical research only[‡]. Despite an original ambition of including within the review reports that were conceptual or discussion pieces, research reviews, or were otherwise non-empirical, these were now excluded, in the interests of manageability. Several papers excluded at this stage were,

[†] Papers published after 1995, but reporting on studies undertaken earlier, remained included.
[‡] The definition, reached with some difficulty, of what constitutes 'empirical research' in this field is discussed in Appendix 1.

nonetheless, earmarked as potentially useful background material to inform synthesis and contextualise this review[§].

Application of Stage 3 exclusion criteria to full texts resulted in the exclusion of a further 100 reports. There remained 62 papers for inclusion in the review. Thirty-two of these reported on the same 12 studies; 20 reports were therefore considered as linked, and integrated into the keywording of one 'lead' report per study. Thus the thematic analysis comprises 42 separate studies.

2.4 Keywording

All 42 studies were coded using a review specific keywording strategy (Appendix 2). The strategy was designed to indicate the type of study, characteristics of IPE initiatives, contexts and participants reported, findings presented and conclusions drawn. It was designed in the light of previous experience of reviewing partnership in social work education,[100] other systematic reviews of IPE,[e.g.82] knowledge of the subject field, and consultation with stakeholders as discussed in 2.7.

Additionally, in consultation with the ESRC UK Centre for Evidence Based Policy and Practice, the keywording strategy incorporated the TAPUPAS standards developed by Pawson et al[96] to address quality of knowledge types in social care. The product of this work, to examine the utility of the TAPUPAS standards for systematic reviews of social care research, will be reported separately from this review.

Twenty per cent of all studies included in the review were double-keyworded, independently, by two reviewers, with moderation to establish inter-rater reliability. The EPPI-Centre consultant quality assured this process, applying keywording criteria to 14 per cent of the studies, including two from each member of the review team.

2.5 In-depth review

2.5.1 Selection of studies

More restrictive exclusion criteria were introduced to determine selection of studies for in-depth quality appraisal through data extraction. These criteria were identified in the original review protocol, and confirmed in subsequent consultation with the stakeholder advisory group (see Section 2.7) and with SCIE, on the basis of a descriptive map of studies included in the thematic analysis.

The additional exclusion criteria were:

- focus of study not on effectiveness or participant reactions (process outcomes) of IPE
- qualifying social work education not a significant focus of IPE
- methodology insufficiently reported for subjection to data extraction.

[§] References to these are explicitly made, where appropriate, in the course of the Report.

Application of these criteria was done in two stages. Firstly, individual reviewers keywording each study judged whether they were suitable, not suitable or borderline cases for data extraction. All judgements were then moderated within the team, and decisions agreed on 'borderline' studies. On this basis, 13 studies (involving 23 linked reports) were selected for quality appraisal and in-depth review.

Table 4 Exclusion of studies from in-depth review

Exclusion criterion	Borderline for quality appraisal	Not suitable for quality appraisal
Not focused on IPE outcomes		14
Qualifying social work education not a significant focus		1
Insufficient methodology reported	5	9

Reasons for exclusion of some studies at this stage were worthy of note (Table 4). The 14 that did not focus on IPE outcomes were surveys of IPE provision, descriptions of particular initiatives, or presented baseline (pre-IPE) data. In just one case[34] was social work so overshadowed by other disciplines that the study was excluded on this count. However in 14 studies, the primary ground for exclusion was that reporting of methodology was too thin to allow for full quality appraisal. These included five studies originally judged borderline, since they were otherwise quite relevant to the review. Typically, these studies involved authors writing 'opportunistically' about IPE initiatives at their own institutions, and drawing on routine quality assurance data or reporting informal course evaluations. In the main, reporting of these studies was compromised by:

- insufficient clarity about authors' dependence/independence from initiatives discussed, and study provenance
- paucity of information about sample size, selection, characteristics, representation
- absence of information about data collection methods: processes, tools, timing or sources
- lack of clarity about methods of analysis, selection and source of findings presented
- unclear distinction between findings discovered and conclusions drawn.

2.5.2 Data extraction and quality appraisal

Data extraction included rigorous judgements of the quality of research design, execution, analysis and reporting. The data extraction strategy is shown in Appendix 2. It followed recently revised EPPI-Centre guidelines for data extraction and quality appraisal, with minor review-specific adjustments. Reviewers rated the weight of evidence attributable to each study on grounds of its trustworthiness, appropriateness and relevance to review questions, and overall weight of evidence for this review. Each

study was independently data extracted by two team members, with consensus reached in subsequent consultation. The EPPI-Centre representative also quality assured four of the 13 data extractions.

2.6 Synthesis of the data

The studies did not yield sufficient quantitative data to undertake any statistical meta-analyses.

Synthesis of data in both the thematic analysis and the in-depth review was undertaken according to the review questions they addressed, and in the light of themes emerging from the findings presented. The latter corresponded closely with the review questions, and with the categories established for keywording. However, categories within each theme were further developed in the light of findings emerging. Thus, for example, the theme of 'barriers and facilitators to IPE' became refined to distinguish between those affecting the provision and the outcomes of IPE, and identified at micro, meso and macro levels.

Synthesis throughout both thematic analysis and in-depth review pursued the following themes:

- nature of studies examining IPE and its outcomes
- definitions and espoused aims of IPE
- conceptualisation and theorisation – extent and limitations
- characteristics of IPE – e.g. its status, setting, participants, processes and content, outcome priorities
- findings and conclusions either claimed (in thematic analysis) or demonstrated (in-depth review), about IPE provision, outcomes, and facilitators and barriers to these.

2.7 Stakeholder group participation

The intention was to engage stakeholders as 'critical friends' to contribute to all key stages in the work of the review. This included contributing to:

- the definition and terms of the review questions
- the design of keywording strategy
- review of the interim 'descriptive map', and scrutiny of emerging findings to inform thematic analysis of the research field
- synthesis of findings and draft of the final report.

The pace of work and time scale available meant that it was not possible fully to involve stakeholders in all key research decisions. Two, instead of an anticipated three, stakeholder group meetings were convened during the course of the project, and participant involvement was stronger in the earlier (design and development) than the later stages of the review. However productive use was made of email and telephone communication with individual members, who kindly responded to requests for advice and suggestions at various stages.

Specifically:

- In preparation for a first meeting, a brief pro forma was sent to each group member, seeking feedback on their definitions of IPE for qualifying social work, its aims and key characteristics, and their experience of its success or challenges.

- Feedback from this provided the basis for discussion at the first stakeholder group meeting and informed design of the protocol, search and keywording strategies. A summary of the feedback provided is given in Appendix 3A.

- One member, leading a local voluntary sector initiative to train service user consultants, held focus groups (using a format designed by the review team) to explore service users' views about how and why interprofessional collaboration is important, and what students should be learning to make it work. This feedback was incorporated into design of the keywording strategy. A summary of it is shown in Appendix 3B.

- Consultants, held focus groups (using a format designed by the review team) to explore service users' views about how and why interprofessional collaboration is important, and what students should be learning to make it work. This feedback was incorporated into design of the keywording strategy. A summary of it is shown in Appendix 3B.

- A second stakeholder group meeting was held to discuss emerging findings in preparation for drafting a descriptive map of the research field for submission to SCIE. In particular, one member directly involved in the DH Common Learning Pilot Site evaluations offered helpful observations based on that experience, without disclosing findings not in the public domain at the time. These discussions directly informed drafting of the descriptive map and thematic analysis.

- The descriptive map was circulated to all stakeholder members for feedback. Subsequent consultations took place in response to emergent findings of the thematic analysis and circulation of a draft report.

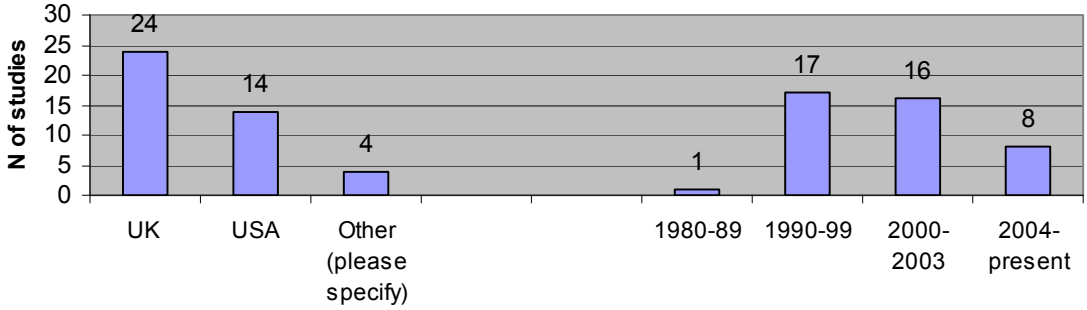
3 Thematic analysis of research literature

3.1 Study status, type and quality

3.1.1 Study status

The majority (24) of the 42 included studies were from the UK, with a significant minority from the USA (14) and the remaining few from Canada. All but five studies have been published. Study dates were evenly distributed across the timespan covered, with one study based on data collected in 1986–87 but not published until 1996 (Figure 2).

Figure 2 Location and date of study



3.1.2 Study type

Some of the 42 studies reviewed focus on the same IPE initiatives. Typically this applies to surveys of IPE provision involving qualifying social work.[e.g.26,57] In addition, several UK reports[7,11,21,22,33] involve separate evaluations of the same IPE initiative.

Fourteen studies were designated as 'descriptive' (see Table 5). These were mainly surveys of social work education (IPE) provision,[e.g.25,32] surveys of potential support for IPE,[e.g.24,26,45] or baseline descriptions of student attitudes towards other professions and towards collaboration.[e.g.42,30,33**] The remaining 28 studies attempted in some way to monitor or measure outcomes of IPE and, for the purposes of this review, were designated 'evaluative'.

Evaluative studies ranged from those reporting relatively limited participant feedback about course quality,[e.g.40,33] to others seeking to measure IPE effectiveness, pre- and post-test.[e.g.1,2,3] In all, 23 claimed to report on the

** Discussion of studies included in the full review frequently refers to a number of reports displaying common characteristics. In such cases, illustrative examples rather than a comprehensive list of studies are cited. The examples have been selected according to the following principles: i) the characteristic concerned is clearly and prominently evident; ii) the full range of studies included in the review is represented as far as possible; iii) to avoid repetition, where possible examples cited in the thematic analysis are not among those included in the in-depth review, which are discussed fully in Section 4.

effectiveness of IPE in bringing about change, 19 on participant reactions to IPE, and 14 of these on both.

Table 5 Study type and focus

Study type	Focus	Number of studies (42)
Evaluative	Pre- and post-test controlled study: effectiveness of specific IPE initiative	3*
	Pre- and post-test study: effectiveness of specific IPE initiative (no control)	3*
	Post-test study: effectiveness of specific IPE initiative	16**
	Post-test study: participant reactions only to IPE	6
	Retrospective evaluation of routine social work education as preparation for interprofessional collaboration	1
	Total evaluative studies	28
Descriptive	Surveys of IPE and professional education provision	3
	Survey/study of potential support/need for IPE	5
	Baseline (pre-IPE) student knowledge/perceptions of other professions/of collaboration	4
	Detailed course description	1
	Development of 'inteprofessional capability framework' for IPE	1
	Total descriptive studies	14

* 1 study includes participant reactions to IPE
** 11 studies include participant reactions to IPE

Within both descriptive and evaluative categories there was considerable variation in study design and focus. This included whether qualifying social work was a primary or minority component in IPE, and whether the focus was on one or more IPE initiatives. Sample sizes, where reported, varied from fewer than 20 IPE participants[e.g.10,12,29] to tens or hundreds.[e.g.25,26,45] An outline of study type and focus is given in Table 5.

3.1.3 Quality of studies and reporting

As discussed in 2.5.1, the quality of study reporting was highly variable, with some giving quite full detail of provenance, design, sampling and methods[e.g.4,21,22] and others very little.[e.g.6,29,35] The constraints of word limits required for peer review journals may account for some of these shortcomings. Primarily, however,

the problem appears to lie with work written by authors actively engaged in IPE in their own higher education contexts, presenting their experience with the commitment of practitioners rather than the thoroughness of researchers.

Quality and scope of the studies themselves also appeared highly variable, a caveat especially noteworthy in relation to claims to 'findings' of effectiveness (see Section 3.5). Principal areas of weakness were:

- lack of researcher independence from IPE initiatives examined
- unrepresentative samples
- failure to attend to contexts or processes and mechanisms of IPE giving rise to outcomes
- outcomes not offset against pre-IPE baselines
- absence of comparison or control groups (acknowledging randomisation difficult to achieve ethically or practically)
- few longitudinal/prospective studies examining outcomes beyond the end of IPE initiatives; little attention to learning transfer into post-qualifying practice
- lack of conceptualisation/theorisation to explain findings.

3.2 Language, definitions and aims of IPE

3.2.1 Terminology used

The terms 'interprofessional', 'multiprofessional', 'interdisciplinary', 'integrated, 'shared', 'common', 'joint' and 'collaborative' education/learning/training/practice/ teamwork were all used to denote professionals learning and working together. Most studies took for granted that 'we know what we mean'[††], and were not specific in the use of these terms. The reader could not necessarily assume that the same term deployed in different studies or IPE initiatives carried the same meaning.

3.2.2 Definitions

Around half (20) of the included studies offered some explicit definition of their terms. Acknowledging some anomalies, the typology set out in Table 6 best describes the range.

[††] This hybridity and imprecision is no doubt more extensive in the wider field than in this review, since our inclusion criteria required a focus on student learning about other professionals and/or collaboration between professions.

Table 6 Definitions

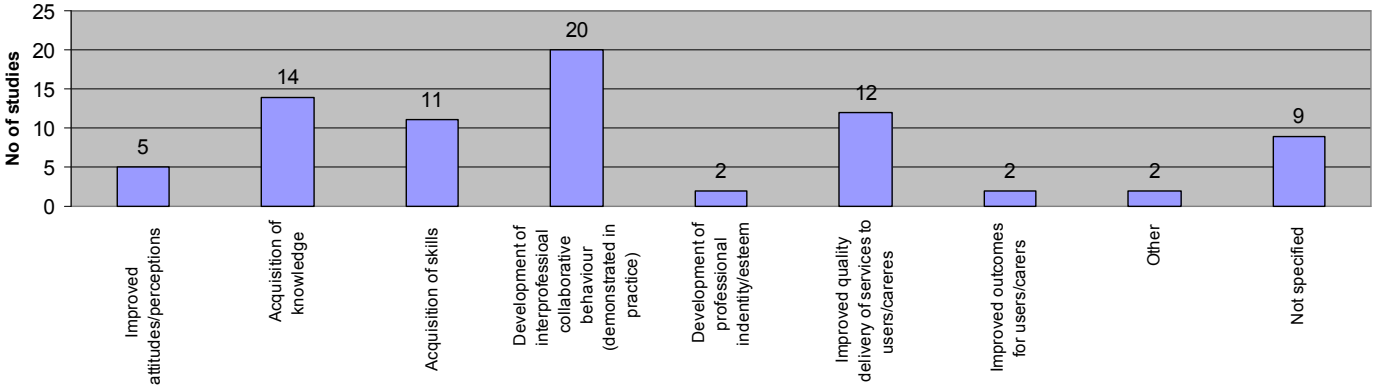
Shared/common/ multiprofessional learning	Shared resources used for students studying on different professional programmes for different awards, to learn about any/all topics of common interest
Interdisciplinary learning	Learning drawing on the theory and knowledge base of different disciplines to inform each
Collaborative learning	Student learning interactively, with and from each other, about topics of common interest
Interprofessional learning	As defined by the commonly cited CAIPE definition: 'occasions when two or more professionals learn with, from and about one another to facilitate collaboration in practice'[83]
Joint/dual education	Shared and interactive learning by students from different professions following the same integrated programme towards the same (dual) or separate (joint) awards

3.2.3 Aims of IPE espoused

Thirty-three studies identified explicit aims, for IPE in general, or for a particular initiative. As Figure 3 shows, commonest among the aims expressed was promoting collaborative behaviour in practice between professionals.[e.g.4,8,9,48,49,51] Next came the acquisition of knowledge about other professions and/or about collaborative work,[e.g.2,34,35,46] development of appropriate skills[e.g.5,12,37,43,57], and more ambitiously, improved quality of services for users and carers.[e.g.3,4,60] Interestingly, neither 'involvement of users and carers' nor 'professional satisfaction', both identified by Barr and colleagues[70] as aspirations for IPE more broadly, were much in evidence here.

Among the more contentious issues recognised in the field has been the question of whether IPE should be aiming to develop professionals with distinct but complementary roles and identities, or to generate 'joint' practitioners with 'transcultural' identities and roles (typically social work and nursing) capable of flexible career progression across professional boundaries. Just three studies, of dual award programmes, highlighted this aim.[27,29,48] Others expressed reservations, several making explicit the case for complementarity between professions, with difference valued and preserved.[14,24,43] This issue seems particularly relevant in the current UK context, with workforce strategies calling for permeability between professions.[78] This 'skills mix' model much more closely chimes with the aspirations of dual award professional qualifying programmes than those of the majority of IPE initiatives identified in this review.

Figure 3 Aims of IPE espoused*



* Not mutually exclusive

3.3 Theories and concepts in use

The field of IPE is acknowledged to be generally under-theorised, either in terms of education and pedagogy, or of interprofessionalism.[82,83,88] For over half (23) of the included studies, the rationale for exploring or developing IPE arose not from a theoretically informed understanding of how adults learn or practice together professionally, but from policy imperatives, changing patterns of service provision, and/or taken-for-granted assumptions that joined-up practice works best for all.

Of the 19 studies conceptualising their work, 13 focused on theorising or modelling IPE,[e.g.1,3,31,52,61] eight on interprofessional practice[e.g.1,50,51,57] and six on pedagogy more broadly.[e.g.2,33,34] None drew explicitly on theories of reflective practice to conceptualise the relationship between theory, knowledge, experience and practice. Table 7 offers a summary of the conceptual frameworks explicitly referred to.

Table 7 Theories and concepts in use

Of inter-professional education	Contact theory	Attitudes towards diverse groups will improve with contact with that group, where there is equal status, focus on difference as well as similarities, perception that members are 'typical' of their professional group, and opportunity to experience successful working together.
	Social identity theory	Linked to contact theory. Groups attempt to establish their value in relation to other groups by emphasising strengths and minimising weakness in relation to others. IPE should emphasise positive differences between groups.
	Dual socialisation	Educational preparation for interdisciplinary work is one of dual socialisation. Students develop complementary identities as members of individual professions, and as interprofessional team players. Students learn who they are through defining themselves in the context of others, understanding and valuing meanings expressed by others as well as their own profession.
	Collaborative learning	Interprofessional learning requires cooperative and collaborative processes, including empathy, active listening, responsiveness, interactive work and the co-construction of knowledge.
	Integrated and collection codes	Traditional teaching and learning follows a 'collection code': i.e. the aggregation of separate subjects and processes; 'integrated' teaching and learning involves 'active connections' between subjects, processes and participants.
	Utopianism and pragmatism	'Utopian' interprofessional education involves 'educating for the future' – (re)constructing the professional self through the process of IPE. Pragmatic interprofessional education involves 'educating for the real world', focusing on how to work within present roles and relationships.

Table 7 continued

Of inter-professional practice	Contact theory	As for IPE, used to analyse attitudes and functioning within and between professional groups.
	Team work	Much professional and interprofessional practice can be understood in terms of team contexts, cultures, structures, processes, relationships and outcomes.
	Interprofessional capability	Professional 'capability' goes beyond 'competence', to include the extent to which students can apply, adapt and synthesise new knowledge into practice. Interprofessional capability has four domains: knowledge in practice, ethical practice, inteprofessional working, and reflection.
	Interdisciplinary collaboration	Can range across models: cross system communication, diffusion of knowledge, interprofessional sensitivity, merger of services, creating new professions.
Of pedagogy	Enquiry- and/or problem-based learning	Active learning is stimulated by: students defining their own learning needs and strategies, integrated and cumulative learning, and learning for understanding rather than recall. Enquiry-based learning is distinguished from problem-based learning: it avoids presenting situations as 'solvable' problems, involves encouraging clients to explore options rather than professionals to provide solutions.
	Guided discovery learning	Students learn though active processes of discovery, along with the responsibility of mastering content; the educator's role is to guide from the sidelines.
	Social learning theory	Students learn though social experiences; among these, modelling and simulation can be powerful means of reinforcing learning messages.

3.4 Characteristics of IPE examined

3.4.1 IPE process focus

A majority of studies (32) focused on questions of teaching and learning in IPE. Additionally, 16 paid attention to the management and organisation of programmes, and seven explicitly to assessment.

3.4.2 Status of IPE initiatives within professional education programmes

A recurring issue in the broader IPE field is the question of whether IPE should remain a discrete component of professional education, or should be embedded and integrated in the whole. The majority (24) of the 33 studies that specified, referred to what are defined here as 'substantial, discrete initiatives'. Commonly these involved block courses of one week or so,[e.g.1,5,14] modules taught weekly over one or two semesters,[e.g.2,3,44] dedicated interprofessional placements[e.g.39,38,47] or some combination of these.[10,34]

Six studies referred to IPE more fully threaded through the content of qualifying programmes and/or embedded in associated structures. In these cases, authors advocated the model as a matter of principle not just fact. The argument was put most strongly by those examining dual qualifying programmes,[27,29,48] maintaining that fully integrated programmes were required to train holistic joint practitioners. Integrative models were also advocated by researchers examining IPE programmes following developmental principles, with students' cumulative learning underpinned by sequential IPE modules during the course of their studies.[7,9,11,14]

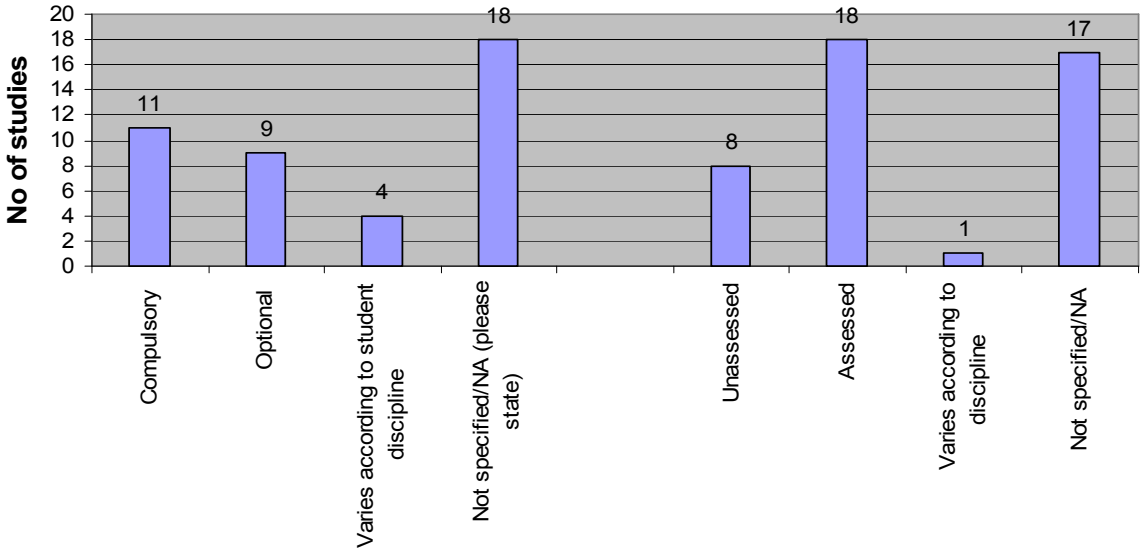
3.4.3 Status of student participation and assessment of IPE

The status afforded to IPE within qualifying social work programmes could be indicated by whether participation was compulsory or optional, and whether learning was assessed or not. IPE was a compulsory component of just 11 out of the 24 cases specifying.[e.g.3,5,49] Interestingly, in a further four cases, it was optional for some disciplines and compulsory for others.[4,35,36,51]

Eighteen of the 25 studies specifying indicated that IPE was assessed, usually formally,[e.g.20,26,52,60] with peer assessment occasionally incorporated.[9]

Questions of assessment and compulsory or optional status were addressed critically by several authors, in relation to the success of IPE initiatives. Some observed that the importance of IPE should be underlined by formal assessment,[9] and some that problems of student motivation may arise where participation is compulsory for some but not others, or compulsory but unassessed.[1,23] The challenges of developing modes of individual or group assessment capable of capturing interprofessional learning and consistent with uni-professional regulatory frameworks, were also highlighted.[9,26,33,43]

Figure 4 status of student participation and assessment of IPE*



*

Not mutually exclusive*

3.4.4 Interactive learning

Echoing the CAIPE[70,83] definition of interprofessional education, all but one of the studies specifying (33 of 34) referred to interactive learning between students from different professional disciplines. Seventeen also involved educators from other disciplines, and 16 practitioners from other professions, both in practice settings[e.g.5,27,29,48] and in the classroom.[e.g.7,26,45,49] Notably, there were only three cases in which an additional emphasis was placed on student interactions with service users.[27,48,52]

3.4.5 Stage of student learning

The broader IPE literature highlights debate about the stage of professional education at which students might best engage with IPE.[70,83] Arguments in support of pre-qualifying IPE generally claim that it reduces negative stereotyping during professional socialisation, precluding the development of barriers. There is some acknowledgement nonetheless that the aspirations for IPE at qualifying level must be modest and preparatory for further learning. Those in favour of delaying until post-qualification maintain that IPE is more likely to be effective when uni-professional identity, confidence and experience are better established. Meanwhile Freeth and colleagues[83] argue for IPE at all stages 'promoting effectiveness throughout working lives' (p 13).

Of the 27 studies mentioning the timing of IPE in pre-qualifying curricula, over half (13) referred to input that continued in some way across the degree course. In nine studies[‡‡] this involved sequential modules/placements during successive qualifying years.[e.g.20,21,31,33] In four studies, authors either advocated for a continuous thread of IPE woven throughout the entire course of qualifying professional education[45] or described the wholesale 'transprofessional'

[‡‡] It should be noted that three of these studies examined the same IPE initiative.

integration characteristic of dual award programmes.[27,29,48] Few authors, as it turned out, took 'standpoint' positions about when IPE should be introduced, with Johnson[33] and Tope[45] reflecting that there were indeed different perspectives to be taken into account, and the matter is unresolved.

Six studies' authors indicated variability in the staging of IPE provision between disciplines, such as qualifying social workers training together with post-qualified nurses.[e.g.1,23,30,51] We will return to problems associated with such arrangements in Section 3.5.

3.4.6 Participants in IPE

Among the 19 studies discussing the management and organisation of IPE (Table 8), educators from other disciplines were noted as primary collaborators in planning, managing, reviewing and quality assuring initiatives.[e.g.29,34,40,44,47] Additionally, there were references to social work practitioners (six) and managers (four) and/or other practitioners (eight) and managers (four) involved especially in organising placements or as programme committee members.[e.g.26,29,46,52] In just four cases[27,32,40,48] were users or carers, and in three cases students[8,29,46] actively engaged in programme advisory groups and boards, developing, planning and validating courses as well as monitoring and review.

Besides social work students, social work educators were otherwise the most commonly named participants in teaching, learning and assessment (28), closely followed by educators (24) and students (20) from other disciplines, social work practitioners (19) and other practitioners (22). One study highlighted strongly the engagement of users and carers as speakers, trainers, facilitators and in the design of curricula[32] while six others paid some attention to service users' direct involvement in teaching and learning,[e.g.10,27,51] and one more mentioned assessment in this context.[48]

Table 8 Participants in IPE management and teaching, learning and assessment *

Participants*	IPE management* (N =19)	IPE teaching/learning/ assessment* (N =33)
Social work educators	16	28
Other educators	15	24
Social work students	3	33
Other students	3	20
Social work practitioners (includes practice teachers)	6	19
Other practitioners	8	22
Social work managers/employers	4	0
Other managers/employers	4	0
Users/carers/community members	4	7
Other	4	1

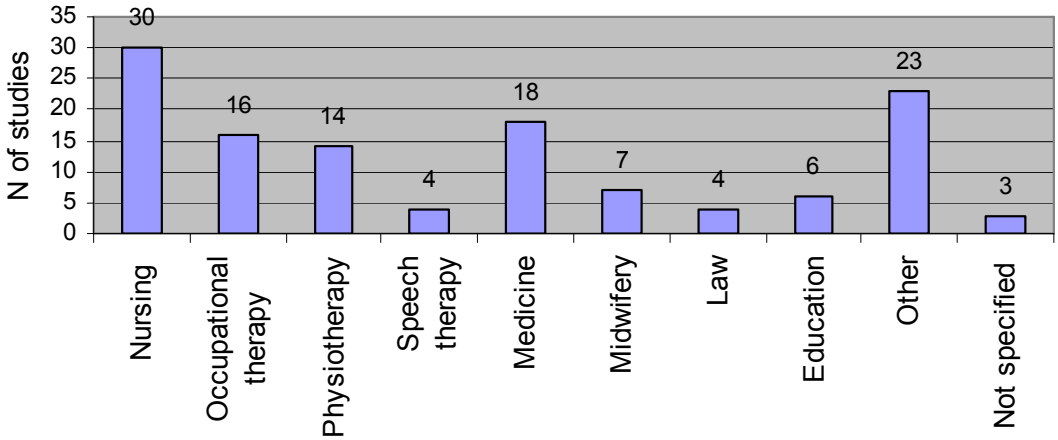
* Not mutually exclusive

3.4.7 Professions/disciplines involved

By far the majority of the studies specifying which professional disciplines were involved in IPE along with social work, cited health and medicine (Figure 5). Nursing was most commonly cited (30 of 39 studies), with the specialisms of learning difficulty,[27,29,34] mental health,[e.g.33,40,50] community nursing and health visiting[43, 46,52,60] especially represented. Medicine was cited in 18 studies,[e.g.1,8,9,23,51] as were allied health professions such as midwifery and occupational, speech and physiotherapies.[e.g.8,9,11,21,50,51] IPE involving lawyers was cited in just four cases,[2,4,5,6] and teachers only in six.[e.g.12,44,47] Other professions occasionally involved included psychology, counselling, clergy, police and housing, and others allied to health such as dentistry, podiatry and pharmacy. One striking implication of the predominant links with health in IPE at qualifying social work level, is the associated bias towards preparing students for interprofessional practice in adult rather than children's services. In the light of current UK configurations and priorities for children's services, collaboration with education, along with lawyers and police, might well deserve a higher profile[§§].

