Interprofessional Education to Support Collaborative Practice: An Interdisciplinary Approach

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Summary

In this scoping project an interdisciplinary research approach has been used to explore, through literature review, interviews and interdisciplinary group discussions, educational approaches and frameworks for supporting interprofessional and collaborative practice.

The researchers have backgrounds in nursing, midwifery, medicine, allied health, health services and community education, as well as higher education, and reviewed the literature across disciplines, but from their own perspective. In doing so, they compared interpretations and identified similarities and differences in the literature. Conversations were used to integrate insights, identify challenges and generate an interdisciplinary understanding of the issues. The researchers undertook two rounds of one-to-one interviews with policy makers, managers and educators in areas related to child health in Scotland. Interviewers used images to generate discussion and interviews were individually analysed before an integrated review was produced. There is a gap between the nature of the discourse in practice settings, from the interviews and interdisciplinary group discussions, and that contained in the literature. Within this divide lie some answers to what are the barriers to education for interprofessional communication and collaboration.

In the latter phase of the study, the research interviewees were invited to attend an event together. The purpose of this was to share ideas, create a network and gather further perspectives through wider interdisciplinary conversations. The event included both traditional and arts-based approaches, poetry and dance, to communicate ideas, generate discussion and develop potential models and frameworks for education for collaborative practice. Concepts emerging from the interviews and literature review, such as complexity, creativity and child-centred care, were communicated via performance.

Emerging strongly from the interviews was the importance of interprofessional capabilities in health and social care practice. Language was identified as being a potential barrier to developing educational approaches and the conclusion was reached that definitions and concepts of interprofessional education should sit within a broader framework of education that supports interprofessional practice, encompassing multiple dimensions that include independent learners; uniprofessional, multiprofessional and interprofessional groups, universities and practice settings; and informal as well as formal environments. Other recommendations included the need for transformative educational approaches, the need to encourage interdisciplinary problem-solving skills and the development of the professional voice. In health and social care, service users as well as students should sit at the heart of curriculum design and the development of frameworks for interprofessional capabilities.

The interdisciplinary research approach is well suited to exploring ideas around learning for interprofessional practice and will continue to be used in future research.

Background to the Scoping Project

It is expected that interprofessional education will lead to collaborative approaches in practice. This is true of any area of endeavour and for this work we have chosen to focus on children's services in Scotland. The earliest years of life are crucial, and interventions at this stage have the potential to break the cycles of health and social inequalities from one generation to another. The Scottish Government's programme, Getting it Right for Every Child (GIRFEC), puts child and family at the centre and requires working across organisational and traditional discipline boundaries (The Scottish Government 2012a). It has identified a "*common core*" of skills, knowledge, understanding and values for the "*children's workforce*", intended for use as a tool for reflective practice, that includes the statement that in "*building a competent workforce to promote children and young people's wellbeing*" it is "*committed to continuing individual learning and development and improvement of inter-professional practice*" (The Scottish Government 2012b).

Although there is a strong evidence base to support the conclusion that collaborative care improves health care (Zwarenstein *et al.* 2009), the evidence that interprofessional education has an impact on health care outcomes is less strong (Reeves *et al.* 2008). In preliminary work with health and social care university lecturers we had found that different professional groups had different ways of seeing interprofessionalism and were using different language for similar concepts. We concluded that if the literature, or if research conversations, were dominated by the insights of one or two disciplines, there may be skewed understanding of the area. In order to fully acknowledge and further explore divergences in understanding we therefore chose to use an interdisciplinary research process.

The report is organised in the following fashion: first we define our use of the terms interprofessional education and interdisciplinary research. Then, we present the aims and objectives and an overview of the methodology used. The literature review starts with a summary of the different disciplinary approaches and is followed by an integrated review with a strong historical perspective. The outcomes of the interviews and interdisciplinary conversations between researchers and participants are presented and followed by an analysis of the emerging themes in the context of the wider literature. Finally the outcomes of the scoping project are presented, including recommendations for future research.

Definitions

In healthcare today the definition of *interprofessional education* (IPE) provided by the Centre For The Advancement of Interprofessional Education (CAIPE 2002) is widely used:

> *"Interprofessional Education occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care"*

We have used this precise definition throughout the report. We have also use the phrase *interdisciplinary research* in a precise way to refer to an interactive process involving two or more discipline perspectives in a manner that is essentially integrative, not additive (Klein 1990). There is lack of consensus and clarity around the use of the terms multiprofessional and multidisciplinary, both in the literature and in practice, and they are often used interchangeably. This will be discussed throughout the report. We define multiprofessional and multidisciplinary educational approaches as those that involve the juxtaposition of professions and disciplines: "*their relationship may be mutual and cumulative but not interactive*" (Klein 1990 p56).

Aims and Objectives

The broad aim of this scoping study was to use an interdisciplinary research approach to develop education for collaborative practice amongst health and social care practitioners and curriculum developers in higher education in the area of child health in Scotland.

The objectives set at the start of the project were:

- To explore, through literature review and interviews, the understanding (definitions and meanings) of key concepts in interprofessional education
- Through discourse analysis of the literature and interviews, to identify potential barriers to, and facilitators of, effective interprofessional communication and collaboration
- To employ an explicitly interdisciplinary approach, that is iterative and reflexive
- To identify gaps and needs in education and learning and design a model in the higher education context to improve interprofessional communication and collaboration (future research will test this model)
- To create and strengthen a network of leaders in interprofessional education, across which to cascade learning/disseminate outcomes and which will contribute to development of the evidence base

The key research questions were therefore:

- How do health and social care practitioners and educators define key concepts (e.g. interprofessional education, child-centred care)?
- What are examples of good practice in interprofessional communication and collaboration in the social and care context in Scotland and to what extent does interprofessional education play a role?
- What are the barriers to interprofessional communication and collaboration?
- What is the role of Universities today in supporting effective interprofessional education and how can an interdisciplinary skill set be more effectively embedded in course delivery?

Methodology

An interdisciplinary research process was used to explore terminology use and to develop a model for learning interprofessional skills in the higher education setting. We decided to start by questioning altogether the assumption that IPE should be the recommended focus for higher education, and therefore incorporated inductive approaches in the work from the start. Since interviewees and researchers were from different professional backgrounds we expected that there would different assumptions and biases evident throughout the work. We also expected that iterations in the research process would inform development of the project, including the methodology (see Figure 1). Discourse analysis of interviews and other conversations, and literature reviews progressed in iterative cycles.

There were four researchers with backgrounds in nursing, midwifery, medicine, allied health, health services and community education, as well as higher education. Each researcher reviewed the literature across disciplines, but from their own perspective, to identify key terms, meanings and derivations. The group then met to compare interpretations, to identify similarities and differences, and to map the relative prevalence of disciplinary sources. These discussions were recorded, transcribed and analysed. The interdisciplinary research conversations were also used to develop a coding framework for analysing the interviews using NVivo for Mac (version 10.2.0, QSR

International). The team of researchers used these conversations to challenge each other's assumptions and biases. The conversations thus informed further iterations of literature review and interviews, and were used to integrate insights, identify challenges and generate an interdisciplinary understanding of the issues.
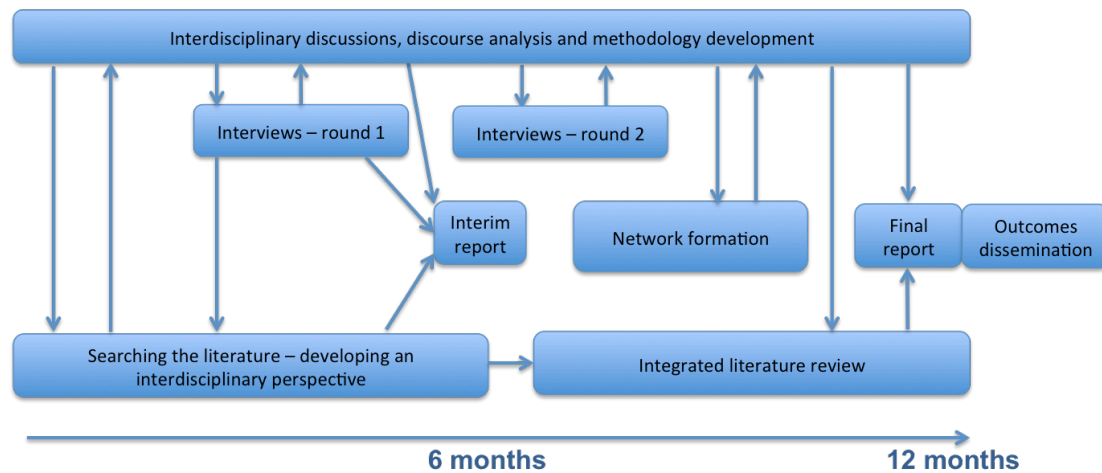

