

## Learning outcomes for interprofessional education (IPE): Literature review and synthesis

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WORLD HEALTH ORGANIZATION STUDY GROUP ON  
INTERPROFESSIONAL EDUCATION AND COLLABORATIVE  
PRACTICE<sup>3</sup>

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### Abstract

As part of a World Health Organization (WHO) initiative we searched the literature to explore defined learning outcomes for interprofessional education between 1988, when the last WHO technical report on interprofessional education was published, and 2009. We describe and synthesize findings from 88 citations over this 21 year period. There is a variety in the way learning outcomes are presented but there are many similarities between specific outcomes and/or objectives. Papers describing educational interventions do not always include specific outcomes or objectives. Our findings have been integrated into a list of learning outcomes with six categories for further debate and discussion. This project is part of a wider initiative initiated by the WHO in 2007 to review the current position of interprofessional education worldwide. It is also a sub-project of a learning and teaching grant funded by the Carrick Institute for Learning and Teaching within Australia. In this paper we use the CAIPE definition of interprofessional education: “Occasions when two or more professions learn with, from and about each other to improve collaboration and the quality of care” (Barr, 2002).

**Keywords:** *Interprofessional learning, interprofessional education, learning outcomes, literature review*

### Introduction

Current educational theory proposes that when planning interprofessional learning (IPL) activities within an interprofessional education framework, educators should define the learning outcomes expected and align these with curriculum and assessment (Biggs & Tang, 2007). IPL is becoming a more prominent feature of health professional education at both prequalification and post qualification levels. However there appears to be little synthesis of information available to inform educators about what specific IPL outcomes look like let alone how they can be successfully achieved. This review aims to examine how learning outcomes are articulated in the field of interprofessional education. While the terms

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interprofessional learning (IPL) and interprofessional practice (IPE) may relate to differing processes, with IPL focusing more on micro learning processes and IPE being more strongly reflective of an overarching educational framework, they tend to be used interchangeably in the existing literature. For this reason they are used interchangeably in this review, reflecting the terminology used by researchers and writers in the field. The learning outcomes we identified are collated and synthesized in order to answer the question:

- What are the key learning outcomes of interprofessional education to promote interprofessional practice?

### *Framework for classifying learning outcomes*

In terms of health professional education and IPE, and based upon our prior reading of the literature (e.g., Barr, Koppel, Reeves, Hammick, & Freeth, 2005), we would propose that learning outcomes can be divided into the following categories:

- Profession specific outcomes – these refer to the learning of knowledge, skills and/or attitudes that relate only to a particular profession and can be learnt unprofessionally (these are in fact difficult to define because of the overlap in roles and responsibilities of many health professionals). These may be designated unprofessional outcomes.
- Generic outcomes that should be achieved by two or more professions – these relate to the learning of knowledge, skills or attitudes that may be delivered unprofessionally or multiprofessionally but where there is no difference in the outcomes from either mode of delivery, e.g., certain clinical skills such as venepuncture, blood pressure measurement, certain attitudes such as client-centred practice or certain bodies of knowledge such as anatomy and physiology. These may be designated multiprofessional outcomes. They are also referred to as “learning in common” (O’Halloran, Hean, Humphris, & McLeod-Clark, 2006).
- Generic outcomes that should be met by all professions – these refer to the learning of knowledge, skills or attitudes where interprofessional education adds value to the learning because of interaction between the participants and enhances the chances of meeting the outcomes such as communication skills, teamwork, collaborative practice etc. These may be designated interprofessional outcomes.

It is the third group that is the focus of this literature review. In time we would like to be able to answer the question: What are the learning outcomes for health professionals that may only be achieved completely through interprofessional education?