In several instances too, social work student and faculty numbers involved were significantly outweighed by health professions and nursing,[e.g.7,8,9,21,33,38] and the disparity highlighted in some cases as problematic.[e.g.34,52,61] In other cases, disparities in perceived professional status presented challenges, with medicine identified as a primary area of difficulty.[1,19,23]

Figure 5 Other disciplines involved*



* Not mutually exclusive

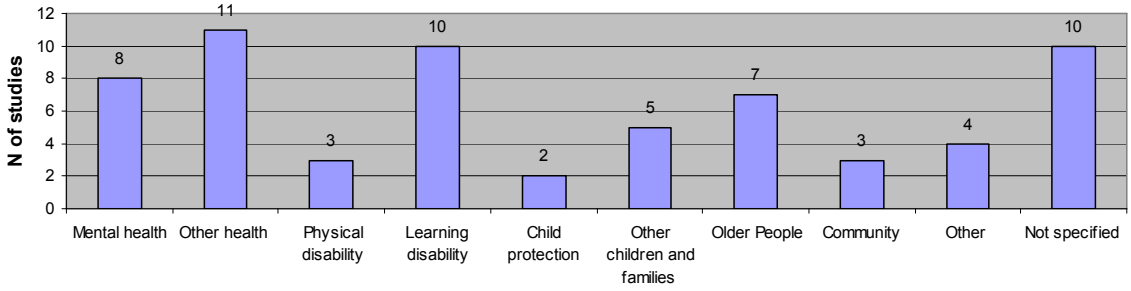
3.4.8 Areas of professional practice

As shown in Figure 6, the preponderance of health and medicine was also apparent in the areas of professional practice upon which IPE focused. Most

[§§] It is noteworthy that Brady[62] and King[63],commissioned by the Scottish Institute for Excellence in Social Work Education (SIESWE), evaluated initiatives at the Universities of Dundee and Paisley which did incorporate focus on children in curriculum content and placement settings. Unfortunately these studies were identified too late for inclusion in this review. Their findings are presented in outline in Appendix 6.

prominent (10 studies) were learning disability,[e.g.27,29,32] mental health (eight studies[e.g.5,26,32,40]) and work with older people (seven studies[e.g.41,46,49]). A range of other health related areas, among them palliative care, HIV/Aids and substance misuse, was cited in 11 studies.[e.g.10,34,45,51] By contrast, broad work with children and families was represented in just five studies[12,26,32,35,47] and child protection just in two more.[35,43] In the current UK practice context of integration of children's services across social work, education and health[74] this suggests a striking gap.

Figure 6 Professional practice area*



3.4.9 IPE setting

Twenty-three of the 33 studies specifying the setting for IPE referred to classroom-based learning, and 20 to practice learning; several involved both.[e.g.10,26,29] Indeed, some authors particularly advocated combination of the two, allowing students to apply their classroom-based learning in practice.[9,10] No study attempted to compare effectiveness of the two learning settings.

3.4.10 Pedagogical methods

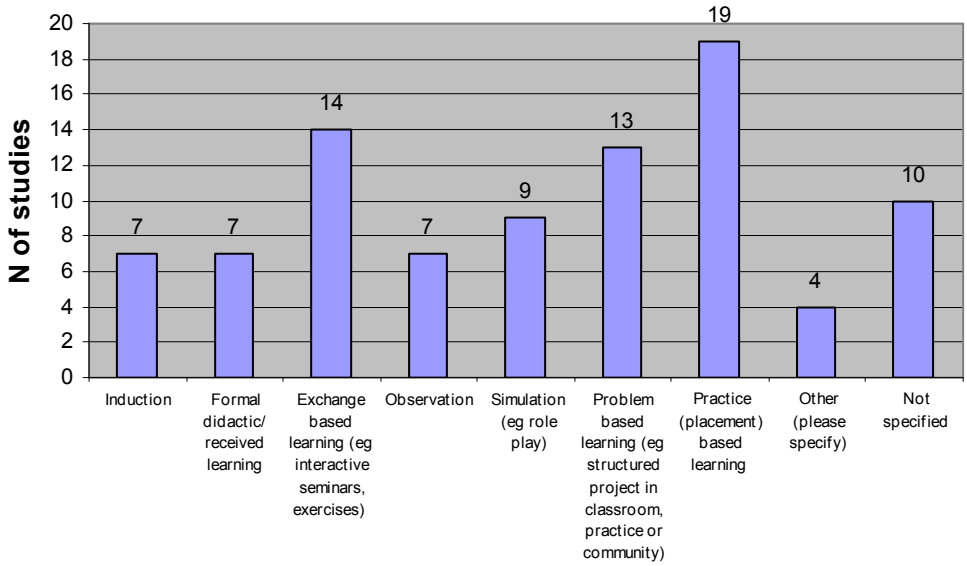
As in the wider IPE field[70,83] this review found that IPE teaching and learning predominantly involved experiential rather than didactic approaches (Figure 7). For 19 of the 32 studies specifying, interprofessional practice placement constituted a primary component. These involved dedicated placements in interprofessional practice contexts,[e.g.4,5] placing social work students in other professional settings requiring collaborative work,[6,38] or combining and contrasting both[8,12].

In addition, there was a preponderance of exchange-based approaches taken to IPE in the classroom, such as interactive seminars and shared exercises (14 studies[e.g.20,26,27,43]), and problem- or enquiry-based learning (13 studies[e.g.34,39,44]), encouraging students to share, define and explore views, experiences, particular problems or case scenarios.

There was also some emphasis on simulation and role play, and on observation of collaborative team work.[20,35,41,52] Formal didactic learning (mainly lectures) was evident in seven studies,[e.g. 2,4,5,41] but, in common with Barr and colleagues' findings,[70] invariably as a complement, not an alternative, to other approaches. Notably, seven studies[e.g. 1,33,34] drew attention to induction, orienting students to the principles of IPE, enlisting their engagement from the outset and demonstrating institutional commitment and support. Three studies made the

case for e-learning in IPE, using online WebCT packages and virtual interactive learning environments. In one example[17] e-learning was blended with face-to-face teaching and learning, but in the other two[35,44] it stood alone.

Figure 7 Pedagogical methods*



*Not mutually exclusive

3.4.11 Substantive IPE content and process

Unsurprisingly at qualifying level, the majority of teaching and learning content and processes were focused on individual preparation for collaborative practice, rather than improvement of existing team practice or of service quality, more evident in post-qualifying and workbased learning.[70]

Table 9 Substantive IPE content and process

Substantive content/process*	N of studies (33)
Collaborative practice/team work	25
Roles and responsibilities	18
Attitudes and perceptions	13
Professional orientation/approach	10
Values	6
Skills	6
Managing conflict	6
Professional identity/esteem	5
Professional contexts/organisations	5
Power and anti-oppressive practice	1
Other	1
Not specified	9

* Not mutually exclusive

As Table 9 shows, a majority (25) of the 33 studies discussing substantive content and process of IPE reported a focus on collaborative practice, usually between professionals and sometimes agencies and professions. Commonly the emphasis was on increasing students' motivation for, knowledge about and experience of collaboration and its benefits.[e.g.5,12,46,47]

Second to collaboration was the focus, in 18 studies, on student learning about professional roles and responsibilities, distinctions and overlaps between them, and respective contributions to social and health care.[e.g.1,7,8,9,20,36,38,44] Notably, there were disparities in how roles and responsibilities were addressed, between the majority of initiatives aiming for complementarity between different professional roles and the minority seeking to integrate them.[e.g.27,29,48]

Thirteen studies indicated a substantive content and process on student perceptions, stereotypes and attitudes towards other professionals and/or towards collaboration. Some sought to establish baseline profiles of attitudes and perceptions,[e.g.31,36,42,55] a minority to develop attitude assessment tools[18,30] and others to evaluate attitude changes in response to IPE.[e.g.14,21,31,55]

IPE described in 10 studies focused on 'professional orientation', addressing students' understanding of how different professionals approach problems and tasks.[e.g.2,3,10,48] Students explored together how, for example, nurses may draw more on medical than social models and may be more oriented to 'doing to, not with' clients.[29] Linked in some cases was a focus on values (six studies), with students exploring the commonalities and distinctions between their own and others' ethical bases and commitments.[e.g.34,43,46] Content or process learning within IPE explicitly about power relations, or about reflective practice, were notable by their absence.

In just six studies[e.g.2,20,46] did IPE content and process appear to focus on the teaching and learning of particular skills, such as communication and leadership, to equip students for collaborative practice. Six studies[e.g.4,49,53] also discussed teaching and learning about conflict management and resolution.

3.4.12 IPE outcome priorities

The review examined the outcomes that IPE initiatives and/or studies identified as priorities in principle, at qualifying professional level. These must be distinguished from the often more grandiose aims espoused for IPE (see Section 3.2.3), and indeed from the outcomes that studies actually evaluated[***].

To examine the kind, or level, of IPE outcomes identified as priorities, we have borrowed the model adapted by Barr and colleagues[70] from Kirkpatrick,[89] with minor adaptation to suit the literature on qualifying social work[†††].

Eighteen studies demonstrated concern with participant reactions to IPE, including responses to the overall experience, value placed upon it, perceived challenges and suggested improvements. All 18 were interested in student reactions, and half in other participant responses too.[e.g.6,7,8,9,34]

Table 10 IPE Outcome priorities

Outcome priority*	N of studies identifying priority in principle
Collaborative behaviour – demonstrated in practice	22
Participant reactions to IPE	18
Changed attitudes/perceptions	18
Acquisition of knowledge	18
Acquisition of skills	9
Improved quality practice/service to users/carers	8
Professional (including 'joint') identities	6
Improved outcomes for users/carers	3
Other	6

* Outcomes not mutually exclusive

*** Appendix 4 identifies the outcomes actually measured or monitored by all evaluative studies included in the thematic analysis and/or in-depth review.

††† Barr's typology has been adjusted to distinguish between the acquisition of knowledge and of skills, and to include the development of professional identity and esteem.

Foremost among the effectiveness outcomes prioritised was promoting collaborative behaviour (22 studies[e.g. 39,46,51]); this included effective work in teams, with other individuals and other agencies. Improved attitudes and perceptions followed closely (18 studies), with the commitment that IPE should alter attitudes and perceptions towards other professionals,[e.g.1,2,10,31,35,55] and raise motivation towards interprofessional collaboration.[2,4,11,21,22] Desired improvements in knowledge embraced enhanced understanding of different professional roles and responsibilities,[e.g.6,43,45,49] orientations, values, cultures and contexts,[27,43,46,49] and of interprofessional teamwork itself.[12,17,37,50] Six studies spoke of the significance of IPE in establishing sound professional identities, but differing as to how distinct or shared these might best be.[5,27,29,43] Meanwhile eight studies proposed as an important outcome for IPE that it promote high quality, joined-up services to respond to user and carer need; only three, however, highlighted improved end outcomes for users and carers.[6,8,25]

3.5 Claims to 'findings'

This section offers an overview of the 'findings' to which studies laid claim. It is essential to emphasise that all claims to 'findings' must be regarded at this point as no more nor less than claims; the studies involved were of very varied methodological quality and relevance. Unlike the subset selected for full quality appraisal and quality appraisal and in-depth review (Section 4) the broader sweep of studies discussed in thematic analysis have not been subjected to rigorous quality assessment.‡‡‡ Thus present discussion is intended to give an overview of the claims more widely made about IPE at qualifying social work level. This provides the backdrop against which findings in which we may have more confidence will be discussed in Section 4.

3.5.1 Positive and negative 'findings' claimed

Studies were broadly categorised according to whether, overall, they claimed positive, negative, mixed or inconclusive/other findings for IPE and its outcomes. As Figure 8 shows, more than half (23) presented mixed 'findings', 11 solely positive 'findings',[e.g.12,35,48,49,51] and none was comprehensively negative. Additionally, eight studies were neither positive nor negative, since, for example, they described rather than evaluated IPE provision,[e.g. 27,41,50,57] or examined baseline student attitudes and knowledge.[30,31,36,55]

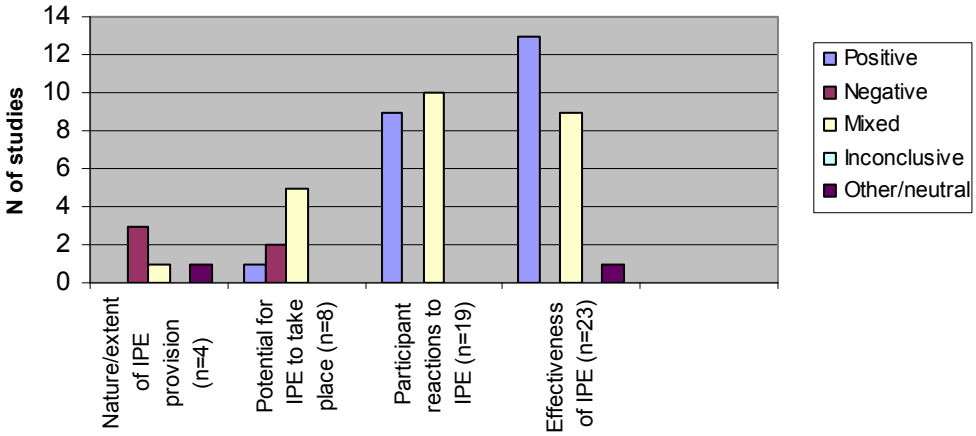
Within this overarching profile there was much variation, not least in the nature of the questions asked and answers 'found'. Positive and negative 'findings' will be discussed under four discrete themes: the nature and extent of IPE provision, support and potential for IPE to take place, participant reactions to IPE, and effectiveness of IPE. Finally, a fifth cross-cutting theme, facilitators and barriers to IPE, will be discussed.

‡‡‡ For this reason, where claims to findings are discussed in this section, the term 'findings' is set within inverted commas throughout.

Figure 8 Positive and negative 'findings' claimed
(N=42)

As Figure 9 shows, more studies claimed to address IPE outcomes – participant reactions and/or effectiveness – than to examine either the nature and extent of IPE provision, or the context of support for it to happen.

Figure 9 Type of positive and negative 'findings' claimed



3.5.2 Nature and extent of IPE provision claimed

All the studies examining the nature and extent of IPE provision involving qualifying social work[25,32,37,45,52,57] 'found' great variety in characteristics such as process and content, settings and disciplines involved. Whittington and Bell,[13] Whittington,[52] Jivanjee and Friesen[32] and Tope[45] all maintained that there was far less IPE provision than required to prepare qualifying students for interprofessional practice.

3.5.3 Stakeholder support and potential for IPE provision claimed

A mixed picture too was painted by the eight studies claiming to examine stakeholder support for IPE, and potential for developing and operationalising it in social and health care education. Just one study[26] was wholly positive, with respondents reported to believe there was sufficient overlap between professional curricula to explore commonality and difference, and that the

resource and knowledge advantages of shared learning were attractive. The other seven studies expressed reservations. They suggested that some disciplines (notably medicine) were less receptive than others to IPE,[19,23,45] also that practitioner enthusiasm for shared learning was evident but qualified, with wariness of dual awards especially apparent.[24,27,29] More than one study broadly in favour of IPE acknowledged that there were downsides too – 'finding' that it could be time and labour intensive, and structural constraints and resistance could be tedious and frustrating.[34,40]

3.5.4 Participant reactions claimed

There were more signs of optimism among 19 studies that claimed to examine participant reactions to IPE. Almost half (nine) reported favourably that the opportunity to learn with and about other professionals was apparently much appreciated, the experience of teamwork valued, and whole process enjoyable.[e.g.2,3,5,43,51] Aspects of the IPE process on occasion singled out as especially beneficial were practice-based learning,[13,39] the 'safe space' of small interdisciplinary workgroups[10], and shared virtual learning forums.[35,44] In the 10 cases where participant reactions were reportedly more mixed, a range of factors appeared to be at play. Staff and/or student skepticism,[1,23,33,34] resource demands[40] and/or structural and logistical barriers[8,9,46] were in part to blame.

3.5.5 Effectiveness outcomes claimed

There were significant signs of affirmation for IPE among the 23 studies laying claim to 'findings' about its effectiveness in achieving change. It is worth noting, however, that the outcomes purportedly evaluated were often much more modest either than the aims for qualifying IPE espoused or outcome priorities stated. For example, while 12 studies espoused the aim of improving service quality, only eight highlighted this as an outcome priority, and just five 'evaluated' it.

This said, over half (13) of the 23 studies claiming to evaluate IPE effectiveness told positive stories, mainly about individual learning and development in preparation for interprofessional practice. Most commonly (nine), they focused on apparent improvements in student knowledge about other professionals.[e.g. 3,10,44,49] Less often, but still evident, they highlighted improved student attitudes towards each other, towards collaboration, and/or improved cooperative skills. Thus, for example, students were reported to have become more inclined to respect other professional perspectives, and less to hold stereotypes.[e.g.2,35,39] No doubt easier to capture within a short time, more studies sought to evaluate changes in knowledge and attitudes than collaborative behaviour in practice (see Appendix 4). Nonetheless, some studies claimed that participants became better able to share information, work together in teams, and produce more rounded assessments.[44,47,48] Four studies[6,8,9,48] went as far as to suggest that improvement in service quality, and/or end benefits to users and carers, were direct consequences of IPE.

Nine studies were more mixed in their appraisal of IPE effectiveness. Among them were two examining dual award programmes for nursing and social work students. Though advocating in favour of this model, they highlighted difficulties for students of establishing dual professional identities in the face of resistance

and ‘turf wars’ in the field.[27,29] The others claimed to find qualified change, but some shortcomings in improvement of student knowledge and attitudes.[1,6,7]

All caveats about research quality, scope and focus discussed in Section 3.1.3 must be borne in mind particularly in attributing weight to these ‘findings’ of IPE effectiveness: sampling was often small and opportunistic, methods unclear, researcher bias likely, outcomes often perceived not demonstrated and short not longer term. In this light, it was striking that among the eight studies reporting mixed or discouraging outcomes were several of the larger scale, more rigorous and/or multi-strategy evaluations that were sufficiently relevant and fully reported to be eligible for in-depth review.[e.g. 1, 4,11,21] These highlighted a level of complexity in the relationship between IPE interventions, contexts, participants and outcomes that will be discussed more fully in the in-depth review, Section 4.

3.5.6 Facilitators and barriers to IPE claimed

Few, if any, studies included in the review sought to compare which particular characteristics of IPE – such as context, participants, structure, process or content of delivery – may make a difference to outcomes. Despite this, a majority (34) made some claims to identifying facilitators or barriers[§§§] either to operationalising IPE, or to its success. Table 11 provides an outline of these, at macro, meso and micro levels. A selection of key points is discussed below.

- Macro level

Structural and logistic impediments to the provision of IPE were quite commonly mentioned (13 studies) by providers and researchers. These included lack of congruence between uni-professional and IPE timetables, priorities, funding regimes, regulatory requirements, and lack of integration between disciplines within education institutions.[e.g.12,26,45,46] Resources – material and staff time – were also an issue.[e.g.24,40,44] Effective partnership links with professional agencies, and availability of appropriate placements were advantages identified in nine studies.[e.g.4,10,52] Also strongly endorsed (11 studies) was the need for committed leadership and positive expectations of IPE on the part of all stakeholders.[e.g.6,34] Professional cultures and hierarchy apparently could militate against this,[1,23] with dual award programmes encountering particular resistance in the professional field.[27,29]

- Meso level

At the level of programme profile, delivery and composition, several studies claimed that the importance of IPE in professional education should be underlined by compulsory participation and formal assessment.[8,26] Seven studies[e.g.7,24,33,52] argued that there needs to be clarity and congruence in the rationale, aims, focus and identified learning outcomes of IPE, but that these were not always transparent or consistent.

[§§§] The latter were often the converse of the former.

Table 11 Facilitators and barriers to IPE*

Macro level	Structural compatibility /logistics of combining education programmes (e.g. schedules, location, placement duration/format, funding regimes)
	Adequate resources (including time, information technologies)
	Availability of appropriate/structured practice learning opportunities
	Institutional support
	Effective links and partnerships with local agencies
	Support for IPE and interprofessional work within wider professional community
	Compatibility of ethical codes between professions
Meso level	Modelling of collaboration by educators/practitioners
	Clear rationale, shared goals and understandings underpinning IPE
	Disparities between students in stage of professional education
	Educators from range of disciplines/with interprofessional experience
	Equal status between students; equal learning opportunities
	Validation and regulatory criteria compatible, clear and pro IPE
	IPE seen as central to teaching/learning/assessment in professional education; attendance and assessment required
	Non-hierarchical disciplinary focus in professional education
	User involvement
	Opportunity for students to experience successful joint work
	Disparity in student numbers between professions
	Clear/compatible IPE learning outcomes and assessment criteria
	Integration of classroom and practice learning-based IPE
	Evaluation and review of IPE initiatives
	Equal status between staff/professionals of different disciplines
	Sufficient level of curriculum development
	Training and support for IPE educators/facilitators
Micro level	Positive expectations and motivation (students, educators, practitioners), strong lead
	Effective communication/collaboration, respect and trust between educators
	Preparation/induction, and debriefing (students, educators, professionals)
	Active and skilled facilitation/guidance by educators
	Development of shared language/understandings of different language
	Atmosphere conducive to cooperation
	Attention to commonality and difference between professions
	Student perceptions of other professionals/students as typical not exceptional
	Student prior learning/experience

* Where the converse of a facilitator was also named as a barrier, the factor is described here in positive terms; where named as a barrier only, it is expressed negatively.

Some authors[e.g.3,12,24] suggested that educators should best come from a range of disciplines, with equal status and interprofessional experience; they should model between them mutual respect, trust and collaboration.[e.g.2,10] Students, it was suggested, might learn best in groups of appropriate size and composition – variously envisaged as reflecting the composition of real-life interprofessional teams,[7,8] or involving relative equity between disciplines in student numbers, educational stage and perceived status.[e.g.6,10] Perhaps surprisingly, only two of the seven studies describing user/carer involvement highlighted this as the major contributor to IPE effectiveness.[51]

- Micro level

Finally, studies also made suggestions at the micro level (albeit largely untested) for how course content, relationships and participant profiles might promote or inhibit successful outcomes. Active and skilled facilitation of student learning, by appropriately trained educators and practitioners[e.g.7,8,10] was highlighted by eight studies. Adding to the complexity of the picture, seven studies[e.g.1,7,11] suggested that students' maturity, prior learning and experience along with discipline-specific socialisation, could make a marked difference to their learning.

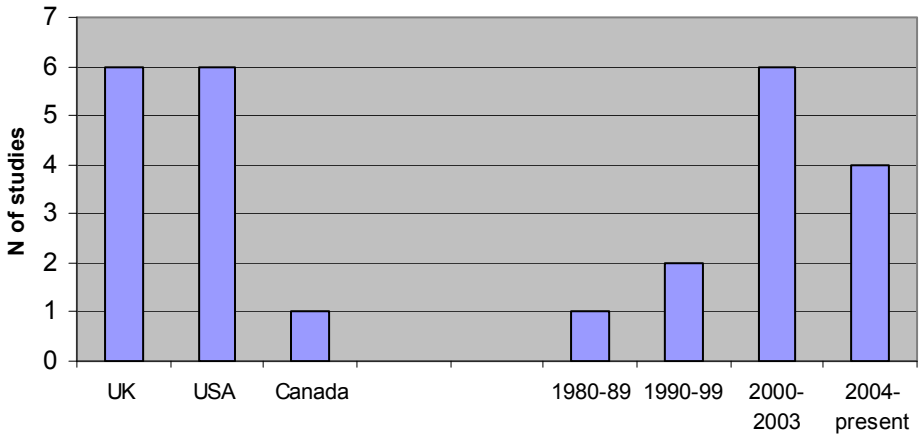
4 In-depth review of studies of IPE outcomes

Thirteen studies, with a further 10 linked reports, were subjected to data extraction and detailed quality assessment in in-depth review. A summary of each study is given in Appendix 5.

4.1 Study location and date

Contrasting with the predominance of UK studies included in the thematic analysis, there were six UK and six USA studies included for in-depth review, with just one other, Canadian, report.[10] All but three of the studies were conducted since 2000. Two of the exceptions were published considerably after data collection.[1,13] the third involved data collection and analysis from 1997 over a period of several years.[4]

Figure 10 Location and date of study



4.2 Study design

4.2.1 IPE focus

By definition, all of the quality-assessed studies evaluated IPE outcomes. Most considered both participant reactions and effectiveness in achieving change, with all but two examining single IPE initiatives. One exception was Whittington and Bell's survey of former social work students (graduated in 1990) looking retrospectively at preparedness on qualifying for interprofessional collaborative practice.[13] The other exception was the Geriatric Interdisciplinary Team Training (GITT) programme evaluated by Fulmer and colleagues,[4] which focused on the provision of linked but separate programmes with quite varied content and formats at eight different sites across the USA. Two Common Learning Pilot Site evaluations, evaluating two distinct IPE initiatives were conducted separately for the DH by a single research team,[8,9] were presented in one combined report.[****].

**** A third study[38], part of the same evaluation programme, was reported in too little detail for full quality appraisal.

Though predominantly concerned with evaluating IPE initiatives, some studies – or linked papers associated with them – served related purposes. For example, papers linked to the GITT programme[16,17,18] and to the University of the West of England's large-scale IPE programme for health and social care[7,14,22] focused on validating research instruments or describing the IPE initiatives.

4.2.2 Qualitative and quantitative approaches

Seven quality-assessed studies were qualitative evaluations of naturally occurring phenomena, involving no researcher manipulation. They relied in some cases on interviews and/or focus groups alone,[5,10] in others on questionnaires[6,12] and occasionally on a combination of these with observation and scrutiny of programme documentation.[7,8,9] By contrast, six studies were quantitative in design. Among these were Whittington and Bell's questionnaire survey[13] mentioned above, and five studies involving assessment of IPE participants both pre- and post-test. Three also involved comparison with non-IPE student groups.[2,3,11]

4.2.3 Research samples

Studies varied markedly in sample size. Researching across the multi-site GITT programme, for example, Fulmer and colleagues[4] included in their sample 537 students who had completed all pre- and post-test measures; linked papers drew on 913 students to develop an attitudes scale[18] and gathered views from 221 IPE educators and providers.[23] Pollard and colleagues[11] followed to the point of qualification 581 students, from an original 852; Whittington and Bell[13] surveyed 489 former students. By contrast, Reed-Ashcraft and colleagues[12] studied just 10 students and four supervisors, O'Neill and Wyness[10] 14 or 15 students, and Grossman and McCormick[5] 18 graduates.

Social work representation in study samples was likewise varied. Whittington and Bell[13] and Grossman and McCormick[5] included exclusively social work graduates in their research. Three other studies deliberately constructed samples balancing numbers of social work and medical[1,3] or law[2] students, for the purposes of comparison. Others were unclear in their reporting of disciplinary representation[8,9,10,12] or their samples reflected the numerical bias of many IPE initiatives towards nursing, health and medicine. In, for example, each of the two large-scale evaluations of IPE programmes included, social workers represented 14 per cent[4] and just 3–4 per cent[11] of the respective samples. As these proportions still represented reasonably large absolute numbers of social workers (75 and 21–31 respectively), and since both studies looked at differences in outcomes within and between disciplines, both were included.

All studies collected data from students. Four also gathered information from classroom- or practice-based educators directly involved in IPE teaching and learning.[6,7,8,9] Miller and colleagues[8,9] additionally interviewed stakeholders with strategic and operational responsibilities for implementing IPE initiatives. One study associated with the GITT evaluation,[16] sought advice from 60 'experts' in the design of an assessment tool.

4.3 Weight of evidence

4.3.1 Weight of evidence judgement

In accordance with EPPI-Centre categories for quality assessment, the weight of evidence (WOE) attributable to each study was judged by the review team – shown in Table 12. It should be noted that while ratings of trustworthiness refer to the inherent quality of each study, ratings of appropriateness and relevance refer specifically to this review question; they cannot be taken as a judgement of the quality of each study in itself. There was a normal distribution of overall WOE, with three studies rated high, two low, and the rest medium.

Table 12 Judgements on trustworthiness, appropriateness, relevance and overall weight of evidence

Study	A: Trustworthy	B: Appropriate for review	C: Relevance for review	D: Overall weight of evidence
Carpenter and Hewstone[1]	Medium	High	Medium	Medium
Colarossi and Forgey[2]	Medium	High	Medium	Medium
Fineberg et al[3]	Medium	High	Medium	High
Fulmer et al[4]	High	Medium	Medium	Medium
Grossman and McCormick[5]	Medium	Medium	High	Medium
Maidenberg and Golick[6]	Medium	Low	Medium	Low
Miers et al[7]	High	High	Medium	High
Miller et al[8]	Medium	Medium	Low	Medium
Miller et al[9]	Medium	Medium	Medium	Medium
O'Neill and Wyness[10]	Medium	Medium	High	Medium
Pollard et al [11]	High	High	Medium	High
Reed-Ashcraft et al[12]	Low	Medium	High	Medium
Whittington and Bell[13]	Medium	Medium	Low	Low

* Linked reports to particular studies are identified in Appendix 5.

Key to Table 12 Definitions of judgements adapted from the EPPI-Centre categories

Weight of evidence A: Taking account of all quality assessment issues, can the study findings be trusted in answering the study question(s)?
Weight of evidence B: Appropriateness of research design and analysis for addressing the question, or sub-questions, of this specific systematic review.
Weight of evidence C: Relevance of particular focus of the study (including conceptual focus, context, sample and measures) for addressing the question or sub-questions of this specific systematic review.
Weight of evidence D: Taking into account trustworthiness, appropriateness of design and relevance of focus, what is the overall weight of evidence this study provides to answer the question of this specific systematic review?

4.3.2 Factors contributing to weight of evidence

Some points are worth noting about the WOE attributed to studies. Studies judged less trustworthy in their own right were compromised by a range of factors, including failure to clarify sampling and methodology,[e.g.3,10,12] failure to distinguish between evidence sources (e.g. 6,8,9), failure to clarify study provenance or funding,[e.g.4,5,6] or the degree of researcher (in)dependence from the IPE initiatives evaluated.[e.g.1,3,12]

Among the five studies scoring high WOE on appropriateness of design and analysis were the three that had manipulated research samples to give equal representation to social work and disciplines involved.[1,2,3] Though their sample composition may thus not represent the proportions of IPE participants involved, they afford particular focus on the social work experience.

Further factors influenced the rating of relevance of study focus to the review question. Grossman and McCormick's work[5] for example, was judged highly relevant because it looked in detail at the development of (inter)professional identities carried through into post-qualifying practice. Reed-Ashcraft and colleagues,[12] weaker methodologically, nonetheless offered very relevant distinctions between multi- and interprofessional practice in IPE. By contrast, Whittington and Bell's survey[13] afforded some useful insights into routine preparation of social work students for interprofessional practice, but was now dated, reflecting on an earlier era in qualifying social work education.