Figure 1 Outline of the Scoping Project

One-to-one interviews were undertaken with policy makers, managers and educators in areas related to child health. Interviewees were identified through the researchers' own networks. Interviews were conducted in two rounds to allow testing of emerging hypotheses about areas of congruence and discord. There were eight interviews in the first iteration and six in the second. Guidelines were created so that interviews were to follow a five-step sequence:

1. Associations: use of series of images to start the conversation
2. Examples: when and how IPE leads to good interprofessional working
3. Concepts: what are key concepts in IPE
4. Contribution of higher education: what does it look like, and what should it look like
5. Culture: what does it have to do with IPE and the role of higher education

Apart from the use of images at the start of the conversation, interviews in the first round did not always follow the prescribed sequence, although the items were consistently used to check coverage of the key areas. Each researcher undertook a discourse analysis of their own interviews and also the transcripts of other interviews, as well as the interdisciplinary research conversations. The literature reviews were analysed by each researcher before an integrated review was produced.

Towards the end of the research interviewees were invited to attend an event together. The purpose of this event was to share ideas, to create a network and to gather further perspectives through wider interdisciplinary conversations. These research conversations were recorded, transcribed and analysed by the researchers.

The University of the West of Scotland Ethics Committee approved the work. All interviewees were provided with a participant information sheet, were assured that their contribution be reported anonymously, and each signed a consent form.

Literature Review

Approach

Although the literature referred to throughout the report is presented in an integrated fashion, each of the four researchers was encouraged to approach the literature independently and with different strategies, and there were clear differences in the material retrieved. A large body of work was identified (> 2000 papers) that was further refined in ways that reflected our various disciplinary and professional backgrounds. One researcher's approach most aligned to the scientific method, critically testing a hypothesis, and arising from this approach came a summary of the important premises and strategies for implementation of education for interprofessional working which traced the route of influence through the system as a whole from development of curricula, through implementation with students, to eventual impact on practice. Another approach drew dominantly on how professional organisations develop their policies and guidelines for practice. A third mapped current developments in terms of facilitators, barriers, gaps in theory, and missed opportunities. The fourth examined the literature with key language issues in mind. Two of the researchers focussed almost exclusively on the literature in relation to child health, while the other two preferred to explore the breadth of healthcare higher education. As the project proceeded interdisciplinary discussions of the research group and conversations with interviewees had an impact on individual approaches and interpretations and the final integrated report.

Imperative for IPE

While practice-based IPE interventions may improve healthcare processes and outcomes, the number of studies meeting the criteria for systematic review is small (Zwarenstein *et al.* 2009). The evidence is therefore regarded as not strong. However there is good evidence that interprofessional collaboration and working improves quality of healthcare (Reeves *et al.* 2008). Public inquiries into failures in health care systems in recent years have highlighted the need for collaborative approaches with patients, families and between agencies. The World Health Organisation Study Group on Interprofessional Education and Collaborative Practice, uses the CAIPE definition, and is committed to IPE as part of the solution to mitigating "the global health workforce crisis", and has published a framework for action including the key messages that:

> "*interprofessional education is a necessary step in preparing a "collaboration practice-ready" health workforce that is better prepared to respond to local health needs*" and "*after almost 50 years of enquiry, the World Health Organization and its partners acknowledge that there is sufficient evidence to indicate that effective interprofessional education enables effective collaborative practice*" (WHO 2010 p7)

Interprofessional learning opportunities in health and social care programmes have been made a requirement by many professional organisations and regulatory bodies. The Nursing and Midwifery Council quality assurance framework for nursing and midwifery education requires that approved education institutions must evidence "*formal processes in place to facilitate interprofessional learning*", "*simulation suites that support interprofessional learning and assessment opportunities*" and "*interprofessional learning policy and processes*" (NMC 2014 pp16-17). The Scottish Government framework for social work education indicates that programme providers are required as a principal objective of honours degrees to ensure "*that students can practise effectively across agency and service boundaries and enhance the contribution of social work to integrated, multi-disciplinary service delivery*" (One Scotland Scottish Executive 2006). The term interprofessional is not used at all in this document. The Scottish

Government framework for role-development in the allied health professionals describes, under the theme of *Developing AHP leadership* that "*the AHPs need to capitalise on available opportunities that inter-professional and inter-agency working provides*" and, under the theme *Valuing core skills* states that "*expanding existing roles and developing new roles will serve to further strengthen the sense of professional identity each of the professions enjoys within the context of multi-professional teams*" (Healthier Scotland Scottish Executive 2005 p14). Although there appears to be a common call for interprofessional working, it is not clear whether there are common requirements and definitions of interprofessional education and collaborative competencies for health and social care professionals in Scotland.

In the US the Interprofessional Education Collaborative also uses the CAIPE definition of IPE and strongly endorses the importance of interactive learning by different health professions; it has produced a framework of individual-level interprofessional competencies (Interprofessional Educational Collaborative Expert Panel 2011). Interprofessional skills are included in the requirements for accreditation of Australian medical schools (Greenstock *et al.* 2012) and it is acknowledged that embedding and sustaining interprofessional education, capability and practice will require culture change (Matthews *et al.* 2011).

IPE is seen to be of key importance in certain professional areas other than child health services, including rural and community health contexts (Brand 1993, Hamilton *et al.* 1997, McNair *et al.* 2005, Oandasan and Reeves 2005a,b) and emergency medicine (Wilbur 2014). Interprofessional learning experiences may involve less traditional groupings; future doctors with future law students (Lawson 1987) or future architects (Mason and Pirnie 1986), for example. The implications of new perspectives on education for interprofessional practice thus may extend beyond health and social care.

Quantitative approaches

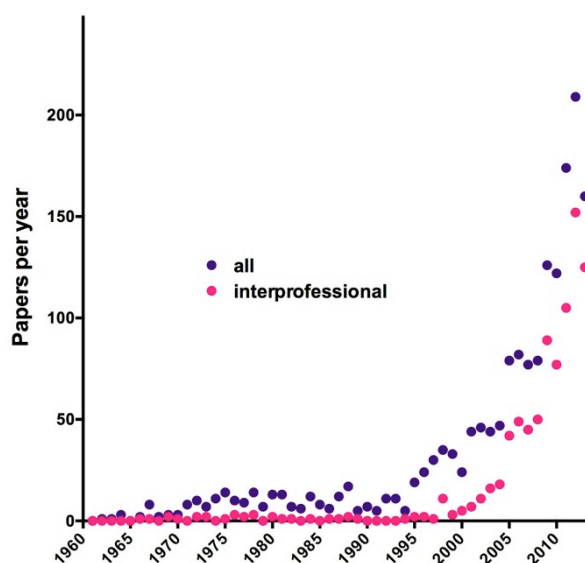Two researchers adopted more systematic and quantitative approaches to scoping the literature. One searched the PubMed database systematically year-by-year using the MeSH term *education* and the words *interdisciplinary* or *interprofessional* in the article title. An Endnote® database of more than 1500 articles was created, which was then searched manually for papers deemed relevant by the researcher. Some older papers were not readily accessible and some abstracts were not available; therefore there may be gaps in the evidence base. Immediately striking was the increase in number of publications in the mid-1990s and the emergence of the dominant use of the term interprofessional about 10 years later (Figure 2). After 2005 more than half the publications were using the term *interprofessional* in the title. As shown in Figure 3, *multiprofessional* was used infrequently and *multi-disciplinary* was used to a similar extent compared to *interdisciplinary*. When the term *child* was also

Figure 2 Number of publication using the word interprofessional (pink symbols) or either *inter-professional* or *interdisciplinary* in the title (purple). Articles with the MeSH term *education* in the PubMed database were searched by year from 1960 to 2013.

introduced in any field, very few papers were retrieved and, notably, the terms *multi-* or *interdisciplinary* were three times more prevalent in the title than the term *interprofessional*. One journal dominated the literature with approximately 30% of papers that use the term *interprofessional* in the title being in the *Journal of Interprofessional Care*.