## **Methods**

In order to answer our research question, a comprehensive literature review of published studies from health and medical education and the grey literature was combined with a sustained period of reflection by the authors. The search for the WHO was carried out in 2007 using the following databases: Medline, CINAHL, ERIC, Social Sciences Index and PROQuest, and with the following Keywords: interprofessional or multiprofessional or multidisciplinary or interdisciplinary or transdisciplinary and education or learning, combined with learning and outcomes or objectives, combined with competencies or competences. Only papers in English published after 1988 were retrieved. In addition, we read the papers described as 21 of the strongest evaluations of IPE included in the 2007 BEME (best evidence medical education) review (Hammick, Freeth, Koppel,

Reeves, & Barr, 2007), and the most recent Cochrane Collaboration review (Reeves, Zwarenstein, Goldman, Barr, Freeth, Hammick, & Koppel, 2008). To update the review since 2007, we have scanned all six editions of the *Journal of Interprofessional Care* from 2008, and 2009 (four editions published at time of scanning). We also scanned the 107 higher quality studies from the systematic review published in *Effective Interprofessional Education* (Barr et al., 2005), and the 13 papers included in an American review of evidence for IPE (Remington, Foulk, & Williams, 2006). Papers were rejected if the educational initiative or input only involved one profession (this included education classified by the authors as multidisciplinary but which in fact only involved more than one specialty within medicine), were multiprofessional rather than interprofessional (second category of outcomes as above, in particular no outcomes related to learning about each other) or appeared to be interprofessional but no learning outcomes were defined and/or listed at the onset of the educational activity.

Grey literature (i.e., reports and documents not listed in the databases above but available through websites and other sources) was identified through personal contacts and knowledge of IPE resources. We have specifically omitted websites from this review. Towards the end of this process we felt we had reached saturation in that no different outcomes were being elicited, though the wording did vary.

We chose to include papers from 1988, the date of publication of the last WHO study group, then referred to as “the WHO study group on multiprofessional education of health personnel: the team approach” (WHO, 1988). That report identifies multiprofessional education (MPE) as one way that primary health care can be initiated in a country and focuses on teamwork as a specific competence to be gained from MPE. Health team members should “learn how to work efficiently together, and to understand: 1. The responsibility of the team as a group; 2. The role of each member in carrying out the team’s responsibilities; 3. The extent to which roles of team members overlap; 4. The processes needed for working together; 5. The part played by the team in the overall delivery system” (WHO, 1988, pp. 7–8).

## Results

We found 94 abstracts through the database search of which 32 papers were relevant. Of the 21 BEME papers, 20 were published between 1988 and 2005, and three had already been retrieved through the database search. Of the remaining 17 papers only eight defined learning outcomes relating to interprofessional education. Three papers were added from the Cochrane Collaboration review. Twelve papers were included from scanning of the *Journal of Interprofessional Care* from 2008–2009; 14 papers from Barr et al. (2005) and two papers from Remington et al. (2006). The grey literature (books and monographs) consisted of eight citations. Journal and book scanning contributed 10 papers. The flow diagram is shown in Figure 1.

The 73 final included papers are synthesised in a table available at the following URL: <http://www2.warwick.ac.uk/fac/med/study/research/interprofessional>

As we are synthesizing from the retrieved documents, we are presenting the results of the search with commentary and discussion including of terms, identification of published frameworks and learning theories.

## Terminology

In an emerging area such as IPE there is still much confusion and interchangeable use of different terms to describe common concepts. In this review we found a range of all terms used to describe the desired end-point of the learning activity or experience, including:

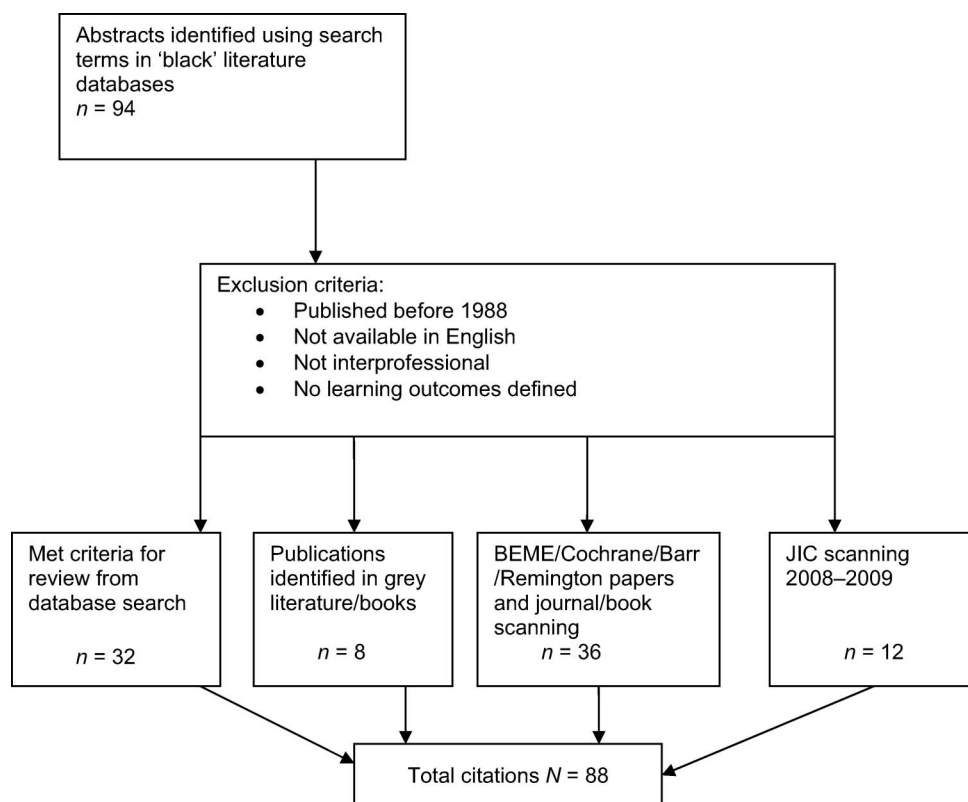


Figure 1. Search process and outcome.

- Learning objectives (e.g., Charles, Bainbridge, & Gilbert, 2004)
- Competencies (e.g., Freeth & Reeves, 2004)
- Capabilities (e.g., Gordon & Walsh, 2005)
- Outcome-based education (e.g., Nisbet et al., 2008)
- Competency-based education (e.g., Barr et al., 2005)

These terms were all used in the context of describing what the designers of the educational input (activity/initiative) hoped the participants would achieve. Objectives tended to be more commonly used to define what a programme hopes to achieve whereas outcomes and competencies are usually used in the context of defining what participants/students will achieve. The words are however often used synonymously.

#### *Frameworks for classifying interprofessional learning outcomes in the literature*

Several strategies for classifying interprofessional learning outcomes were described in the literature. Examples of three contrasting classification frameworks are presented below.

The Australian Capital Territory (ACT) Health Interprofessional Learning and Clinical Education Project (Braithwaite and Associates, 2005) use a framework of categorization of “competencies for interprofessional practice”. [Note this paper uses inter-professional with a hyphen.] Their discussion paper describes three major sources of competencies for inter-professional practice.

- Those which are explicitly and solely about inter-professionalism (explicit inter-professional competencies).
- Those which address associated issues (for example collaboration or teamwork in health) either as an integrated set of standards, or more commonly as units or elements within the competency standards or curricula of professional groups and educational institutions (inherent inter-professional competencies).
- Inter-professional competencies which can be inferred from the literature on interprofessional education and practice (embedded inter-professional competencies).

Barr (2002), also drawing upon the “competencies” terminology, distinguishes between three types of competencies required for successful interprofessional practice: “Common” competencies, those which are required of all health professionals; “Complementary” competencies, those which relate to specific disciplines; and “Collaborative” competencies, those required for different professions to work effectively together.

An alternative to the “competencies” discourse is presented by Charles, Bainbridge and Gilbert (2004) in a developmental framework that links learning outcomes with stages of professional development. Outcomes are articulated along a continuum from exposure to immersion to mastery. Outcomes related to exposure are positioned primarily in the early years of professional education, while immersion outcomes are more likely to be achieved in the later stages of pre-registration learning and early years of post registration learning. Mastery as an outcome is situated towards the end of the continuum and may not be fully achieved until learners have been immersed in a practice environment. The model has an iterative structure to reflect the learning experiences of health professionals throughout their careers as they move through practice settings and team structures.