For the remainder of this report, in the interests of fluency, the overall WOE attributed to each study is indicated explicitly only where those rated high or low are cited

4.4 Language, definitions and aims of IPE

4.4.1 Terms and definitions

There was less plurality of terminology apparent among the quality-assessed studies than in the wider thematic analysis. Most referred in some way to 'collaboration', and some to 'team' learning or practice. However, UK studies tended to refer to 'interprofessional' and American studies to 'interdisciplinary' education, apparently to carry the same meaning.

Though only seven studies explicitly defined what they were referring to, all but one[13] were in fact discussing IPE initiatives involving interactive learning about other professions and collaboration. Three studies[3 (high WOE), 5,12] distinguished between 'multi- and 'inter' professional approaches – the latter designating more integration in all respects.

4.4.2 Aims of IPE espoused

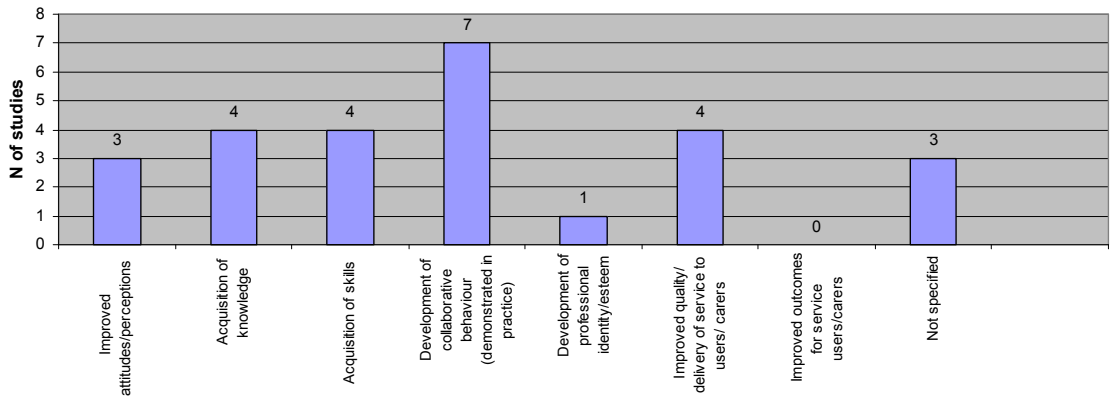
As Figure 11 shows, several studies made explicit the central goal of promoting collaborative practice across professions, as articulated by Fineberg, Wenger and Forrow:[3 (high WOE)]

> '… the educational intervention was designed to promote the interdisciplinary approach that refers not only to the involvement of people from distinct professions but also to the coordination of their different contributions towards a common goal grounded in patient and family focused care' (p 2).

For some, such as Maidenberg and Golick,[6 (low WOE)] collaborative practice was a means to a further aim:

> 'While the primary goal of the project has been to increase and improve the services provided to clients, an important secondary goal has been educational – to teach both professions how to work together more effectively.' (p 18)

Figure 11 Aims of IPE espoused*



* Not mutually exclusive

Reflecting the fact that none of the studies examining dual awards was included for in-depth review, all quality-assessed studies envisaged educating distinct but complementary professionals, motivated towards collaborating with others. They spoke of roles 'woven' together in 'joined-up', 'holistic' and 'integrated' practice, not of 'skills mix' or 'flexible career progression'.

Eight studies espoused aims for IPE pitched at the level of individual knowledge and perceptions, in preparation for collaborative practice. For Reed-Ashcraft and colleagues,[12] this involved teaching students to understand different models of collaborative work; for Miller, Woolf and Mackintosh[8,9] it involved enabling students to recognise how professional prejudices and stereotypes impact on interprofessional work. However, just three studies[6 (low WOE), 9,11 (high WOE)] highlighted changed attitudes as an aim in itself for IPE, rather than a means to further ends. As will be discussed below (Sections 4.6.10, 4.7.1), student attitudes were more prominent in IPE content and outcomes evaluated, than as goals in themselves.

4.5 Theories and concepts in use

The paucity of theorisation noted in the wider IPE literature[82] and in the thematic analysis of this review (Section 3.3) was evident among quality-assessed studies too. Eight made some reference to theory or theorised concepts, but some of these only in passing, to contextualise rather than explicate their work.

4.5.1 Contact, socialisation and identity

Carpenter and Hewstone[1] and O'Neill and Wyness[10] drew on contact theory, with the hypothesis that attitudes towards other groups will improve with contact, where there is institutional support, where students have common goals, perceive each other as equals, focus on difference as well as similarity, regard the others they encounter as typical of their professional group, and experience some successful collaboration. Though contact theory provided a helpful frame of reference for both studies, it pays scant attention to structural, cultural or individual factors, nor to the particular processes and mechanisms of change that might influence IPE effectiveness.

Three quality-assessed studies[3 (high WOE),10.11 (high WOE)] drew on social psychology to conceptualise professional or interprofessional identity development. For Pollard and colleagues,[11 (high WOE)] intra-group affiliations were key:

> 'Social identity theory suggests that individuals' social identity is influenced by group membership and adoption of group values … Since students are striving for full membership of their professional groups, logic dictates that the development of their own professional identity during undergraduate education involves adherence to the perceived values and ideals of their chosen profession.' (p 19)

In contrast, Fineberg, Wenger and Forrow,[3 (high WOE)] citing Clark 1997, stressed that identities are shaped in the context of others, through a process of 'dual socialisation':

> '… students only really learn who they are when they have to define themselves and their professional focus in the context of others – who may overlap in with them in some areas and share a common identity, or be complementary to them in other important dimensions of clinical practice' (p 2).

Again, though both theorisations were informative, they too did not address structure, culture, or the mechanisms of change through IPE.

4.5.2 Nature of interprofessional practice

For most studies, assumptions were implicit that interprofessionalism involves collaborative behaviour by individuals and teams, informed understanding of others, positive attitudes towards them and to working with them. Little of this was conceptualised at the interprofessional or inter-organisational level.

Grossman and McCormick[5] were the exception, presenting a model, similar to some found in the wider IPE literature,[70] of the various levels and domains of interprofessionalism for which students might be prepared. At the individual and interpersonal levels, these may include: cross-disciplinary communication and collaboration, diffusion of knowledge across disciplines, skills and understandings for interprofessional sensitivity. At the structural level, they may include not just the merger of services but the creation of new professions – along lines perhaps closer to current workforce development strategies in the UK.

4.5.3 Pedagogy

Likewise, little attention was devoted to conceptualising pedagogy, or theorising adult learning in preparation for professional practice. Forgey and Colarossi[15] referred briefly to social learning theory to argue how students may learn through seeing collaborative practice modelled in co-teaching.

Meanwhile, several studies,[3 (high WOE),7 (high WOE),9,10,14 (high WOE)] described IPE initiatives involving problem – or enquiry-based learning. However, only Miers and colleagues[5] and Barrett, Greenwood and Ross[14] conceptualised this approach to pedagogy in IPE, and reflected on their findings in this light. Interestingly, no studies drew on the concepts of situated, integrated or informal learning that inform the wider field of professional pedagogy.[91]

4.6 Characteristics of IPE examined

4.6.1 IPE process focus

All of the quality-assessed studies focused on IPE teaching and learning. In all cases except Whittington and Bell's broad survey of education provision,[13] IPE conformed to the commonly cited CAIPE definition[82] of occasions when two or more professionals learn with, from and about one another to facilitate collaboration in practice. For 11 of the 12, teaching and learning was interactive between students from different disciplines, as well as with other educators/practitioners. The exception was the small-scale American IPE initiative examined by Grossman and McCormick[5]; here social work students

undertook specialised placements in interprofessional teams, but without other students.

Four studies paid particular attention to assessment of IPE. Miller, Woolf and Mackintosh[8,9] and O'Neill and Wyness[10] pointed to challenges of assessing learning in IPE, among them: using peer assessment, aligning individual and group assessments, and (in)compatibility between disciplinary assessment criteria. Miers and colleagues,[7 (high WOE)] along with Miller, Woolf and Mackintosh[9] highlighted the need for coherence of IPE assessment tasks and criteria with teaching and learning content and process, and with learning outcomes.[7 (high WOE),9]

Just four, however, focused on the management and organisation of programmes as such, giving priority to strategic and collaborative links between institutions and professionals, and to the demonstration of institutional leadership and commitment to IPE.[1,8,9,14 (high WOE)]

4.6.2 Scale of IPE initiatives

The scale of IPE initiatives examined was highly variable. One of the Common Learning initiatives considered by Miller and colleagues[9] involved 1,500 students from 11 disciplines. The multi-site USA GITT programme[4] and the University of the West of England programme[11 (high WOE)] each included several hundred students from 6–10 professions. In contrast, Maidenberg and Golick[6 (low WOE)] and Reed-Ashcraft and colleagues[12] discussed small-scale placement-based initiatives involving fewer than 20 students apiece. Others fell between these extremes.

4.6.3 Status of IPE initiative within professional education programmes

Most of the initiatives discussed appeared to have been HEI-led, involving partnerships between these and professional agencies. Most appeared to have been internally resourced and led. One exception was the GITT programme, funded for four years by a charitable foundation.[4,17] The others were the two UK Common Learning Pilot Sites[8,9] included, DH funded to take forward the modernisation agenda in health and social care education. For externally funded initiatives such as these, the scale was impressive but sustainability was clearly an issue.

Within this broader picture, there was variation in the extent to which IPE initiatives appeared to stand as discrete components of professional education programmes, or were more fully integrated into programme content, processes and structures. Since none of the studies of dual awards was included for full quality appraisal in in-depth review, there were no examples of IPE at the core of all aspects of qualifying professional education.

However, two of the large-scale UK initiatives evaluated featured sequential IPE modules embedded in each year of qualifying professional programmes. At the University of the West of England[14 (high WOE)] these were classroom-based modules (apparently complemented by placements not examined directly). Miller, Woolf and Mackintosh[9] described as a 'whole systems' model one of the

Common Learning Pilot Sites, involving sequential classroom- and placement-based modules spread through qualifying curricula on a significant scale (p 180). The philosophy behind this approach was partly pedagogical, and partly one of profile:

> 'This 'big bang' approach was perceived to be necessary in order to raise the profile and value of interprofessional education within the HEIs and to effectively mainstream its provision.' (p 182)

Most other IPE interventions examined were more modest 'substantial discrete initiatives' within otherwise uni-professional programmes. For the GITT programme[17] these varied from site to site, and between disciplines: social work students, for example, undertook interprofessional placements of on average eight months, medical students just four weeks. Other initiatives studied ranged from, for example, a single intensive 2.5 day module,[1] to a 14-week classroom-based course,[15] and to a sustained period of rotating interprofessional placements.[5]

4.6.4 Status of student participation and assessment of IPE

As suggested in the thematic analysis, one indicator of the priority attached to IPE might be its compulsory or optional status. In fact, slightly more (five) of the quality-assessed studies discussed optional initiatives than compulsory ones (four – including two studies describing the same programme). For the multi-site GITT project,[4] participation requirements varied by discipline and site – a factor not, incidentally, highlighted as problematic.

Table 13 Status of student participation and assessment

Compulsory and assessed	3*
Compulsory, unassessed	1
Optional and assessed	3
Optional, unassessed	2
Participation status varies, assessment unknown	1
Not specified	3

* includes 2 studies describing same IPE programme

As for assessment, six studies reported formal, summative assessment of students' learning, while for three IPE was unassessed. Taken together (Table 13) this meant that, for example, in just three studies (describing two programmes) were students from all relevant disciplines required both to participate and to be assessed in IPE.[7 (high WOE),9,14 (high WOE)] Conversely, IPE teaching and learning was both optional and unassessed in two cases.[3 (high WOE),8]

4.6.5 Stage of student learning

Nine of the 13 quality-assessed studies discussed the stage of qualifying professional education at which IPE was, or should be, introduced. Three patterns emerged. The first was introduction of IPE relatively late in qualifying

training, usually in the final year. Both Grossman and McCormick[5] and Fineberg, Wenger and Forrow[3 (high WOE)] described such a model, but only Forgey and Colarossi[15] expressly made the case for it, in terms familiar from wider debate:

> '… effective dialogue with another profession requires students to first have a solid grounding in social work's principles, values, ethics, foundation knowledge, and skill base' p 463).

A contrasting argument was put forward by the three studies of IPE initiatives that were embedded in and/or sequentially staged throughout uni-professional qualifying programmes[7 (high WOE),8,9]. The rationale for these was framed in developmental terms, that interprofessional learning works best cumulatively, with, for example, classroom-based learning subsequently applied in placement. As one respondent put it:

> 'I think at any stage really it's useful, but I think that if you've got it in the first year you've got a basis to build on then for the rest of the three years. I think you would get different things out of it from the first year than you would from the third year.' (Student, [8] p 108)

Miller, Woolf and Mackintosh,[9] however, sounded a more qualified note, suggesting that care must be also be taken not to introduce IPE earlier than students have developed sufficient experience and sense of professional identity to be able to benefit from it.

The third approach, featured by the GITT initiative,[4] targeted students at varying stages of professional education. The authors highlighted challenges in doing this, catering jointly, for example, to medical students relatively advanced in their professional training, and to others such as social workers or nurses, at pre-qualifying stages. As Miers and colleagues[7 (high WOE)] and Pollard and colleagues[11 (high WOE)] also pointed out, disparities in students' age, maturity and prior experience, sometimes linked to their graduate and non-graduate status, could also affect the dynamics and outcomes of IPE.

4.6.6 IPE setting

IPE both in classroom and in practice settings was represented among the quality-assessed studies. Where teaching and learning were predominantly classroom- based, this was nonetheless accompanied by excursions to practice sites, such as palliative care units[3 (high WOE)] or domestic violence court hearings.[15] Three studies involved almost exclusively practice learning-based IPE.[6 (low WOE),8,12]

Six studies evaluated IPE initiatives that combined both classroom and practice learning, according to different formats. For three studies (describing two initiatives), the transition between settings was developmentally conceived (see Section 4.6.5) with earlier classroom-based learning subsequently taken into practice placement.[7 (high WOE),9,14 (high WOE)] By contrast, both Grossman and McCormick[5] and O'Neill and Wyness[10] described HEI-based IPE workshops running in parallel with related placements, offering concurrent forums for discussion and exchange. The multi-site GITT programme used both learning

settings, but the variety of IPE delivery modes involved makes it difficult to tell whether or how these interwove.[4,17]

Table 14 IPE Setting

Classroom, with practice site visits	3
Practice placement only	3
Classroom and practice placement (sequential)	3*
Classroom and practice placement (other)	3
Not specified	1

* includes 2 studies of same IPE course

4.6.7 Participants in IPE

Though seven studies made brief mention of it, only the Common Learning Pilot Site evaluation[8,9] paid any significant attention to stakeholder participation in IPE management and organisation. The pilot sites involved partnerships between HEIs, health trusts and agencies. Educators, practitioners, managers and strategic leads from different (mainly health) professions and sectors were variously involved in strategic and operational planning, management and review. Some were directly included in the study samples – though few, it seems, represented social work.

Noticeable by its absence was any mention either of student or user/carer involvement in IPE management and organisation, with the single exception of passing reference to both made in Miller, Woolf and Mackintosh.[9]

In addition to identifying social work students and educators as participants in IPE teaching and learning, all but one study included students and educators from other disciplines. The exception was Grossman and McCormick[5.] involving social work students alone, on interprofessional practice placements. In most cases (8 of 12) social work and other practitioners were also directly involved in teaching and learning, in practice settings and contributing to classroom curricula.[e.g.1,15]

Disappointingly, again, there was little mention of user or carer participation in IPE teaching and learning. O'Neill and Wyness[10] were alone in reporting that users and carers living with HIV/Aids contributed directly to teaching students how to work interprofessionally with them. In this regard, most IPE initiatives studied appeared to fall short of Barr and colleagues' principle that they be not only client-centred but actively participatory.[70]

Table 15 Participants in IPE management and teaching, learning and assessment *

Participants*	IPE management* (N =7)	IPE teaching/learning/ assessment* (N =12)
Social work educators	7	12
Other educators	7	11
Social work students	1	12
Other students	1	11
Social work practitioners (includes practice teachers)	1	8
Other practitioners	2	8
Social work managers/employers	1	1
Other managers/employers	2	0
Users/carers/community members	1	1

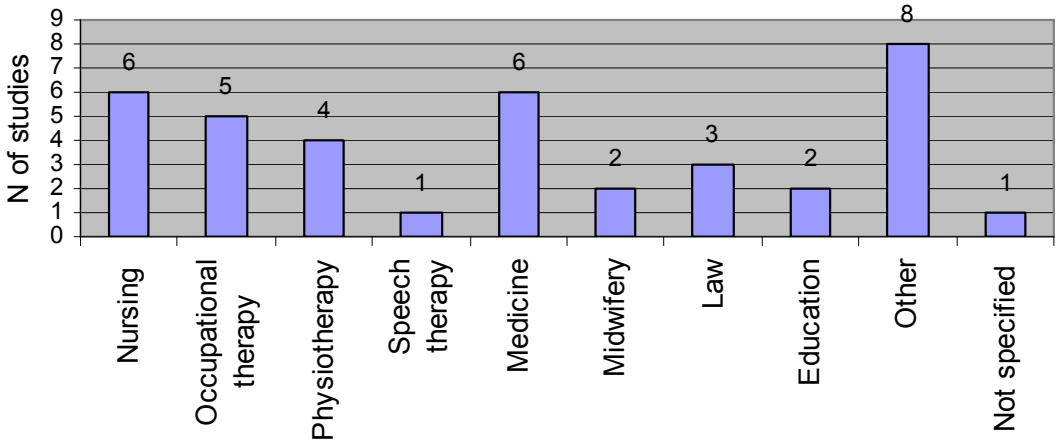
* Not mutually exclusive

4.6.8 Professions/disciplines involved

The preponderance of nursing, medicine and other disciplines allied to health involved in IPE alongside qualifying social work, was as striking among quality-assessed studies as in the broader thematic analysis. As Figure 13 shows, medical and nursing students each featured in six of the 12 studies specifying. Among the nursing specialisms identified were learning difficulty and mental health,[7 (high WOE),11 (high WOE)] geriatrics[4] and HIV/Aids.[10]

An impressive range of other students allied to health was evident in the four large-scale IPE initiatives examined.[4,8,9,11 (high WOE)] Between them they included occupational therapists, physiotherapists, midwives, speech therapists, dentists, pharmacists, rehabilitation therapists and radiographers. As discussed in Section 4.2.3, nursing, medicine and allied health students significantly outnumbered social work in these programmes; the implications will be returned to in Section 4.16.3.

Figure 13 Other disciplines involved*



* Not mutually exclusive

Quality-assessed studies reflected the same minority focus on non health-related professions in IPE as was identified in thematic analysis. Three studies[2,5,6 (low WOE)] described IPE initiatives involving law students. However, just two studies, Reed-Ashcraft and colleagues[12] and Grossman and McCormick,[5] involved trainee teachers, and only in the latter were others – trainee probation officers, police, ministers of the church, psychologists, counsellors and school administrators – included.

Whittington and Bell's survey, albeit retrospective to an earlier era of social work education, seems particularly apposite here.[13 (low WOE)] Former social work students reported that they been little involved in IPE with the police or solicitors with whom they now needed to work in practice, and by whom they felt least understood. Interestingly, no mention was made here of collaboration with school teachers. In the light of current UK policy and practice developments, the focus of IPE initiatives appears far better fit for the purposes of integrated adult social and health care services[65,79] than children's services.[74]

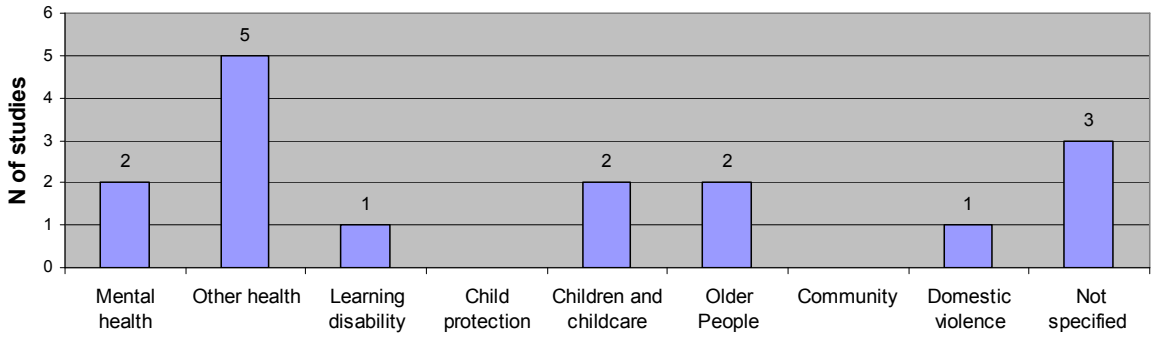
4.6.9 Areas of professional practice

The same bias towards health and adult services was evident in the areas of professional practice with which IPE initiatives were concerned. Ten studies identified these (Figure 14). Over half were specifically health related. Carpenter and Hewstone[1] and Grossman and McCormick[5] described IPE focused on mental health practice. The former, and others, were also concerned with generic health services or, for example, HIV/Aids or palliative care.[3 (high WOE), 8,9,10] Moreover, all but two of the studies specifying involved IPE in areas of practice associated with adults', not children's, services, including work with older people,[4,6 (low WOE)] domestic violence[2] and learning difficulties.[1] None involved preparing practitioners to work collaboratively in child protection.

In the UK context this suggests a striking gap, especially in the light of the findings of the Climbié inquiry.[92] Only two of the reported initiatives dealt with practice with children at all. Reed-Ashcraft and colleagues[12] studied students

rotating through different placements working with children with severe emotional disturbance and their families. Grossman and McCormick[5] described an IPE programme focused on practice in many aspects of child welfare. That none of the UK-based studies eligible for full quality appraisal evaluated qualifying IPE programmes involving work with children and families is, again, noteworthy in context of the policy and practice agendas mentioned above[††††].

Figure 14 Professional practice area*



* Not mutually exclusive

4.6.10 Substantive IPE content and process

Twelve of the 13 quality-assessed studies gave some indication of the substantive issues addressed in the content and/or processes of IPE teaching, learning and assessment. The exception[13 (low WOE)] concentrated solely on outcomes of professional education in preparing social workers for collaborative practice.

Eleven studies described students actively engaging together as members of interprofessional learning teams, learning through IPE content and processes, not just to understand but to do collaborative practice. Typically, students worked in teams on placement, alongside other professionals[5] and in most cases with other students too.[e.g.6 (low WOE),9] In class, student teams worked across disciplines to collaborate on assessment and planning for case scenarios, or on problem-based learning projects.[e.g.7 (high WOE),10]

†††† Brady[62] and King[63], evaluated pilot and demonstration initiatives at Universities of Dundee and Paisley that incorporated focus on children in curriculum content and placement settings. These studies were identified too late for inclusion in this review; an outline of each is presented Appendix 6.

Table 16 Substantive IPE content and process

Substantive content/process*	N of studies (12)
Collaborative practice/team work	11
Attitudes and perceptions	10
Roles and responsibilities	8
Professional orientation/values	6
Skills	3
Managing conflict	2
Professional identity/esteem	3
Professional contexts/organisations	1
Power and anti-oppressive practice	1
Reflective practice	1

* Not mutually exclusive

The GITT evaluation (4,17) paid special attention to disaggregating the components of interprofessional collaborative practice in IPE content and process. They highlighted interdisciplinary care planning, team functioning, team roles, leadership and conflict management. Meanwhile, the initiative described by Reed-Ashcraft and colleagues[12] expressly focused on student learning about different models of multi- and interprofessional collaboration.

Prominent in 10 studies was process and content focus on students' perceptions and attitudes – towards other professionals and/or towards collaboration. Carpenter and Hewstone[1] described learning tasks designed for students to examine similarities and differences between themselves, scrutinise their perspectives and challenge stereotypes. For the most part this went hand in hand with focus on students attitudes towards interprofessional collaboration. The GITT programme,[17] in particular, required students to reflect on their attitudes towards working together, through the process of doing it.

Strongly associated with IPE content and process focus on student attitudes, was emphasis on developing their knowledge, to inform their attitudes and behaviour. Commonest (eight studies) was a focus on knowledge about professional roles and responsibilities, the thrust here very much towards students recognising complementarity rather than moving towards merger.[e.g.1,7 (high WOE),8,9] Forgey and Colarossi[15] described the connection to be made between such knowledge acquisition and promoting interprofessional dialogue:

> 'In developing this increased self-awareness about each profession, students are expected to gain both knowledge and an understanding of the other profession, as well as increased familiarity with their own profession. This deeper level of comprehension should enable students to describe and explain their own roles and functions much more clearly, which has been found to be important to effective dialogue between different disciples.' (p 464)

Six studies also highlighted substantive focus on students' developing knowledge and understanding about each others' orientations towards problems faced and solutions sought.[e.g3,9,15] However, surprisingly little reference was made to students examining the value bases underpinning professional orientations. Indeed, Forgey and Colarossi[15] reported that professional ethics were considered better addressed uni-professionally.

Interestingly, only the University of the West of England IPE initiative[7 (high WOE)] was explicitly reported to involve focus on students' knowledge about each others' organisations and contexts. Colarossi and Forgey,[2] were alone in discussing an IPE initiative that addressed power and anti-oppressive practice.

Finally, as echoed in the thematic analysis, quality-assessed studies indicated relatively little attention paid to practice skills as such in the substantive content of IPE. Just three[9,15,17] mentioned teaching and learning of, for example, reflective listening, communication, conflict resolution or other team skills. These may, however, have been implicit in what was otherwise described as development of collaborative behaviour.

4.7 IPE outcomes examined

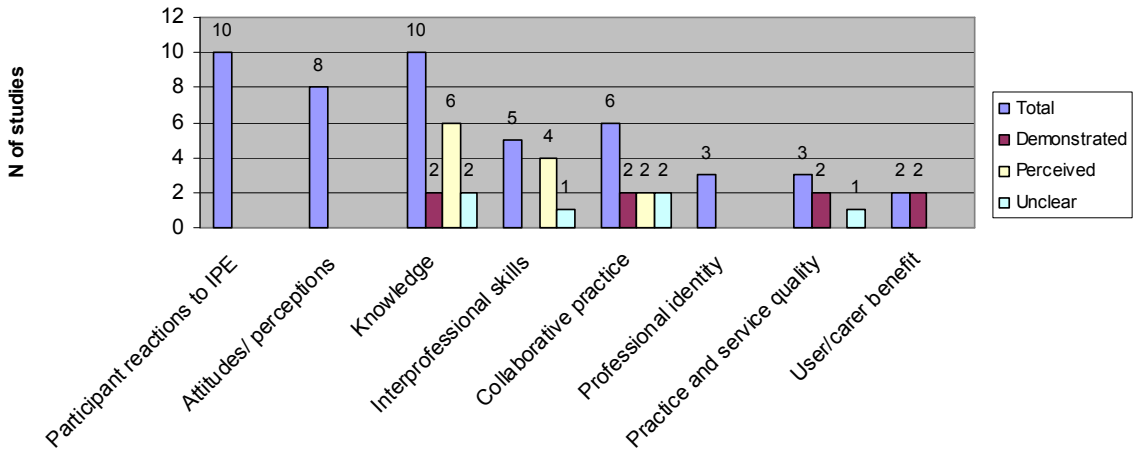
4.7.1 Range of outcomes considered

Figure 15 sets out the range of outcomes that studies examined, indicating, where appropriate, whether these were demonstrated in some way, or simply perceived.

All but three studies concerned themselves with participant reactions to IPE. Where studies looked at outcomes suggesting IPE effectiveness, in most cases this was at the level of individual learning, or of collaborative practice in groups. A minority of studies (three) focused on service quality, and two on benefits for users or carers.

Most commonly addressed, at the individual level, were changes in students' knowledge (10 studies) and attitudes (eight studies). In only two cases, however, did it appear that students' knowledge was actually tested,[2,4] more commonly, it was inferred from participants' reports of improvement. Likewise, judgements about improved interprofessional skills were made in five cases, seemingly all on the basis of perception rather than demonstration.

Figure 15 Outcomes examined*



* Not mutually exclusive

Six studies focused on the development of students' ability to collaborate across professions, rather than just to know about it. Two of these[6 (low WOE),7 (high WOE)] appear to have based their judgements on students' demonstrated collaboration, in classroom-based learning groups, on practice placement, or both. The others relied on students' own, or educators', perceptions and accounts.

It is interesting to note that, for the most part, there was congruence between the outcomes with which studies were concerned and the substantive focus of IPE content and processes, as discussed in Section 4.6.10. There was slightly more disparity between the espoused aims of IPE initiatives reported and the outcomes addressed. In the main, the pattern suggested ambitions higher in the former than the latter, with aims for example to improve service quality or collaborative practice, and outcomes measuring individual change.[e.g.3 (high WOE),4,11 (high WOE)]

4.7.2 Measurement and monitoring of outcomes

Also worth comment at this point is how outcomes were monitored or measured, and when[‡‡‡‡]. Overall, six of the 13 quality-assessed studies sought to measure some or all of the outcomes they considered; the rest monitored them in some way through qualitative reports, feedback or direct observation. As Table 17 shows, measurements were slightly more likely to be used to evaluate changes in student knowledge or attitudes than other indicators of outcome. Just three of the studies measuring outcomes contrasted those for students experiencing IPE with comparisons or controls.[2,3 (high WOE),11 (high WOE)]

As discussed in Section 4.2.2, there was considerable variation between studies in the timing of monitoring/measurement of outcomes. Seven studies did not establish any pre-intervention baselines against which to judge individual or group change, but gathered outcome information either after IPE interventions

‡‡‡‡ Appendix 4 identifies the outcomes measured or monitored by all evaluative studies included in the thematic analysis and/or in-depth review.

were completed, or during as well. The other six studies did compare pre- and post-test outcomes, with Pollard and colleagues[11 (high WOE)] examining an interim stage too.

Table 17 Outcomes measured and monitored

Outcome (demonstrated or perceived)*	N of studies measuring (6)	N of studies monitoring only (7)
Participant reactions to IPE	2	8
Attitude change	4	4
Knowledge acquisition	5	5
Skills development	3	2
Collaborative behaviour/practice	1	5
(Inter)professional identity	0	3
Service quality improvement	0	3
Outcomes for users/carers	0	2
Other	1	5

* Not mutually exclusive

In common with much of the wider IPE research literature,[70] only a minority of studies took the sufficiently long view to examine the transfer of IPE learning into (inter)professional practice post qualification. Whittington and Bell[13 (low WOE)] and Grossman and McCormick[5] invited former students to reflect with hindsight on their qualifying social work/interprofessional education, respectively one year and 18 months later. Fineberg, Wenger and Forrow[3 (high WOE)] followed students prospectively up to three months after completion of IPE, and O'Neill and Wyness[10] up to six months.

