Putting Practice into Theory: Interprofessional education as a pedagogical model to consider student-centred learning and patient-centred care.

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Abstract

As healthcare practice increasingly involves interprofessional working, there is need for change in clinical education. Interprofessional education (IPE), in the context of theories of student-centred learning and patient-centred care, offers a pedagogical model for healthcare education. Two examples of IPE, in dentistry and pharmacy, are explored. The paper continues with a discussion of managing change from traditional, discipline-based clinical education to an interprofessional pedagogical model of student-centred learning and patient-centred care. The paper concludes with a discussion of a programme based on IPE, the Master’s in Clinical Pedagogy developed at King’s College London.
The programme is based on a theory that healthcare professionals and academics learning (and teaching) together will be able to work together better, improving students’ educational experiences and the care they can provide patients.

**Introduction**

“To learn is to participate and contribute to the evolution of the communal practice.” (Keiny, 2002, p. 208)

If we take Keiny’s view of learning as a starting point, then the learning experiences of students’ education and training to become healthcare professionals need to mirror the practice of the profession, allowing students to participate and contribute. This approach of focusing on the needs of students suggests a change to a student-centred learning approach in clinical education. Whilst the practice of healthcare is increasingly interdisciplinary and interprofessional in nature, the education of undergraduates remains largely based within a single disciplinary/professional perspective. However, at the postgraduate level, we feel that it is appropriate (and indeed necessary) for students to broaden their horizons and develop a more interprofessional perspective. As healthcare practice increasingly involves interprofessional working, there is a need for change in clinical education.

However, in the face of these comments, interdisciplinary study has been described by Liu (1989) as “the most seriously underthought critical, pedagogical and institutional concept in the modern academy” (p. 743); an issue recently revisited by Ellis (2009). Policy is starting to change to address the gap between aspiration and practice. For example, Darzi (2007) emphasises the importance of truly integrated patient-centred care and partnership working, maximizing the contribution of the entire workforce as a way of developing healthcare provision.

In this context, academics within King's College London (KCL) have developed an interprofessional Master’s-level programme on Clinical Pedagogy to serve the needs of postgraduate healthcare professional students across the clinical disciplines and help them to investigate for themselves the possible potential benefits of interdisciplinarity (e.g. Morrison, 2009). The rationale for the development of this programme is outlined in this paper. First interdisciplinarity and interprofessionalism are defined. This leads to a discussion of how interprofessional education (IPE) can be informed by interdisciplinary pedagogy, in the context of theories of student-centred learning and patient-centred care. Two examples of IPE are explored, provided by co-authors who are established practising clinical educators in dentistry and pharmacy and teachers on the KCL MA in Clinical Pedagogy. The paper concludes with a discussion of managing change from traditional, discipline-based clinical education to an interprofessional pedagogical model of student-centred learning and patient-centred care, using the KCL MA in Clinical Pedagogy as an example.

**Interdisciplinarity and Interprofessionalism**

Interdisciplinary and interprofessional work has become the norm in many health and science fields, and numerous institutions offer students interdisciplinary courses, modules, and programmes. Below we define and explore how interdisciplinarity and interprofessionalism can be used to change teaching and learning curricula in clinical education.

Interdisciplinary work most often refers to work in more than one discipline in academia, including undergraduate and postgraduate training in health fields. Interdisciplinarity provides much of the theory for integrating knowledge and practice from multiple disciplines and perspectives. Interdisciplinary pedagogy often focuses on bringing individuals together as a means of solving problems and answering questions that a single approach cannot fully address (Klein, 1990).
Whilst there is a developing literature on interdisciplinarity (Klein, 1990; 2001; 2008), there is a dearth of research on pedagogies of interprofessional work.

Interprofessional education is a term used to describe teaching healthcare professionals, trained in specific disciplines and fields such as medicine, pharmacy and dentistry, together with the goal of improving working together. Interprofessional education has been defined as:

“The application of principles of adult learning to interactive, group-based learning that relates collaborative learning to collaborative practice within a coherent rationale informed by understanding of interpersonal, group, inter-group, organisational and inter-organisational relations and processes of professionalisation” (Barr, 2002, p. 23).