### *Assessment of learning outcomes*

In the review we examined whether, when learning outcomes are defined, the outcomes are assessed and how assessment is aligned to outcomes. In some studies (e.g., Nisbet et al., 2008) outcomes are written about in terms of evaluation of a learning initiative or activity – what was the outcome of the input? Such an evaluation may not be matched specifically to learning outcomes defined for the participants. In fact in many papers such learning outcomes are not defined but assumed within the evaluation tool (e.g., Pullon & Fry, 2005). Evaluation outcomes are usually given in terms of changes in student attitude or behaviour rather than knowledge, and these changes are often measured by means of self report questionnaires or attitude scales rather than objective measurements. The continuing lack of longitudinal studies remains problematic; however some studies reported that longitudinal follow ups are in progress (e.g., Bandalí et al., 2008; Cooper et al., 2005) so it is probably only a matter of time before these anticipated reports will appear in the professional literature. The wholesale lack of consistency in defining and describing learning outcomes and their assessment can be observed in the accompanying table where the variety of different approaches is well demonstrated.

### *Learning theories articulated to IPE*

A number of reviewed papers described interprofessional learning activities and outcomes in the context of existing embedded educational approaches, e.g., problem based

learning (PBL) or case-based learning (CBL). Going beyond generic educational theories a paper by Clark (2006) reflected on the idea of there being potential identifiable theories of interprofessional learning that could inform interprofessional learning design including the development of learning outcomes. The need to uncover and operationalize a theoretical framework of IPE has been identified by several commentators (Barr et al., 2005; D'Amour & Oandasan, 2005). For example, a theory from the field of social psychology "the Contact Hypothesis" has been employed by Carpenter and Hewstone (1996) as a roadmap in planning interprofessional learning activities in their study on shared learning for doctors and social workers. A more contextual theory based on the concept of "community of practice" (Wenger, 2003) has been identified as a model to support the multi-contextual, time layered nature of interprofessional learning that involves creating new ways of sharing knowledge and roles in continuing professional development (Payler, Meyer, & Humphris, 2007).

### *Important documents defining outcomes*

From the eight citations from the grey literature, we consider that two texts and five documents, which we describe below, are important in terms of their detail and framing of outcomes, and the rationale behind these. The first text is from Barr et al. (2005), who further developed the Kirkpatrick (1994) four point typology of educational outcomes (learner reaction, acquisition of learning, behavioral change, change in organization practice) to six categories. These outcomes are fairly broad but are useful for programme evaluation and to examine the evidence base for published IPE initiatives in terms of change and improvement, which was the intent of the authors in their review. Level 2b fits with assessment of learning outcomes and has been rewritten as:

- Acquisition of the knowledge and skills linked to interprofessional collaboration. However again this is a broad outcome that needs more definition. Barr et al. (2005), for example, outline the nature of this type of outcome based on 40 survey-based studies that they linked to level 2b outcomes:
- Enhanced understanding of roles and responsibilities of other health and social care professionals,
- Improved knowledge of the nature of multidisciplinary teamwork,
- Development of teamwork skills.

Barr et al. (2005) further specify the collaboration as that with and between professions, within and between organizations, with service users and their carers, and with communities.

Freeth, Hammick, Reeves, Koppel, and Barr (2005) suggest defining learning outcomes in terms of attitudes, skills and knowledge for collaboration at pre- and post-qualification levels. This distinction is made to help with planning curriculum content and process at the different stages of learning. While other papers define learning outcomes for particular groups as included in their activities (i.e., undergraduates, post-registration), this is the only reference that specifically makes the distinction between pre- and post-qualification outcomes in the same table. Of interest in the post-qualification list are knowledge outcomes that recognize the importance of the local context within a health service, such as, understanding the national and local context of other professionals facilitating or inhibiting collaboration, and understanding a variety of



strategies for improving collaboration and the nature of underpinning logic models for change.

Thirdly, the ACT Health inter-professional learning and clinical education project (Braithwaite and Associates, 2005) includes a table of interprofessional competencies derived from the competency standards of registration bodies across Australia. They are: Interprofessional relations; Communication; Collaboration/teamwork; Learning/teaching; and Management/leadership. The authors present a list of “competencies for interprofessional practice – translating theory into practice” with references for each competence derived from: Greiner and Knebel (2003); Humphris (2005); Hall and Weaver (2001); and Parsell, Spalding, and Bligh (1998). The outcomes are listed in terms of knowledge, skills and attitudes.