That evaluation studies were relatively short term accords with the relatively modest scope of the outcomes that they consider. Few went as far as to consider organisational or professional culture change as a consequence of IPE, sustained improvement in service quality or benefits for users and carers. None looked at the patterns of career progression and/or retention that are the wider preoccupations of workforce development strategies.

4.8 Synthesising outcome findings

4.8.1 Positive and negative outcomes: 'does IPE work?'

Asked at its simplest, the question 'is IPE at qualifying social work level effective?' may be addressed by surveying whether the 13 quality-assessed studies presented overall positive, negative or mixed/inconclusive outcome findings.

Figure 16 Overall outcomes (N=13)

As Figure 16 shows, just two studies (albeit one with high WOE) presented uniformly positive findings[§§§§]. Fineberg, Wenger and Forrow,[3 (high WOE)] studying IPE for social work and medical students in palliative care, concluded unequivocally:

> 'Multidisciplinary education provides opportunities to explore the similarities and differences in roles, ideologies and perspectives; illuminate the complementary contributions of the disciplines; develop mutual interest and respect for colleagues and their expertise; and open communication.' (p 8)

O'Neill and Wyness[10] were similarly positive overall. They reported that social work, medical, nursing and pharmacy students found IPE valuable and motivating, conducive to building trust and breaking down barriers. Both immediately and six months afterwards, students perceived themselves to be more knowledgeable and appropriately skilled, with their sense of professional identity enhanced.

For the remaining 11 studies, overall IPE outcomes were mixed. Either some outcomes were more successfully achieved than others,[e.g.1,2,8,9] or all were only partially achieved.[e.g.5,11 (high WOE)] The picture becomes more complex when we begin to examine success in achieving different outcomes, and move on to consider the different characteristics of IPE that promote or inhibit different outcomes in different circumstances.

[§§§§] A third study (2) offered uniformly positive conclusions, not wholly supported by the findings presented.

Figure 17 interprofessional education and outcomes: ecological map

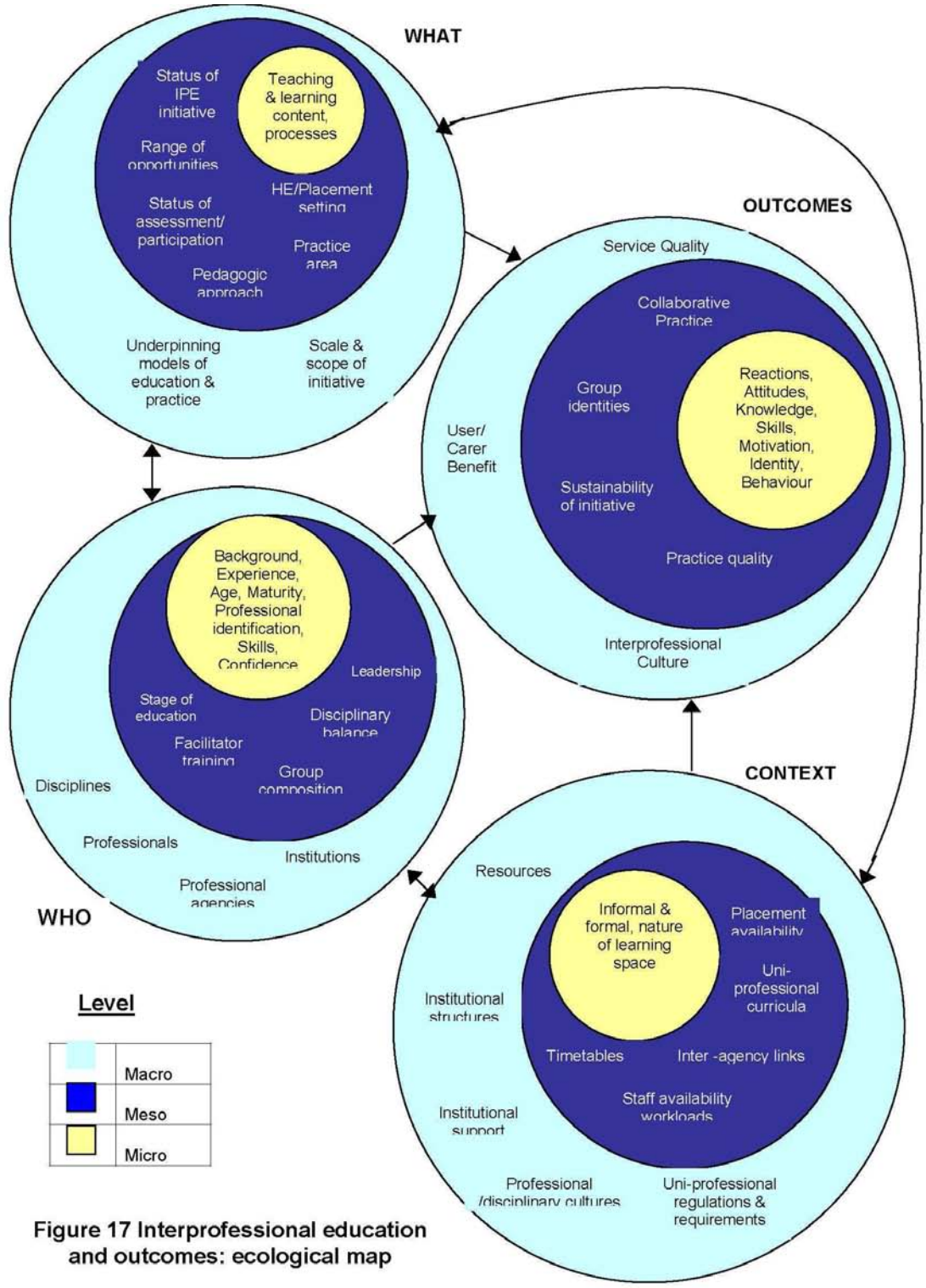


Figure 17 Interprofessional education and outcomes: ecological map

4.8.2 Conceptualising 'what works in IPE for qualifying social work?'

To capture some of this complexity requires asking not just 'what works in IPE for qualifying social work?', but, following Pawson and colleagues[95] 'what works, with whom, in what contexts?'. Drawing on the findings of all quality-assessed studies, Figure 17 has been developed to provide an 'ecological map' of the potential relationships suggested between IPE interventions and outcomes. Separately configured are circles representing 'what intervention', 'who is involved', and 'what are the contexts'. Each is presented in concentric rings; within each are indicative factors that have been identified by included studies, at macro, meso and micro levels. Arrows connect the circles suggesting how they are interlinked. Collectively, the three circles point towards a fourth indicating the outcomes to which IPE interventions might give rise.

Outcomes, too, are represented at macro, meso and micro levels. Thus at the macro level of outcomes appear: enhanced service quality, shifts in educational or professional culture and improved outcomes for service users and carers.[*****] At the meso level are outcomes such as interprofessional collaborative practice within teams or groups, shared or distinct group identities, and sustainable IPE initiatives. At the micro level are participant reactions to IPE, and the markers of individual preparation for interprofessional practice most commonly addressed: individual attitudes, knowledge, skills, behaviour and individual sense of professional identity.

Worth noting is that while each quality-assessed study sheds some light on parts of this picture, few consider the mechanisms of change (represented by arrows in Figure 17), whereby IPE interventions, involving particular participants, in particular contexts, interact to bring about particular outcomes. None does so holistically at structural, interpersonal and individual levels combined.

Acknowledging the challenges of combining quite different studies, using different methods to examine different initiatives and evaluate different outcomes, this review has attempted to achieve some holistic synthesis, with the question: 'what works, with whom, in what contexts?' at its core. The discussion below explores firstly the evidence of outcomes for IPE, and secondly the factors that might affect these outcomes. To capture some of the complexity indicated in Figure 17, these are considered as far as possible at micro, meso and macro levels.

4.9 Participant reactions to IPE

All 10 of the quality-assessed studies reporting participant reactions to IPE used student feedback gathered informally or formally; five reported educator and practitioner feedback too.

As Table 18 indicates, two studies[3 (high WOE),10] reported exclusively positive reactions from students; they valued the opportunity to be exposed to, and learn with and about, each other. In particular, O'Neill and Wyness[10] highlighted how

[*****] Career trajectories, and other possible macro level outcomes not currently considered in IPE for qualifying social work literature, are as yet outside of the research picture

experiential rather than theoretical IPE learning was most appreciated, in placement and in classroom 'safe space'. Students could risk 'getting it wrong' and address power differentials despite the fact that 'in the real world we know who is king or queen' (p 436).

Table 18 Specific outcome findings

Outcome (demonstrated or perceived)*	Positive	Mixed/ inconclusive	Negative
Participant reactions to IPE	2	8	
Knowledge acquisition	7	3	
Attitude change	2	6	
Skills development	3	1	1
(Inter)professional identity	3		
Collaborative behaviour/practice	1	5	
Practice/service quality improvement	3		
Outcomes for users/carers	2		
Other	1	4	1

* Not mutually exclusive

However, the majority of studies reported mixed participant reactions. Miller, Woolf and Mackintosh[9], for example, reported that some students doubted the value of IPE, and Miers and colleagues[7 (high WOE)] pointed out that though many reacted favourably:

> 'Others were more critical, seeing the aims of the modules as utopian and facilitators' lack of recent experience in practice limiting the 'reality' of the experience.' (p 40)

Wariness of IPE was not restricted to students. Several studies showed that educators and practitioners also demonstrated reservations, doctors especially, as three studies indicated.[1,18,23]

Many of the particular issues raised by participants and colouring their responses to IPE are among the factors perceived to be facilitators or inhibitors of IPE, discussed in Section 4.16.

4.10 Knowledge improvement

4.10.1 Overall improvement

Change at the level of individual student knowledge was both the most frequently and the most positively evaluated outcome of IPE. Seven out of 10 studies reported improvement (see Table 18), albeit in all but two reports[2,4] in perceived rather than tested knowledge. Nonetheless, the picture generally painted was one of success.

4.10.2 Nature of gains

Most quality-assessed studies distinguished between changes in knowledge about others' perspectives, orientations, roles and responsibilities, and about interprofessional collaboration. Most, but not all, also appeared to address both of these.[e.g.8,9,10]

Among the seven studies reporting positive outcomes, four found that students' knowledge had significantly improved over pre-IPE baselines,[1,12] and in comparison with controls.[2,3 (high WOE)] They also made direct links between improvements in knowledge and in attitudes and practice. To illustrate, Grossman and McCormick[5] reported how students gained insights into and acceptance of each others' different orientations towards child welfare – in this case social workers' desire to respond to need or risk, and lawyers' to win their case.

Some studies disaggregated different components of student knowledge about interprofessional collaboration. Examples were Reed-Ashcraft and colleagues[12] examining students' perceived understanding of: distinctions between multi- and interprofessional practice, approaches to interdisciplinary team work, systems of interdisciplinary care, team decision-making and representation of uni-professional perspectives within cross-disciplinary groups. All, seemingly, improved significantly. Notably, too, Reed-Aschraft and colleagues, along with Miller, Woolf and Mackintosh[8] reported that students were not the only beneficiaries; educators and practitioners too reported that they had learned about interprofessional collaboration from their experience of providing IPE.

4.10.3 Qualifying evidence

Three studies were nonetheless more qualified in their appraisal of IPE knowledge outcomes; two of them involved large student samples, with one rated high WOE.[7] Fulmer and colleagues[4] found no significant difference in students' knowledge of interdisciplinary team planning, or of team dynamics, before and after IPE. Modest improvements in each were evident for students from some disciplines at some sites, but variation in all aspects of the GITT initiative from site to site meant it was not possible to pinpoint what made the difference.

Miers and colleagues,[7 (high WOE)] in contrast, explored in rich detail some groups of students engaged on the University of the West of England IPE course. A complex picture emerged. Many students did report increased knowledge of group dynamics, interprofessional practice, and systems supporting it. Some,

however, did not. Some of the factors contributing to this variation are examined in Sections 4.16.8 and 4.16.12.

4.11 Attitude change

4.11.1 Overall findings

Next in frequency among outcomes examined were changes in student attitudes. Eight studies evaluated these, invariably evidencing them through participant reports or tests, rather than inferred from behaviour.

Here findings were more mixed than for improvements in students' knowledge. Just two studies[9,10] reported predominantly positive findings (though neither offset these against pre-IPE baselines). O'Neill and Wyness,[10] for example, were unequivocal, maintaining that not just the experience of learning together, but also observation of professionals collaborating across disciplinary boundaries, improved students' attitudes to interprofessional practice. Their students, interviewed six months after completing an IPE course, perceived the value of bringing different perspectives to the same problem and were motivated to do so collaboratively.

However the majority of studies (six) monitoring change in students' attitudes reported mixed or inconclusive findings. All but one of these (5) contrasted attitudes and perceptions after IPE against pre-test baselines; Colarossi and Forgey[2] and Pollard and colleagues[11 (high WOE)] compared controls as well.

4.11.2 Nature and limitations of change

It is helpful to look at examples of individual studies to understand these findings more fully, since the focus and methods of each were different.

Carpenter and Hewstone,[1] for example, were interested in medical and social work students' stereotypes and perceptions of similarity or difference between their own 'in-group' and the other 'out-group'. They considered students' perceptions of their own and others' breadth of life experience, academic quality and professional competence. They reported agreement between students, by the end of the IPE course, that social workers had broader life experience, and medical students higher academic quality. Overall attitudes improved for 54 per cent of their sample, illustrated by the following comments:

> 'They were really caring – not at all rigid as I'd thought they would be.' (Social work student, p 252)

> 'Medics are too clinical. We must become more 'person oriented' and recognise the importance of what social workers and others have to say.' (Medical student, p 252)

However, there was plenty of individual variation, and overall attitudes worsened for 19 per cent of the sample, and remained unchanged for 27 per cent.

More positive in their conclusions were Colarossi and Forgey,[2] who compared changes in IPE students' attitudes towards interprofessional collaboration and team work with those of controls. However, their findings indicated that there was actually worsening in these attitudes over time for both IPE and control groups, with the difference between them only relative because the controls deteriorated more.

Two studies helpfully disaggregated attitudes towards interprofessional collaboration into component parts. Hyer and colleagues,[18] associated with the GITT programme, discussed the development of two tools. The first measured 'attitudes towards health care teams', including students' perceptions of the value and efficiency of interprofessional teams, and attitudes towards shared leadership within teams. The second tool measured students' self-perceptions of their own 'team skills', and their attitudes towards undertaking interprofessional (geriatric) work in future.

The evaluation results[4,19,23] gave some indication of the complexity involved. Students' perceptions of their own team skills improved significantly for all, especially social workers. However, though attitudes towards interprofessional teams also improved significantly overall, other factors came into play. The improvement was evident among older not younger students, was less true of medics than others, and not evident for those with prior experience in geriatrics. There was no change either in students' expressed interest in working in interprofessional geriatric practice in the future.

The second study demonstrating similar complexity was that of Pollard and colleagues,[11 (high WOE)] evaluating the large-scale IPE initiative for social and health care students at the University of the West of England. Their questionnaires measured changes in student perceptions of their own communication and teamwork skills, the quality of their own interprofessional relationships, as well as attitudes towards interprofessional learning and practice.

Some of their findings were positive. Most IPE students regarded their own relationships with other professionals significantly more positively by the mid point and end of their course, and did so significantly more than controls at the end. Perceptions of their own teamwork skills dipped at the mid-point, but improved by the point of qualification. However, though the majority of students were favourably disposed towards learning together, they were no more so than controls, and less so by the end of IPE than at the start.

Meanwhile all students, especially social workers, were significantly more negative in attitude towards interprofessional practice at the end than at the start. Eighty per cent of social work students, for example, were negative about interprofessional collaboration at the mid point, and 94 per cent on qualification. Here, the authors raised two points worth noting for evaluation of interventions in general, and IPE in particular. Outcomes may not necessarily improve along a linear trajectory, and increased knowledge may bring with it disillusion. Students' initial over-confidence in their own skills may have been tempered through

learning, before improving with experience. Initial enthusiasm for interprofessional collaboration may have been compromised by knowledge and experience of its vicissitudes and breakdowns.

4.12 Skills development

4.12.1 Perceived skills

Just five quality-assessed studies addressed the development of students' collaborative skills. With the possible exception of Miers and colleagues,[7 (high WOE)] all relied on perceived rather than demonstrated skills.

4.12.2 Nature and limitations of change

With slight variation by site and discipline, students on the GITT programme evaluated by Fulmer and colleagues[4] improved overall in perceived team skills. At the University of the West of England[7, 11 (high WOE)] the picture was more mixed, varied over time and was affected by disciplinary and other aspects of students' backgrounds.

The remaining two studies to examine perceived skills outcomes came to contrasting conclusions, albeit in relation to slightly different questions. O'Neill and Wyness[10] reported that social work, medical, nursing and pharmacy students considered their collaborative skills had been enhanced by the interactive and joint work undertaken in classroom and practice setting. In contrast, Whittington and Bell[13 (low WOE)] reported former students' reflections of their experience of IPE in routine qualifying training, pre-1990. Respondents judged that their training for each of a list of skills required for subsequent interprofessional practice had been less than adequate to the importance they attributed to each skill.

4.13 Professional identity formation

All three of the quality-assessed studies that addressed issues of professional identity[1,5,10] examined the development of separate but complementary (not dual identity) professionals. They also concluded uniformly that IPE at qualifying level did not compromise development of uni-professional identity. O'Neill and Wyness[10] described how the process of interaction in a trusting safe space 'contributed to students' development of their own professional voices and their understanding of those of other professions' (p 433).

Grossman and McCormick[5] concluded that IPE could actually enhance uni-professional identity:

> 'These former students seem to draw on the experience, and their comments reflect a sense of comfort in interdisciplinary situations. Structured interdisciplinary experiences seem not to have undermined their sense of a distinct social work identity. They articulate social work roles and perspectives in a way that strikes one as more nuanced and differentiated than the average graduate. Perhaps in some way training in interaction with other professionals served to heighten their understanding of and identification with social work … It may be that interdisciplinary experience should be part of social work education not only to increase cross disciplinary skill, but because it can, under some conditions, strengthen social work identification.' (p 109)

Carpenter and Hewstone[1] took the analysis further, drawing on social psychological and contact theories to examine how distinct but complementary group identifies were successfully established through attitudinal shifts among students. Despite some mixed evidence (Section 4.11.2) they found:

> '… strong indications of 'mutual group interdifferentiation' (Tajfel, 1981) … In other words, each group was being seen as it wished itself to be seen and, we would argue, was secure in its identity and therefore more amenable to change' (pp 254-5).

4.14 Development of collaborative practice

4.14.1 Perceived and demonstrated collaborative practice

Despite the preponderance of attention given to changes at the level of individual attitudes and knowledge, rather than practice, service or client outcomes, six studies did attempt to look in some way at the success of IPE in promoting interprofessional collaborative practice among students. However, of these only Maidenberg and Golick[6] (low WOE) and Miers and colleagues[7] (high WOE) appear to have based their judgements on demonstrated collaboration, in placement or in classroom-based learning groups respectively. Whittington and Bell[13] (low WOE) and Grossman and McCormick,[5] in contrast, relied on student's own accounts of interprofessional collaborative practice; Miller, Woolf and Mackintosh[8,9] did not clarify whether their judgements were based on direct observation or participant reports.

4.14.2 Nature and limitations of change

Both the studies that looked at demonstrated practice reported that effective working together was definitely in evidence during the course of IPE – though neither followed this up into subsequent practice. Thus Maidenberg and Golick[6] (low WOE) presented case examples, describing how social work and law students worked effectively in small interdisciplinary placement teams to assess and plan responses to older clients' needs. Likewise Miers and colleagues[7] (high WOE) described how students from a wide range of health and social care professions

worked together in the context of workshop-based learning groups. However, both studies pointed to limitations in the extent to which students grasped the potential of collaborative work, or engaged in it. Miers and colleagues reported that although students worked well across disciplinary divides in class, they showed little evidence of doing so to undertake the enquiry-based learning projects that informed workshop content. Similarly, Maidenberg and Golick[6 (low WOE)] observed that:

> 'Many of the student teams worked together seamlessly, but in other student teams, there was a tendency for the students to divide up lawyer and social work tasks, to work separately on them, and as a result, to fail to appreciate fully the advantages of coordinated service delivery.' (p 21)

Miller and colleagues[8,9] maintained that collaborative practice was enhanced through the process of experiential learning, but drew attention to certain factors that affected the extent to which this happened. Participants involved in the classroom component of the 'whole systems' IPE model evaluated[9] reported that students gained mixed benefit from a learning task focused on generic, rather than interprofessional, teamwork. Participants on the 'multi-track' placement IPE initiative, also evaluated,[8] agreed that students' collaborative practice was better achieved in 'shadow teams' (where students from different professions worked together) than in 'uni-professional' placements (where students from just one discipline were placed in interprofessional teams).

The remaining two studies to address collaborative practice explored the extent to which interprofessional learning was perceived by former students to have carried through into post-qualifying practice. Here again, success was evident, but qualified.

Whittington and Bell[13 (low WOE)] reported that one year after qualification, social workers indicated that whatever IPE they had received – mainly with health visitors, community and community psychiatric nurses – had prepared them reasonably well for collaborative practice with those professions. However, it left them poorly prepared for working together with police, lawyers and, interestingly, doctors. Forty to fifty per cent of the 489 respondents felt poorly equipped for multidisiciplinary meetings, handling conflict in practice, and adapting their practice in response to change in other organisations.

Grossman and McCormick[5] reported that 12 out of 18 social workers who had engaged in interprofessional workshops and placements as part of their qualifying education, considered after 18 months that their training had helped prepare them for current collaborative practice. Nonetheless, 14 (78 per cent) reported that this was still compromised by poor communication, failures to understand each others' perspectives, and different levels of cultural sensitivity[†††††].

[†††††] Brady[62] (identified too late for inclusion in this review) reflected critically on what outcomes (especially for collaborative practice) it is reasonable to expect of any student undertaking IPE at qualifying level, since much of the professional development, identity formation and confidence involved is/should be the product of a longer and continuing process.

4.15 Improved practice and service quality, and user/carer benefit

4.15.1 Overall findings

As indicated in Section 4.7.1, only three studies[6 (low WOE), 8,9] looked at change achieved at the meso or macro levels of practice and service quality improvement, and only two of these[6,8] offered evidence of direct benefits for service users and carers. Their reports, however, were generally positive.

4.15.2 Nature of improvement

Miller and colleagues[9] described how social work and various health students' shared learning task in placement was to conduct service audits, designed to ensure 'that the educational initiative should produce real benefits for practice organisations and client care' (p 214). They reported some tensions, not least from practitioner wariness of scrutiny, and from ensuring that both the information needs of organisations and the learning needs of the students were met. They nonetheless concluded that the IPE exercise had genuine service benefits, identifying gaps in provision and resourcing, as well as training needs. An additional macro level gain from the IPE initiative was reported to be significant culture shift towards interprofessional collaboration among all the provider organisations and staff involved.

A different emphasis on improvement in practice and service quality as a result of IPE was provided by Miller, Woolf and Mackintosh in their evaluation of the large-scale 'multi-track placement' model of IPE[8], and by Maidenberg and Golick's[6 (low WOE)] examination of a small-scale placement based IPE initiative for social work and law students. Both gave case examples showing how cross-profession collaboration between students had a direct, positive influence on quality of care provided, on wider service provision and on outcomes for users and carers themselves. Students shared perspectives and brought to their joint casework holistic thinking not achievable through a uni-professional approach. One significant caveat, however, is that neither study, nor any others included, endeavoured to capture service users' or carers' own perceptions of the benefits to them of interprofessional training or practice.

4.16 Facilitators and barriers to IPE

4.16.1 Introduction

Discussion of the outcomes of IPE identified by quality-assessed studies has given a range of indications as to whether it works, and in which respects. The findings are mixed, and complex. The evidence suggests that participants are largely in favour of IPE, but with qualifications, and with challenges highlighted. Effectiveness is rarely examined in the longer term, but there are signs that IPE can enhance students' knowledge (albeit mainly perceived not demonstrated), and that it does not detract from establishing sound professional identities.

Other outcomes, such as improved attitudes, skills and collaborative practice are more varied. Though there are indications that IPE might contribute to improvements in service quality, and even user/carer outcomes, these are little

examined, and not from user/carer perspectives. Moreover, few studies consider the longer term sustainability of outcomes, and none look at the impact of IPE on career progression or retention.

As was argued in Section 4.8.2, in order to inform professional education policy and practice development, it is important to look at not just 'whether IPE works' in qualifying social work education, but 'what works, with whom, in what contexts'. This entails examining the facilitators and barriers to the provision of IPE and to its effectiveness.[‡‡‡‡‡] These may be considered at macro, meso and micro levels, as proposed in Figure 17 above. Scrutiny of the wider body of research in the thematic review (Section 3.5.6) revealed a plethora of factors suggested by studies themselves to make a difference.

Among the quality-assessed studies, several[e.g.1,2,5] acknowledged that though they might point to some indicators, their design did not enable them to determine which features of IPE, through which mechanisms, were responsible for which outcomes. For some[e.g.4,13 (low WOE)] the problem was confounded by variations in all aspects of IPE intervention, context and participants, from one site to another. One advantage of systematic review is that through synthesis it allows reviewers to examine comparatively whether certain IPE characteristics have more commonly been effective than others. For this review, such analysis is limited by the small numbers and variety of quality-assessed studies involved. However, some useful findings have emerged. Broadly, this discussion now moves from facilitators and barriers identified at macro level to meso and micro levels. The range of factors indicated, and number of studies highlighting them, is given in Table 19.

Table 19 Facilitators and barriers to IPE identified

Facilitator/barrier	N of studies identifying
Institutional leadership/support	5
Professional culture/disciplinary split	6
Resources	3
Logistics/programme congruence	7
Pedagogical approach	6
Learning environment	4
Practice and/or classroom-based learning	7
Stage of learning/status of IPE in curricula	3
Status of student participation and assessment	3
Clarity of goals, learning outcomes, criteria	4
Characteristics of learning groups	7
Individual student characteristics	6
Quality of facilitation/supervision	7

[‡‡‡‡‡] Effectively, many of these address what might come to be considered 'process outcomes': if we can identify which aspects of IPE process promote positive outcomes, these might be used as indicators of good policy and practice in future evaluations.

4.16.2 Institutional leadership and support

Five studies highlighted the importance of institutional support and strong leadership, in making it possible to provide IPE, and for success. Miller, Woolf and Mackintosh[8,9] discussed the role and significance of strategic and operational leads across HEIs, partner trusts and agencies in establishing and running IPE initiatives. In particular, they reported that the 'whole systems' approach adopted by one of the Common Learning Pilot sites[9] demonstrated symbolic and actual investment at senior level in embedding IPE throughout organisational structures and processes. This, they claimed, motivated participants and brought with it genuine culture change and sense of achievement. Others[1,4, 6 (low WOE)] pointed out how important it was that interdisciplinary and interprofessional collaboration were seen to be modelled at high level, and IPE publicly endorsed by senior figures from the outset.[1]

4.16.3 Professional culture and disciplinary split

Much as IPE aimed to promote complementarity and overcome barriers to interprofessional collaboration, so these barriers themselves, culturally endorsed, could inhibit the operation and outcomes of IPE at all levels. Six studies considered these challenges, with mixed findings. Leipzig and colleagues (19, Reuben and colleagues[23] and Carpenter and Hewstone[1] highlighted how hierarchical, status-oriented professional culture (especially in medicine) could express itself in lack of motivation and negative reactions to IPE among students and educators. As a result, Reuben and colleagues maintained:

> '… attitudinal and cultural traditions of the different health professions faculty and students (disciplinary split) remain important obstacles to creating an optimal interdisciplinary team training experience.' (p 1000).

They emphasised too how professional regulations and requirements gave insufficient priority to interprofessionalism, exacerbating 'disciplinary split'. On a related point, Maidenberg and Golick[6 (low WOE)] reported that policies and procedures within agencies were often inadequate either to address the particular concerns of individual professions, or shared concerns about working together. Guidance about practice ethics and information sharing were a case in point, with students and practitioners operating according to different cultural norms, and expectations confounded or confused.

Findings across studies also appear to endorse the conclusion that uni-professional cultures may have a strong influence over IPE outcomes at all levels, and that tensions or lack of congruence between them may be detrimental. The evidence is not conclusive. As reported in Section 4.13, for example, some researchers found that, despite cultural challenges, uni-professional identities could safely be established in harmony and collaboration with others. Pollard, Miers and Gilchrist[11 (high WOE)] nonetheless concluded that:

> 'The strongest influence on students' attitudes at qualification appeared to be professional programme. This suggests that interprofessional education does not inhibit the development of profession-specific attitudes.' (p 2)

The powerful influence of uni-professional cultures was endorsed by others too. Reed-Aschraft and colleagues[12] reported that wherever there was a clash between inter- and uni-professional commitments, the latter took priority. Similarly, Miller, Woolf and Mackintosh[9] reported that some students continued to question whether they might not make better use of their time in uni-professional learning alone. Some educators in this study expressed similar ambivalence:

> 'I think it is useful but in terms of the medical degree, during the five years they will have ten weeks of IPL and during the five years they will have two weeks of orthopaedics, if you compare that … During their whole five years they have a two week attachment in orthopaedics, and yet 30 per cent of the consultancy in a GP surgery are orthopaedics related.' (HEI group facilitator, p 205)

4.16.4 Logistics and resources

A significant structural barrier to the provision and operation of IPE courses was the practicality of aligning quite distinct institutional arrangements for uni-professional programmes such that students and educators/practitioners from different professions could come together, let alone work together. Between them, Maidenberg and Golick[6 (low WOE)], Reed-Ashcraft,[12] Fulmer and colleagues,[4] Miers and colleagues[7 (high WOE)] and Miller, Woolf and Mackintosh[8] all discussed logistical conundrums of working across different qualifying professional programmes, with incompatible timetables.

Maidenberg and Golick, for example, pointed to inequality of opportunity, since some students could not attend relevant sessions arranged to suit other disciplines' schedules. Fulmer and colleagues and Miller, Woolf and Mackintosh pointed out that some incongruities were underpinned by uni-professional regulatory requirements. Social work students on the GITT programme, for instance, could devote eight months to interprofessional practice placements; medical students had only four weeks. Inevitably, the lack of parity could impact on student learning and on the collaborative relationships developed. More optimistically, Miller, Woolf and Mackintosh[8,9] were confident that many of these sticking points were 'teething troubles' and could be overcome with good planning and goodwill.

Studies also highlighted the significant resource demands of IPE – particularly, but not exclusively, for large-scale initiatives. Grossman and McCormick[5] and Fulmer and colleagues[4] reported how essential were strong established links between HEIs and agencies to provide appropriate IPE placements. Miller, Woolf and Mackintosh[9] confirmed how difficult it was to make adequate room bookings, let alone to find 150 concurrent interprofessional placements. Moreover, as Grossman and McCormick's respondents stressed, placement availability was not enough; it needed to be accompanied by effective liaison between HEI and provider agencies, which was not always in evidence.

