Chapter 8 Findings Part 3: Learning Clinical Decision Making

8.1 Introduction

The data yielded a number of other findings beyond the iceberg model presented earlier. These are outlined in this chapter. A theme that brings many of these findings together is learning. Learning has been frequently described and discussed as an integral part of the situated themes of the iceberg model. However, there were also findings specific to learning clinical decision making which did not naturally fall into the iceberg model; they are described here.

8.2 Clinical Decision Making and the ZPD

It has already been mentioned in the section on metaphor that some of the medical students in the PBL course felt the need for some direction in the early part of the course, even though the course emphasises a self-directed learning approach. Some students realised that because of this self-directed learning aspect of PBL a certain level of maturity is needed if it is to succeed. Kevin said

"I like this way [PBL] of doing it. But if it was like this in my undergrad [course] I would never have done anything".

Quentin had similar feelings:

"When I did my undergraduate degree I don't think I had the maturity to decide what was important, whereas now I can actually look at what I'm learning and decide how important it is".

The maturity needed extended to the conduct of the PBL sessions, as by the third year many were run by the students themselves; tutors, even when present, were expected to take a less proactive role and allow the students to conduct the session. Joshua felt strongly about this:

"We're old. We're students who have done previous degrees. We know how to keep ourselves on track. We don't need our hands held".
However, Kevin complained about one group he was part of who had started to subvert the PBL process:

"They just sat there and read it out off the sheet, and at the end of the first one I said, 'Look I got nothing out of that ... I don't know about you guys, but I really want to go through this and try and think about it myself, rather than read it straight from the sheet’”.

Kevin had the maturity to realise that a large part of the benefit of the PBL approach comes from the process, in which participants attempt to simulate the assessment of a real patient.

Alexandra also valued PBL as a process that enabled her to start applying theoretical knowledge to practice:

"If you're just spending all your time holed away with your books memorising stuff then you can get a whole lot of facts into your head, but how to put them together, and how to apply them isn't something that can be really gleaned from a book and that's what the PBL process is good for”.

Joshua, too, appreciated that the PBL process helped prepare for practice, as the format paralleled the assessment process on the wards:

“You’ve got to take a history. You’ve got to work through the examinations, the results and test that you’ve ordered, the results from those, and planning and things like that. So it does give you an idea. It does prepare you”.

Mary confirmed this when she said:

“I think it’s a really good idea [PBL]. It’s how you think clinically … it’s how you should think clinically”.

A quotation from Thomas, cited earlier, revealed further insights into the learning of clinical decision making:

“The actions precede the thought. It’s like a kid when they’re learning to use manners at the dinner table. You don’t understand why until you’re much older, and maybe that’s like us as medical students. When you first start off, even in third year, you’re much more interested in ticking all the boxes. You’re not really thinking too much. But by the end of it when … you’re in the emergency department at night … trying to work
out what’s going on here you’re actually forced into that thinking mode, and you do apply those processes … it’s good like that really, and it’s funny that even though we’ve been doing it for a long time it’s not until you’re in that place of responsibility, even however limited and protected … not until you’re there that you really start getting it”.

This recognition echoes Schön’s (1983, 1987) insight that students learning to be professionals must plunge into the doing of professional practice. Students need the experience of professional practice to make sense of all the things the teachers say to them. Without the experience of practice, the teachings they receive can have no real depth of meaning. However, to acquire depth of meaning also requires active reflection on the practice experience.

All the students enjoyed the PBL process in the early years but by this stage of the course many of them were beginning to tire of it. Quentin said:

“It’s become a bit monotonous. I think people are so used to the process, and it’s not new any more and people have lost the enthusiasm a bit”.

However, the course organisers had changed the format for the third year. The students appreciated the reduced time devoted to PBLs and the change in format, with a greater emphasis on management rather than diagnosis. For example, Mary said:

“At this stage of the year I’m a little bit over it, having done it now for close to three years … coming down to two PBLs a week this year, or doing them on the same day is better than what we did last year, having it over three sessions … but I think you can only do that when you get to our stage anyway”.