The Web of Science™ database was searched by the second researcher, using the terms *child* and *education*. Between the years 2010 and 2015, inclusive, < 2% of publications used the term *multiprofessional* and, of the rest, 13%, 47% and 40% used the terms *interprofessional*, *inter-disciplinary* and *multidisciplinary*, respectively. Publications using the terms *multi-* or *interdisciplinary* tended to be practice-oriented, while approximately 50% of papers using the term *interprofessional* related to undergraduate or postgraduate education. Publications using these terms in the child health area were most likely to refer to simulations in education, or were in the area of dental and oral health.
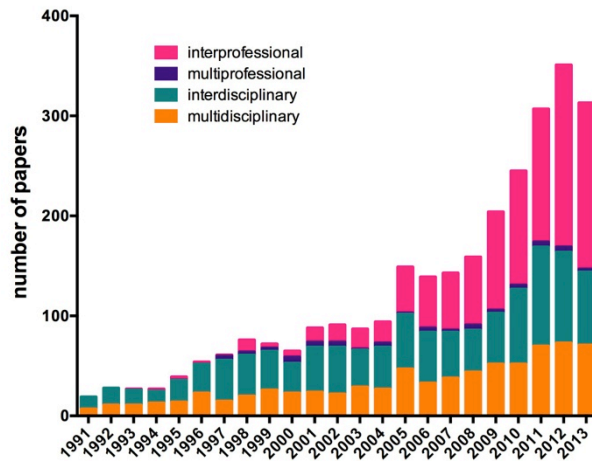

Figure 3 Number of papers using the terms *inter-professional, multiprofessional, interdisciplinary* or *multidisciplinary* in the title. Articles with the MeSH term *education* in PubMed were used in the search.

Overview of interprofessional education

Scrutiny of papers relating to work in the earlier years in the field indicated that classifications of interdisciplinary and interprofessional education were clearly articulated internationally and the issues identified in that early work are very similar to those under consideration today. It was therefore decided to present a view of the literature within an international, historical context.

At the University of British Columbia in the 1960s the coordinators of the Health Sciences Centre acted upon a basic assumption that "*if the health professionals are to work together, they must also learn together*" (Szasz 1969). Having established a Committee on Interprofessional Education consisting of the representatives from the schools and faculties of medicine, nursing, rehabilitation, dentistry, pharmacy, home economics, social work and psychology, they considered the issue of barriers between the professions, including status and public image, by discussion and exploration of the literature, and determined that there were none that could not be overcome through adequate communication and attention to economic and administrative organisational factors. They identified a number of difficulties in the process of designing a curriculum – "*vagueness of objectives, lack of role models, inflexible timetables, conservatism, distrust between professions and failure to perceive emerging needs*". The Committee concluded:

> "*students may have to go through a process of interprofessionalization to enlarge their present professional outlook*" intended to result in "*an expansion of the behaviour now expected from a health professional, to include increased awareness of the need for a comprehensive approach to a broad spectrum of human problems; knowledge of the aids available from members of the other professions; understanding of the attitudes, values and methods of those providing these aids; and the ability to utilize techniques of group dynamics in whatever organizational relation health care services may be offered*".

The Committee then proceeded with a variety of interprofessional "*educational experiments*": learning experiences or social interactions with students of other professions were provided, which were grafted onto existing courses, and involved 60% of students from the eight schools and faculties. These learning innovations consisted of lectures to mixed classes or by different professionals to a uniprofessional class, alongside frameworks of seminars, rounds, conferences, family visiting projects, field work, summer projects and self instruction with role playing and videotape replays. After evaluation, according to objective and subjective criteria, a number of tentative conclusions were drawn, although it was emphasised that there was no evidence that these experiences led to a lowering of the barriers between professionals (Szasz 1969).

In the 1970s Boston University Schools of Medicine and Nursing developed a similar approach, based primarily on the concept that "*medical and nursing students could best learn about each other by working and learning together*" (Sawyer and Serafini 1975). They labelled the educational experience *interdisciplinary* and 2 years after introducing shared educational experiences in primary health care they concluded that nursing and medical students may be able to gain insight into each other's professional roles, and recommended that more experiments and evaluation should be done. Many similar "*educational experiments*" from a range of professional perspectives were labelled *interdisciplinary* but would meet the later definition of IPE; for example, a pharmacy interdisciplinary programme included a range of team problem-solving activities and projects with students of other health professions (Scott *et al.* 1983). Wiezorek and co-workers (1976) proposed a model of interdisciplinary and interprofessional education that described three non-mutually exclusive levels of responsibility: (i) speciality professional, (ii) disciplinary-intraprofessional and (iii) interdisciplinary-inter-professional; and suggested that each tier should be addressed sequentially in the curriculum.

In 1980 Donald Bligh presented some principles for interprofessional teaching and learning and reflected on the difficulties, having the impression that "*although people are aware of the general need for interprofessional learning, the precise objectives are not yet clear*" (Bligh 1980 p8). He considered two broad objectives, firstly improving the interaction between the professions and secondly making it easier for people to change professions. He considered the subcultures of professions, the tribes and territories, and recommended a move away from the traditional hierarchical structure in decision-making to a model that includes everyone's, including the clients', interests in sharing in the decision making. Mixed professional groups, learning together, was considered advantageous. In the UK the Centre For The Advancement of Interprofessional Education (CAIPE) was founded in 1987 (Barr 1996).

In the US the Pew Health Professions Commission, tasked with considering healthcare workforce needs for the 21st Century, highlighted the increased emphasis on interdisciplinary teamwork (Finocchio *et al.* 1995), on a background of increasing sector awareness that there were "new rules for the game" of interprofessional collaboration, with changing public perceptions and professional stance (Larson 1995, Makaram 1995). In 1996 the National League for Nursing formed an Interdisciplinary Health Education Panel which included representatives from medicine as well as nursing and which set out to develop a consensus statement regarding interprofessional education. The underlying assumptions included that "*learning together will lead to working together*" and will "*enhance understanding of the problems and solutions*"; furthermore that "*professional identity (collegiality) is strengthened by sharing and diversity*" (Walker *et al.* 1997 pp414-5) and, referring to the Pew Health Professions Commission Pew-Fetzer Task Force on Advancing Psychosocial Health Education (Tresolini *et al.* 1994), interprofessional education was defined as:

> *"an educational approach in which two or more disciplines collaborate in the learning process with the goal of fostering interprofessional interactions that enhance the practice of each discipline"*   (Walker *et al.* 1997 p415)

In 2003 Health Canada sponsored an initiative, the Inter-professional Education for Collaborative Patient-centred Practice, with the objectives that included to "*promote and demonstrate the benefits of interprofessional education*" (Herbert 2005 p2). Physician accrediting bodies in Canada today identify collaborator-like competences, including collaboration with patients and caregivers: for example, specialists are expected to be able to:

> *"collaborate effectively with patients, families, and an interprofessional team of expert health professionals for the provision of optimal care, education and scholarship"*
> (The Royal College of Physicians and Surgeons of Canada 2014a)

Today the Royal College of Physicians and Surgeons of Canada encourages broadening the learning context to include a range of interprofessional teaching opportunities, particularly in patient safety curricula; acknowledging the challenges; and highlighting the influence of the hidden curriculum and medical education culture *"in forming the professional identity, attitudes and practices of trainees"* (Royal College of Physicians and Surgeons of Canada 2014b p78). The University of British Columbia has continued to develop it's approaches to supporting interprofessional practice using a model that conceptualises the learning journey in three parts: exposure, immersion and mastery (Charles *et al.* 2010).