Several studies drew attention to the workload involved. For hard-pressed educators and practitioners, often with competing priorities and sometimes a degree of cultural resistance to IPE, the challenges could be significant. Miller, Woolf and Mackintosh,[9] for example, discussed how much time and energy went

into planning as well as managing and supervision of students on interprofessional placements, with staff concerned not only about their own workloads, but the impact on others and on quality of practice:

> 'Although facilitators recognised that the [IPE] work they were doing with students was valuable, some expressed feelings of guilt at not seeing clients or for placing additional demands on the workloads of their colleagues.' (p 219)

Here an interesting issue was raised about the sustainability of IPE initiatives. Miller, Woolf and Mackintosh[8,9] and Fulmer and colleagues[4] were evaluating large-scale IPE initiatives, both supported by dedicated external funds. Miller, Woolf and Mackintosh[9] explicitly voiced concerns about whether the resource demands of IPE, in the midst of complex organisational pressures and high staff turnover, could continue to be met. Other studies, describing IPE initiatives presumably sourced within HEI/agency budgets, surprisingly did not raise the question of sustainability. It is not possible to tell from the published reports how many of the IPE initiatives examined endured.

4.16.5 Pedagogical approach

Here, as elsewhere in the IPE field,[70] quality-assessed studies confirmed that the preferred pedagogical approach for IPE was experiential and interactive. Within this, some elements were highlighted as especially productive, and one or two as more challenging.

Some studies placed strong emphasis on the interactive dimension of IPE, as a key mechanism through which students gained knowledge, adjusted their perceptions and attitudes, and learned how to collaborate. O'Neill and Wyness[10] and Miller, Woolf and Mackintosh[8,9], for example, underlined how the lived experience of working together with students and professionals from other disciplines, in class or in practice, was beneficial in and of itself. Occasionally, as Miers and colleagues[7 (high WOE)] reported, students felt that the interaction deepened, rather than diminished divisions. However, this student, also reported by Miers and colleagues, illustrated the more common reaction:

> 'There've been times when we've worked as a group and it's been great and we've brought out each other's ideas … and that's made me realise how much more you can learn if someone is putting the opposing point of view, you can really bounce things off each other.' (p 42)

Since almost all of the quality-assessed studies focused on interactive learning, there was no possibility in this review of contrasting the effectiveness of this approach with others. However, the comparison needs making, since informal knowledge of the field tells us that teaching and learning about interprofessional collaboration is still frequently provided uni-professionally in qualifying social work education (in the UK at least).

Three studies pointed to other facilitators or barriers to IPE learning associated with the pedagogical approach. Miller, Woolf and Mackintosh[8] and Grossman and McCormick[5] emphasised the importance of students learning through (and about)

group processes in order to understand and do collaborative practice. The latter bemoaned its absence:

> 'Group work in most generic methods curricula is like the chicken in the soup. It's on the label but there is not much in the can.' (p 110)

Miller, Woolf and Mackintosh[9] also reported tensions between pedagogical approaches, along disciplinary fault lines. Some students and educators were more comfortable than others (especially in medicine and pharmacy) with the experiential, self-directed approach commonly taken in IPE:

> 'I thought it would be far more structured than it actually was … I'm really not comfortable with it being left up to us. It's too airy-fairy.' (Student, p 202)

> 'I think some people find [facilitating] quite difficult particularly sort of die hard academics who have been used to telling students what to do, this is a fairly new concept, I think, of letting them do it and just guiding them in the right direction.' (Facilitator, p 202)

Again, it is not possible in this review to judge what might have been the impact of such tensions, but the challenge of aligning disciplinary orientations and norms, in order for IPE to succeed, appears to be underlined.

4.16.6 Learning environment

Several authors highlighted how important it was that IPE teaching and learning took place in an environment both conducive[1] and safe.[7 (high WOE),10] As discussed in Section 4.9.1, O'Neill and Wyness in particular described how students were enabled to feel mutually safe enough to risk 'getting it wrong':

> '… knowing one of my colleagues well enough to ask what exactly does this mean is really part of this, right, it gives you permission to be stupid.' (Student, p 436).

Like Maidenberg and Golick,[6 (low WOE)] O'Neill and Wyness[10] also emphasised the value of opportunities for students from different disciplines to spend informal as well as formal time together – to get to know each other, not just about each other.

> 'I would have spent the entire time with social workers, but I was forced to go with my team, and near the end of the (course), I would rather go and have coffee with them because I know them now, and I think it forced us to have a relationship on a personal level.' (Student, p 436)

4.16.7 Practice- and/or classroom-based learning

Seven of the quality-assessed studies reported specific feedback from participants on the comparative merits of practice- and classroom-based learning in contributing to IPE outcomes.

Among them, O'Neill and Wyness[10] evaluated an IPE initiative involving concurrent classroom and placement learning, and claimed equal merit for each.

They argued that observation and engagement in interprofessional teamwork on placement enhanced students' knowledge and improved their attitudes. Equally productive, and complementary, was HEI-based working together in interprofessional groups to undertake problem-based learning.

However, other studies drew on student feedback in particular to indicate that students found learning in practice more instructive than 'academic' learning in class[1,7 (high WOE), 8,9,13 (low WOE)] It appears that the immediacy and presence of real practice problems, with real service users and practitioners, in real practice settings, allowed students to make real sense of what otherwise could be perceived as somewhat abstract or arcane.

Despite this feedback the process of review synthesis itself did not bear out any claim that placement-based learning *per se* was the more effective facilitator of positive outcomes. Nor indeed were those combining classroom and placement learning noticeably more or less successful. As yet there are no studies comparatively evaluating outcomes of these two modes of IPE teaching and learning.

One further observation from Reed-Ashcraft and colleagues[12] and Miller, Woolf and Mackintosh[8] has been reported earlier (Section 4.10.2) but is helpful to recall here. Both suggested that the nature and quality of practice experience will influence IPE learning outcomes for students. The former found that the best-perceived knowledge gains were made by students working in interprofessional student teams, shadowing interprofessional practitioner teams. The latter found that students learned most about collaborative practice from more integrated, interprofessional rather than multi-professional teams.

4.16.8 Stage of learning/status of IPE in curricula

Wider debates about both the stage at which IPE is introduced into qualifying professional education, and its embedded or discrete status within professional curricula, received relatively little attention. However, these two issues converged interestingly in three studies. Both involved evaluations of large-scale initiatives: the 'whole systems' model Common Learning Pilot Site[9] and the University of the West of England IPE initiative.[7 (high WOE),11 (high WOE)] Both featured embedded, sequential modules provided through the course of qualifying programmes. Though their outcomes were mixed, both studies lent support to an argument for incremental IPE learning. Students were able to acquire learning with, from and about each other in the classroom first, and then apply their learning in practice on subsequent interprofessional placements. As one[7] described it:

> 'This year, we have been out on placement and we filled in those sheets, that we were given to fill in, we noticed a few things like, that didn't work, or look at that arguing or look at that argument and we could picture it, so we were involved in it. So bringing notes back to this session we got a lot more to talk about.' (Student, p 40)

A corollary, however, was that some doubts were also raised concerning how early HEI-based IPE could or should be introduced into professional curricula. Though sequential progression was deemed helpful, both Miller and colleagues[9]

and Miers and colleagues[7 (high WOE)] noted that some students, with little prior relevant experience and as yet uncertain in their professional identities or perspectives, found challenging their early exposure to IPE in the classroom. One student recorded by Miers and colleagues, for example, said:

> 'Those of us who are going into placement now would find this module a lot easier after our first placement. I mean, I've worked in a hospital setting before, so some of the interprofessional work I've done but I can imagine that if you've never worked in that setting before, it's, you can't apply it to practice really, you can't think how it fits, you can imagine how it fits in but you can't actually view and see how it fits in until you've actually worked in the, in the area I don't think.' (Student, p 35)

The staging of introduction of IPE into qualifying professional learning appears to demand a delicate balance of novelty with familiarity, and abstraction with practice application. Again, however, it was not possible through review synthesis to discern any clear patterns of success in relation to earlier or later introduction of IPE, sequential or otherwise[§§§§§].

4.16.9 Status of student participation and assessment

Only three studies made direct reference either to the compulsory/optional status of student participation in IPE, or to whether or not student work was assessed. Both issues might be taken to be indicators of the significance attached to IPE, but neither attracted much scrutiny. Among the exceptions, Carpenter and Hewstone[1] reported challenges to (medical) student motivation when IPE was compulsory but not assessed.

The other exceptions, interestingly, involved equivocal findings from Miller and colleagues' evaluations of Common Learning Pilot Sites.[8,9] Participants in the 'whole systems' IPE model believed that its formal assessment underlined the importance of interprofessional learning and practice.[9] However, those involved in the unassessed 'multi-track placement' model[8] argued that the absence of a focus on performance made it more conducive to genuine reflection and learning. While it is not possible to draw clear conclusions on the impact of assessment or participation status, it is interesting to note, too, that the two studies reporting uniformly positive participant reactions to IPE both involved optional, rather than compulsory, courses.[3 (high WOE),10]

4.16.10 Clarity of goals, learning outcomes and assessment criteria

Four studies highlighted how a lack of clarity, at several levels, could detract from the IPE experience, and potentially from successful outcomes. Maidenberg and Golick[6 (low WOE)] and Reed-Ashcraft and colleagues[12] observed that the goals of IPE needed to be clear to all, but sometimes were not. The point may be linked to Carpenter and Hewstone's emphasis on clarification from the outset of what IPE was for, and what it sought to achieve[1].

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§§§§§ Again, it interesting to recall here Brady's argument[62] (identified too late for inclusion in this review) that even when IPE is introduced in the late stages of qualifying social work programmes, this constitutes just the beginning of continuing professional learning process.

At meso and micro levels, Miers and colleagues[7 (high WOE)] and Miller, Woolf and Mackintosh[8,9] identified sticking points encountered due to lack of clarity or profusion of learning outcomes associated with IPE modules, and/or lack of clear linkage between learning outcomes and course content or assessment tasks. It may be particularly useful to reflect on this in the light of the findings (Section 4.16.3) that professional cultural resistance may present barriers to IPE. If the goals of IPE itself are opaque, both student and professional motivation to invest in it may be further compromised.

4.16.11 Characteristics of student learning groups

Seven studies drew attention, at the meso level, to the complexities of IPE group processes and dynamics, suggesting that these too affected student learning and outcomes. One set of issues concerned group composition. It has already been noted that student groups commonly involved participants of different ages, maturity and experience (Section 4.6.5.). There were significant disparities too in the representation of different disciplines – with social work distinctly in the minority where combined with health and medicine (Section 4.6.8).

Carpenter and Hewstone[1], Maidenberg and Golick[6 (low WOE)] and O'Neill and Wyness[10] all highlighted the importance of equal status for students from different disciplines within learning groups, as well as the practical and cultural challenges of achieving this. Miers and colleagues[7 (high WOE)] reported that some students were keen to incorporate a wider range of professional backgrounds within their learning groups, while others were not.

Meanwhile, both Carpenter and Hewstone[1] and Fulmer and colleagues[4] pointed to some of the challenges for students of quite different ages and stages of professional education to engage with each other in shared learning. Typically, medical students were younger but more advanced in their training; social workers and nurses the converse. However, Miller, Woolf and Mackintosh[8] reported that students were not averse to such a mix, some even welcomed it. Here again, findings across studies were not clear-cut. What they did suggest was that the task of facilitating such mixed learning groups is complex; it requires strong motivation, resourcefulness and sophisticated skills.

The same point was echoed by qualitative accounts, provided by Miers and colleagues[7 (high WOE)] and Miller, Woolf and Mackintosh,[8,9] of the interpersonal dynamics within student learning groups. Here, too, students' age and maturity, disciplinary background and stage of professional education could affect their interactions and ability to work together. So could their ethnicity and gender, level of prior educational attainment, personalities and confidence.

4.16.12 Individual student characteristics

Six studies considered the influence of individual student characteristics not just on group dynamics, but on IPE learning outcomes themselves. Miers and colleagues[7 (high WOE)] and Pollard and colleagues,[11 (high WOE)] conducting separate evaluations of the same initiative, and Fulmer and colleagues[4] evaluating the

GITT programme, concurred in their findings that more mature students, with higher educational qualifications may be better able to respond to IPE.

However, the picture was complex. While Fulmer and colleagues found that students with prior relevant (geriatrics) experience showed less improvement than others in attitudes towards interprofessional collaboration, Miers and colleagues and Pollard and colleagues reported that those with prior experience showed less naivety at the start, and more signs of positive change. Whittington and Bell[13] echoed the latter's findings, reporting that more mature and experienced students who had undertaken workbased social work qualifying courses (CSS) felt they had benefited better from academic IPE teaching and learning than those less experienced who had taken college-based (CQSW) routes.

However, as also noted in Section 4.6.3, Pollard and colleagues established that socio-demographic characteristics of students, though important, were nonetheless outweighed by disciplinary background in their influence on learning outcomes. Fulmer and colleagues[4] similarly reported that medical students were less successful in achieving attitude change than those from other health or social care backgrounds.

4.16.13 Quality of facilitation and modelling

Especially apposite in the light of some of these findings was discussion in seven studies about the significance of the quality of IPE facilitation, supervision and support. This applied in the classroom and in practice. Grossman and McCormick,[5] Miers and colleagues[7 (high WOE)] and Miller, Woolf and Mackintosh[8,9] all provided detailed accounts of the complexity of the work and skills involved.

To illustrate, Grossman and McCormick[5] described the characteristics of sensitivity to students' own developmental processes most valued:

> 'Thirteen [out of 18] described the supervisory process as most helpful mentioning such qualities as support ("encouraged me in areas where I felt less secure", availability, follow-through ("things I felt were missing the instructor made happen") and flexibility ("allowed me to do things that may have been inefficient but let me learn on my own").' (p 107*)*

Miers and colleagues[7 (high WOE)] reported that all participants valued flexible and responsive classroom facilitators, skilled in managing group dynamics, capable of giving appropriate guidance particularly in the early stages of IPE, but also of stepping back and allowing students to learn for themselves. Though many such skills may be equally demanded by uni-professional education, both Miers and colleagues and Miller, Woolf and Mackintosh[9] highlighted some of the particular challenges for facilitators and supervisors in IPE – managing different disciplinary perspectives, very mixed learning groups, and tensions between uni-professional and interprofessional priorities. Both studies too emphasised the need for effective training to support practitioners and educators in these roles.

A further feature of educator and practitioners' behaviour considered valuable was modelling of collaborative practice, and in some cases co-teaching. Again,

no studies compared the impact of these with other models of education practice. Nonetheless, in the light of student feedback, O'Neill and Wyness[10] confirmed:

> '… faculty should model interprofessional collaboration in their teaching and draw on the expertise of professionals who work effectively in interprofessional teams' (p 439).

And Forgey and Colarossi[15] concluded:

> 'We believe that co-teaching is the best way to model interprofessional interaction and to teach content from both law and social work ... Co-teachers must remember that all of their actions model interdisciplinary work.' (p 472)

5 Key findings and conclusions

5.1 Diversity of the research field

One of the challenges presented for this review has been the diversity of relevant studies for inclusion:

- Study focus was highly varied, from surveys of IPE provision to detailed examination of particular initiatives, from core to minority focus on social work.
- Study design also varied: some were descriptive, others evaluative; sample sizes ranged from hundreds of students across several centres, to less than a dozen at one site.
- IPE initiatives were also highly varied, in aims, scale, participating professions/disciplines, status, settings, pedagogical approach, content and processes.

Quality-assessed studies:

- used different evaluative methodologies: some qualitative, some quantitative; some prospective, some retrospective; some drawing on single data sources, some multiple
- considered common and different outcomes, differently monitored or measured, over different time periods.

This range and diversity is welcome, especially in the light of current policy imperatives to develop IPE in qualifying social work[75,76,97,98,101] and the limited coverage in other IPE reviews.[66,70,82,83] However, the task of review synthesis has been exacting.

5.2 Quality of the research field

The challenge of diversity was accentuated by variability in the quality of studies involved. To examine ‘what is known about IPE in qualifying social work’ it was considered important not just to review a small sample of the most robust studies, but to conduct a thematic analysis of a wider range of research in the field. Much of this involved studies conducted opportunistically, by educators drawing on experience and routine evaluation of IPE initiatives with which they were directly involved.

Research quality was in some cases sound and impressive, with, for example, a combination of quantitative and qualitative approaches and triangulation of data and sources. But quality was not uncommonly compromised by:

- insufficient clarity in reporting: authors’ relationship to IPE initiatives and study provenance; sampling strategy and sample characteristics, methods of data collection, data sources and analysis; unclear distinction between findings and conclusions

- lack of researcher independence from IPE initiatives examined (with potential for bias and compromised validity)
- unrepresentative samples
- absence of comparison or control groups
- tendency to rely on perceived rather than demonstrated outcomes
- outcomes not contrasted with pre-IPE baselines
- lack of conceptualisation/theorisation to explain findings.

Additionally, there were limitations of design and scope which in some cases compromised research relevance and utility. These included:

- lack of social work-specific research focus
- failure to attend to contexts or processes of IPE and mechanisms of change giving rise to outcomes
- few longitudinal or prospective studies examining outcomes beyond the end of IPE initiatives; hence limited range and duration of outcomes considered, little attention to transfer of learning into post-qualifying practice and/or sustainability.

As a consequence, the thematic analysis presented an overview of the research and professional education fields, but claims to outcome 'findings' made by individual studies needed to be treated with caution. More trust could be placed in the better reported, more relevant and more robust studies included in the in-depth review. These too, however, suffered from some of the limitations outlined above, affecting the weight of evidence attributed to them.

5.3 Ecology of IPE

In response to the challenges of quality and diversity, and to capture the complexity of emerging findings, a key product of this review has been the development of an 'ecological map' of IPE for qualifying social work (Figure 17, Section 4.8.2).

Drawing mainly on findings from quality-assessed studies, the map represents holistically how the two central review questions might best be addressed. To examine 'what is known about the nature, participants and contexts of IPE in qualifying social work?' each of these components of the picture is represented as distinct, multi-level, and interconnected. Together, these components influence outcomes, also at several levels. Thus the second review question 'what is effective, and what promotes or hinders successful outcomes?' may be re-configured as 'what works, with whom, in what contexts?'.

This approach accords with the principles of 'realistic' evaluation and synthesis set out by Pawson and colleagues.[96] It also echoes Martin's suggestion,[91] that IPE learning might best be recognised as both integrated and situated. If messages for good practice are to be genuinely transferred, it is important to identify the contributors to and mechanisms for change that are the essence of effective IPE. Holding these principles and the map in mind, key findings are summarised below.

5.4 What is known about IPE in qualifying social work?

The plurality, not to say promiscuity, of terminology used to denote professionals learning and working together, was as striking in this review as elsewhere.[58,66,70,83] Only half of the included studies defined their terms. Most took for granted meanings attributable to, for example, 'inter', 'multi', or 'shared', 'professional' or 'disciplinary' learning. Despite this, most studies were in fact discussing students from different professions learning, mainly interactively, about each other and about working together collaboratively. Though informal knowledge of the social work education field indicates that students may well learn separately from others about interprofessional collaboration, this was not represented within the research reviewed.

The primary aim espoused for IPE was promoting collaborative practice between professionals and organisations. At the more modest, individual level, initiatives aimed to improve students' knowledge and collaborative skills. Aspirations to improve joined-up service quality and to benefit service users and carers were expressed, but were more ambitious than outcomes generally addressed. A striking disparity with current UK workforce strategies was that very few initiatives aspired to produce joint practitioners, capable of flexible career progression across permeable professional boundaries. Nor did they aim to educate meta-professionals, with generic skills but individual values, identities and beliefs.[91] Envisaged instead were discrete but complementary and collaborative professionals and professions.

There was wide variation in many of the key characteristics, participants and contexts of IPE initiatives examined. A few larger projects (including the recent DH Common Learning Pilots) were resourced with targeted external funding. Most, however, appeared 'home-grown', in partnership between particular HEIs and practice agencies. Predominantly, IPE involved social work staff (the minority) working with nursing, medical and other health professionals. The same focus was reflected in the areas of practice principally involved – such as primary health, mental health and geriatric care. The emphasis was clearly on preparing professionals to collaborate in adult, rather than children and family services, still less child protection. In the context of recent UK reconfiguration children's services,[72,74] in particular integrating social work and education, there appears a significant training gap to be filled.

Arguments that the importance of IPE should be underlined by its compulsory and assessed status within professional education programmes were articulated in some initiatives but not others. Overall, more were assessed than not, but participation was as commonly optional as compulsory, varying occasionally between disciplines involved in the same programme. A related question was the extent to which IPE was integrated and embedded throughout qualifying curricula, or reserved as a discrete component. For the most part, the latter was the case, presented more 'de facto' than as a matter of principle.

IPE was commonly introduced in 'substantial discrete' formats, such as a limited series of workshops, a one-semester module, or dedicated interprofessional practice placements. However, two more integrated approaches were also in evidence. In the first, embodied by two UK 'dual award' programmes for nursing

and social work students, interprofessionalism was at the core of all aspects of teaching, learning and professional identity promoted. More common was a cumulative approach to integration, with IPE modules and/or placements sequentially embedded into successive years of qualifying programmes.

A linked issue was the staging of IPE in qualifying education. By definition, all studies reviewed reflected some commitment to introducing IPE at qualifying level, rather than post-qualifying where it remains more common.[70] Several studies nonetheless echoed Freeth and colleagues' observation[83] that qualifying IPE should be preparatory, the beginning of a continuing process of professional learning and development. Within this, a small minority described IPE offered only in the early stages of qualifying courses. The majority either followed the developmental model outlined above, or introduced IPE only in the later stages of qualifying programmes. The argument put forward for the latter was that interprofessional socialisation could only succeed once students have acquired uni-professional knowledge and sense of identity.

Studies described IPE in classroom settings, in placement, and not infrequently in both. Dedicated placements ranged from those where, for example, social work students worked in health settings, to those where professionals in different agencies worked in multi-professional liaison, to others where students either formed or were integrated into existing interprofessional teams. The pedagogy envisaged here was student learning through the doing of collaborative work in practice, and observation of it modelled by others. Either separately, in parallel or in sequence with practice placements, classroom-based IPE was typically experiential, as characterised by Barr and colleagues[70] and Freeth and colleagues.[83] It involved, for example, exchange-based workshops, problem-based shared project work, and role play. There were a few examples of the use of virtual learning environments for interactive exchange, occasionally in lieu of face-to-face contact. Didactic input was in evidence, but as a complement never an alternative to experiential learning.

Both the substantive content and processes of IPE teaching and learning, and the outcomes prioritised, were rather more modest than the grander aims for IPE espoused. As Barr and colleagues also observed,[70] desired outcomes were pitched primarily at the level of individual improvement in knowledge, attitudes and behaviour. Students were encouraged both to learn about interprofessional collaboration (for example about teamwork, shared care planning and assessment) and, through the processes of IPE, to learn to do it.

Contributing significantly to this was an emphasis on acquiring knowledge about other professionals (their roles, responsibilities and orientations, more than their organisations), and on improving students' perceptions and attitudes (towards each other, and towards working and learning together). Students were commonly encouraged to explore stereotypes about each other, and to learn together to respect each others' priorities, skills, and values. With this came some attention to their own and others' developing senses of professional identity.

Two further observations about the nature of IPE in qualifying social work are particularly noteworthy. The first was a striking lack of attention apparent either to service user and carer, or to student involvement in the planning, management,

teaching or assessment of IPE. No more than seven studies mentioned these, most just in passing. If, as Barr and colleagues[70] have proposed, standards of user participation should be upheld in IPE, the available research suggests a significant shortfall at qualifying social work level.

The second observation, also echoed elsewhere,[82,88] is that qualifying IPE practice and research appear remarkably under-theorised. Few of the interventions described appeared grounded in any theoretical justification, for how they were shaped or how they might achieve desired outcomes. Exceptions were the minority of initiatives or studies which drew, for example, on contact theory, social identity or social learning theories to explore individual and group learning and collaboration. Such as it was, most theorisation restricted itself to the levels of the individual and interpersonal, leaving out structure, power and mechanisms of change[90]. Considered in the light of the question 'what works, with whom, in what contexts' and the ecology of IPE suggested by Figure 17 (Section 4.8.2), such theorisation may inform part, but by no means most, of the picture.

5.5 Does IPE work in qualifying social work?

Studies that surveyed levels of provision and support for IPE concluded that more was needed than was available, but that educators were mixed in confidence that it could be provided, and could work.

Significant caveats about asking, let alone answering, the question 'is IPE effective in qualifying social work' have already been highlighted (Section 5.2) in the relation to the quality of the research field. In this regard, it was notable that findings for the success of IPE were generally more qualified among the quality-assessed studies in the in-depth review than the claims made in the broader literature included for thematic analysis.

To make sense of the effectiveness evidence available, two further observations are worth making. Firstly, it may be important to be realistic about the outcomes that might be achievable at qualifying level. As Brady[62] has pointed out:

> 'It would be unrealistic to expect that a student [at qualifying level] should be able to evidence highly confident practice when we know that long qualified workers are challenged by this demand … it is essential that qualifying social workers are encouraged to see themselves at the beginning of a continuum in which education and training in interprofessional practice are key.' (p 47)

The second point, as Pollard and colleagues[11] highlighted, is that change outcomes do not necessarily follow a linear trajectory: students may, for example, become less confident of interprofessional collaboration before they become more so. For the most part, the timescales and design of studies reviewed did not afford such perspectives.

Participant reactions to IPE reported were in many respects positive, with students and other stakeholders recognising its value and appreciating engagement with others. Some studies in the thematic analysis, however, reported professional scepticism towards the trans-professional goals of dual

awards programmes. Meanwhile, quality-assessed studies highlighted among participant reactions many of the reservations that are summarised as ‘facilitators and barriers’ to IPE below.

The evidence available to indicate IPE effectiveness in qualifying social work primarily concerns individual learning, preparatory for interprofessional practice. Most successful overall appeared to be improvement in students’ knowledge about other professionals and/or about collaborative practice. The message is encouraging, but must nonetheless be qualified: findings were based more on perceived than demonstrated knowledge, and its transfer into practice was little examined.

Several authors proposed that increased knowledge would inform improved student attitudes. But here success was more mixed, as indeed it was for (perceived) development of students’ skills. Explanations for these mixed outcomes, put forward by individual studies and more clearly emergent from review synthesis, confirmed the ‘ecological’ complexity of IPE at play. A range of factors, among them professional discipline, group composition and dynamics, and individual student profiles, could all affect the outcomes achieved.

The same was true for improvements in student collaborative behaviour and practice. There was evidence to suggest that students not only learned about collaboration and became well disposed towards it, but were enabled to do it in practice – or were perceived to. But findings were similarly varied. Moreover, no studies prospectively examined interprofessional collaborative behaviour carried through into post-qualifying practice; both of the retrospective studies reviewed indicated that it was sustained, but nonetheless partial.

One encouraging finding concerned the question of professional identity formation, feared by some[70] to be threatened by introduction of IPE at qualifying level. Though thinly examining the concept of identity, studies addressing it concluded not only that IPE need not compromise the development of social work identity among students, but might even enhance it. Here too, however, there was no scope for complacency. What mattered was not just that successful outcomes could be achieved, but what made the difference to achieving them.

Despite some aspirations towards service quality improvement and end-benefits for service users and carers, relatively few studies examined these. The minority of quality-assessed papers that did were encouraging, even suggesting some shift in organisational culture as a result. None, however, considered the sustainability of these gains, and, notably, none sought service user or carer views on the matter.

5.6 What works, with whom, in what contexts?

Turning to consider 'what works for IPE in qualifying social work, with whom, and in what contexts', the ecological complexity suggested by many of the above findings became more fully apparent. Here too, conclusive findings and explanations are difficult to achieve through review synthesis of a relatively small number of studies, varied in focus and interventions examined, and in research quality. Few studies, for example, examined comparatively which aspects of IPE contributed to which outcomes. However, there were some indications.

As in the wider IPE research field,[70,83] studies confirmed that the logistics of providing IPE at qualifying level were challenging. Alignment of disciplinary timetables in particular was constrained by institutional arrangements, and by formal requirements such as placement duration. IPE brought taxing demands too for coordination between personnel, systems and budgets from different disciplines and often different organisations.

The resource implications were also very significant. Educators, practitioners and indeed students spoke of increased time and workload commitments, with corresponding costs to other activities. Strong links with professional agencies were essential where interprofessional practice learning was involved, with availability of suitable placements a must, but difficult to achieve. The sustainability of IPE initiatives in the face of such demands, and in the context of organisational pressures such as staff turnover, was explicitly discussed by just a few studies, but no doubt relevant for many.

Meeting such demands took motivation and commitment on the part of all participants, in order for IPE to both take place and succeed. Several studies highlighted the importance of strong leadership and institutional support, symbolic and real. The status of IPE as compulsory or optional, assessed or unassessed, was sometimes proposed as a symbol of the importance attached to it, and correspondingly a significant motivator or de-motivator for participants. However the evidence here was inconclusive.

More fundamental in its effect on educator, practitioner and student motivation could be resistance embedded in professional cultures and hierarchies, both towards IPE itself and to interprofessional collaboration. The review findings confirm arguments put forward elsewhere, which highlight the threat to professional customs, knowledge and power hierarchies that interprofessional learning and practice may present.[64,106] Such 'disciplinary split' could also be reinforced by formal requirements and regulations (for example for curriculum or assessment) which did not prioritise interprofessionalism, or were incongruent with each other. Of course, it is precisely such divisions that IPE seeks to overcome; evidence from this review suggests that they could also stymie its efforts and outcomes.

Participant commitment to IPE could be further compromised by lack of clarity and consistency at several levels. Not only did the goals of IPE itself need to be clear, but the learning and assessment tasks, as well as learning outcomes and associated assessment criteria, needed to be congruent and consistent. Where

they were not, student, educator and practitioner resistance to IPE could be exacerbated.

Several studies pointed to particular characteristics of IPE context and processes that were thought to influence successful outcomes. Some reports suggested that the learning environment itself must be conducive, affording formal and informal opportunities for students to build relationships across professional boundaries, and to create safe, trusting spaces in which to learn together. In terms of pedagogic processes, experiential approaches were most commonly appreciated, but there were dissenting voices too, again along disciplinary fault lines: both educators and students from some health-related disciplines were reluctant to move outside the 'comfort zone' of didactic teaching and learning.