The New Generation Project of universities in the south of England includes nine common learning curriculum aims for its undergraduate students (O’Halloran, Hean, Humphris, & McLeod-Clark, 2006). These are broken down and further elucidated into learning outcomes for each of the three IPL units delivered. Moreover assessment is aligned to these outcomes and units. The nine aims are:

- Respect, understand and support the roles of other professionals,
- Make an effective contribution as an equal member of an interprofessional team,
- Understand the changing nature of health and social care boundaries,
- Demonstrate a set of knowledge, skills, competencies and attitudes that are common to all professions and that underpin the delivery of patient/client focused services,
- Learn from others in the interprofessional team,
- Deal with complexity and uncertainty,
- Collaborate with other professionals in practice,
- Understand stereotyping and professional prejudices and the impact of these on interprofessional working,
- Practice in a patient-centred manner.

CUILU is the Combined Universities Interprofessional Learning Unit in Sheffield, UK, which has produced the Interprofessional Capability Framework. The development of the learning outcomes for CIULU is described in Gordon and Walsh (2005). The learning outcomes contained in the Interprofessional Capability Framework are stated in terms of learning achievements leading to “capability”, rather than as competencies. Capability is considered a better word to reflect the need for students and professionals to respond and adapt to the changing environment of health care (Walsh, Gordon, Marshall, Wilson, & Hunt, 2005). The project is also based on the premise that students achieve the capabilities in the workplace. The framework was developed using the UK Higher Education Quality Assurance Agency benchmark statements relating to the undergraduate programmes of medicine, dentistry and the professions allied to medicine, including nursing, midwifery and social work. The documents were analysed using a qualitative, grounded theory approach with coding and classification to isolate those thought to underpin interprofessional working. Four domains (Ethical practice, Knowledge in practice, Interprofessional Working, and Reflection) and 16 capabilities were defined (Walsh, Gordon, Marshall, Wilson, & Hunt, 2005). This project gives the most comprehensive list of capabilities but does not distinguish between pre- and post-qualification – however its position within higher education suggests that the capabilities should be achieved by the time of professional qualification/registration.

The British Columbia Competency Framework for Interprofessional Collaboration, produced by the College of Health Disciplines at the University of British Columbia, Vancouver and the Interprofessional Network of British Columbia, defines three domains of competencies: interpersonal and communication skills; patient-centred and family-focused care; and collaborative practice. These domains are further broken down and each competency refers to team or group processes, working together and/or relationships with other health care providers to some extent (College of Health Disciplines, 2008).

Lastly, the IPL Curriculum Framework Group of the University of Sydney has included a set of learning outcomes in its curriculum document. They state that the overall aim of IPL is for health and social care graduates to show evidence of ability to display a positive attitude towards interprofessional teamwork and to work effectively and safely within an interprofessional healthcare team to provide optimal patient/client care. The learning outcomes fall under three main headings: interprofessional teamwork, role of health and social care professionals, and interprofessional communication (IPL Research and Development Unit, 2008).

### *Synthesis of learning outcomes from literature review*

Table I contains a list developed from a detailed examination of the published literature. The most commonly defined learning outcomes were related to 'teamwork' in some form, though there was a variety of wording used; 'collaboration' often occurred in relation to teamwork. The second commonest group of outcomes included 'roles and responsibilities'. Two other large groupings may be labeled 'patient' and 'learning'. The patient outcomes mainly focused on the concept of the patient at the centre of care, but also included topics such as patient safety and effective healthcare delivery. Specific 'learning' outcomes related more to process including reflection and experience of interprofessional working. Smaller groups included communication, attitudinal outcomes, ethics/professionalism and resources.

As Table I indicates, the six broad themes of the outcomes are: teamwork; roles and responsibilities; communication; learning and reflection; the patient/client; ethics and attitudes. Table I expands on these headings, listing more detailed outcomes (sub-themes) with the most commonly used wording. The outcomes in italics are those which are more likely to be achieved post-qualification once a health professional has experience of responsibility in the workplace.

### *Limitations*

While this review was conducted systematically in 2007 for the World Health Organization, we did not perform a full search again in 2009 but limited our scrutiny to journal scanning. However there is enough similarity in learning outcomes identified across papers for us to assume that we have reached saturation in terms of themes. This is not a review of empirical evidence but of educators' stated learning outcomes in relation to their interventions and as such is hampered by a lack of clarity and conformity in terminology. We have distilled the essence of the outcomes and objectives into more manageable terms for debate. We acknowledge that we will not have seen and synthesized all documents relating to IPE outcomes as we have specifically not searched websites including university sites that might contain learning outcomes for individual programmes. However, there is sufficient overlap from the sources we have reviewed that we doubt that any very different outcomes have been omitted.