In simpler terms, interprofessional education now carries the following agreed clear meaning:

"Interprofessional Education occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care" (Centre for the Advancement of Interprofessional Education [CAIPE], 2002, p. 1). IPE pedagogy has traditionally been light on theory (Barr, 2002); there are few theoretical underpinnings in the literature (D’Eon, 2004; Levin et al., 2001). Much of the focus of IPE is on the patient and the place of the patient in the larger community; it has been observed that “patient-centred care is a philosophy, not a system” (Gilbert, 2005, p. 88). Faculty development in IPE often focuses on activities designed to help educators in multiple settings (e.g. hospital, community, university) teach IPE and patient-centred care in a more effective manner and promote organisational change and development (Steinert, 2005). These ideas have provided a basis for the framework for integrating pedagogies from interdisciplinary study in the interprofessional education context.

The stated goal of IPE in programmes at KCL, including the Master’s in Clinical Pedagogy described here, follows the CAIPE definition, listed above, as well as using the term IPE “to include all such learning in academic and work based settings before and after qualification, adopting an inclusive view of ‘professional’” (CAIPE, 2002, p.1). As noted in programme information,

“In order to work towards the above definition it is important that interprofessional learning opportunities encourage students to interact with each other. It is not about simply learning common material or learning about each others roles, although this is also important. It is more about gaining an understanding of each others perspectives, skills and constraints” (Desai, 2008, p. 1).

The benefits of working with and knowing what professionals in other areas do and how it can assist in providing better care for patients is discussed in Box 1 by a practising clinical educator in dentistry.
An Example from Dentistry
The actual practice of dentistry—the direct patient contact, has to be underpinned by an education that requires the input and talents of many professionals. It can be argued that embedding practice in this IPE is what makes a student into a practitioner, rather than a mere technician. It is more than performing a task; it is knowing which task is appropriate and the possible consequences associated with its execution.

The key is to empower students to value the input from professionals they encounter and to continue to appreciate it through qualification and beyond in their practising lives. In the dental curriculum these include infection control, taught initially by general and dental nursing staff, radiology, taught by radiologists and radiographers, and life support taught by doctors and specialist life support dental staff.

As a dentist I am regularly required to write prescriptions for patients. I want advice as to what is best to prescribe in a particular circumstance; I also need guidance on possible interactions with other medications a patient is taking. I am not an expert here, nor usually is the patient’s doctor—it is the pharmacist who knows and can give immediate expert advice. I often need to communicate with a patient’s medical practitioner or hospital consultant because a proposed plan of treatment could potentially affect a patient’s well-being. Faced with a wide variety of materials I often need to seek guidance by a materials expert as to what is best in a particular circumstance.

At dental school staff and students have instant access to these professionals and they are encouraged to discuss issues. Students can then see the key role that these interdisciplinary encounters have in their own practice. It is critically important that teachers ensure that this relationship is maintained and developed beyond qualification and that practitioners realise how important other professionals are in their everyday practice.

A huge step forward in making this become a reality has been the introduction of vocational training, a mandatory 12-month period of post-registration practice-based education. The goal of these programmes is to instil in the novice dentist an appreciation of communication with and learning from other professionals, health care or otherwise, and to take that appreciation with them and hopefully empower others to similarly see its value.

Challenges of IPE
Despite the described usefulness of IPE and the fact that it is widely practised and promoted, there remain unanswered questions about the effectiveness of IPE programmes, the ideal timing of IPE, and best practices for teaching and learning in an interprofessional setting (Hall & Weaver, 2001). One of the main challenges to IPE is a question of when to introduce it into the curriculum, or whether to try and infuse it into the existing curriculum; these are questions that have not been satisfactorily answered by the literature.