In several instances, students in particular favoured practice- over classroom-based learning, with the rationale that real work, with real service users, in real contexts, brought interprofessional learning alive and made it meaningful. No study compared the effectiveness of learning in the two settings, and review synthesis did not identify differential outcomes between the two. The developmental model of embedded and sequential IPE, enabling students to apply classroom learning in subsequent practice on placement, also carried appeal but was not tested for effectiveness against any other approach. However, what did become apparent was that introduction of IPE before students had acquired sufficient understanding of their own professional roles and identities, could be counterproductive.

The characteristics of student groups and individuals inevitably affect learning processes and outcomes in all aspects of social work education. However, the studies reviewed suggested that some particular issues may come to the fore in qualifying-level IPE. Group composition in almost all cases involved disciplinary mix, but also notable disparities within the mix. One such was in numerical representation of students from different disciplines; unfortunately no study explored, for example, social work students' experience of finding themselves significantly outnumbered by nurses, medical and other health-related students. However, partly as a result of disciplinary mix, students were not infrequently learning together with others of quite different age, stage of professional education and level of prior education and experience. Reported effects of this were mixed, sometimes welcomed sometimes not, but these issues were highlighted as factors for careful consideration in planning and providing IPE.

There was evidence, too, that individual learning could be affected by students' own socio-demographic profile and experience. Again, findings were not conclusive. Broadly, however, it seemed that more mature students, with higher educational qualifications and greater prior experience could best benefit from IPE, but that disciplinary background remained most influential over their attitudes. Perhaps the inference best drawn is that IPE must not only pay careful attention to the needs and status of all students involved, but that it should also work as far as possible hand-in-glove with uni-professional learning, not simply alongside.

Finally, much of the evidence presented suggests that the task of facilitating, supporting and supervising IPE, in classroom and in practice settings, is

especially complex and challenging. Often in the face of structural and cultural obstacles, it requires skills, resourcefulness, flexibility, energy and commitment – perhaps over and above the high levels already required of sound professional educators and practice supervisors. It certainly requires effective training and support – an obvious area for recognition in post-qualifying and continuing professional education.

5.7 Concluding observations: research gaps and possibilities

Inevitably, the messages for IPE in qualifying social work that may be gleaned from research review are not conclusive. Indeed, one valuable product of review is that it allows us to expose gaps rather than certainties in the research field, and to offer suggestions for remedying them.

Gaps, or flaws, in research quality have been discussed at length. Beyond these, however, are others related to the focus, design and scope of research that may compromise its utility and relevance for contemporary qualifying social work. Some of these problems may be challenging to overcome, since they appear to reflect current limitations of IPE provision, and/or intrinsic ethical and practical realities of researching it. They include:

- Lack of attention to preparation for interprofessional practice with children and families

Little attention is given to preparation of social workers (and others) for interprofessional practice with children and families, in line with current integrated services priorities. It will be important to highlight and research relevant initiatives as a priority.

- Lack of attention to service user and carer involvement in IPE

There is little evidence of exploration of service user, carer or even student involvement in the planning, management, teaching or assessment of IPE. Where models of such practice are in existence, it will be important to examine them from all perspectives.

- Insufficient focus on social work

Social work participants/agendas are frequently a minority focus in qualifying IPE initiatives, and correspondingly in research on those initiatives; more attention to social work-specific experiences and outcomes in these contexts would nonetheless be helpful.

- Paucity of control or comparison groups

The ethics and practicalities of providing professional education programmes militate against providing, for example, IPE for some but not others (randomly or otherwise selected), and can make it difficult to offer contrasting experiences of, for instance, the stage or process of IPE. Nonetheless, naturally occurring comparisons where possible should be explored, between for example similar models of IPE deployed in different contexts, or different models in the same context.

Other research gaps might be more readily addressed by well-conceived and conducted, and appropriately resourced, studies. These gaps include:

- Lack of attention to service user and carer perspectives

Whether or not directly involved in IPE initiatives themselves, users' and carers' views on the nature and effectiveness of IPE could and should be explored. Likewise, active participation of all IPE stakeholders in the development and conduct of IPE research would enhance its vision and practice relevance.

- Reliance on perceived rather than demonstrated outcomes

Studies examining, for example, whether students' interprofessional knowledge is actually increased, or collaborative behaviour demonstrably improved, would be valuable. Conflation of perceived and actual outcomes should be avoided.

- Paucity of longitudinal and prospective research

Few current studies examine IPE processes or outcomes over time beyond the point of qualification. Studies doing so could contrast during- and post-IPE outcomes with pre-intervention baselines; they could track learning trajectories and the transfer of learning into sustained post-qualifying practice.

- Limited range of IPE outcomes considered

Associated with the short-term nature of existing research, outcomes are mainly limited to indicators of individual preparation for interprofessional work. Taking the longer view will allow consideration of, for example, sustained collaborative practice, improvement in service quality, service user and carer benefit, and sustainability of IPE initiatives themselves.

- Lack of attention to relationship between IPE process and outcome

Little attention is given to the relationships between IPE contexts, participants, content and process and mechanisms of IPE giving rise to outcomes. As the ecological map demonstrates, these are areas of significant complexity; few studies consider systematically which aspects of teaching and learning contribute to which outcomes, with whom and how. The challenge is considerable, but studies mixing methods to examine process and outcome in depth could make helpful contributions.

- Poverty of theorisation

Theory and conceptualisation of pedagogy, interprofessional practice or education appear scant, both in the research field and in the IPE initiatives studied. The complexity of IPE ecology will be best addressed by studies combining empirical rigour with explanatory theory embracing individual, interpersonal, social and structural dimensions of IPE and its outcomes.

Acknowledging the gaps in the research field, and the potential for further work, this review nonetheless offers findings considerably greater than the sum of its parts. Not least, it challenges certain claims about IPE effectiveness at qualifying level made broadly in the discipline and in practice. Most important, the review has enabled us systematically to plot the ecological complexity of the field and to improve critical understanding of what is involved. Against this backdrop, as Colyer, Helme and Jones[73] put it:

> 'IPE … must be based on principles that are coherent, generalisable, transferable, and of continuing applicability.' (p 8)

Towards this goal, the review highlights the most trustworthy evidence available to date, and indicates ways forward to inform policy and practice in educating qualifying social work students for interprofessional collaboration.

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Appendix 1 Technical appendix and search strategies

Method

Search strategy

The search strategy was developed by the research review team in consultation with Kelly Dickson (EPPI-Centre).

A few relevant terms were first identified for trial input into ASSIA, Medline and PsycInfo, chosen as a small, relatively representative sample of the databases (as between them they cover material from the social sciences, medicine and psychology). Further terms were identified within the citations returned by this process, and, where trialling revealed that they were useful to the search strategy, they were included within it. This method provided a core search strategy which could serve as a starting point for searching all databases. The strategy was modified during searching on each individual database, to take account of the varying descriptor terms used to classify citations and to allow adaptations to be made. Introducing this flexibility into our search strategy enabled us to tailor it to the disciplinary orientation, classificatory system, and level of sophistication of each database. The search strings used with each electronic database are given at the end of this appendix.

Databases

The choice of databases to search was determined by SCIE's guidance on systematic reviewing, and our own experience of review in related fields. The 15 databases included in the search were:

Table A

Database	Database name in full
ASSIA	Applied Social Sciences Index and Abstracts
BEI	British Education Index
C2-SPECTR	Campbell Collaboration Social, Psychological, Educational and Criminological Trials Register
CINAHL	Cumulative Index to Nursing & Allied Health Literature
Cochrane	
ERIC	Educational Resources Information Center
HMIC	Health Management Information Consortium
IBSS	International Bibliography of the Social Sciences
Medline	
PsycInfo	
SIGLE	System for Information on Grey Literature in Europe
Social Care Online	
Social Services Abstracts	
Social Work Abstracts	
SSCI	Social Sciences Citations Index

Handsearching

The Journal of Social Work Education and the British Journal of Social Work were handsearched.

Website Searching

The following websites were searched in the course of the review:

http://www.swap.ac.uk/
http://www.sosig.ac.uk/social_welfare/
http://www.jisc.ac.uk/
http://edina.ac.uk/
http://www.policyhub.gov.uk/
http://www.sieswe.org/
http://scie.org,uk/

No relevant documentation in addition to that which had been obtained by the other methods was discovered through this approach.

Citations retrieved

A total of 3,196 citations were retrieved; with duplicates extracted, there were 2,196 unique citations. Table B shows the number of citations yielded from each source, both including and excluding duplicates.

Table B Citations retrieved by source

Database	Total citations retrieved by search strategy (including duplicates)	Unique citations retrieved by search strategy
ASSIA	253	138
BEI	150	146
C2-SPECTR	67	63
CINAHL	450	417
Cochrane	12	11
ERIC	156	129
HMIC	113	88
IBSS	9	3
Medline	259	142
PsycInfo	281	200
SIGLE	37	35
Social Care Online	500	307
Social Services Abstracts	496	266
Social Work Abstracts	177	140
SSCI	181	58
Handsearch	55	53
Total	3,196	2,196

It should be noted that despite comprehensive searching through the early stages of the review, two references that were separate components of the same published report[62,63] escaped the attention of the review team, and were retrieved by chance in the closing stages of the project. It was unfortunately too late to include these in the review. However, an outline of the studies and their findings is presented in Appendix 6, with brief reference made to them where relevant during the course of the thematic analysis and in-depth review. The two studies have been included (as handsearched) in the figures presented in Table B above. However, since they did not feature in the screening, inclusion and exclusion processes informing selection for the review, they do not feature in the figures presented below.

Screening – inclusion and exclusion for thematic analysis

Figure A provides a flow chart of the entire research review process, indicating inclusions, exclusions and number of remaining reports/studies at all stages.

Titles and abstracts of all unique citations retrieved were screened to determine whether the full reports should be acquired.

In stage one this was done by applying the exclusion criteria outlined in the original review protocol. These criteria were not applied on a mutually exclusive or hierarchical basis; all exclusion criteria applying to each reference were recorded. The criteria****** were:

- not social work education
- not qualifying level social work education
- not focused on education about interprofessional practice, or about other professions/professionals
- policy document
- training material
- textbook
- book review
- bibliography
- journalism/bulletin
- language other than English.

As indicated in Figure A, the majority of the 1,957 exclusions at this stage were made on the bases that reports were not focused on interprofessional education (1,795), not about qualifying social work education (1,414) or not about social work education at all (1,209). In many cases, several criteria applied. As a result, 237 reports remained.

There followed consultations with both SCIE and the EPPI-Centre, with a view to narrowing the scope of the review and sharpening its focus, in the light of time and resources available. As a consequence, the decision was made to introduce two further screening stages.

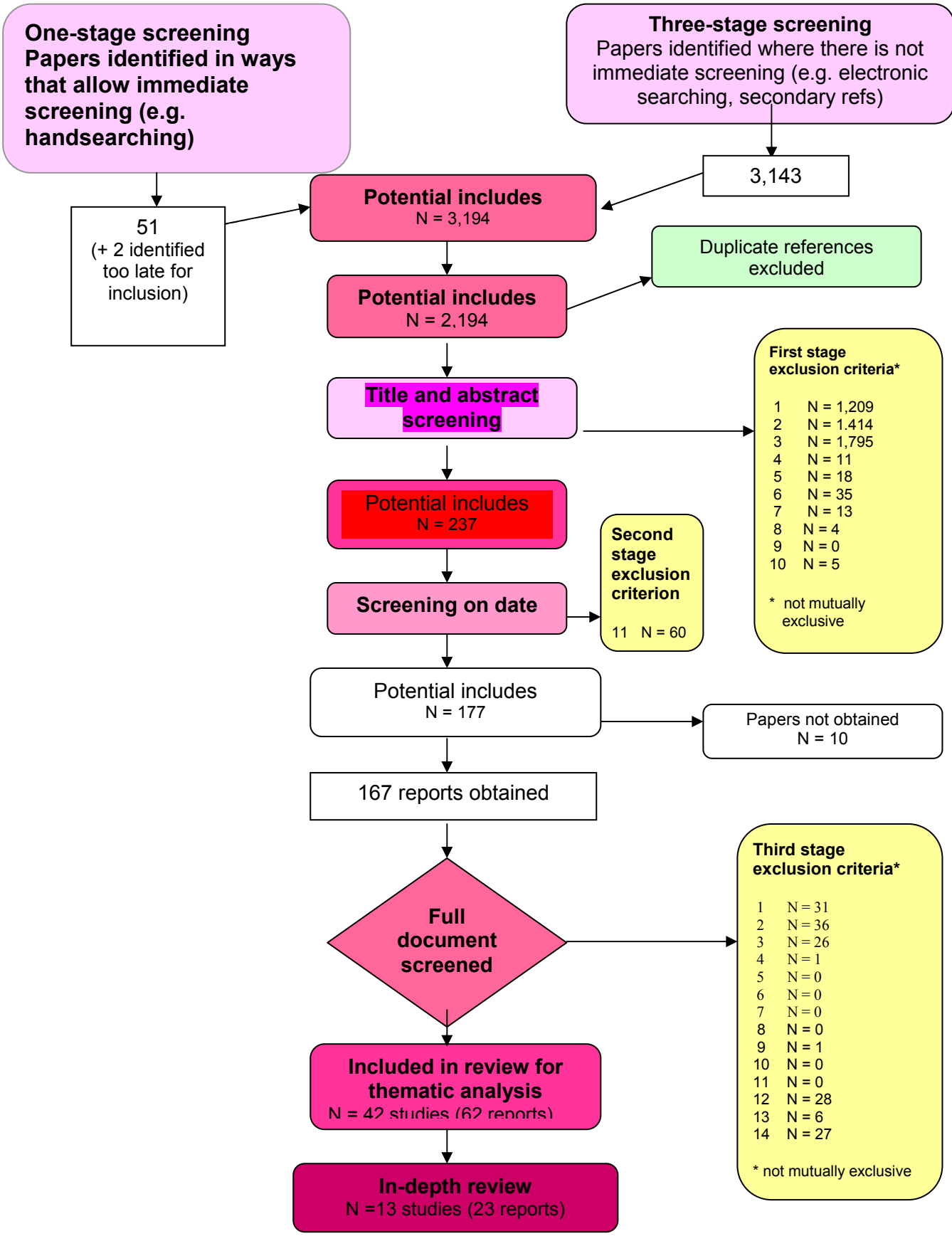
At stage two, an additional criterion was added:

- published before 1995.

Studies conducted prior to this date, but nonetheless published within the designated timescale remained included. This filtered out a further 60 references, leaving 177 to be retrieved and screened on full paper. Ten of the latter could not be retrieved, leaving 167 to be considered at a third screening stage.

****** Note: Exclusion criteria are differently numbered on the EPPI-Reviewer database.

Figure A Flowchart of research review process



In the interests of manageability, and more restrictively than originally intended, further exclusion criteria were introduced on reading of full papers at stage three, to limit inclusions to empirical research[††††††]. These exclusion criteria were:

- conceptual or discussion piece
- research review
- other, not empirical research.

Achieving a reliable definition of what constitutes empirical and non-empirical research in this field was not easy, since many papers bordered between accounts of education practice/routine or informal course evaluation, and what might be described as descriptive or evaluative research. The definition of empirical studies (for inclusion) reached by the review team was:

- giving some indication of research methodology (e.g. who was researched, how)

and/or

- giving some data/findings that are clearly sourced from informants other than author alone.

Application of these criteria to full texts at stage three resulted in the exclusion of 104 reports. As at Stage 1, exclusions were recorded on all relevant counts. Again these were commonly that reports were not about interprofessional education (26), not about qualifying social work education (36) or not about social work education *per se* (31). Additionally, however, 28 were conceptual or discussion pieces and six were research reviews (including systematic reviews of IPE not specific to qualifying social work). A further 27 were defined for other reasons as non-empirical research, since they did not meet the definition given above.

There remained 62 papers for inclusion in the review thematic analysis. Thirty-two of these reported on the same 12 studies; 20 reports were therefore considered as linked, and were integrated into the keywording of one 'lead' report per study. Thus the thematic analysis comprised 42 separate studies included in the overall review.

The next stage was to read all of the included publications successfully obtained by the review team (235 of 260), with a view to serving two purposes. The first was further to re-apply the same inclusion criteria, this time on scrutiny of full texts; a further 116 publications were excluded as a result, leaving 119 publications, concerning 109 studies, included in total.

Keywording, data extraction and quality appraisal

As discussed in Sections 2.4 and 2.5, all studies included in the review for thematic analysis were keyworded, using a review specific keywording strategy shown in Appendix 2. This incorporated some items from the EPPI-Centre's core keywording strategy, with others that were social work education and IPE

[††††††] Several of the papers excluded at this stage were, nonetheless, earmarked as potentially useful background material to inform synthesis and contextualise this review.

specific. It was informed by analysis of a previous review of Partnership in Social Work Education, undertaken by some members of the review team[100] as well as by consultation with the stakeholder group and other contacts, and pre-existing familiarity with the wider fields of social work education and IPE. It also incorporated the TAPUPAS standards for identifying qualities of social care knowledges (as discussed in Section 1) developed for SCIE by the ESRC UK Centre for Evidence Based Policy and Practice[96]. Analysis of findings, based on keywording, for the thematic analysis and the in-depth review was undertaken using EPPI-Reviewer software, which allows for both qualitative and modest quantitative analysis and synthesis.

In line with the intended focus of the in-depth review, on quality assessment of studies addressing outcomes of IPE in qualifying social work education, further exclusion criteria were applied to select studies for data extraction. The criteria were:

- focus of study not on effectiveness or participant reactions (process outcomes) of IPE
- qualifying social work education not a significant focus of IPE
- methodology insufficiently reported for subjection to data extraction.

As discussed in Section 2.5, 13 studies (with a further 10 associated linked papers) were selected on this basis for in-depth review. Fourteen of those excluded were ineligible on the grounds that their methodology was too thinly reported to be amenable to data extraction.

The data extraction strategy used is shown in Appendix 2. The tool was closely based on current EPPI-Centre guidelines for data extraction and quality appraisal, with a few review specific modifications. It involved rigorous assessment of the quality of research design, execution, analysis and reporting. On the basis of these, reviewers made ratings of the weight of evidence attributable to each study on grounds of its trustworthiness in its own right, its appropriateness and relevance for answering the review questions, and its overall weight of evidence for this review.

Reliability and quality assurance

Reliability was ensured at all stages of the reviewing process, by checking agreement between team members and by external quality assurance from the designated EPPI-Centre representative, as shown in Table B below:

Table B Reliability and quality assurance

Stage of reviewing process	Proportion double-checked (%)	Proportion quality-assessed externally (%)
Screening of abstracts	10	**2**
Keywording	20	**14**
Data extraction/quality appraisal	**100**	**31**

Where there was disagreement, the following occurred:

- Screening of abstracts: The review team agreed to err on the side of inclusiveness in any dispute; citations were excluded only where this was agreed. In the event there was no significant disagreement, since each researcher independently erred on the side of inclusion.

- Keywording: Any disparities were discussed in moderation sessions between reviewers with resolutions reached in consensus. It did not prove necessary to seek external arbitration from the EPPI-Centre representative.

- Data extraction and quality appraisal: Where there was disagreement the two reviewers discussed the issue. Almost invariably, disagreement resulted from slightly different interpretation of the way criteria were to be applied, not from their rating once applied. Consensus and consistency were reached in discussion, without recourse to external arbitration.

Database search strings

ASSIA

Cambridge Scientific Abstracts
Searched 28 February 2006

#1	(social work)
#2	educat*
#3	student*
#4	qualif*
#5	program*
#6	curricu*
#7	#1 within 6 (#2 or #3 or #4 or #5 or #6)
#8	(social care)
#9	#8 within 6 (#2 or #3)
#10	interprofession*
#11	inter-profession*
#12	multiprofession*
#13	multi-profession*
#14	interdisciplin*
#15	inter-disciplin*
#16	multidisciplin*
#17	multi-disciplin*
#18	inter-organi?at*
#19	interorgani?at*
#20	multi-organi?at*
#21	multiorgani?at*
#22	inter-occupat*
#23	interoccupat*
#24	multi-occupat*
#25	multioccupat*
#26	inter-department*
#27	interdepartment*
#28	multi-sector*
#29	multisector*
#30	(work* together)
#31	(joint work*)
#32	collaborat*
#33	de = (Interagency collaboration)
#34	de = (Interdisciplinary Approach)
#35	de = Interdisciplinary
#36	de = (Multiprofessional education)
#37	#10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35 or #36
#38	#7 or #9
#39	#37 and #38

British Educational Index

Dialog Datastar
Searched 14 March 2006

"(INTERPROFESSION$ OR MULTIPROFESSION$ OR INTERDISCIPLIN$ OR MULTIDISCIPLIN$ OR INTER-ORGANISAT$ OR INTERORGANISAT$ OR MULTISECTOR OR MULTI-SECTOR OR WORK$ ADJ TOGETHER OR JOINT ADJ WORK$) .TI,AB. AND (SOCIAL ADJ WORK ADJ 'NEAR' ADJ QUALIF$ OR PROGRAM OR PROGRAMS OR PROGRAMME$ OR CURRICU$ OR EDUCATE OR EDUCATES OR EDUCATION OR EDUCATING OR STUDENT OR STUDENTS OR SOCIAL ADJ CARE ADJ 'NEAR' ADJ EDUCATE OR EDUCATES OR EDUCATION OR EDUCATING OR STUDENT OR STUDENTS) .TI,AB. AND LG=ENGLISH"

C2-SPECTR

http://geb9101.gse.upenn.edu/
Searched 21 March 2006

All Indexed Fields: {social work} or {social care}
All Non-Indexed Fields: {social work} or {social care}

CINAHL

Ovid Technologies: WebSPIRS 5.1

Searched 24 February 2006

#1 (social work*) in TI, AB
#2 (educat*) in TI, AB
#3 (qualif*) in TI, AB
#4 (curricu*) in TI, AB
#5 (student*) in TI, AB
#6 (program*) in TI, AB
#7 #1 near6 (#2 or #3 or #4 or #5 or #6)
#8 (social care) in TI, AB
#9 #8 near6 (#2 or #5)
#10 Social-Work-Practice in MJ
#11 Education-Social-Work in MJ
#12 Education-Social-Work-Trends in MJ
#13 #7 or #9 or #10 or #11 or #12
#14 (collaborat*) in TI, AB
#15 (inter-occupat*) in TI, AB
#16 (interoccupat*) in TI, AB
#17 (multi-occupat*) in TI, AB
#18 (multioccupat*) in TI, AB
#19 (inter-department*) in TI, AB
#20 (interdepartment*) in TI, AB
#21 (multisector) in TI, AB
#22 (multi-sector) in TI, AB
#23 (interprofession*) in TI, AB
#24 (inter-profession*) in TI, AB
#25 (multiprofession*) in TI, AB
#26 (multi-profession*) in TI, AB

#27 (interdisciplin*) in TI, AB
#28 (inter-disciplin*) in TI, AB
#29 (multidisciplin*) in TI, AB
#30 (multi-disciplin*) in TI, AB
#31 (inter-organi?at*) in TI, AB
#32 (interorgani?at*) in TI, AB
#33 (multi-organi?at*) in TI, AB
#34 (multiorgani?at*) in TI, AB
#35 (joint work*) in TI, AB
#36 (work* together) in TI, AB
#37 Interprofessional-Relations-Education in MJ
#38 Education-Interdisciplinary in MJ
#39 #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35 or #36 or #37 or #38
#40 (#13 and #39) and (LA: NU = ENGLISH)

Cochrane

Wiley Interscience
Searched 13 March 2006

(((social care) near/6 educat*) or ((social care) near/6 student*) or ((social work) near/6 educat*) or ((social work) near/6 qualif*) or ((social work) near/6 program*) or ((social work) near/6 curricu*) or ((social work) near/6 student*)) and ((interprofession*) or (inter-profession*) or (multiprofession*) or (multi-profession*) or (interdisciplin*) or (inter-disciplin*) or (multidisciplin*) or (multi-disciplin*) or (inter-organi?at*) or (interorgani?at*) or (multi-organi?at*) or (multiorgani?at*) or (inter-occupat*) or (interoccupat*) or (multi-occupat*) or (multioccupat*) or (inter-department*) or (interdepartment*) or (multi-sector*) or (multisector*) or (work* together) or (joint work*) or (collaborat*)) in Title, Abstract or Keywords

ERIC

Ovid Technologies: WebSPIRS 5
Searched 1 March 2006

#1 (social adj work*) in ti, ab
#2 (educat*)
#3 (student*)
#4 (qualif*)
#5 (curricu*)
#6 (program*)
#7 #1 near6 (#2 or #3 or #4 or #5 or #6)
#8 (social adj care) in ti, ab
#9 #8 near6 (#2 or #3)
#10 (“Professional-Training” in DEM, DER)
#11 #7 or #9 or #10
#12 (interprofession*)
#13 (inter-profession*)
#14 (multiprofession*)
#15 (multi-profession*)
#16 (interdisciplin*)
#17 (inter-disciplin*)

#18 (multidisciplin*)
#19 (multi-disciplin*)
#20 (interorgani?at*)
#21 (inter-organi?at*)
#22 (multiorgani?at*)
#23 (multi-organi?at*)
#24 (interoccupat*)
#25 (inter-occupat*)
#26 (multioccupat*)
#27 (multi-occupat*)
#28 (interdepartment*)
#29 (inter-department*)
#30 (multisector)
#31 (multi-sector)
#32 (work* adj together)
#33 (joint adj work*)
#34 (collaborat*)
#35 (Interdisciplinary-Approach in DEM, DER)
#36 #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35
#37 (#11 and #36) and (LA:ERIC = ENGLISH)

HMIC

Ovid Technologies: WebSPIRS 5
Searched 24 February 2006

#1 (social work*) in ti, ab
#2 (educat*) in ti, ab
#3 (student*) in ti, ab
#4 (qualif*) in ti, ab
#5 (curricu*) in ti, ab
#6 (program*) in ti, ab
#7 #1 near6 (#2 or #3 or #4 or #5 or #6)
#8 (social care) in ti, ab
#9 #8 near6 (#2 or #3)
#10 SOCIAL-WORK-TRAINING in DE
#11 SOCIAL-WORKER-TRAINING in DE
#12 #7 or #9 or #10 or #11
#13 (interprofession*) in ti, ab
#14 (inter-profession*) in ti, ab
#15 (multiprofession*) in ti, ab
#16 (multi-profession*) in ti, ab
#17 (interdisciplin*) in ti, ab
#18 (inter-disciplin*) in ti, ab
#19 (multidisciplin*) in ti, ab
#20 (multi-disciplin*) in ti, ab
#21 (inter-organi?at*) in ti, ab
#22 (interorgani?at*) in ti, ab
#23 (multi-organi?at*) in ti, ab
#24 (multiorgani?at*) in ti, ab
#25 (inter-occupat*) in ti, ab
#26 (interoccupat*) in ti, ab
#27 (multi-occupat*) in ti, ab

#28 (multioccupat*) in ti, ab
#29 (inter-department*) in ti, ab
#30 (interdepartment*) in ti, ab
#31 (multisector) in ti, ab
#32 (multi-sector) in ti, ab
#33 (work* together) in ti, ab
#34 (joint work*) in ti, ab
#35 (collaborat*) in ti, ab
#36 Joint-working in DE
#37 Interagency-collaboration in DE
#38 INTERPROFESSIONAL in DE
#39 #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35 or #36 or #37 or #38
#40 #12 and #39

IBSS

Ovid Technologies: WebSPIRS 5.1
Searched 24 February 2006

#1 (social work*)
#2 educat*
#3 student*
#4 qualif*
#5 curricu*
#6 program*
#7 #1 near6 (#2 or #3 or #4 or #5 or #6)
#8 (social care)
#9 #8 near6 (#2 or #3)
#10 #7 or #9
#11 multiorgani?at*
#12 multi-organi?at*
#13 interoccupat*
#14 inter-occupat*
#15 multioccupat*
#16 multi-occupat*
#17 interdepartment*
#18 inter-department*
#19 multisector
#20 multi-sector
#21 interprofession*
#22 inter-profession*
#23 multiprofession*
#24 multi-profession*
#25 interdisciplin*
#26 inter-disciplin*
#27 multidisciplin*
#28 multi-disciplin*
#29 interorgani?at*
#30 inter-organi?at*
#31 (work* together)
#32 (joint work*)
#33 collaborat*

#34 #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33
#35 #10 and #34

Medline

Ovid Technologies: WebSPIRS 5
Searched 2 March 2006

#1 (social work* near6 educat*)
#2 (social work* near6 student*)
#3 (social work* near6 qualif*)
#4 (social work* near6 curricu*)
#5 (social work* near6 program*)
#6 (social care near6 educat*)
#7 (social care near6 student*)
#8 (explode "Social-Work" / education in MIME,MJME,PT)
#9 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8
#10 (multi-sector)
#11 (multisector)
#12 (interdepartment*)
#13 (inter-department*)
#14 (multioccupat*)
#15 (multi-occupat*)
#16 (interoccupat*)
#17 (inter-occupat*)
#18 (multiorgani?at*)
#19 (multi-organi?at*)
#20 (interorgani?at*)
#21 (inter-organi?at*)
#22 (multidisciplin*)
#23 (multi-disciplin*)
#24 (interdisciplin*)
#25 (inter-disciplin*)
#26 (interprofession*)
#27 (inter-profession*)
#28 (multiprofession*)
#29 (multi-profession*)
#30 (collaborat*)
#31 (joint work*)
#32 (work* together)
#33 ("Interdisciplinary-Communication" / WITHOUT SUBHEADINGS in MIME,MJME,PT)
#34 ("Interprofessional-Relations" / WITHOUT SUBHEADINGS in MIME,MJME,PT)
#35 #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34
#36 (#9 and #35) and (LA:MEDS = ENGLISH)

PsycInfo

Ovid Technologies: WebSPIRS 5
Searched 27 February 2006

#1 (social work*) in ti, ab
#2 (educat*) in ti, ab
#3 (student*) in ti, ab
#4 (qualif*) in ti, ab
#5 (curricu*) in ti, ab
#6 (program*) in ti, ab
#7 #1 near6 (#2 or #3 or #4 or #5 or #6)
#8 (social care) in ti, ab
#9 #8 near6 (#2 or #3)
#10 (social work students in KC)
#11 (social work education in KC)
#12 #7 or #9 or #10 or #11
#13 (interprofession*) in ti, ab
#14 (inter-profession*) in ti, ab
#15 (multiprofession*) in ti, ab
#16 (multi-profession*) in ti, ab
#17 (interdisciplin*) in ti, ab
#18 (inter-disciplin*) in ti, ab
#19 (multidisciplin*) in ti, ab
#20 (multi-disciplin*) in ti, ab
#21 (interorgani?at*) in ti, ab
#22 (inter-organi?at*) in ti, ab
#23 (multiorgani?at*) in ti, ab
#24 (multi-organi?at*) in ti, ab
#25 (interoccupat*) in ti, ab
#26 (inter-occupat*) in ti, ab
#27 (multioccupat*) in ti, ab
#28 (multi-occupat*) in ti, ab
#29 (interdepartment*) in ti, ab
#30 (inter-department*) in ti, ab
#31 (multisector) in ti, ab
#32 (multi-sector) in ti, ab
#33 (work* together) in ti, ab
#34 (joint work*) in ti, ab
#35 (collaborat*) in ti, ab
#36 (interdisciplinary training in KC)
#37 #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35 or #36
#38 (#12 and #37) and (LA:PSYI = ENGLISH)

SIGLE

Silver Platter
Searched 9 March 2006.