She went to explain that this was because:

“There’s a lot of things that we tend to already know so you don’t have to explain them … we also tend to know the process a lot better as well”.
The PBLs can be seen as a good example of a zone of proximal development (ZPD) as the students could, with the aid of a tutor and each other, perform at the level of a competent doctor. According to Vygotsky (1978), in the ZPD the public and social performance of skills eventually becomes internalised and changes the learner. The students’ growing weariness with PBL could be interpreted as a natural reaction to this internalisation. The mechanics of patient assessment, and much of the associated knowledge, were now becoming second nature to them. Doing the assessment as a group seemed to be slowing them down. Now, well into the third year of their course, they seemed to be in a transitional phase in which there was much they could do rapidly and competently on their own, but there was much they still did not know. This might explain why they made comments in favour of PBLs and, simultaneously, could also show some exasperation with PBL and even be tempted to skip through the process if a tutor was not available.

Many of the students were aware of the degree to which group members (tutors and other students) lent each other knowledge and expertise. For example, Christopher spoke of the differing backgrounds of the group members:

“Amongst ourselves there are some people that know a lot more about some things than you do, and things that you know that they don’t”.

Kevin pointed out that there was a danger with a group approach. The group might perform well but the students within it might confuse the group’s performance with their own individual performance. Therefore, there was a need to be vigilant and make a conscious effort to learn from the group:

“With the differential diagnosis, if you think of the first two [items] and then someone else throws in one, and then there’s another one from there, and another one from there, you [the group] have got them all, but you [the individual] have only got two of them; and then you’re already on to the next stage before you can sit there and think … I’ve got to remember those as well”.

Kevin here touches on the issue of being a reflective practitioner (Schön, 1983, 1987). The vigilance needed not to mistake the group’s performance for one’s own requires each student to be a reflective practitioner. There is a need for group members to reflect, as Kevin did, on
the group’s performance as a team and on the individual’s contribution to the team, and what was being learned. The tutors’ manual for facilitating PBL sessions does encourage reflection on the group performance. However, reflection on individual performance could be something that students are encouraged to do more in the future.

A problem which many students mentioned was personality clashes within the groups. The medical school made a conscious effort to try and recruit students who could work well within a small group setting. Even so, problems did occasionally arise. As Mary said:

“It’s been a good lesson in tolerance … you’ve really got to be very open to what other people have to say because they could be just as right, and you could be totally wrong”.

8.3 PBL Tutors

The role of the tutor was discussed. On the whole the students appreciated the input of a tutor. Having tutors turn up at all was sometimes seen as a problem. This is presumably because many tutors were busy clinicians who naturally gave commitments to sick patients a priority over attending PBL sessions. Some students liked tutors who became very involved in the group process. For example, Mary said:

“The ones that are a bit more interactive … I find them a bit better than the ones that just sit back and don’t say anything at all … the ones that share their clinical experience … are much more helpful”.

Jim had experienced tutors who took a very passive role and others who were very proactive:

“I’ve had people [tutors] that just sit in the back and read their own book and just listen over and sort out arguments, and you have other people that are very didactic and like to speak a lot”.

Speaking from my own experience, the role of the PBL tutor can be difficult to manage. The students are expected to be self-directed in their learning and to assume more and more responsibility for running the PBL sessions as they advance through the course. Therefore the tutors must constantly find a balance between facilitating too much and too little. As an illustration, Jim asserted that having a tutor who was an expert in the medical specialty of the
case under discussion could be both a help or a hindrance. A doctor who was a specialist in another field, or a general practitioner, often had a better sense of the level of detail that was appropriate for the students’ learning at this stage of their medical education. As Jim said:

“I think it also helps to have a good clinical tutor that’s not in the same field. Like we had a lot of renal problems with Dr***, and he was a neurologist, but he was good because his knowledge was similar to what … we needed to know. It was a good level”.

8.4 The Multidisciplinary Clinic as a ZPD

The clinical meetings in the multidisciplinary clinic can also be seen as ZPDs. The health professionals there recognised the degree to which, as a team, they could borrow each other’s expertise and experience in a way that meant that each new patient was given an assessment more thorough than any solo practitioner could ever hope to achieve. It was clear that individual health professionals learned and grew in expertise from their time in the clinic. However, the aim was always to use the combined approach of several experts. In a sense, the clinic aimed to go beyond Vygotsky’s notion of the ZPD. Vygotsky spoke of the student reaching an expert level with the aid of someone more experienced, and in time attaining the level of the expert. In the clinic, the modification to the ZPD is that every health professional is simultaneously expert and student, and together they provide a scaffolding of expertise that enables the group to reach a level of expertise otherwise unachievable to any individual.