Interprofessional competency and capability frameworks that use similar terminologies have emerged from the U.K., U.S., Canada and Australia (Reeves 2012, Thistlethwaite *et al.* 2014). However there is concern that national frameworks may be of limited usefulness unless they add value to local curricula and furthermore, to be useful, they need "*to emphasize those outcomes that may be attained only through interprofessional activities*" (Thistlethwaite *et al.* 2014 p873). Alternative and complementary health care has also created a competency framework for interprofessional practice, relating it to those of conventional healthcare professions (Goldblatt *et al.* 2013). There is also a framework for interprofessional competencies in healthcare environmental design (Lamb *et al.* 2010).

The challenges to interdisciplinary or interprofessional education are recurring themes over the last fifty years and include curricular limitations, professional role ("turf") issues, the increasing "*disciplinisation*" of universities and the lack of a reward structure for interdisciplinary collaboration (Szasz 1969, Bearinger and Gephart 1993, Baker *et al.* 2011). Leadership issues also emerge as an area of concern and as necessary focus in addressing the challenges to IPE (Missen e*t al.* 2012). IPE is often seen as an "add-on" activity; but it should be endorsed through defined learning outcomes (Thistlethwaite *et al.* 2010) and formal assessment (Stone 2010) in order to be successful. A recent systematic review of IPE in allied health highlights that most studies are not inclusive and focus primarily on medicine and nursing (Olson and Bialocerkowski 2014); an associated commentary reflected that focussing on one area, such as allied health, may itself "*be creating yet another silo for IPE*" (Bainbridge 2014).

Students became involved very early as champions of interprofessional education, and today student leadership is considered essential to the success of IPE (Hoffman *et al.* 2008). At the University of British Columbia students created their own Council of Interprofessional Health Education in which students from education, theology and law also participated (Szasz 1969). A student-designed course in interprofessional relations was run at Columbia University in New York in the 1970s (Boyer *et al.* 1977). This had been initiated by a group of students who wished to discuss the impact of gender on

professional roles and was relatively successful despite failure of a similar effort run by Faculty the previous year. Another student-initiated "grassroots catalyst" at the University of Minnesota in 2001 prompted the faculty to re-examine their approaches (Johnson *et al.* 2006). Student clinic formats have been used as opportunities for direct student-to-patient dialogues that support interprofessional practice (Dugani *et al.* 2011, Fiddes *et al.* 2013). It has been recommended that researchers encourage student participation in IPE research to create IPE champions (Rosenfield *et al.* 2009)

A strong theoretical background underpins good models of collaboration (D'Amour *et al.* 2005). It has therefore been suggested that models of team working, alongside classic theories of adult education, reflection-on-practice, problem-based learning and experiential learning should be considered in relation to IPE (Oandasan and Reeves 2005a,b). In response to calls for more explicit consideration of theory in the development of interprofessional educational interventions and in evaluation (Craddock *et al.* 2006, Hean *et al.* 2012), a number of theoretical perspectives have now been highlighted (Barr 2013a) including "metacognitive thinking models" for understanding the complexity of interprofessional competence (Wilhelmsson *et al.* 2012). Clark surveyed five theoretical approaches in the development of an IPE framework including co-operative, collaborative or social learning, experiential learning, epistemology and ontology of interdisciplinary inquiry, cognitive and ethical student development, and education of the reflective practitioner (Clark 2006). Although a number of learning theories are used implicitly, a recent study reports that there is still "*an absence of educational theory underpinning recent IPE curriculum development*" with educators adopting a largely practical approach (Craddock *et al.* 2013). The pragmatic approach has characterised IPE from the start: "*learning together to work together seemingly needed no further explanation*" (Barr 2013b p4).

The positivist paradigm that dominates the IPE area has been highlighted and it has been suggested that IPE should be regarded as a process rather than an intervention (Olson and Bialocerkowski 2014). The University of British Columbia education model "*conceptualizes interprofessional learning along a continuum of simple to complex*" (Charles *et al.* 2010) and draws on Mezirow's ideas of transformational learning (Mezirow 2000). Longitudinal views of the interprofessional curriculum are favoured (Wiezorek *et al.* 1976, D'Eon 2005, Curran and Sharpe 2007, Wilhelmsson *et al.* 2009, Charles *et al.* 2010). The relevance of complexity theory and a realist approach to designing strategies and evaluating approaches to education for interprofessional practice are highlighted later in this report.

A wide range of learning strategies for IPE has been described in recent reviews (Reeves et al. 2012, Barr 2013a). Throughout the literature today, technology is identified as a means of bringing professionals together; and simulated environments are also regarded as promising (Varga-Atkins and Cooper 2005, Jarvis-Selinger et al. 2007, Pockett 2010, Deutschlander *et al.* 2012, King et al. 2012). However there is a range of considerations apart from technology that should be taken into consideration when design e-learning and simulation approaches to support acquisition of collaborative skills (Gordon et al. 2010, Sharma et al. 2011, Waterston 2011). The importance of taking interprofessional education into consideration when building future formal learning environments has been highlighted (Nordquist et al. 2011, Schmidt 2013). This should be balanced by a view beyond the walls of the university, and the benefit of field experience-focussed interprofessional education is strong (Otsuka *et al.* 2010, Pockett 2010, Charles *et al.* 2011).

Interdisciplinary Conversations

Interviews

As we spoke with policy makers, managers and academics the range of different perspectives was evident, with interviewees from different practice areas and disciplinary backgrounds appearing to see the problem through different lenses. In order to start the discussion we used a range of images suggestive of different approaches to interprofessional education and practice, which had been selected by the researchers (Figure 4). Many of the interviewees returned to the pool of images to expand, clarify or illustrate particular points. Overall the use of the images both as icebreaker and during the conversations was considered helpful.

There were strong contrasts in the images participants picked out, and the meanings they associated with them. We chose a wide variety of images, some diagrammatic, others suggestive or impressionistic, and others that are highly visible within policy documents with an almost iconic status. The iconic images were dismissed at once as being unrealistic by most interviewees. The diagrammatic ones were also critiqued as unhelpful or at best serving a limited function by a number of respondents, although some participants expressed a value of them and viewed them as essential to the kind of work they did.
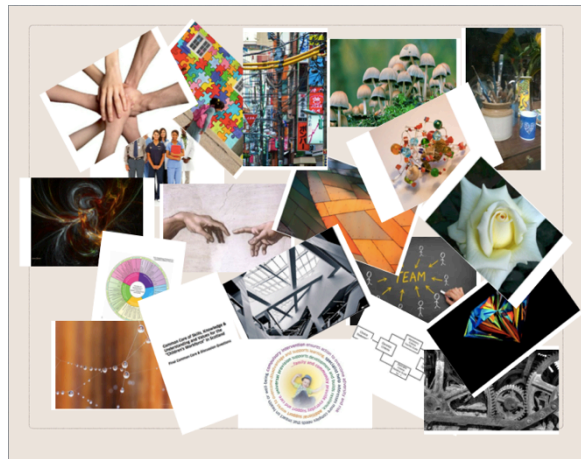

Figure 4 Images were used to facilitate conversations

The most interesting insights came from participants' engagement with images that were impressionistic and invited more metaphorical responses. These ranged from pictures of nature (e.g. a rose, mushrooms emerging on a forest floor, hands reaching out to touch), to mechanistic images (e.g. cogs of machinery, bolted together walkway, wires of complex circuitry), to ones that suggested larger complex systems (e.g. the spidery strands of a galaxy). Interestingly participants tended to choose the same images to focus on; and often chose both an organic and a mechanistic one and used them to talk about the contrasts or contradictory dimensions of work. The images prompted participants to speak about the importance of one-to-one relationships and the human side of the work, that stand in contrast to the larger structures that cut across this practice. In some cases the same image was used to illustrate both worst and best practice. The cogs of machinery for instance where used to talk about processes that grind away or are stuck, but also about the potential for small efforts by a small cog, in the right place, being able to move larger ones.