As Byrne (1991) has pointed out, most teachers are products of an educational system that limits their perspective to that of their own discipline. Most teachers within IPE contexts do not train in an interprofessional environment and many do not practice within one either (Steinert, 2005). However, interprofessional working is not an end in itself, but a means for more effective communication and cooperation among health professionals in the service of patient needs (Baldwin, 2007). The position of the patient in relation to clinical decision-making is therefore a key factor in the development of interprofessional patient care, as is the position of the student in IPE. Why this is important and how interprofessional working can be taught is explored below.
Putting Practice into Theory: Student- and Patient-Centredness

Research has shown that the concept of patient-centred care is complex and contested (e.g. Cooper, Smith & Hancock, 2008). Similarly, the evolution of the concept of student-centred teaching has proved a “bumpy road to navigate” (Felder & Brent, 1996). In their review of the empirical literature, Mead and Bower (2000) identified five dimensions of patient-centredness to distinguish it from the conventional biomedical model of practice. These are described below, highlighting the parallels that can be drawn with student-centred teaching:

1. **Biopsychosocial perspective**
   This is associated with broadening the focus of the clinician’s interest in the patient beyond the scope of organic disease to include recognition of other agendas that the patient may bring. The parallel in higher education is the recognition of student factors beyond cognitive dimensions to include the emotional journeys that students make through their studies (e.g. Christie et al., 2008).

2. **The patient-as-person**
   This is concerned with understanding the patient’s individual experience of illness, beyond the application of a diagnostic label. The clinician is expected to understand the patient as an idiosyncratic personality, placed within a unique context. Within educational contexts this is made easier if experts can maintain a beginner’s mind to try to see the student perspective (e.g. Fontaine, 2002).

3. **Sharing power and responsibility**
   This suggests a shift in the clinician-patient relationship from one that resembles a parent-child relationship towards one of mutual participation. The traditional asymmetry of the biomedical model is challenged to encourage greater patient involvement through the voicing of ideas. The same reallocation of power in the classroom is equally a challenge to the traditional transmission model of teaching, with some teachers seeing this as an assault on their professional practice (e.g. Weimer, 2002).

4. **The therapeutic alliance**
   Patient-centred care affords greater priority to the personal relationship between clinician and patient, considering the patient’s perceptions of the interventions offered within the affective dimension. Achieving the desired emotional context becomes part of the clinician’s role, just as it tends to fall upon the teacher to achieve the same result within the educational context (e.g. Beard, Clegg & Smith, 2007).

5. **The doctor-as-person**
   This dimension of patient-centredness includes the clinician’s self-awareness of emotional responses and may be related to the educational notion of reflective practice or the intuitive expert. This dimension highlights the difficulty in measurement (in part or in whole) of patient-centredness and student-centredness (e.g. Winefield et al., 1996).

Just as patient-centredness is influenced by the health professional’s beliefs, values and attitudes towards patients and the planning and delivery of care (Atkins & Ersser, 2008), so student-centred teaching is also influenced by the teacher’s pedagogic framework, composed of beliefs, values and attitudes towards student learning (e.g. Alexander, 2008). For such reasons, it is important that “pedagogy” finds its way into the lexicon of the clinical teacher as it means so much more than the related term, “teaching.” The problem of using a bipolar construct to describe clinical teaching (or indeed patient care) is that it creates a simplistic dichotomy that is a distraction from the complexity of the situation (Alexander, 2008). At present, “evidence-based medicine” and “patient-centred medicine” appear to belong to different paradigms, presenting a major challenge of bringing them together in a way that can benefit the professional overall (e.g. Bensing, 2000).
This has been recognised by Olesen (2004) who calls for a balance, suggesting dialogue-centred medicine as a more contextually valid approach. Again, parallels can be drawn with the debate around student-centred teaching and the call by Cousin (2008) for a more transactional curriculum.

Whilst the terminology may vary between education and clinical science, the issues and likely resolutions display remarkable similarities (e.g. Skidmore, 2006). Within the clinical teaching arena, this has been drawn together by Kinchin, Baysan and Cabot (2008) through the visualisation of knowledge structures that can be employed to facilitate such dialogue and transaction. The trends towards increased student- and patient-centredness share an additional similarity, as “expertise” becomes more contextually integrated rather than standing apart from students or patients. Within a more dialogue-centred approach, the expert becomes part of the context rather than an observer of it. The integration of student-centred learning and patient-centred care in the context of pharmacy is discussed in Box 2.