Table I. Themes and sub-themes of synthesized outcomes.

Outcome/theme	Sub-themes
Teamwork	Knowledge of and skills for (including recognition of importance of common goals) Knowledge of, skills for and positive attitudes to collaboration with other health professionals Assume the roles and responsibilities of <i>team leader</i> and team member Barriers to teamwork <i>Improve collaboration with other health professionals in the workplace</i> <i>Analysis of when and why professionals become key workers</i> <i>Facilitate interprofessional care conferences, team meetings etc</i> Team dynamics and power relationships Cooperation and accountability
Roles/ responsibilities	Knowledge and understanding of the different roles, responsibilities and expertise of health professionals Knowledge and development of one's own professional role Similarities and differences relating to roles, attitudes and skills Understanding of role/professional boundaries Being able to challenge misconceptions in relations to roles <i>Knowledge of the health system and organization of health care within it</i> Philosophies of care
Communication	Communicate effectively with other health professional students <i>With other professionals</i> <i>Negotiation and conflict resolution</i> Express one's opinions to others involved with care Listens to others/team members Shared decision making Communication at beginning and end of shifts (handover, handoff) Awareness of difference in professionals' language Exchange of essential clinical information (health records, through electronic media)
Learning/reflection	Identification of learning needs in relation to future development in a team Identification of common professional interests through reflection Learning through peer support Reflect critically on one's own relationship within a team Transfer interprofessional learning to clinical setting Self-questioning of personal prejudice and stereotyped views
The patient	The patient's central role in interprofessional care (patient-focused or centred care) Understanding of the service user's perspective (and family/carers) Working together and cooperatively in the best interests of the patient Patient safety issues Recognition of patient's needs Patient as partner within the team
Ethics/attitudes	Acknowledge views and ideas of other professionals Respect Ethical issues relating to teamwork Ability to cope with uncertainty Understand one's own and other's stereotyping <i>Tolerate difference, misunderstandings and shortcomings in other professionals</i> Whistle blowing

## Conclusions

This comprehensive list of learning outcomes provides us with a starting point for identifying those outcomes which may only be achieved through interprofessional learning either through a formal education process or through interprofessional practice in the workplace. For example,

in respect to teamwork learning outcomes, what could a learner achieve in a setting that includes students or professionals from only one profession? It is possible that learning outcomes related to the acquisition of team knowledge and team skills may be met but others would be more difficult without the inclusion of the “other profession” with its ensuring opportunities for modeling of collaboration, role negotiation and prioritization of service delivery. We hope our work to date will act as a catalyst in promoting discussion about learning outcomes, and ultimately facilitate some consensus amongst the community of professional educators of what are the learning outcomes which may only be completely achieved through interprofessional education.

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## References

- Bandali, K., Parker, K., Mummary, M., & Preece, M. (2008). Skills integration in a simulated and interprofessional environment: An innovative undergraduate applied health curriculum. *Journal of Interprofessional Care*, 22, 179–190.
- Barr, H. (2002). *Interprofessional education: Today, yesterday and tomorrow*. London: Learning and Teaching support Network: Centre for Health Sciences and Practice.
- Barr, H., Koppel, I., Reeves, S., Hammick, M., & Freeth, D. (2005). *Effective interprofessional education. Argument, assumption and evidence*. Oxford: Blackwells.
- Biggs, J., & Tang, C. (2007). *Teaching for quality learning at university*. Maidenhead: Society for Research into Higher Education and Open University Press.
- Braithwaite and Associates (2005). *The ACT Health inter-professional learning and clinical education project: Background discussion paper 2*. Chatswood: Interprofessional practice.
- Carpenter, J., & Hewstone, M. (1996). Shared learning for doctors and social workers: Evaluation of a programme. *British Journal of Social Work*, 26, 239–257.
- Charles, G., Bainbridge, L., & Gilbert, J. (2004). *Interprofessional education and practice in the health and human services: The University of British Columbia Model*. Vancouver, British Columbia: UBC.
- Clark, P. G. (2006). What would a theory of interprofessional education look like? Some suggestions for developing a theoretical framework for teamwork training. *Journal of Interprofessional Care*, 20, 577–589.
- College of Health Disciplines (2008). *The British Columbia Competency Framework for Interprofessional Collaboration*. Vancouver: UBC.
- Cooper, H., Spencer-Dawe, E., & McLean, E. (2005). Beginning the process of teamwork: Design, implementation and evaluation of an inter-professional education intervention for first year undergraduate students. *Journal of Interprofessional Care*, 19, 492–508.