The one participant with front-line caring responsibilities provided detailed examples of the communication issues as they play out in real time, and pointed out both the structural and personal factors that contribute to them. She chose in summing up her reflections the image of the spidery strands of a galaxy as an image that immediately represented for her the complexities of interprofessional interactions, with the child being at the centre of these and unfortunately sometimes "falling right through".

A number of barriers and facilitators to interprofessional working were identified. One of the key themes to emerge was the power of individual influence. Some participants were of the view that regardless of the structures put in place, the field may be driven by individuals and their personalities and agendas, which are not always due to discipline

or professional issues. In some instances this was seen as a positive, with individuals able to work together and achieve positive outcomes, regardless of the obstacles. Other participants saw this as acting as a drag on change, resulting in students conforming to the existing culture within organisations regardless of the innovativeness of their educational experience. Stereotyping was also highlighted as a barrier to interprofessional working. There was a negative view of the university by the "practice" sector that ranged from a perception of elitism through to a questioning of the teaching competence within higher education. Another key area of agreement had to do with the process of innovation and culture change. Many participants, both policy makers and academics, identified middle management as often being those that blocked and retarded change.   The pressures to manage resources and maintain performance indicators were seen as major contributors to this problematic dynamic.

Participants gave examples of interprofessional education in practice and in higher education contexts. Less helpful were any attempts to create a model for higher education within the one-to-one interview setting. Throughout the discussion, particularly when referring to the images, interviewees were encouraged to contribute to developing a model. Whilst participants did not want to condense their sense of systemic processes to any one model, they had many reflections on how systems are working and can be improved. There was a general consensus that the gap between higher education and practice is too wide and educational strategies should be better integrated with practice in order to keep pace with both the policy and technological changes. As a group, practitioners were hesitant about commenting on higher education and its current contribution, stating concern that they did not feel close enough to higher education professionals and some indicated there was an element of "snobbery" in universities that was a barrier to collaboration. However examples of "good practice" in IPE were also offered, from both undergraduate and postgraduate settings. Although the philosophy of the "child at the centre of care" was very clear, there was notable gap in the dialogue around involvement of "service users" from within their context in the development of educational strategies, and little discussion around involving "learners" in curriculum development.

Networking event

Towards the end of the scoping project we had invited interviewees to participate in a gathering. There were three aims: to present the rationale for the project and some of the emerging themes; to encourage development of those themes and identify new themes; and to establish a network of leaders in education for interprofessional practice.

A colleague with a background in drama was invited to discuss developments for the networking event. The House of an Art Lover was chosen for the venue (http://www.houseforanartlover.co.uk). It is a beautiful space and the group was given permission to use the Music Room as well as the conference facility. There were nine participants at this event, including the researchers. The rationale, methodology and themes emerging during the research were presented in a traditional slide format. Then, just as, in Through the Looking Glass (Carroll 1872), Alice "ran down the hill and jumped over the first of six little brooks" and ended up in a railway carriage, the group moved downstairs where the research team created a performance of the themes in narrative, poetry and dance (Figure 5). During and after this performance participants were encouraged to make notes of thoughts and impressions; and stayed in the Music Room to do this in silence before returning to the conference area. These notes formed the basis of further discussion of meanings, elaboration of the emerging themes and envisioning of the future of education for interprofessional practice.
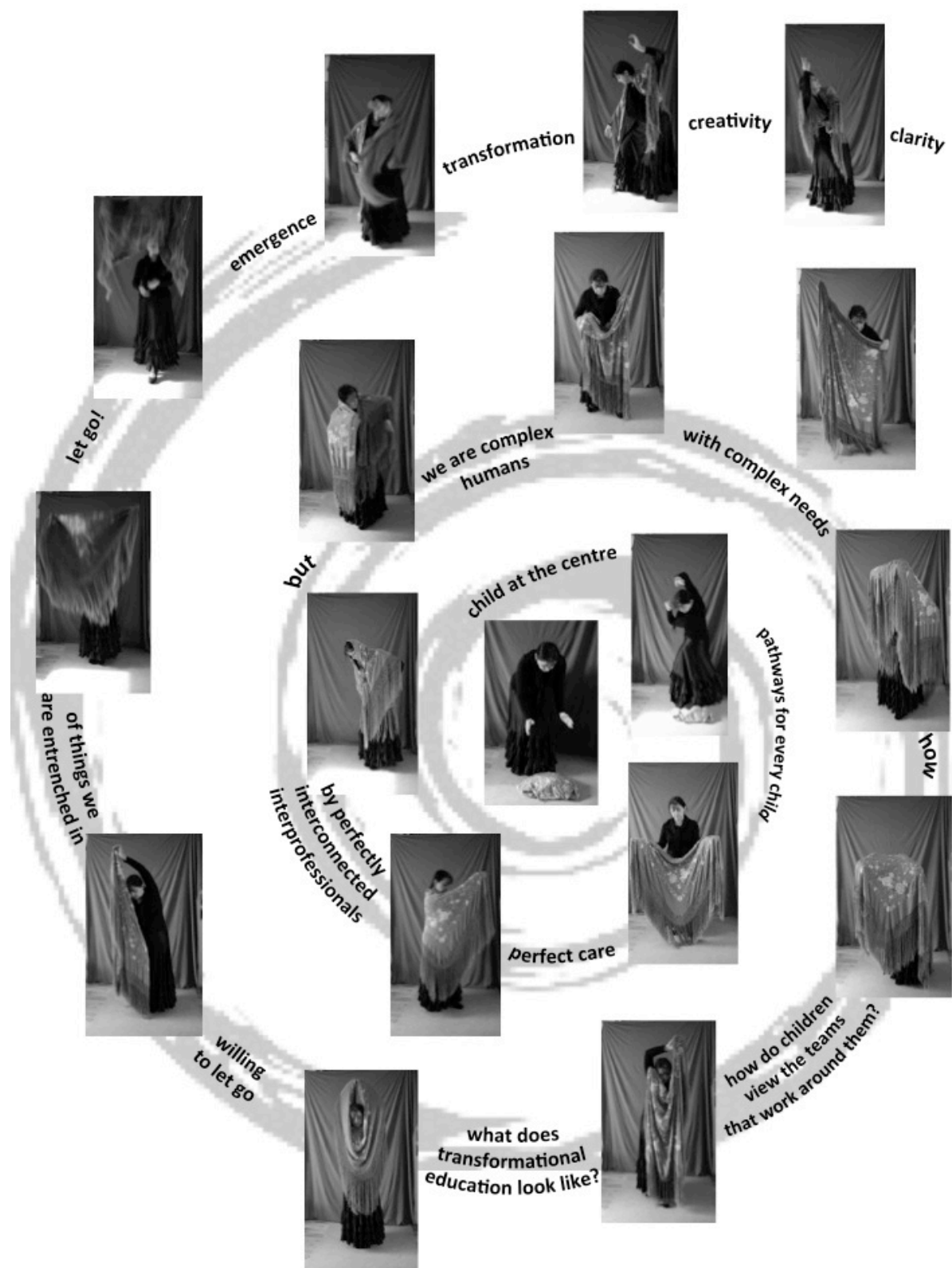
Figure 5 Poetry and dance were used to communicate ideas and encourage conversation at the networking event (photos by T. Alexander)

We also took the opportunity to ask participants to reflect on the bringing in or drawing on creativity into professional contexts. Reactions to this spanned from it usually being "out of their comfort zone" to "what else do I have to bring but myself". There were comments on the boundaries that we set ourselves, and that are set by the system, that prevent us bringing creative aspects of ourselves to our work. The researchers were not separate in this activity, and as participants their input and reflections on the performance aspects led to important insights.