#1 social adj work*
#2 educat*
#3 qualif*
#4 program*
#5 curricu*
#6 student*
#7 #2 or #3 or #4 or #5 or #6

#8	#1 and #7
#9	social adj care
#10	#2 or #6
#11	#9 and #10
#12	interprofession*
#13	inter-profession*
#14	multiprofession*
#15	multi-profession*
#16	interdisciplin*
#17	inter-disciplin*
#18	multidisciplin*
#19	multi-disciplin*
#20	inter-organisat*
#21	inter-organizat*
#22	interorganisat*
#23	interorganizat*
#24	multi-organizat*
#25	multi-organisat*
#26	multiorganisat*
#27	multiorganizat*
#28	inter-occupat*
#29	interoccupat*
#30	multi-occupat*
#31	multioccupat*
#32	inter-department*
#33	interdepartment*
#34	multisector
#35	multi-sector
#36	work* adj together
#37	joint adj work*
#38	collaborat*
#39	INTERPROFESSIONAL
#40	INTERDISCIPLINARY
#41	#12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35 or #36 or #37 or #38 or #39 or #40
#42	#8 or #11
#43	#41 and #42

Social Care Online

www.scie-socialcareonline.org.uk
Searched 9 March 2006.

(@p=("interprofession*") or @p=("inter-profession*") or @p=("multiprofession*") or @p=("multi-profession*") or @p=("interdisciplin*") or @p=("inter-disciplin*") or @p=("multidisciplin*") or @p=("multi-disciplin*") or @p=("inter-organisat*") or @p=("inter-organizat*") or @p=("interorganisat*") or @p=("interorganizat*") or @p=("multi-organisat*") or @p=("multi-organizat*") or @p=("multiorganisat*") or @p=("multiorganizat*") or @p=("inter-occupat*") or @p=("interoccupat*") or @p=("multi-occupat*") or @p=("multioccupat*") or @p=("inter-department*") or @p=("interdepartment*") or @p=("multisector") or @p=("multi-sector") or @p=("work* together") or @p=("joint work*") or @p=("collaborat*") or @k=("interagency cooperation") or @k=("collaboration") or @k=("interprofessional relations")) and ((@p=("social work*") and (@p=("student*") or @p=("educat*") or @p=("curricu*") or @p=("qualif*") or @p=("program*"))) or (@p=("social care") and (@p=("educat*") or @p=("student*"))) or @k=("social work education") or @k=("student social workers"))

Social Services Abstracts

Cambridge Scientific Abstracts
Searched 9 March 2006.

#1	(social work*) within 6 (educat* or qualif* or program* or curricu* or student*) in ti, ab
#2	(social care) within 6 (educat* or student*)
#3	DE=”social work education”
#4	#1 or #2 or #3
#5	(interprofession*) in ti, ab
#6	(inter-profession*) in ti, ab
#7	(multiprofession*) in ti, ab
#8	(multi-profession*) in ti, ab
#9	(interdisciplin*) in ti, ab
#10	(inter-disciplin*) in ti, ab
#11	(multidisciplin*) in ti, ab
#12	(multi-disciplin*) in ti, ab
#13	(inter-organi?at*) in ti, ab
#14	(interorgani?at*) in ti, ab
#15	(multi-organi?at*) in ti, ab
#16	(multiorgani?at*) in ti, ab
#17	(inter-occupat*) in ti, ab
#18	(interoccupat*) in ti, ab
#19	(multi-occupat*) in ti, ab
#20	(multioccupat*) in ti, ab
#21	(inter-department*) in ti, ab
#22	(interdepartment*) in ti, ab
#23	(multisector) in ti, ab
#24	(multi-sector) in ti, ab
#25	(work* together) in ti, ab
#26	(joint work*) in ti, ab
#27	(collaborat*) in ti, ab
#28	DE=”interdisciplinary approach”

#29 #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28
#30 #4 and #29

Social Work Abstracts

Silver Platter
Searched 9 March 2006.

#1 social adj work*
#2 qualif* or program* or curricu*
#3 educat* or student*
#4 #2 or #3
#5 #1 near6 #4
#6 social adj care
#7 #6 near6 #3
#8 interprofession*
#9 inter-profession*
#10 multiprofession*
#11 multi-profession*
#12 interdisciplin*
#13 inter-disciplin*
#14 multidisciplin*
#15 multi-disciplin*
#16 inter-organisat*
#17 inter-organizat*
#18 interorganisat*
#19 interorganizat*
#20 multi-organisat*
#21 multi-organizat*
#22 multiorganisat*
#23 multiorganizat*
#24 inter-occupat*
#25 interoccupat*
#26 multioccupat*
#27 multi-occupat*
#28 interdepartment*
#29 inter-department*
#30 multi-sector
#31 multisector
#32 work* adj together
#33 joint adj work*
#34 #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33
#35 DE= INTERPROFESSIONAL
#36 DE= INTERDISCIPLINARY
#37 DE= MULTI-AGENCY
#38 DE= MULTI-PROFESSIONAL
#39 #34 or #35 or #36 or #37 or #38
#40 DE= SOCIAL-WORK-STUDENTS
#41 DE= SOCIAL-WORK-EDUCATION
#42 #5 or #7 or #40 or #41
#43 #39 and #42

SSCI

ISI: Web of Knowledge
Searched 14 March 2006

#1	TS=((social work*) near (educat* or curricu* or qualif* or program* or student*))
#2	TS=((social care) near (student* or educat*)
#3	#1 OR #2
#4	TS=(interprofession*)
#5	TS=(inter-profession*)
#6	TS=(multiprofession*)
#7	TS=(multi-profession*)
#8	TS=(interdisciplin*)
#9	TS=(inter-disciplin*)
#10	TS=(multidisciplin*)
#11	TS=(multi-disciplin*)
#12	TS=(interagen*)
#13	TS=(inter-agen*)
#14	TS=(multiagen*)
#15	TS=(multi-agen*)
#16	TS=(interorganisat*)
#17	TS=(inter-organisat*)
#18	TS=(interorganizat*)
#19	TS=(inter-organizat*)
#20	TS=(multiorganisat*)
#21	TS=(multi-organisat*)
#22	TS=(multiorganizat*)
#23	TS=(multi-organizat*)
#24	TS=(interoccupat*)
#25	TS=(inter-occupat*)
#26	TS=(multioccupat*)
#27	TS=(multi-occupat*)
#28	TS=(interdepartment*)
#29	TS=(inter-department*)
#30	TS=(multidepartment*)
#31	TS=(multi-department*)
#32	TS=(intersector)
#33	TS=(inter-sector)
#34	TS=(multisector)
#35	TS=(multi-sector)
#36	TS=(interinstitut*)
#37	TS=(inter-institut*)
#38	TS=(multiinstitut*)
#39	TS=(multi-institut*)
#40	TS=((joint work*))
#41	TS=(collaborat*)
#42	#4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41
#43	#3 AND #42

Appendix 2 Keywording and data extraction strategies

A Keywording strategy

Identification of report (or reports)	*Citation*
	Contact
	Handsearch
	Unknown
	Electronic database (please specify)
Linked reports	*Linked*
	Not linked
Status	*Unpublished*
	Published
	In press
Location of study	*UK*
	Europe (please specify)
	USA
	Australia
	Other (please specify)
Study date	*Pre-1980*
	1980–89
	1990–99
	2000–2003
	2004–present
Type of study	*Empirical – evaluation*
	Empirical – descriptive
Summary (brief outline of topic, findings, argument, conclusions – no more than 100 words)	*Details*
Language of IPE in use	*Details*
Definition of IPE in use	*Details*
	Not specified
Definition of interprofessional collaboration/work	*Details*
	Not specified
IPE programme/course name, location and type	*Programme details*
	Not applicable

Aims of IPE espoused	*Improved attitudes/perceptions*
	Acquisition of knowledge
	Acquisition of skills
	Development of interprofessional collaborative behaviour (demonstrated in practice)
	Development of professional identity/esteem
	Improved quality/ delivery of service to users/ carers
	Improved outcomes for users/carers
	Other (please specify)
	Not specified
Type of IPE	*Interactive learning – social work and other students*
	Interactive learning – social work students and other practitioners
	Interactive learning – social work students and other educators
	Uni-professional social workers only learning
	Other
	Not specified
IPE process focus	*Teaching and learning*
	Assessment (formative and/or summative)
	Course management/organisation
	Other
	Not specified
Participants in IPE management/organisation	*Social work educators*
	Other educators
	Social work students
	Other students
	Social work practitioners (includes practice teachers)
	Other practitioners
	Social work managers/employers
	Other managers/employers
	Users/carers/community members
	Other (please specify)
	Not specified/N/A (please state)

Participants in IPE teaching/learning/assessment	*Social work educators*
	Other educators
	Social work students
	Other students
	Social work practitioners (includes practice teachers)
	Other practitioners
	Social work managers/employers
	Other managers/employers
	Users/carers/community members
	Other (please specify)
	Not specified/N/A (please state)
Status of student participation in IPE	*Optional*
	Compulsory
	Varies according to student discipline
	Not specified/NA (please state)
Assessment of IPE	*Unassessed*
	Assessed
	Varies according to discipline
	Not specified/NA
Pedagogical methods	*Induction*
	Formal didactic/received learning
	Exchange based learning (e.g. interactive seminars, exercises)
	Observation
	Simulation (e.g. role play)
	Problem based learning (e.g. structured project in classroom, practice or community)
	Practice (placement) based learning
	Other (please specify)
	Not specified
IPE setting	*Classroom/HEI*
	Practice learning
	Other (please specify)
	Not specified
Other disciplines/professions involved	*Nursing (learning disability)*
	Nursing (mental health)
	Community nursing/health visiting
	Nursing (other)
	Occupational therapy
	Physiotherapy
	Speech therapy
	Medicine
	Midwifery
	Law
	Education
	Other (please specify)
	Not specified

Professional practice area	*Mental health*
	Other health (please specify)
	Physical disability
	Learning disability
	Child protection
	Other children and families (please specify)
	Older people
	Generic
	Community
	Other (please specify)
	Not specified
IPE content and process	*Roles and responsibilities*
	Attitudes and perceptions
	Professional orientation/approach (to problem, task, priorities)
	Values
	Skills
	Professional identity/esteem
	Professional contexts/organisations
	Collaborative practice/team work
	Managing conflict
	Power and anti-oppressive practice
	Reflective or evidence based practice
	Other (please specify)
	Not specified
IPE outcomes concerned	*Participant reactions to IPE*
	Changed attitudes/perceptions
	Acquisition of knowledge
	Acquisition of skills
	Collaborative behaviour – demonstrated in practice
	Professional identities/esteem
	Improved quality/delivery of service to users/carers
	Improved outcomes for users/carers
	Other (please specify)
	Not specified
Theory/concepts in use	*Of interprofessional education*
	Of interprofessional/collaborative practice
	Of pedagogy/learning
	Other (please specify)
	None specified

Status of IPE initiative(s)	*Brief discrete initiative (e.g. one or two short workshops)*
	Substantial discrete initiative (more than one full day; e.g. one module)
	Embedded in programme content
	Embedded in programme structure
	Embedded – dual award
	Not specified/NA (please state)
Stage of student education	*Early (e.g.1st year UG/Masters)*
	Middle (e.g. 2nd year UG)
	Late (final year)
	Throughout
	Varies according to student discipline
	Not specified/NA (please state)
Key informants of study	*Students*
	Educators
	Professionals
	Users/carers
	Research review
	Author account/reflection
	Other (please specify)
	Unclear
Main findings	*Positive*
	Negative
	Inconclusive
	Other (please specify)
	Not specified/NA (please state)
Factors associated with effective IPE provision/outcomes	*Facilitators*
	Barriers
	Not specified/NA (please state)
Main conclusions (includes acknowledged strengths/limitations of study; recommendations for future research/practice)	*Positive*
	Negative
	Inconclusive
	Other (please specify)
	Not specified
Suitable for data extraction	*Yes*
	Possible (why?)
	No
Utility – is study useful/relevant for answering this review question?	*Distinctive – positive (noteworthy for positive reasons)*
	Distinctive – negative (noteworthy for negative reasons)
	Not distinctive (nothing striking to note)
	Standard not readily applicable to this study – note why not

Productivity – does study enhance/generate new or particularly productive understandings/suggestions in answer to the review question?	*Distinctive – positive (noteworthy for positive reasons)*
	Distinctive – negative (noteworthy for negative reasons)
	Not distinctive (nothing striking to note)
	Standard not readily applicable to this study – note why not
Transparency – is the study open to scrutiny?	*Distinctive – positive (noteworthy for positive reasons)*
	Distinctive – negative (noteworthy for negative reasons)
	Not distinctive (nothing striking to note)
	Standard not readily applicable to this study – note why not
	N/A (not coded – does not meet utility/utility/productivity threshold)
Purposivity – is the overall study approach appropriate for purpose?	*Distinctive – positive (noteworthy for positive reasons)*
	Distinctive – negative (noteworthy for negative reasons)
	Not distinctive (nothing striking to note)
	Standard not readily applicable to this study – note why not
	N/A (not coded – does not meet utility/ utility/productivity threshold
Propriety – is study conducted with due regard to ethics, values and legality?	*Distinctive – positive (noteworthy for positive reasons)*
	Distinctive – negative (noteworthy for negative reasons)
	Not distinctive (nothing striking to note)
	Standard not readily applicable to this study – note why not
	N/A (not coded – does not meet utility/ utility/productivity threshold
Accessibility – is study accessible to relevant users?	*Distinctive – positive (noteworthy for positive reasons)*
	Distinctive – negative (noteworthy for negative reasons)
	Not distinctive (nothing striking to note)
	Standard not readily applicable to this study – note why not
	N/A (not coded – does not meet utility/purposivity threshold)

Source – (research) specific qualities	*Distinctive – positive (noteworthy for positive reasons)*
	Distinctive – negative (noteworthy for negative reasons)
	Not distinctive (nothing striking to note)
	Standard not readily applicable to this study – note why not
	N/A (not coded – does not meet utility/purposivity threshold)

B Data extraction strategy

Section A: Administration details	
Name of reviewer	*Please specify*
Date of review	*Please specify*
Title of main paper and date of publication	*Please specify*
Author(s)	*Please specify*
Date when the study was carried out	*Please specify*
Linked reports	*Not applicable* *Details*
If this study has a broad focus, and this data extraction focuses on just one component of the study, please specify this here	*Please specify*
Section B: Study aim(s), rationale and research questions	
Please describe the study's aims, objectives and underpinning rationale	*Details*
What are the study research questions and/or hypotheses?	*Details*
Section C: Intervention focus	
Please describe briefly the type of intervention with which the study is concerned	*Details*
Please describe briefly the characteristics of the intervention	*Details*
Section D: Design	
Which type(s) of study does this report describe?	*Description* *Exploration of relationships* *Evaluation: naturally occurring* *Evaluation: researcher manipulation* *Other (please specify)*
Which variables or concepts, if any, does the study aim to measure or examine?	*Explicitly stated (please specify)* *Implicit (please specify)* *Not stated/unclear (please specify)*
Which outcomes does the study examine?	*Not applicable* *Details*

Which facilitators and barriers does the study examine?	*Not applicable* *Details*
When were measurements of the variable(s) used for outcome made, in relation to the intervention?	*Not applicable* *Before and after* *Only after* *Other (please specify)* *Not stated/unclear*
Section E: Methods – groups	
If comparisons are made between two or more groups, please specify the basis of divisions made for group allocation and comparison between groups	*Not applicable (not more than one group)* *Prospective allocation into more than one group (g allocation to different interventions, or allocation to intervention and control groups)* *No prospective allocation but use of pre-existing differences to create comparison groups (e.g. receiving different interventions, or characterised by different levels of a variable such as stage of learning)* *Other (please specify)* *Not stated/unclear (please specify)*
How do the groups differ?	*Not applicable (not more than one group)* *Explicitly stated (please specify)* *Implicit (please specify)* *Not stated/unclear (please specify)*
Number of groups	*Not applicable (not more than one group)* *One* *Two* *Three* *Four or more (please specify)* *Not stated/unclear (please specify)*
If prospective allocation into more than one group, what was the unit of allocation?	*Not applicable (not more than one group)* *Not applicable (no prospective allocation)* *Individuals* *Groupings or clusters of individuals (details)* *Other (g individuals or groups acting as their own controls) (please specify)* *Not stated/unclear (please specify)*

If prospective allocation into more than one group, which method was used to generate the allocation sequence?	*Not applicable (not more than one group)* *Not applicable (no prospective allocation)* *Random* *Quasi-random* *Non-random* *Not stated/unclear (please specify)*
If prospective allocation into more than one group, was the allocation sequence concealed?	*Not applicable (not more than one group)* *Not applicable (no prospective allocation)* *Yes (please specify)* *No (please specify)* *Not stated/unclear (please specify)*
Section F: Methods – sampling strategy	
Are the authors trying to produce findings that are representative of a given population?	*Explicitly stated (please specify)* *Implicit (please specify)* *Not stated/unclear (please specify)*
What is the sampling frame (if any) from which the participants are chosen?	*Not applicable (please specify)* *Explicitly stated (please specify)* *Implicit (please specify)* *Not stated/unclear (please specify)*
Which sampling methods does the study use to select people, or groups of people (from the sampling frame)?	*Not applicable (please specify)* *Explicitly stated (please specify)* *Implicit (please specify)* *Not stated/unclear (please specify)*
Planned sample size	*Not applicable (please specify)* *Explicitly stated (please specify)* *Implicitly stated* *Not stated/unclear (please specify)*
Section G: Recruitment and consent	
Were any incentives provided to recruit people into the study?	*Not applicable (please specify)* *Explicitly stated (please specify)* *Implicit (please specify)* *Not stated/unclear (please specify)*
Was consent sought?	*Not applicable (please specify)* *Explicitly stated (please specify)* *Implicit (please specify)* *Not stated/unclear (please specify)*
Section H: Actual sample	
Please describe the participants in this study (e.g. IPE students, educators, practitioners)	*Details*

What was the total number of participants in the study (the actual sample)?	*Explicitly stated (please specify)* *Implicit (please specify)* *Not stated/unclear (please specify)*
What is the proportion of those selected for the study who actually participated in the study?	*Explicitly stated (please specify)* *Implicit (please specify* *Not stated/unclear (please specify)*
What is the profession/discipline of the individuals within the actual sample?	*Not applicable* *Explicitly stated (please specify)* *Implicit (please specify)* *Not stated/unclear (please specify)*
Is there any other useful information about the study participants?	*Not applicable* *Explicitly stated (please specify no/s)* *Implicit (please specify)* *Not stated/unclear (please specify)*
How representative was the achieved sample (as recruited at the start of the study) in relation to the aims of the sampling frame?	*Not applicable (no sampling frame)* *High (please specify)* *Medium (please specify)* *Low (please specify)* *Unclear (please specify)*
If the study involves studying samples prospectively over time, what proportion of the sample dropped out over the course of the study?	*Not applicable (not following samples prospectively over time)* *Explicitly stated (please specify)* *Implicit (please specify)* *Not stated/unclear (please specify)*
Did the participants who dropped out differ from those remaining in the sample?	*Not applicable (no drop-outs reported)* *Explicitly stated (please specify)* *Implicit (please specify)* *Not stated/unclear (please specify)*
What are the baseline values describing the participants (e.g. socio-demographic variables and outcome variables)?	*Details* *Not stated/unclear (please specify)*
Section I: Methods – data collection	
Which were the main types of data collected, and please specify if they were used a) to define the sample, b) to measure/monitor aspects of the intervention, c) to measure/monitor aspects of the sample as findings of the study	*Details*

Who collected the data?	*Researcher*
	Educator/s
	Other (please specify)
	Not stated/unclear
	Coding is based on: authors' description
	Coding is based on: reviewers' inference
Which methods were used to collect the data?	*Formal course evaluation (student feedback)*
	Informal course evaluation (student feedback)
	Formal course evaluation (other participant feedback)
	Informal course evaluation (other participant feedback)
	Research interview
	Research questionnaire
	Research focus group
	Formal assessment of student work (practice- or classroom-based)
	Informal assessment of student work (practice- or classroom-based)
	Other (please specify)
	Not stated/unclear
	Coding is based on: authors' description
	Coding is based on: reviewers' inference
Do authors describe any ways they addressed the reliability of their data collection tools (e.g. test – re-test)?	*Details*
Do the authors describe any ways they have addressed the validity of their data collection tools/methods?	*Details*
Was there concealment of study allocation from those measuring outcome? (if relevant)	*Not applicable (not measuring outcome)*
	Details
Section J: Methods – data analysis	
What are the main methods of analysis used in the study?	*Details*
Which statistical methods if any were used?	*Not applicable (none used)*
	Details
What rationale do the authors give for the methods of analysis?	*Details*
Do the authors describe strategies used in analysis to control for confounding variables?	*Details*
Any other important features of analysis?	*Please specify*

Section K: Results and conclusions	
Please summarise the results	*Positive*
	Negative
	Inconclusive
	Mixed
	Other (includes facilitators and barriers)
What are the statistically significant results?	*Not applicable (significance not tested)*
	Negative
	Positive
	Inconclusive
	Mixed
	Other (includes facilitators and barriers)
What are the non-significant results?	*Not applicable (significance not tested)*
	Positive
	Negative
	Inconclusive
	Mixed
	Other (includes facilitators and barriers)
Are there any obvious shortcomings in the reporting of the data?	*Detail*
What do the authors conclude about the study?	*Positive*
	Negative
	Inconclusive
	Mixed
	Other (includes facilitators and barriers)
Section L: Quality of the study – reporting	
Are the aims of the study clearly reported?	*Yes (please specify)*
	No (please specify)
Is there an adequate description of the sample used in the study and how the sample was identified and recruited?	*Yes (please specify)*
	No (please specify)
Is there an adequate description of the methods used in the study to collect data?	*Yes (please specify)*
	No (please specify)
Is the study replicable from this report?	*Yes (please specify)*
	No (please specify)
Do the authors avoid selective reporting bias?	*Yes (please specify)*
	No (please specify)
Do the authors report on their own relationship to the intervention studies?	*Yes (please specify)*
	No (please specify)

Section M: Quality of the study – methods and data	
Has the reliability and validity of data collection tools, methods and analysis been established?	*Yes (please specify)* *No (please specify)*
Was the choice of research design appropriate?	*Yes, good (please specify)* *Yes, some attempt (please specify)* *No, none (please specify)*
To what extent could the design rule out other sources of error?	*A lot (please specify)* *A little (please specify)* *Not at all (please specify)*
How generalisable are the findings?	*Details*
Are there ethical concerns about the way the study was conducted or reported?	*Yes (please specify)* *No (please specify)*
Section N: Weight of evidence	
Weight of evidence – A: Taking account of all quality assessment issues, can the study findings be trusted in answering the study's own question or subquestion(s)?	*High trustworthiness* *Medium trustworthiness* *Low trustworthiness*
Weight of evidence – B: How appropriate is the design and analysis of this study for addressing the question or subquestion(s) of this particular systematic review?	*High* *Medium* *Low*
Weight of evidence – C: How relevant is the particular focus of this study (including conceptual focus, context, sample and measures) for addressing the question or subquestion(s) of this particular systematic review?	*High* *Medium* *Low*
Weight of evidence – D: Taking into account Weights of evidence A, B and C, what is the overall weight of evidence this study provides to answer the question of this particular systematic review?	*High trustworthiness (please specify)* *Medium trustworthiness (please specify)* *Low trustworthiness (please specify)*

Appendix 3 Stakeholder feedback

A Summary of stakeholder group member feedback to IPE questionnaire

How would you define what is meant by interprofessional education?	• learning about different disciplines, and about each other's roles in respect of a common focus • being taught by, and learning from, educators and practitioners from different disciplines • shared learning as a basis for professionals with related but distinct roles working together with common understanding • working towards a set of negotiated outcomes – to improve quality of practice • learning to work with all practitioners, qualified and unqualified, employees and volunteers, across all sectors
What should be the purpose of IPE at qualifying social work level?	• learn about others' roles and responsibilities, professional contexts and cultures • develop clear understanding of statutory responsibilities to work accountably in collaboration • break down barriers, challenge stereotypes and dissolve preconceptions • develop more positive views and motivation towards working interprofessionally • work towards collaborative models of practice to improve outcomes for users; break down barriers to information sharing and communication • develop student confidence as well as competence to work interprofessionally • empower practitioners to address change together – to support professional and personal development and transform workforce over time • improve outcomes for service users by improving pathways to appropriate services and reducing inter-professional conflict and duplication
What key observations have emerged from your experience of IPE to date?	• often starts from need to 'connect practice', in line with policy agendas • IPE training opportunities limited (especially across public and voluntary sectors) • IPE initiatives can be limited/tokenistic if not embedded in programme structures, processes and content • more established within agencies, around particular areas of practice (e.g. Common Assessment Framework); focus more on services rather than education as such • students develop interprofessional links on own initiative, rather than through formal academic/practice learning provision • facilitated a focus group with SW students from other university
What do you think IPE for qualifying social workers should involve?	• champions in collaborative education to empower others to change and develop collaborative practice • students, academics and practitioners from different disciplines; no one discipline favoured in approach to planning, location, teaching responsibilities, language used etc

	• learning to focus on different and common understandings (not just common areas of interest) • learning to focus on developing collaborative skills and applying skills in practice • based in classroom (group work, joint projects) and practice learning settings • offered at appropriate stage of course – e.g. best in the early stages (preparing students for placement), prevents formation of stereotypes • opportunity for participants to develop informal and ongoing relationships with each other • emphasis on IPE to underpin/be embedded in whole programme, not confined to discrete initiatives e.g. occasional joint seminar
What are the main facilitators successful of IPE?	• motivation of educators, practitioners and students • shared recognition of need for and benefits of IPE, potential to improve quality of practice and services • willingness of participants to learn new skills, have new experiences and broaden knowledge • organisational objectives and structures supporting IPE/collaboration • common task or focus • carefully planned curriculum using a variety of teaching methods (especially interactive, participative learning) • availability of good models of working together in practice • safe environment where conflicts can arise and be resolved • room for reflection • regular channels for dialogue between participants in IPE (learners and education providers)
What are the main barriers to IPE and its success?	• lack of commitment to IPE, lack of sense of need for it • resistance to change • pre-conceived ideas about other professionals • status differences, internal group dynamics and cultures • witnessing conflicts or poor interprofessional practice can make students feel disillusioned • tokenism • lack of time and resource • lack of monitoring of impact/effectiveness

What outcomes should we look for to judge the success of IPE for qualifying social work?	• difficult to tell straight away! learning may take place through trial and error; need time/opportunities to put knowledge into practice and reflect • positive attitudes towards other professionals; reduced stereotypes and increased recognition of value of other professionals • clearer perception of and confidence in own role • mutual respect; establishment of good working relationships with other professionals and teams • fewer barriers evidenced in practice • positive attitudes towards working in multi-disciplinary teams; practitioners motivated and inspired to work effectively together • reduced conflict in interprofessional decision-making • track progression pathways – i.e. generation of creative progression routes across organisations/professions/sectors • testimonies of users and carers – about process and outcomes of interprofessional work • service level outcomes – more flexible, responsive and integrated service delivery, allowing better planning (e.g. for risk, contingency)

B Summary of service user feedback to IPE questionnaire

Is it important that different practitioners from different services work together to help service users? Why?	• yes! • to provide an overview • to provide a co-ordinated and speedier response • to avoid wasting time and duplication of information • to provide greater assurance that service users do not slip through the net • to involve different agencies in the provision of joint support plans • to enable medics to disseminate information to non-medics about the side effects of medication • users may feel more comfortable talking to one professional rather than another
When practitioners from different services work well together what do you think is making it work?	• when the practitioners have communication, compassion, care and knowledge • good listening skills • practitioners and clients to be treated as equals • an up to date view of user needs • adequate funding and staffing resources • availability of services • having one main view and target instead of different ones • production of care plans incorporating all the different agencies • respect between different services • flexibility • the right information • internet access with security safeguards
When they are not working well together what is making it go wrong?	• lack of communication, understanding, knowledge, care, compassion • different criteria for different services • poor links between services • being told different things by different people • confidentiality policies between services – too much or too little • lack of professionals' knowledge of users' problems, for example on addiction • lack of professionals' information, for example on housing • lack of information on what different services provide and what is appropriate for a particular client • no continuity of care • no coordination of appointments • poor budgeting and funding decisions • low staff levels • insufficient time • inflexibility • inappropriate rules • lack of opportunity for users to speak
If you were training practitioners to work well together so that	• jointly consider decisions on prioritising funding • packaging care in the most cost effective way • communication and mutual understanding between services • a one stop shop approach for joined up services • placements with other professionals, not just own profession

they can help service users, what would you want them to learn? what might be a good way to learn it?	• liaison officers between services • liaison officers for service users in each service with advertised availability • discuss families not just individuals • live a day in the life of a client • invite service users to lecture on their experience • security safeguards for confidentiality • improve IT skills to deal with confidentiality • patience, listening skills • all of them learn to listen to how I feel instead of how they feel • a complaints policy for service users

Appendix 4 Outcome focus of evaluative studies in thematic analysis and in-depth review

Evaluative studies included in the in-depth review and/or thematic analysis are indexed below by bibliographic reference number, according to the outcomes with which they were concerned, whether measured or monitored only.