- D'Amour, D., & Oandasan, I. (2005). Interprofessionalism as the field of interprofessional practice and interprofessional education: An emerging concept. *Journal of Interprofessional Care*, 19(Suppl. 1), 8–20.
- Freeth, D., & Reeves, S. (2004). Learning to work together: Using the presage, process, product (3P) model to highlight decisions and possibilities. *Journal of Interprofessional Care*, 18, 43–56.
- Freeth, D., Hammick, M., Reeves, S., Koppel, I., & Barr, H. (2005). *Effective interprofessional education. Development, delivery and evaluation*. Oxford: Blackwells.
- Gordon, F., & Walsh, C. (2005). A framework for interprofessional capability: Developing students of health and social care as collaborative workers. *Journal of Integrated Care*, 13, 26–33.
- Greiner, A., & Knebel, E. (Eds.) (2003). *Health professions education: A bridge to quality*. Washington: National Academy Press.
- Hall, P., & Weaver, L. (2001). Interdisciplinary education and teamwork: A long and winding road. *Medical Education*, 35, 867–875.
- Hammick, M., Freeth, D., Koppel, I., Reeves, S., & Barr, H. (2007). A best evidence systematic review of interprofessional education. *Medical Teacher*, 29, 735–751.
- Humphris, D. (2005). Multi-professional practice, interprofessional education: lessons and evidence for rural and remote Australia. *8th National Rural Health Conference Proceedings: National Rural Health Alliance*.
- IPL Research & Development Unit & IIP Curriculum Framework Project Group. (2008). *A curriculum framework for the integration of interprofessional learning into health and social care curricula*. Sydney: University of Sydney.
- Kirkpatrick, D. I. (1994). *Evaluating training programs: The four levels*. San Francisco, CA: Berrett-Koehler.
- Nisbet, G., Hendry, G. D., Rolls, G., & Field, M. (2008). Interprofessional learning for pre-qualification health care students: An outcomes-based evaluation. *Journal of Interprofessional Care*, 22, 57–68.
- O'Halloran, C., Hean, S., Humphris, D., & McLeod-Clark, J. (2006). Developing common learning: The New Generation project undergraduate curriculum model. *Journal of Interprofessional Care*, 20, 12–28.
- Parsell, G., Spalding, R., & Bligh, J. (1998). Shared goals, shared learning: Evaluation of a multiprofessional course for undergraduate students. *Medical Education*, 32, 304–311.
- Payler, J., Meyer, E., & Humphris, D. (2007). Theorizing interprofessional pedagogic evaluation: Framework for evaluating the impact of interprofessional continuing professional development on practice change. *Learning in Health and Social Care*, 6, 156–169.
- Pullon, S., & Fry, B. (2005). Interprofessional postgraduate education in primary health care: Is it making a difference? *Journal of Interprofessional Care*, 19, 569–578.
- Reeves, S., Zwarenstein, M., Goldman, J., Barr, H., Freeth, D., Hammick, M., & Koppel, I. (2008). Interprofessional education: Effects on professional practice and health care outcomes (review). Accessed May 2008 from: [www.thecochranelibrary.com](http://www.thecochranelibrary.com)
- Remington, T. L., Foulk, M. A., & Williams, B. C. (2006). Evaluation of evidence for interprofessional education. *American Journal of Pharmaceutical Education*, 70(3), article 66.
- Walsh, C. L., Gordon, F., Marshall, M., Wilson, F., & Hunt, T. (2005). Interprofessional capability: A developing framework for interprofessional education. *Nurse Education in Practice*, 4, 230–237.
- Wenger, E. (2003). *Communities of practice: Learning, meaning and identity*. Cambridge: Cambridge University Press.
- World Health Organization (WHO) (1988). *Learning together to work together for health*. Geneva: World Health Organization.