Throughout the day discussions were recorded and later transcribed and analysed. The performance elements were recorded by a student and member of staff from the School of Media Culture and Society at UWS. The student had also recorded a rehearsal of the dance aspect. It is intended that the final video will form part of the student's portfolio of work.

There was a lot of discussion around how education for interprofessional practice might look. Collages of notes and images were created with the intention of bringing together a functional model. This was framed through a three-phase perspective, asking:

1. What are we doing right (now)? The participants had little to say about current practice. There were two positive conclusions. Firstly, that the question of what good practice might look is being asked and secondly, that there is an intention to put the service-user, in this case the child, at the centre.
2. What should we be doing (in the foreseeable future)? Here a number of themes emerged including creating the right organisational culture, ensuring flexible learning pathways to help professionals cope with uncertainty, building relationships and having conversations between individuals and within teams.
3. What can we imagine education for interprofessional working could look like (dreaming for the future)? Here there were plenty of ideas that have been incorporated into the section on "Emerging Themes" later in this report.

Researcher conversations

After the first exploration of the literature and after each round of interviews the researchers met to discuss the emerging themes. The same pool of images used in the interviews (Figure 4) was incorporated into the conversations, and the choices and interpretation by individuals were compared and contrasted. These discussions influenced the approach taken during the second series of interviews. The meetings of the research team were recorded, transcribed and analysed.

One barrier to interprofessional education that emerged from both the interviews and literature was stereotyping. In addition to the professional stereotyping that is reported in the literature were the views of higher education by the "practice" sector. The researchers wondered whether this reflected that universities are disconnected from practice (perceived or real), and are not seen to be giving competent support to practice. Interviewees and researchers reflected on the value of practice-based learning and concluded that authentic experiences are where complex issues are best addressed.

Throughout these conversations the researchers identified a number of disjunctures and pressures. A key dilemma discussed from many different angles concerned the timing and pacing of interprofessional learning so that it supports development of a core professional identity that has a basis to engage interprofessionally. If flexibility in conceptualising and solving problems is not built into professional identity development, existing educational practices risk building-in barriers. More emphasis on learning how to grow beyond one's first professional orientation and include within it the capacity to recognise core values across other professions is a significant culture change for higher education as a whole. The sector has disparate points of development, where innovations work well. Despite the pressures of austerity aspects of

interprofessional working are resilient. Communication and creativity were seen as key to overcoming barriers and working to bridge disjunctures or resolve them.

Emerging Themes

Use of language

The use of language and the complexities of people bringing different understandings to negotiations about complex issues are major challenges in interprofessional working. Of note, in our interdisciplinary conversations, the word *interprofessional* was rarely used unless introduced by the researcher. When asked, interviewees who are closer to child health policy and practice, rather than higher education, often stated that they use the words interdisciplinary and interprofessional interchangeably. There was a common tendency to define IPE as learning together, with health professional students being in the same room learning together. Some interviewees suggested that the terms interdisciplinary and interprofessional are overused.

The importance of common language and equal respect for other disciplines and professionals in the team is strongly emphasised throughout the literature. Early work highlighted that the term "*interdisciplinary*" education has at least two different meanings – "*the mutual experience of students in various health professions*" and "*education in which various fields of knowledge are interdigitated and interrelated*" (Morris 1975). The former includes common approaches to teaching students of different professional and disciplines, as was done at the University of British Columbia (Szasz 1969), meeting the CAIPE definition of IPE, but also extends beyond that definition to include the multiprofessional learning environment. Since that time a distinction between interprofessional, multiprofessional and multidisciplinary has been made, with an emphasis that interprofessional (or shared learning) should involve two professional groups and is "*essentially about the integration and synthesis of knowledge to solve problems or explore issues*" while multiprofessional and multidisciplinary approaches to learning "*entail bringing together different perspectives to solve the same problem*" by different branches of one profession or three or more professional groups (Parsell and Bligh 1998 p89).

Surprisingly throughout the literature there remains a lack of clarity and consensus around the use of the terms interprofessional, multiprofessional, interdisciplinary and multidisciplinary leading to suggestions that it may be a "passing fashion" based on social influences, rather than established on educational theories and critical research (Campbell and Johnson 1999, Craddock *et al.* 2006). Thus language may be an important barrier to developing educational strategies to support interprofessional practice (Gilbert 2005). It has been proposed that the three prepositions in the CAIPE IPE definition, *with*, *from* and *about*, be used in a taxonomy that guides the design of learning experiences on a continuum of simple to complex (Bainbridge and Wood 2013). In such a framework individual educational "interventions" that support interprofessional practice may not each individually meet the IPE definition. We agree that interprofessional education is part of a much wider framework of education for interprofessional practice.

Effective interprofessional communication and collaboration

Some literature sheds light on the complexities of interprofessional communication (White 2002). Interdisciplinary collaboration is itself a social process that might be enhanced best in an experiential interprofessional environment (Clark 2006). Early socialisation plays an important role in how a professional approaches collaboration (Oandasan and Reeves 2005a,b).

Emerging strongly from the interviews was the importance of interpersonal skills – with a focus on individual practitioners and their interaction with others, rather than on working across discipline or professional boundaries. This would suggest that frameworks for supporting education for collaborative care that have are broader are required, and that these should include the development of interpersonal characteristics in addition to professional autonomy (Ivey *et al.* 1988). Relational learning approaches, that promote the building of interpersonal relationships, should therefore sit alongside interprofessional shared learning strategies (Konrad and Browning 2012). Educational frameworks that draw on theoretical perspectives that bridge individual psychosocial factors including professional identity and social-structural practices are therefore appropriate (Hutchings *et al.* 2013). In this context faculty and students also become companions in learning; "*guide by the side rather than sage on the stage*" (Walker *et al.* 1997 p415). Faculty engagement is therefore of central importance in developing interprofessional educational approaches (Steinert 2005, Freeman *et al.* 2010).

Building models and frameworks

The literature clarifies, repeatedly, the different concepts around interprofessional working and education. Nevertheless there remains a gap between what is reported in the literature and local practice and an emerging sense in the context of this scoping project that this gap between health and social care practice and higher education is widening. In their interdisciplinary discussions the researchers considered that interprofessional working and education is indeed seen as an "add on" rather than at the heart of the way we think and work.

Interviews did not facilitate building of a model and it was interesting that participants often did not select images of flow charts or regarded such images in a negative way. During our inter-disciplinary research conversations and at the networking event there was a perception that the system as a whole is not working and there was consensus that a transformative educational solution is required. We intentionally avoided encouraging the idea that there could be one simple solution. What emerged therefore was a shift from considering a model for education, to a framework. It was clear to all participants, and through the literature,

Figure 6 Partners in developing educational strategies for collaborative practice

that health-service users and community partners should be recognised voices in the development process (Sternas *et al.* 1999, Browning et *al.* 2011, Solomon 2011, Towle et *al.* 2014). The role of the patient as a member of the health care team is also often overlooked (D'Amour *et al.* 2005). Early work recognised the importance of feedback from patients, in particular their perception of the role of different team members and the impact on improving interdisciplinary training (Pearson *et al.* 1985). The need for service-users and service agencies to be involved alongside professionals and educators in the co-creation of an adaptive framework was therefore a strong theme to emerge from this work (Figure 6). The competencies and capabilities required for interprofessional expertise sit alongside discipline-specific expertise and a range of generic competencies and capabilities. From the literature, and throughout our conversations, it was clear that interprofessional practitioners have a number of attributes including; knowing about different disciplines and professions (language,

perspectives), the ability to communicate and work with others from different disciplines and professions, the ability to practise reflectively, understanding the boundaries of their skills and when and how to ask others to participate in care, knowing when and how to access resources to promote resilience, and being able to deal with uncertainty and complex problems.