In an earlier chapter it was mentioned that the psychologists and physiotherapists tended to work towards a functional model of care in contrast with the more clinico-pathological model of the doctors. Superficially this can seem like a contradiction and a clash of conceptual systems. In practice it seemed to work well, and could be construed as an example of a Vygotskian dialectical/dialogical synthesis, where one idea (thesis) is compared and contrasted with its opposite (antithesis) and the two are then synthesised in a manner in which the whole is greater than the sum of its parts. Neither idea is subsumed by the other, and the synthesis retains the identity of both thesis and antithesis.
The research itself also had the unexpected effect of encouraging reflection among the clinic staff. I had experienced some difficulty in interviewing clinic staff, due to the busy lives they led, and so was surprised one day to be accosted by one member of staff who demanded an interview! It turned out that she had been speaking to someone who had already been interviewed and had enjoyed the experience. It seems that the enjoyment came from being encouraged to reflect on the experience of working in the clinic and what had been learned there. It can be argued that all health professionals would benefit from adopting a reflective attitude to their work. This could help to make them more proficient as well as encouraging people to stop and routinely “take stock” of how work fits into their lives.

8.5 Commentary

The PBL approach to medical education is a relatively recent innovation. It was introduced in an attempt to cope with the information explosion in medical knowledge by focusing on the knowledge relevant for coping with a particular case, and applying such knowledge in a realistic manner (Loftus & Higgs, 2005). Because of this, PBL has close connections with Aristotle’s notion of phronesis or practical know-how, and as such is to be welcomed as a more realistic approach to medicine and medical education. This is long overdue; there have been complaints going back as far as 1863 (GMC, 1993) that medical students were expected to learn too much factual knowledge. It is reasonable to ask why it took over 100 years before the situation changed. One plausible answer is the power of the underlying metaphor of education. For too long the dominating metaphor of education has been THE MIND IS A CONTAINER. If this is the case then it is perfectly reasonable to think that more facts must mean better education. In my opinion this metaphor is wholly inadequate, and has meant that generations of medical students have been forced to go through a system of medical education that has been wasteful of time and energy, inefficient, and unnecessarily stressful. It can be argued that many people have become good doctors, not because of the education they received, but in spite of it.

However, times of prolific change, such as we see at present in the education of health professionals, also bring some uncertainty. For example, it seems that some staff in the PBL course had difficulty adjusting to the role of PBL tutor, with some being too didactic,
delivering facts, while others were too removed (non-interventionist), stepping in only to referee disputes. How much of a guide one needs to be is problematic for some staff. Despite these uncertainties, and with further experience and feedback, tutors’ behaviour is evolving. There seems to be a change in metaphor underway. The old metaphor of A TUTOR IS A DELIVERER OF FACTS is giving way to a new metaphor, A TUTOR IS A GUIDE.

One student mentioned the politics of education surrounding the medical course, and the antagonism of some surgeons towards the new PBL-based course. The perception was that many of the surgeons had resisted the change to the new course and consequently had minimal input in its design, leaving the course dominated by physicians. It is not the purpose of this thesis to comment on this issue, other than to observe that the data in this study indicate that surgeons do think quite differently from other doctors, and this is supported by the literature. The ethnography of Katz (1999) explored the culture of the community of practice we call surgeons. Features of this culture include their conservatism and their predilection for quick decisions.

8.6 Conclusion
Clinical decision making is learned within communities of practice. This research has focused on explicit communities of practice such as PBL tutorials and a multidisciplinary clinic. Learning and developing skills in clinical decision making can be facilitated by learning in situations that reflect the learner’s readiness to learn. For example, a questioning and supportive group can provide challenges to silent, solo reasoning practices and lack of self-critique. Learning about clinical decision making as an explicit phenomenon, and how it works, can help people develop their skill, assuming that numerous and realistic examples are provided for them to work with. Tutoring and mentoring can provide scaffolding and feedback and encourage reflection. Multidisciplinary environments provide permanent ZPDs, as participants can be both student and tutor for each other, permitting the team to reach a level of expertise that no solo health professional could hope to emulate.