An Example from Pharmacy

As a pharmacist and an academic lecturer, I have found that there are interesting analogies between patient-centredness and student-centredness. When working as a pharmacist before entering academia, my practice was in the realms of a large pharmacy in a city centre. As my time in practice progressed, I started to realise that one of the pitfalls in working in isolation was the difficulty in communicating with the other healthcare professionals. Many people often are involved in the care of a patient such as their general practitioner (GP), dentist, nurse, pharmacist, etc. I decided to arrange for someone to cover the pharmacy so that I could go out and visit some GP practices to discuss how we could work together. At times this was difficult, some GPs were wary of my visit, others did not have time but the ones I did get to see eventually started to call me with pharmaceutical queries and problems they had. Thus, this improved the quality of care their patients received.

Doing continuing professional development with pharmacists I saw that communication amongst health care professionals was a barrier to patient-centred care. So, I thought to develop some post-graduate IPE and put the student at the centre of their own learning. Just as healthcare had been criticised in the past for not being patient-centred, academic courses were charged with not being student-centred. If students were in charge of their own learning and could pick and choose what they wanted to study, they could tailor it to their unique situation and avoid the “one size fits all” model of many post-graduate education courses. I see the development of a course around student-centred education in an interprofessional setting leading to better patient outcomes and professional practices.

Box 2: Putting Theory into Practice: Curriculum Change in IPE

As noted in the two examples, shifting to a student-centred and patient-centred pedagogical model is a challenge for educators and healthcare professionals. There is both a need for and difficulties related to managing change from traditional, discipline-based clinical education to an interprofessional pedagogical model of student-centred learning and patient-centred care.

One of the foundational elements of the KCL MA in Clinical Pedagogy is bringing together professionals from a number of different clinical areas and concentrating on interdisciplinary pedagogical research, models and practices. There are further modules on various aspects of pedagogy, including Models of Expertise; e-Pedagogies and Intercultural Education. As highlighted in examples from pharmacy and dentistry, there is often resistance to IPE from both academics and professionals. However, the examples also show the benefits of pursuing IPE for students and patients, as well as academics and professionals.
Curricular Change: (Inter)Disciplinary Perspective

There are many paths that healthcare education can take toward becoming more interdisciplinary and interprofessional, with educational tools often facilitating the process. Changes can be managed from within a discipline by bringing in experts from other areas. For example, in a dental curriculum, there is a mix of contributions from many different specialties with the aim of developing a graduate who has a sound theoretical underpinning for practice; a graduate who is committed to develop practice and enhance patient care and to maintain status as a dental professional. In basic dental training, instructors are drawn from not only the basic sciences such as Anatomy, Physiology and Biochemistry but also from Psychology, Sociology and Nursing.

It is quite possible that such subjects could be taught within the department, but it has been a long held belief that experts from the field are the best to teach these areas. That is not to say everything is always clear and simple. Having developed the interprofessional links, however, what is taught or what is best for the student can be a point of contention. Basic science experts often have a different view than that of the programme leader who can perhaps see the role of that subject in the overall education of the student. To provide a disciplinary and professional focus, the KCL MA in Clinical Pedagogy offers educational context modules in the fields that students come from, such as pharmacy and dentistry.

In common with other professions such as medicine and nursing, as noted in the examples both pharmacists and dentists have a commitment to continuing professional education/development (CPE/D) and lifelong learning. This can be another avenue for creating interprofessional linkages, but the nature of established practices can make interprofessional input into such education problematic. For example, in terms of keeping up-to-date with the management of medical emergencies, latest prescribing advice, service development, radiology protection, or even the latest up to date clinical and consultation techniques, immediate access to the required expertise is not necessarily available and it is often up to practitioners to identify their own education needs and access. Furthermore, these established programmes often require strong support from educational and professional leaders and associations.