Although IPE was acknowledged to play a role, through experiential, problem-based, approaches, the interviews and interdisciplinary conversations focussed strongly on the development of individual practitioners, independently, and the need to encourage thinking and problem-solving in an interdisciplinary way. There was a sense that mentoring and peer-led experiences have an important place within such an educational framework, alongside authentic learning experiences. All of these should be an integral part of education from the start of undergraduate programme through to continuing professional development in practice settings. The literature also highlights the important development of the professional voice (O'Neill and Wyness 2005) and the importance of mentorship (Marshall and Gordon 2010). Studies have also focussed on co-locating students preparing for different professional degrees on placements that afford shadowing of each other's practice and mutual conferring on shared case loads (Otsuka *et al.* 2010, Pockett 2010, Charles *et al.* 2011)

The need for a consistent set of competencies for interprofessional practice across health and social care disciplines has been highlighted (Tataw 2011). We would suggest that models or frameworks of education for interprofessional practice should fully consider the impact of context and the importance of reflection-on-practice on those competencies and capabilities. Professionals and educators will learn and be influenced by contexts, and therefore frameworks should change over time (Figure 7). In the university setting the team of educators on a learning journey should include students.
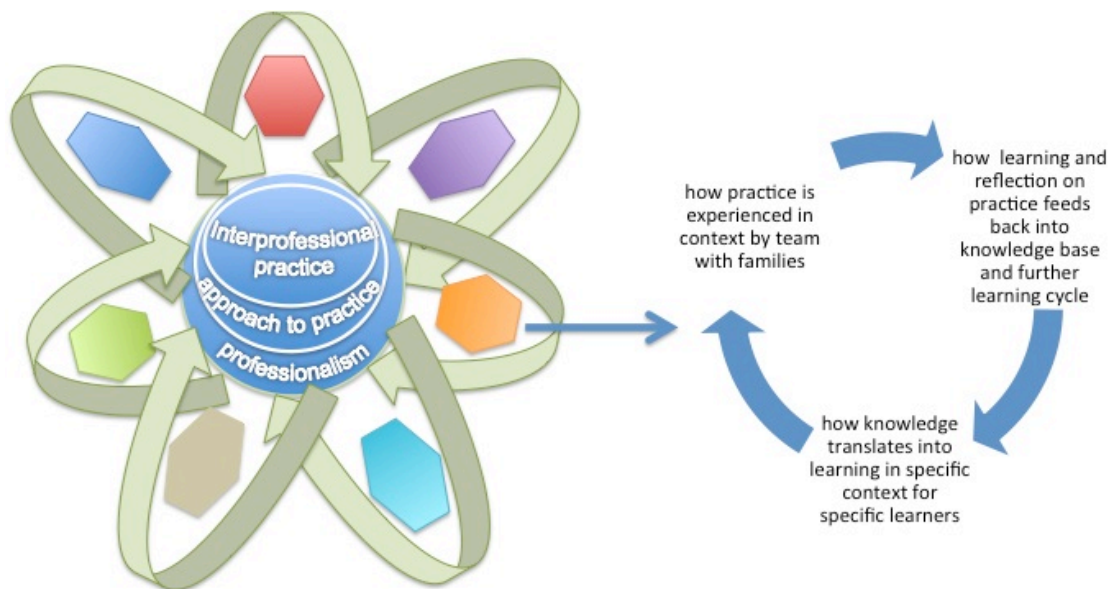

Figure 7 A framework for interprofessional education for collaborative practice
In the left part of the figure the competencies and capabilities of interprofessional practice are represented by circles of interprofessional practice (what is done), the approach to interprofessional practice (the way it is done), and embedded in "professionalism". Each of the arrows represents a transformative journey by the professional. The journey is context-specific or problem-specific (the hexagons). In the context of this project the child sits at the centre and the journey envelops the child and their context. It is important to consider what should fill the gap between the child's context and professional learning: this is illustrated in the diagram on the right.

Interdisciplinary Research Process

The interdisciplinary research process is iterative and reflexive (Newell 2001, Repko 2007). In this scoping project work proceeded in cycles and each step included consideration of discipline perspectives - in the literature, of the participants and of the researchers. The researchers also considered the research methodologies at each step, introducing, developing and tailoring approaches for the context. Allowing for uncertainty and emergence of the unexpected was facilitated in a number of ways. The researchers challenged each other's assumptions and biases, but also highlighted their unique insights and skills and encouraged the introduction of a range of expertise outside of health and social care. At a point in the research process the introduction of poetry writing and dance led us to use performance to communicate results and also as a research tool, thus widening the methodological landscape and expanding the choices for future dissemination of the results. The use of inspiring physical space at the House for an Art Lover was facilitating in this process.

In analysing the interdisciplinary conversations it was clear that researchers were referring to their areas of methodological expertise or professional training. Every researcher did this to some extent and provided new lenses into the discussion. This was explicitly discussed within the group. Interdisciplinary research can thus be regarded as a model for interprofessional collaboration. An interdisciplinary approach has been called for in evaluating interprofessional education (Stone 2006).

Complexity

The theme of complexity emerged during many of the discussions. It arose particularly in relation to discussions of the requirement for interdisciplinary perspectives and interprofessional collaboration in dealing with complex clinical decision-making. The role of interdisciplinary and interprofessional education is emphasised as being of importance in developing the competencies for dealing with the complexities and uncertainties that characterise health care and in building relationships with communities of patients and practitioners (Walker et al. 1997). Complex systems were also used in describing the need for responsiveness by professionals in designing innovative solutions in a changing world. A simulated *chaotic* environment is used to prepared health social care students for interprofessional practice (Mole et al. 2006).

The principles of complexity have been applied to considerations of a shift from a competency focus to developing capability (Fraser and Greenhalgh 2001). Furthermore models that rise to the challenge of complexity in health care require conceptual frameworks "*that incorporate a dynamic, emergent, creative, and intuitive view of the world*" (Plsek and Greenhalgh 2001). Educational environments that promote such approaches would focus on process techniques that are flexible and characterised by emergent, personal learning plans, so that the teacher adopts the role of facilitator (Fraser and Greenhalgh 2001). These ideas influenced our approach to developing a framework, as summarised in Figure 7.

Complexity has been used as a theoretical framework for IPE that places the service user at the centre, and makes connections between theory and "real life" experiences (Cooper and Spencer-Dawe 2006). These ideas around complexity in interprofessional practice are not new: the importance of community contexts was central to early discussions of interdisciplinary approaches. At the Second Western Conference on Medical Education held in Vancouver B.C. in 1966 the aims of interdisciplinary teaching also included:

> "*To develop within the community more resourceful and enlightened individuals with broad interests, with meaningful communication and interplay of ideas between all groups involved, and with a clear appreciation of*

not only their own role and responsibility in the community, but also the contribution of others, so that the ultimate result is the healthy man in its total sense"   (Middaugh 1967)

There was therefore also a shift from student-orientation alone to a focus on the community at that time. This also links to ideas around the individual professional as a complex problem-solver within a community of practice. Interdisciplinary approaches were seen as important for team to prepare to deliver health care in new systems in response to unprecedented social change (Mazur et al. 1979) and were regarded as essential in approaching real-life problems:

"*Thus health is a cluster of problems rather than a single phenomenon. Interdisciplinary teaching then is more realistic and closer to the actual life situation than strict specialist teaching. An example of a real-life, multiple-problem situation is the complex questions and problems surrounding community health programs*"   (Stensland 1967)

Different professional groups may be more comfortable with these concepts, with social work students more likely to embrace uncertainty as a natural element of their professional work (Spafford et al. 2007).