Outcome focus	**Studies included in in-depth review**	**Studies in thematic analysis only**
Participant reactions to IPE	Measured: 3; 4 Monitored: 1; 4; 5; 7; 8; 9; 12; 13	Measured: 34 Monitored: 27; 29; 33; 38; 39
Changed attitudes/ perceptions	Measured: 1, 2; 3; 4; 10; 11 Monitored: 7; 9	Monitored: 29; 39; 49
Acquisition of knowledge	Measured: 1, 3; 4; 10; 12 Monitored: 2; 5; 6; 7; 9	Measured: 49 Monitored: 27; 46
Acquisition of skills	Measured: 4; 10; 11 Monitored: 7; 13;	Measured: 49 Monitored: 39
Collaborative behaviour – demonstrated in practice	Measured: 12 Monitored: 6; 7; 8; 9; 13	Measured: 44; 49 Monitored: 27; 28; 39; 46; 48; 51
Improved quality practice/service to users/ carers	Monitored: 6; 8; 9	Monitored: 27; 48
Professional (including 'joint') identities	Monitored: 1; 5; 10	Monitored: 27; 29
Improved outcomes for users/carers	Monitored: 6; 8	

Appendix 5 Studies included in in-depth review

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
Carpenter and Hewstone, 1996 [1] (medium WOE)	To describe and evaluate shared learning programme for medical and social work students, designed to improve attitudes to and knowledge of each others' skills, roles and duties, and to increase ability to work collaboratively.	* UK-based 'Shared Learning Programme' for final year medical and social work students (+ some health visitor and nursing students in one cohort). * Guided by contact theory. * HEI based workshops and small groups, and observation visits to practice settings took place over 25 days during one week. * Students explore own attitudes and orientations; joint planning of care/treatment for particular cases, mainly mental health and disability. * Compulsory course, but unassessed.	* Pre-test post-test evaluation of single group. * Uses ANOVA to measure change over time and differences between student disciplines in student knowledge about and attitudes towards own and other profession, perceptions of similarity and difference. * No attempt to establish which particular features of programme may contribute to which aspects of change. * No follow-up beyond immediate post-test.	Mixed findings about programme effectiveness: * Attitudes towards other professionals (e.g. perceived competence and life experience), and knowledge of each others' skills, roles, duties improved overall in response to IPE and exposure to each other. * Contact theory supported by evidence of intergroup differentiation – if each student (profession) group seen as distinctive in way it wants to be, more secure in identity and amenable to collaboration and change. But: * Much scope for individual variation. * In 19% of cases attitudes worsened. * May be linked to lack of motivation, especially for medics. * No evidence that attitude change will be lasting, since no long-term follow-up. * Unable to tell which particular features of IPE design contributed to effectiveness. * Facilitators: institutional support; conducive atmosphere; positive expectations of participants. * Barriers: structural and professional cultural barriers, stereotypes and negative expectations.

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
Colarossi and Forgey, 2006 [2 – medium WOE] Linked study: Forgey and Colarossi, 2003[15]	To evaluate effectiveness of IPE course for social work and law students. Course aims to improve knowledge about domestic violence, interdisciplinary knowledge about professional missions and roles, and changing attitudes about both interdisciplinary collaboration and domestic violence.	* USA-based IPE course on 'Domestic Violence: Law and Social Work' for advanced level qualifying students: final year Masters in social work and Juris Doctorate level law. * 14 week elective assessed course, HEI based with observational visits to courts; inked to optional interdisciplinary placement. * Interactive learning: exchange based, small groups and lectures. * Focus on developing knowledge/understanding of domestic violence and respective roles and responsibilities, orientations and values; improving attitudes towards and developing knowledge and skills for interdisciplinary collaboration.	* Pre-test/post-test controlled study, comparing IPE (n=48) and control (n=45) groups of combined law and social work students, evaluating outcomes of IPE. * Measures were: knowledge of and attitudes towards domestic violence and interdisciplinary work. * ANCOVA and T-tests used to compare groups and evaluate changes in knowledge and attitudes about domestic violence, own and other professions and interprofessional work. * Authors offer caveats, that no attempt made to establish which particular features of programme may contribute to which aspects of change. * Also caveats that other (e.g. placement) factors may influence outcomes, and follow-up beyond immediate post-test.	Mixed: findings about IPE effectiveness. * Authors present results positively, saying that IPE group of social work and law students improved significantly more than did control group, on all outcome measures. * In fact, significant improvements seen for IPE group in attitudes to and knowledge of domestic violence; also in interdisciplinary knowledge. * But attitudes towards interdisciplinary work deteriorated for both IPE and control groups (though worse for control group, whose pre-test attitudes were also worse). Authors do not highlight this finding. * Facilitators: modelling of interdisciplinary collaboration.

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
Fineberg et al, 2004 [3 – high WOE]	To evaluate the effectiveness of an IPE module in palliative care designed to develop collaborative understanding among medical and social work students, to increase understanding of mutual professional and interdisciplinary collaborative roles.	* USA-based IPE module entitled: 'Multidisciplinary care tools: teamwork and family conferencing in palliative care'. * 4-week interdisciplinary experiential module, provided for 2nd (final) year masters social work students, and 3rd/4th year medical students. * Mainly classroom based involving: induction, exchange-based learning in small groups, some collaborative problem-based learning, role play, and one visit to practice setting. * Focus on reflection on attitudes and stereotypes, understanding professional and interdisciplinary collaborative roles, communication, shared experience and trust building.	* Pre-test/post-test and 3 month follow-up controlled study, comparing IPE (n=45) and control (n=26) groups of combined social work and medical students, evaluating outcomes of IPE. * Measured students' perceived understanding of professional roles and interdisciplinary collaboration at all three time points. * Also monitored IPE student reactions to course. * Acknowledged limitations: small sample size, non-random group assignment, volunteer participants; in particular measurement of perceived not actual knowledge of professional roles and collaborative work.	Positive overall * IPE resulted in increased in perceived understanding of professional roles and collaborative work, maintained at 3-month follow-up, and significantly greater than change in control group. * Difference held over and above student prior experience of collaborative work. * Students valued IPE as opportunity to learn with and about other students and practitioners.

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
Fulmer et al, 2005 [4 – medium WOE] Linked studies: Reuben et al, 2005[23]; Flaherty et al, 2003[16]; Leipzig, 2002[19]; Howe et al, 2001[17]; Hyer et al, 2000[18]	Main and several linked papers aim: To evaluate effectiveness of multi-centre IPE programme in developing/ improving medical, health and social work students' attitudes towards teams, self perceptions, knowledge about teams and interdisciplinary care planning and interest in geriatric and team work. Linked studies also aim to develop/validate tools for assessing: * student knowledge of Iinterdisciplinary geriatriccCare planning (Flaherty et al) * student attitudes towards hHealthcCare teams (Hyer et al,).	* USA Geriatric Interdisciplinary Team Training (GITT) programme – national initiative to prepare students in medical, nursing, allied health and social care professions to work on geriatric interdisciplinary teams. * Students at different stages of education; medics post-qualifying, social workers qualifying Masters. * HEI classroom and placement based, different formats and duration in each of 8 centres, and varies within for each (e.g. social work students average 8–9 months placement, medics 4 weeks). * Unclear if assessed; elective or compulsory status varies with centre and discipline. * Various combinations of practice based and (classroom) didactic, exchange, small group and web based learning; integrative interdisciplinary 'learner teams'. * Focus varied, mainly: geriatric care, interdisciplinary care planning, team work/functioning dynamics/roles/leadership; interdisciplinary practice skills; conflict management.	Main study: * Pre/post test evaluation of IPE effectiveness; based on 537 students from 8 sites (14% are social work) * No control group. * All students completed 5 core pre/post IPE tests of: attitudes towards teams; perceived team skills; knowledge about interdisciplinary care planning; knowledge about team dynamics and functioning; future interest in geriatric and team work. * Battery of statistical tests to examine change over time and between discipline group differences. * Linked studies: mixed descriptive and/or evaluative, using parts/overlap of student sample – to develop and validated measures used (Hyer et al; Flaherty et al) or describe IPE approach (Howe et a) or evaluate disciplinary differences (Leipzig et a; Reuben et al)	Mixed: * GITT effective in improving all measures of attitudes, but especially students' perceived team skills (social work students in particular). * Limited and discipline specific change in knowledge about team dynamics. * No change in knowledge about interdisciplinary care planning, or in reported future interest in teams and geriatric work. * Professional cultures, hierarchies, regulations, attitudes tend towards preserving 'disciplinary split'; medicine especially resistant to IPE and interprofessional collaborative work. * Attitude change affected (positively) by student age and (negatively) by prior experience of geriatrics. * Facilitators: strong faculty support and role models; collaborative relationship between HEI and field; practice experience outside medical setting. * Barriers: disciplinary hierarchies; lack of motivation and support; lack of emphasis on interdisciplinary practice in professional regulations/requirements; structural incompatibilities between professional programmes/schedules; disparities in student stage of learning/maturity.

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
Grossman and McCormick, 2003 [5] – medium WOE	To examine retrospectively social work student experiences of a specialised, placement- and classroom-based IPE initiative focused on child welfare. To explore its perceived effect on their preparation for professional practice and identification with social work role.	* 2nd year Masters social work students from 10 HEIs in one USA state brought together for IPE initiative – partly uni-professional, partly across disciplines. * Initial workshop (uni-professional) on interdisciplinary child welfare practice and teamwork. * Week long interdisciplinary child welfare workshop. * Major component: specialised fieldwork placements in multi-disciplinary child welfare field work teams. Also involves student teachers, counsellors, psychologists, mental health workers, police. * Elective and assessed. * 3 models of interdisciplinary practice experience involved: i) various disciplines collaborate via formal coordinating agency ii) multidisciplinary agency employs different professionals iii) combination of both.	* Retrospective evaluation of IPE effectiveness, post-test follow-up only. * Telephone interviews with 18 former social work IPE students, 6–18 months after qualification. * Questionnaire-based interviews – 32 items, mainly open-ended. * Interviews explore perceived usefulness/ relevance of IPE training in preparing them for practice. * Brief reference made to information gathered from field instructors – no detail given. * Frequencies calculated; mainly qualitative analysis of interview transcripts, using NUDIST.	Mixed – effectiveness outcomes mainly positive, participant reactions more qualified. * All former students felt well prepared for professional role by qualifying education. * 6 (33%) students found IPE helped reduce stereotypes, gain insights into others' roles/orientation. * 12 (66%| said IPE helped prepare them for interprofessional collaboration in current role. But: * 14 (78%) still report some difficulties working with other disciplines – e.g. poor communication, understanding of different perspectives/remits, different levels of cultural sensitivity. * 13 (72%) of students valued practice-based supervisors' encouragement, support, flexibility and input. * But critical of HEI based liaison with practice settings, and lack of taught input on group work. * Facilitators; skilled leadership; good field instruction balancing support with challenge. * Barriers: ineffective HEI/practice liaison; lack of attention to group work. * Authors conclude very positively: IPE 'a valuable experience', promotes 'comfort in interdisciplinary situations…(and) 'served to heighten their understanding of and identification with social work' (p 109).

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
Maidenberg and Gollick, 2001 [6 – low WOE]	To report on the process and outcomes of an IPE initiative for qualifying social work and law students. Also to consult broadly with practitioners and supervisors about IPE and interprofessional collaboration. To use both as the basis for recommendations for further IPE development.	* USA-based small-scale IPE initiative, practice based. * 4 Masters social work students with 24 law students to work in interdisciplinary teams of 2–3, in specialist legal services centre, assessing and planning for needs of individual elderly or disabled clients (e.g. re housing/welfare issues). * Focus on: exploring perceptions of each other, orientations and priorities, as basis for team work; experiencing collaborative work in practice to meet clients' needs. * Not specified whether or not compulsory, or whether assessed.	* Post-test, research questionnaires to 13 student participants, and to broader sample of practitioners. * Feedback also from practitioner conference convened. * Student questionnaire asks about IPE experience and perceived benefits to service users (NB no direct feedback from users). * Practitioner questionnaire (n= c75)) asks for pressing areas of difficulty in interprofessional practice, and topics for conference (80 attendees) which follows these up. * Reference also to use of course evaluation and periodic review material, plus observation of students in practice. No detail of either given. * Qualitative analysis, not reported in great detail; information sources not fully distinguished in analysis. * Researcher relationship to IPE initiative unclear.	Mixed – programme had some success, and exposed some limitations. * Case examples given where students worked collaboratively, effectively responding to client problems and needs. * 10/13 students reported IPE programme benefited quality of service to clients. But: * Some student teams remained too role divided, failed to appreciate fully advantages of coordination. * 25% of students identified problems with different professional perspectives and clearly defining roles. * Feedback on specific IPE programme and broader practitioner views/experience, highlighted shortcomings/areas for improvement: highlighted need to develop better communication, clarity about role differentiation, clear parameters for confidentiality, information sharing and ethics, and policies/procedures to encourage team work and building of relationships. * Facilitators/barriers: many indicated, in the form of recommendation – e.g. IPE needs: good induction/orientation; formal and informal contact; modelling collaboration; clarity of expectations; shared information and shared goals highlighted, placement policies/procedures appropriate for each discipline; students' equal access to teaching and learning; course schedules compatible.

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
Miers et al, 2005 [7] – high WOE	To explore student and facilitator experiences of learning in interprofessional groups, on IPE programme (also evaluated by Pollard et al[11] (see below). Adopting realistic evaluation approach, to ask 'what works for whom in what circumstances?' examining how causal outcomes flow from mechanisms acting in contexts.	* UK-based IPE initiative, for qualifying students from 10 professions (mainly nursing and allied health. * One module in each year of undergraduate programme – this study examines first two modules of three studied here. * All modules compulsory/ core and assessed. * Classroom based, but complemented by placement experience (not discussed). * Students learn in interprofessional groups of c12, each facilitated by educator from range of disciplines. * Enquiry-based learning approach – groups research case scenarios, discuss and report. * Focus on roles, attitudes, perceptions, orientations, experience of and reflection on working collaboratively in teams.	* Qualitative evaluation, case study approach; guided by realistic evaluation principles, exploring relationship between contexts, processes and outcomes of IPE initiative. * 15 learning groups observed; 33 students and unstated number of facilitators interviewed mainly immediately after IPE (some mention of slightly later follow-up with a few students, no details). * Interviews explore group interaction, interprofessional learning and relationships, student learning and facilitation. * Qualitative analysis, verification checks with respondents. * Attempt to link outcomes to perceived aspects of intervention.	Mixed: * Most participants (and researchers) reported perceived improvement in student communication skills and confidence, understandings of self and others, of interprofessional practice, and commitment to it, plus reduction of stereotypes and preconceived ideas. * Perceived learning outcomes were positively affected by student prior practice experience and professional confidence, and quality of facilitation. * Students enjoy experience of IPE, appreciate experienced facilitator support (especially early stage); some students want more disciplines represented in learning groups. However: * Students with less experience found it hard to understand IPE issues in earlier stages. * Students showed little evidence of working collaboratively across disciplines to undertake enquiry-based learning but did engage to degrees with each other in IPE sessions. * Some students reported professional divisions reinforced, conflict difficult to manage and see IPE as utopian. * Some students struggled with wide range and lack of clarity of learning outcomes (subsequently revised). * Effective facilitation of IPE learning groups challenging. * Facilitators include: safe learning space, active experienced facilitation of groups. * Barriers include: too many/unclear learning outcomes/ assessment criteria, timetable incompatibilities.

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
Miller et al, 2006a [8] – medium WOE	General aim of all Common Learning Evaluation (CLE) studies 'To evaluate implementation of the Government's modernisation agenda for health and social care in relation to interprofessional education'. Specifically, to evaluate the 'Model B – Multi-track Framework approach to IPE' as one of four UK Department of Health Common Learning Pilots.	* Model B 'Multi-Track Framework' is UK-based practice learning based IPE (Common Learning) initiative, across 3 HEIs, 2 strategic health authorities, several of NHS partner organisations. * Optional, unassessed – 100 students took part, from social work, medicine, occupational, speech and physio therapies, medical imaging and radiography. * 3 different tracks of NHS placements offered: Track 1: uni-professional student(s) work in other professional context. Track 2: peer placement – 2–3 students from different professions on IPE? placement focus together on clients/projects. Track 3: 4–8 students form interprofessional shadow teams in 5–6 week placement region. * Focus on client centred collaborative practice.	* Part of larger CLE evaluation, of different IPE initiatives using different samples. * Small-scale qualitative evaluation during and/or post IPE (timing not clear). * No comparison or control groups. * Sampling unclear. * Interviews with 14 students (none social work), 4 practice educators (including 2 HEI educators) 3 practice managers; 2 strategic leads. * Observation of 3 IPE seminars. * Interviews main focus on participant experiences/and to some extent change outcomes; not clear how much is participant perception, how much researcher judgement. * Qualitative thematic analysis, verification with participants; used NVIVO. * No sustained comparison between different placement tracks and outcomes, or different participant sources.	Mixed * All 3 placement tracks appeared to enable students to learn about own and others' roles; but participants felt shadow teams provided 'richest' encounter. * Educators and practitioners also learned about interprofessional collaboration. * Some suggestion, with examples given, of positive impact of IPE on quality of interprofessional care to clients. * Students and staff reported value of practical focus on real client. * Interprofessional discussion sessions perceived as especially helpful reflective spaces for exploration. * Multiplicity of factors affected student participation and experience of joint sessions (as part of IP placement experiences), representation of disciplines within the learning group, stage of professional education, prior life experience, individual personality, group dynamics and facilitator's role. * Facilitators: skills of IPE facilitators; disparity between student stages of learning between disciplines not a problem, welcomed by some; non-assessed status conducive to reflection not just performativity; practice with real service users. * Barriers: logistics/lack of complementarity between and timetabling of placements across different disciplines; uni-professional track offered more limited interprofessional learning opportunities.

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
Miller et al, 2006b [9] – medium WOE	General aim of all Common Learning Evaluation (CLE) studies 'To evaluate implementation of the Government's modernisation agenda for health and social care in relation to interprofessional education'. Specifically, to evaluate the 'Model D – Whole Systems Model' approach to IPE' as one of four UK Department of Health Common Learning Pilots.	* Model D 'Whole Systems' approach is UK-based, practice learning based IPE (Common Learning) initiative. Involved two HEIs, one Workforce Development Confederation and 30–40 social and health care organisations. * Programme to involve 4 units of IPE, each 2 week block, (first Unit HEI based, rest practice based), spread through undergraduate and Masters programme years (Current evaluation focused on first 2 units). * All units compulsory and assessed. * 1,500 students from 11 professions (nursing, medicine, allied health and social work) came together in small interprofessional groups (c10 students) for shared tasks focused on service provision. * Focus on: learning about practice, about interprofessional teams, and experiencing teamwork.	* Part of larger CLE evaluation of different IPE initiatives using different samples. * Small-scale qualitative evaluation during and/or post IPE (timing not clear). * No comparison or control groups. * Sampling unclear. * Group interviews with 32 students from Unit 1; individual interviews with 10 students from Unit 2 (none social work). * Individual interviews with 10 Unit 1 facilitators (none social work), and 6 practice-based Unit 2 facilitators (Unit 2) interviewed. Reference to interviews with other trust staff – no detail. * Observation of 3 Unit 1 seminars, and 3 Unit 2 groups. * Qualitative thematic analysis, verification with participants; used NVIVO. * No sustained distinction between different participant sources.	Mixed – mainly positive: * Unit 1 staff and some students reported/perceived students learned about teamwork. * Unit 2 'real task' students and staff agreed students gained insight into aspects of practice. * Staff and students agreed early introduction of IPE helps prevent stereotype formation. But question whether Unit 1 too early, students needed to develop professional identity and experience first. * Cumulative learning seen as effective – students drew on learning about teamwork in Unit 1 to inform practice in Unit 2. * Some students questioned value of generic learning task (teamwork rather than interprofessional, later revised), and whether time spent on IPE would be better spent on uni-professional learning. * Different assessment grading requirements for different disciplines problematic). * Question re sustainability of large and complex organization in face of staff turnover and need for ongoing availability of project. *Facilitators: strategic/ financial support; effective, trained facilitators, practice based 'real task', early but not too early introduction of IPE; summative assessment. * Barriers: resource intensive (including placement numbers), workload increase; structural /organisational challenges; lack of congruence (and clarity) between IPE aims and learning tasks.; * Leads to questions about sustainability.

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
O'Neill and Wyness, 2005 [10] – medium WOE Linked study: O'Neill and Wyness, 2004[20]	To enhance inclusion of student voices in discourse on interprofessional education. To examine students' perceptions of their learning on an IPE course, their views of effectiveness of its teaching-learning strategies, and improvements required.	* Small-scale Canadian IPE initiative, involving 4-week optional module with HIV/AIDS focus. * Provided for Masters and undergraduate qualifying students: 6 social work, 5 medics, 6 pharmaceutical and 6 nursing. * Part HEI classroom, part practice observation/ participation. * Interactive learning in interprofessional teams, with other students; practitioners and educators model collaboration. * Shared experiential and problem-based learning. * Focus on roles, responsibilities, different perspectives and orientations, understanding re different professional perspectives; principles and purpose of collaborative practice, and experience of it. * Assessed individually and group-wise.	* Qualitative evaluation, immediately and 6 months post-test. No comparison/ control group. * Focus group interviews with 14/23 students (more social work and pharmacy than nursing) at end of IPE. * Also 12 individual follow-up telephone interviews + 3 more by email. * Interviews explored: perceptions of IPE learning, including effectiveness of teaching/learning strategies and improvements required. * Qualitative thematic analysis.	Positive: * Students reported learning in interdisciplinary practice settings, helped build transdisciplinary relationships, gain knowledge about each others' roles, responsibilities and perspectives. * Valued classroom based interprofessional team work – pivotal to learning about and developing collaborative practice skills. * Observing interprofessional collaboration enabled students to see importance of bringing different perspectives to problems, grasp value of collaborative interprofessional work and be motivated towards it. * IPE helped students develop own professional voice, sense of identity, understanding of those of others. * Working in small interprofessional teams conducive to breaking down barriers, developing trust, taking risks in safe space. * Student learning team dynamics affected learning experience; needs careful guidance /facilitation. * Facilitators: good practice learning opportunities; skilled facilitation and collaborative role modelling; safe conducive learning space; equal status between students; positive expectations; time together in intense activities; opportunities for informal and formal contact.

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
Pollard et al, 2006 [11 – high WOE] Linked studies: Pollard et al, 2005[21] ; Pollard et al, 2004[22] ; Barrett et al, 2003[14]	To explore effectiveness of pre-qualifying interprofessional curriculum incorporating interprofessional modules in each year of study. Specifically to examine effects on: perceived communication and teamwork skills, attitudes towards interprofessional education and interprofessional collaboration, and perceptions of own interprofessional relationships.	* UK-based IPE initiative, for qualifying students from 10 professions (nursing, diagnostic imaging, learning disabilities nursing, mental health nursing, midwifery, occupational therapy, physiotherapy, radiotherapy and social work). * One module in each year of undergraduate programme. * All modules compulsory/core and assessed. * Classroom based, but complemented by placement experience (not discussed). * Students learn in interprofessional groups of c12, each facilitated by educator from range of disciplines. * Enquiry-based learning approach – groups research case scenarios, discuss and report. * Focus on roles, attitudes, perceptions, orientations, experience of and reflection on working collaboratively in teams.	* Prospective large-scale evaluation, at pre, mid point and post-test, of IPE (post-qualification follow-up planned). * Original cohort 852 students. Main study examines 581 students at qualification (36% are social work). * Control group of 250 non-IPE students introduced at qualifying stage (none social work). * Self-assessment questionnaires at each stage on: perceived communication and teamwork skills, attitudes to collaborative learning and work, and (stages 2 and 3) own interprofessional relationships. * Quantitative analysis, range of tests for effects over time; comparisons between subgroups, and with control group at stage; influence of predisposing variables.	Mixed: * Most students positive about their interprofessional relationships, at mid and qualifying points IPE students more positive about these than controls at qualification. But: * Students showed no significant change in self-assessed confidence in communication and teamwork skills between start and qualification, although these dipped at the mid point. * Majority of students (especially social work) were positive about IPE. However, by qualification (and mid point), negative shift in student attitudes to IPE and interprofessional practice. Authors suggest increasing negative attitudes to both may result from unrealistic expectations at the outset, heightened awareness of complexity of interprofessional work through practice experience. * Profession-specific aspects of programmes have more significant influence over student attitudes to collaborative working and learning by the point of qualification than socio-demographic variables. But latter may also impact on student experience – despite overriding disciplinary influence, authors suggest mature and HEI-qualified students may be better able to utilise IPE opportunities.

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
Reed-Ashcraft et al, 2003 [12] – medium WOE	To describe and evaluate effectiveness of an IPE initiative in: increasing students' interdisciplinary team knowledge and skills, ability to distinguish between interdisciplinary and multi-disciplinary approaches, and demonstrate interdisciplinary collaboration.	* Small-scale USA IPE initiative, mainly practice-based, for pre-qualifying (and other) students working with seriously emotionally disturbed children and their families, for 1 semester. * Students and faculty from social work, education, psychology, mental health, sociology, criminal justice; practice supervisors and faculty from same disciplines. * Students rotate between: i) multi-disciplinary student/ supervisor/faculty practice teams; ii) community collaboration between group of students, agency staff, parents – developing system of care. * Focus on experience/ understanding of different multi /inter professional models, and develop skills and practice experience. * Four discussion meetings (students, practice supervisors, faculty) to reflect. * Optional and assessed (within discipline).	*Pre- and post-test evaluation of student experience of and learning from IPE. * No control or comparison group. * Sample includes 10 (55%) students, 4 (80%) supervisors. * Student questionnaire tests perceived knowledge about interprofessional work and care systems, pre- and post-IPE. * Focus group interview to explore IPE experience of students and supervisors. * T-tests to compare pre- and post-test scores; rest qualitative analysis. * Researcher relationship to IPE initiative unclear.	Mixed – mainly positive: *Students reported significant overall perceived increase in knowledge about multi- and interdisciplinary approaches, systems of care, and associated skills. * Supervisors reported learned from 'breadth of experience'. *All participants enjoyed working with others and valued exposure. * Students found community collaboration model represented most enlightened interdisciplinary approach – focus on common care plan, coordinated services, rotating disciplinary group leadership, decisions via group consensus; group progress slow, but interdisciplinarity stronger. However: * Facilitators: interprofessional leadership. * Barriers: timetable/commitment conflicts (uni-professional took priority); insufficient student time; lack of clarity of goals.

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
Whittington and Bell (2001) [13 – low WOE]	To inform the UK agenda for qualifying social work curricula by retrospective evaluation of 1990 social work education in preparing students for interprofessional practice. To examine social workers' current practice with other professionals, importance attached to it, and perceived utility of qualifying social work education towards it.	* Not focused on specialised IPE intervention. * Examines routine CQSW (HEI-based) and CSS (FE- and workplace-based) qualifying social work programmes provided in SE England, some incorporating elements of IPE.	* Retrospective cross-sectional survey, based on postal questionnaire to 752 practising social workers, one year after qualifying in one region (26 providers), in 1990. * Study sample consists of 489 respondents, working in all social work sectors, statutory, voluntary and probation. * Questionnaire explores perceived importance of interprofessional practice, and how well courses prepared them for it. * Reference also made to content analysis of programme documents and of 19 subsequent DipSW programmes submissions. * Quantitative analysis, mainly descriptive statistics.	Mixed: * 66% of respondents with qualifying shared learning experience found it moderately/very helpful. * Social work students felt well understood by health professionals e.g. community nurses, CPNs, health visitors (with whom learning commonly shared). But: * Perceived selves to be poorly prepared to work with doctors, police, solicitors, and poorly understood by them. * Perceived training on all interprofessional skills less effective than importance required * 40–50% felt poorly prepared for multidisciplinary meetings, handling conflict, adapting to change in other organisations. * Practice learning and post-qualifying experience perceived as contributing most to interprofessional competences. * CSS graduates rated academic IPE higher than CQSW; authors suggest maturity, experience and organisational acclimatisation may contribute.

Appendix 6 Additional studies (late identified)

These studies constituted separate parts A & B of:

King, M. and Brady, J. (2005) Learning for effective and ethical practice: Opportunities for interprofessional learning. Demonstration projects evaluation report (July 2005), Dundee: Scottish Institute for Excellence in Social Work Education (available at www.sieswe.org/node/153, accessed 11 February 2007).

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
King, M. (Part A) (2005)[63]	* To conduct process evaluation of a range of new IPE learning opportunities designed for students on the new social work degree, and students from other disciplines. * To explore how IPE might be developed within practice settings.	* Provided at Dundee University in partnership with range of agency stakeholders. * c35 students – 3rd year social work undergraduates, with nursing, medical, education and community education students. * 4 HEI-based 'pilot projects' – consist of multi-disciplinary workshops and case study, for problem based learning; also involve role play, discussion and clinical demonstrations. * Focus on understanding roles and responsibilities. * 2 demonstration projects – involve 2 social work students: on multi-disciplinary placement with child and family support team; 2 social work students on separate placements with older people, in hospital and community mental health teams Individual and group supervision.	* Evaluated process and outcomes, during and after IPE. * For HEI pilot projects, involves: direct observation; structured questionnaires (post-test); focus groups (post-test); telephone questionnaire with educators. * For placement based demonstration projects: post-test meeting with 3 students; questionnaires with 2. * Narrative and minimal quantitative analysis of feedback.	Mixed: * Significant commitment to IPE from all participants: organisers prepared to repeat projects; students value working together. * All participants perceived benefits of interprofessional practice, for clients and professionals. * All students report increased confidence, knowledge and understanding of each others' roles and function. * IPE more effective when students share locality than at a distance. But: * Social work students on multi-professional placement felt insufficiently informed in advance about interprofessional practice (despite 1st year HEI-based shared modules with other disciplines. Want more prior IPE input and contact with others, possibly shadowing. * Students want to work with more diverse professional groups. * Logistical difficulties in organising IPE events, due to timetables, availability and different uni-professional imperatives about arrangements.

Study	Aims of the study	IPE intervention	Study design	Findings and conclusions
Brady, J. (Part B) (2005)[62]	* To evaluate innovative opportunities for interprofessional learning within new service settings.	* University of Paisley, in partnership with two local authority agencies partner. * Placement-based (followed on from earlier pilot project). * Involved 14 final year social work undergraduates and part time diploma in social work students. * Range of placement settings: adult, disability, hospital and community health, housing (young people), child support and special education, criminal justice.	* Post-test only. * Based on practice learning documents for 13/14 placements. * Includes student placement reports and integrative practice studies, practice teacher reports, other staff reports, user/carer feedback. * No detail re method of qualitative analysis.	* Interprofessional learning is 'extremely complex and subject to the interplay of a wide range of factors' (p 46). * Students need to have internalised understanding of the social work role and task as basis for negotiation shared practice with other professionals. Found positive evidence students were achieving this, but should be an ongoing task, through post-qualification. * Organisational challenges of providing high quality IPE placements; scarce resources and inevitable interprofessional tensions some settings. * Evidence of improvement in the main (though unevenly spread) in: student awareness of own and others' identities; understanding of roles and responsibilities; appreciation of others orientations, perspectives, values; increased familiarity with collaborative processes and systems; improved level of reflection and critical analysis in response to exposure to other ways of thinking and doing. * Social work students need fully to internalise an understanding of their role and task before they can be confident interprofessional practitioners; IPE at qualifying level should be the beginning of a continuing professional learning process.

Social work education

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