Curricular Change: Organisational Perspective

Patient-centred care and student-centred education necessitate changes within disciplinary and professional academic departments and adjustments within healthcare administration and continuing education. It has to be remembered that change is a process rather than an event requiring careful thought about issues such as the need for change, planning, anticipating difficulties, assigning responsibilities, developing commitment, maintaining momentum, consolidation and review (Heller, 1998).

In this context, the move to patient-centred care and student-centred education can be the desired goal. In pursuing this agenda, it is critical to have support from senior staff. As Horovitz and Jurgens Panak (1992) point out, leaders who demonstrate commitment and conviction are far more likely to be successful in cascading ideas through the organisation and encouraging effective participation. To this end, a focus on development in IPE programmes is essential. The KCL MA in Clinical Pedagogy includes options for modules on Managing People; Professional Development; Personal Development; and Interprofessional Leadership and Learning.
In an on-going process of change, evaluation is an essential practice. In addition to individual and group course evaluations at module, year and program levels, the KCL MA program is evaluated on the following elements:

1. The validity and reliability of the programme in conjunction with the stated aims and learning outcomes;

2. The relative time given to teaching, individual learning and assessment of progress;


Views from External Examiners are also taken into account in the evaluation process. Programme modules are also designed and evaluated in part with professional bodies, such as the Association of Medical Educators.

**Conclusion: Developing a Student- and Patient-Centred Pedagogical Model**

There is a need to ground interprofessional education practice with theory, related to patient-centred care and student-centred education, to move it beyond piecemeal activities and one-off initiatives. This can be done in part through breaking down professional boundaries, in both academia and healthcare, to promote the best education for students and the optimal care for patients.

The advantages of developing a student- and patient-centred pedagogical curriculum model based on interdisciplinarity and interprofessionalism have been outlined and illustrated here through reference to two examples. However, the content-driven, discipline-based tradition of university education is still firmly entrenched in many universities. Recently this conventional wisdom has been challenged, generating greater support for an interdisciplinary and interprofessional approach and the development of programmes, such as the KCL MA in Clinical Pedagogy.

Certainly the point of interdisciplinary overlap would appear to be “the patient” and the essential element for effective overlap between the disciplines and professions can be seen as effective dialogue (Olesen, 2004). This dialogue must be employed to identify common thinking processes across the disciplines, such as the ability to identify context; the ability to recognise organizing principles and the ability to change perspective (Donald, 2009). Such factors may help to create an interdisciplinary focus. This major shift in the underpinning philosophy of clinical education provides a major task for curriculum providers and managers who need to be sensitive to the culture of their organisation if the change that is required for programmes based on interdisciplinarity and interprofessionalism is to be sustained and embedded.

The disciplinary basis of teaching approaches is also challenged by the move in academic development from “tips for teachers” towards a more scholarly view of the development of teaching and learning. To facilitate this, a consideration of underlying pedagogic frameworks is necessary. Such a consideration reveals a degree of similarity between healthcare disciplines that is masked to observers if they looks only at the more obvious differences in teaching context (Kinchin and Cabot, 2009).

Therefore, interprofessional education can be seen as part of a pedagogic model that considers underlying assumptions, theories, values and beliefs that direct the observable acts of teaching, and not simply as a teaching strategy. This is why the new programme developed at KCL was named the Master's in Clinical Pedagogy, rather than Clinical Education or Clinical Teaching. The emphasis is on the underpinning values that can empower course participants to develop their own teaching to suit their local context, based upon a robust interdisciplinary pedagogic framework.
The MA in Clinical Pedagogy is designed for healthcare professionals to inform and develop their pedagogic practice. It is particularly valuable for both clinical and non-clinical practitioners who teach in a clinical environment. The MA in Clinical Pedagogy programme brings together healthcare professionals and educators to deliver student-centred education and patient-centred care from across multiple healthcare and academic disciplines. Hopefully this programme will develop as a model for bringing a strong theoretical base to the established practice of interprofessional care.

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