Others have also highlighted that IPE is a complex system (Stone 2006, Payler et al. 2007, Steven et al. 2007) and have introduced complexity science-based ideas about collective learning to interprofessional curriculum design (McMurtry 2010). Approaches to evaluation should therefore be cognisant of context: realistic approaches are recommended (Olson and Bialocerkowski 2014). The presage-process-product (3-P) model has been used as a tool for evaluating approaches to IPE (Reeves and Freeth 2006, Hammick et al. 2007).

Models to conceptualise IPE at the individual and organisational level must recognise the multidimensional complex and dynamic nature of collaborative practice (D'Amour et al. 2005, Soubhi et al. 2009). Some of these ideas led us to consider a framework for the inter-professional learning journey that is multidimensional. The example shown in Figure 8 considers the learning environment as a continuum (Harden 1998), the contexts of higher education and practice environments, and the important contribution of informal learning (Oandasan and Reeves 2005a,b). Informal learning and the hidden curriculum are of particular importance in the development of interprofessionalism. Interprofessional focussed conversations about daily practice have been used as an informal vehicle for learning (Phelan *et al.* 2006)
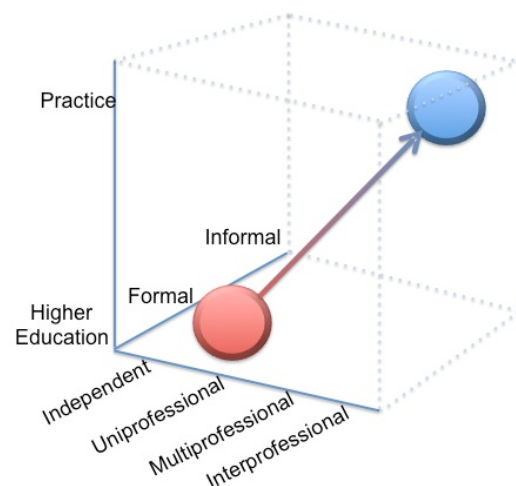
Figure 8 The interprofessional learning journey should be considered along multiple dimensions, encompassing independent learners in uniprofessional, formal settings in universities (red sphere) as well as learners in interprofessional, informal settings in practice (blue sphere).

Creativity

In this project we endeavoured to allow a creative perspective to inform our discussions and inspire dreaming for new ways of educating for interprofessional working to emerge. Art-based methods are regarded as a useful technique in health research for both knowledge production and translation purposes (Fraser and al Sayah 2011). They

have also been used to transcend disciplinary barriers in educational settings (Will and Forsythe 1993, Hall et al. 2006). Visual techniques are often used to build social cohesion as a step towards breaking down professional barriers (Parsell et al. 1998).

Alternative forms of data presentation, including visual arts and poetry have risks (Eisner 1997). One of these risks is ambiguity, which we used to advantage, as the researchers and network participants took the opportunity to reinterpret the discourse. Poetic approaches allow researchers to discover and communicate findings in ways that may enhance their work (Glesne 1997, Cahnmann 2003). The compressed form of research poetry may deliver a powerful message (Lahman et al. 2011). Poetry produces a different "way of knowing" and was used by the researchers within their own discussions: they found it to be a useful way to condense the ideas and communicate concepts in a conference and at the networking event.

Our research journey took us from "traditional" discourse analysis through the poetic to incorporate movement. There were two clear steps along this journey. The process of transcription is both interpretive and constructive. The natural breaks and rhythm led us to see the poetic in everyday speech, and start to reinterpret the discourse in this way. The second step drew on the dance expertise of one of the researchers who then "embodied" highly condensed forms of verse or single words. While there were improvisational aspects to this, there was also rehearsal of the overall framework for the performance and many of the pitfalls of bringing performance into research, including the trivialisation of dance, were avoided (Bagley and Cancienne 2001)

We presented some of our data within a creative and artistic setting and invited discussion by the participants and further analysis by researchers and participants. The physical space was chosen for its beauty and the words were presented as poetry and interpreted in dance. It helped to energise the networking meeting and led to discussions on the role of creativity and intuition in dealing with complex problems and uncertainty. It was also perceived as a "*lovely environment in which to be safe and able to speak*". Creating the right space for conversation was also seen as an important aspect of education for interprofessional working. Bringing in unique creative skills in that context fostered discussions on a participating stance in the world.

On this interdisciplinary research journey the researchers also invited the fictional character Alice and her journey Through the Looking Glass (Carroll 1872).

> '*This must be the wood, ' she said thoughtfully to herself, ' where things have no names. I wonder what'll become of my name when I go in? '*

Bringing Alice with us brought insights into a number of areas, including the exploration of terminology:

> ' *It's too late to correct it, ' said the Red Queen : ' when you've once said a thing, that fixes it, and you must take the consequences. '*

Outcomes of this Scoping Project

Conference abstracts:

> Lewitt, M.S., Cross, B., Sheward, L., Beirne, P. Through the Looking Glass: a multi-methods approach to interdisciplinary investigation of interprofessional education. Presented at the Society for Research into Higher Education conference, December 2014

> Lewitt, M.S., Cross, B., Sheward, L., Beirne, P. Looking while you leap: Lessons for negotiating journeys through the interprofessional looking glass.

> Submitted to European Educational Research Association meeting 2015

> An abstract will be submitted to the Society for Research into Higher Education conference (2015)

Manuscripts:

> This research has resulted in a lot of rich data that cannot be fully presented in a short report. There will be at least two papers submitted to peer reviewed journals

Networking and dissemination of results:

> 10 February 2015, House for an Art Lover
> > this was both a networking and dissemination event; the data was also presented in poetry and dance which was video-recorded; once editing is completed this will be made available online

> A second networking and dissemination event for participants in the project is planned for April 2015; we are exploring local funding to support an event in another inspiring space in Glasgow. The interviewees are strategic leaders in policy development, practice and education in child health in Scotland, it is important that we bring these individuals together again to present the outcomes of the work and to discuss potential future contributions of universities to IPE for interprofessional working in child health

> Results of the work will be disseminated through and poster and discussion at a local event organised by the University of the West of Scotland – "Daring to be Different Festival" 5th-7th May 2015

Funding applications:

> Applications will be made for funding to the Society for Research into Higher Education; funding organisations that support the medical humanities area are also being considered

Conclusions and Recommendations

The scoping study has highlighted important gaps in the area of education for interprofessional practice. The methods used and developed during the project were well suited to research about, and education for, interprofessional practice. There are a number of conclusions, as well as recommendations for research and education development in universities and practice settings.

- Interprofessional education (learning with, from and about other professionals; IPE) is part of a much larger framework of education for interprofessional practice
- Responding to the call of health agendas to develop IPE programmes without taking into account the wider framework may be inherently risky
- Many of the challenges and perceived barriers to success of IPE have not changed in fifty years, suggesting that there are key features of education for interprofessional practice that need to be addressed
- Developing better preparation for interprofessional working requires more flexible development of professional identities throughout the higher education experience, with more flexible approaches to the conceptualisation and solving of problems based in an appreciation of complexity
- Development of educational strategies within higher education contexts should take into account that there are different contexts of interprofessional practice and collaboration in its development and should include service users, agencies and other practitioners not meeting the definition of "professionals"
- There should be a focus on capabilities as well as competencies for working across and between disciplines and professions and on creating a framework which individual practitioners, educators and organisation can use as a developmental tool
- The approaches of individual practitioners, educators and organisations to engaging with any framework will inform its continued development
- Curriculum development that supports interprofessional practice should consider the theories underpinning the strategies and approaches to evaluation
- An interdisciplinary research approach is well suited to developing approaches to interprofessional education and practice
- Arts-based approaches are helpful in facilitating interprofessional conversations

Acknowledgements

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