

Abstract

Malaysia was the first country in Asia to adopt Problem-based learning and yet the impact that this has had on its tutors remains largely unexplored. This paper proposes a qualitative study of the changing perceptions of teaching roles in two groups of Problem-based learning tutors in two institutional contexts – one in medicine located in Kuala Lumpur and one in engineering located in Johor Bahru. Using Interpretive Phenomenological Analysis, the authors attempt to describe the way in which the two groups have experienced their changing professional world, and the mental processes through which they rationalize the transformation of Malaysia's educational landscape. This paper discusses four themes of analysis: (1) Tutor perceptions are embedded in the context of Malaysian hierarchical social structures. (2) Tutors recount a rewarding but challenging move to PBL (3) Tutors display widely different attitudes towards the role of expertise in PBL. (4) Tutors attempt to construct explanations and rationalize their emotional experiences with PBL.

Introduction

In 1979, Universiti Sains Malaysia initiated Malaysia's first Problem-based learning (PBL) programme in medical education (Zabidi & Fuad, 2002). This was the country's third medical school, but rather than follow a traditional pedagogical model, this experimental programme implemented the educational method pioneered by McMaster University's medical school ten years earlier (Spaulding, 1991). Since then, almost every medical school in Malaysia has adopted some form of problem-based learning (Lim, 2008), including Malaysia's oldest medical school at the

University of Malaya (Thong, et al., 2012). The use of PBL in other fields of study is a markedly more recent phenomenon in Malaysia. Several institutions have recently been reporting pedagogical experiments in the field of engineering (Berhannudin, Ahmad, Asri & Abdullah, 2009; Mohd-Yusof, Hassan, Jamaluddin & Harun, 2011). However, the models of PBL used by these institutions vary – some take inspiration from the medical model, others look to the Danish model of Problem-oriented project-based learning (Kolmos, Fink & Krogh, 2004), which has been used extensively in engineering education.

Problem-based learning is a form of education characterised by a participant-centred small-group setting in which learning is driven by realistic but ill-defined problems (De Graaff & Kolmos, 2003; Schmidt, 1983). During PBL, the teachers are not expected to give a lecture, but to accompany the learning process in a tutorial role in which they will help the students to structure their thinking around the problem (Barrows & Tamblyn, 1980; Schmidt, Arend, Moust, Kokx & Boon, 1993). Since this necessitates a re-definition of the role of the teacher in the learning process, education researchers have attempted to understand what makes an effective PBL tutor. Chng, Yew & Schmidt (2011) focused on three factors influencing tutors' performance: tutors' subject matter expertise, social congruence and cognitive congruence. Rotgans & Schmidt (2011) also looked at tutors' power to generate interest and motivation in students, and Savery & Duffy (2001) analysed tutors' role in scaffolding the learning process. Tutoring was aptly described as "collaborative knowledge building" by Hmelo-Silver and Barrows (2008, p.49).

A few early quantitative studies were carried out on tutor expectations and attitudes in general (Bernstein, Tipping, Bercovitz & Skinner, 1995; Vernon, 1995),

but these results have not been replicated in recent years. More recently, qualitative studies have emerged in the Asian context, in which PBL is a growing phenomenon: Lee, Lin, Tsou, Shiau and Lin (2009) reported a qualitative study in which they uncovered the circumstances that prompt PBL tutors to intervene in a Taiwanese institution. Saito, Hawe, Hadiprawiroc and Empedhe (2008) published a study of a critical self-reflection exercise performed by Indonesian teachers in a student-centred learning environment. However, no extensive qualitative study has focused on the adaptation process of Asian teachers who, in their own education, were largely brought up in a teacher-driven environment, but must now act as guides for students in a problem-based setting.

This study is concerned with investigating the attitudes and feelings of tutors towards their role in a group of medical tutors in a major public university in Kuala Lumpur, and a group of engineering tutors in a major public and technology-oriented university in Johor Bahru. These two disciplines were selected because they display the greatest developments in PBL in Malaysia to date. The two institutions were chosen because they published reviews of their PBL programmes in English (Mohd-Yusof et al., 2011; Thong et al., 2012), thus providing the researchers with ample material to prepare for this study. The purpose of this study is to explore two different viewpoints on adapting to PBL; one within a field of study in which PBL has been used in the country for over three decades and another in a field of study in which this is a relatively new and ill-structured phenomenon. The PBL programme in the medical institution had been running for almost fifteen years at the time of the study whereas the programme in the engineering institution had been running for almost ten years. In the medical institution, PBL was implemented as a Faculty-wide project

using a model inspired by the University of New Mexico's PBL programme (Kaufman, 1985), whereas in the engineering institution it was progressively implemented, first in a pilot course, then in more and more courses on the basis of voluntary participation of faculty in this transition. In this second institution, no existing model of PBL was straightforwardly applied, but an aggregate of several methods including the medical PBL model but also Active Learning and Cooperative Learning (Felder & Brent, 2007). At the time of the interviews, both institutions used a hybrid model of PBL, meaning that regular lectures ran alongside PBL tutorials in the curriculum, with PBL taking up a minority of student contact hours. In both institutions, the PBL tutorials were conducted in English, which explains why we chose to run the interviews in English rather than use a translator.

In the medical group, participation in formal training workshops organized by the faculty was a requirement prior to becoming a PBL tutor. Thus, all of our interviewees from the medical group reported to have been trained prior to commencing their work as tutors. In the engineering group, three training methods were used: support and personal training from the person responsible for developing PBL in the institution, workshops on Cooperative and Active Learning organised by this person, and peer-mentoring. All of these were developed on an *ad hoc* basis rather than systematically. Some of the tutors in our interview group began using PBL with no formal training. Given the multiplicity of variables in these two contexts, the authors have chosen not to systematically compare the two cases, but instead to explore the outcomes in each. The objective is thus to expose a wide range of feelings and experiences in two different settings, and offer an interpretation of the resulting observations to the reader.

Method

After considering several analytical tools, the authors deemed that using Interpretive Phenomenological Analysis (IPA) (Smith, 1996; Smith & Osborn, 2008) would provide the greatest insights into the data. IPA is a relatively new method of qualitative analysis, but one that has now been academically validated and is being used by an increasing number of researchers (Smith, 2004). Larkin, Watts and Clifton (2006) described IPA as providing a “highly intensive and detailed analysis of the accounts produced by a comparatively small number of participants” (p.103). IPA tries to make sense of the participants’ world from their perspective. Although there is no definitive data collection method for IPA, it usually does so using semi-structured interviews in which the interviewer gently prompts the participants to elaborate on themes of interest. Given the exploratory nature of this research on Malaysian PBL tutors’ perceptions of their role and identity therein, the authors deemed that valuable insights could be gained by delving deep into the feelings expressed by small groups of tutors. The method of analysis was largely inspired by that used by Osborn and Smith in their 1998 study of chronic lower back pain. However, this paper proposes two twists on the IPA method as it has been used and reported to date: firstly, the participants’ native language was not English, it was Malay, Tamil, Mandarin Chinese or other, and the interviews were conducted in English without the assistance of a translator. This obstacle has already been considered by Smith, who wrote in 2004:

What about research with children and with adults for whom English is not their first language? There is increasing interest in conducting IPA with different groups. It is likely, however, that the guidelines for conducting semi-structured interviews provided in chapters on doing IPA (Smith et

al., 1999; Smith and Osborn, 2003) will need to be adapted when researching other groups. As a general rule, it is likely that the largely noninterventionist stance of IPA interviewing/ general open questions followed by gentle probing will need to become more interventionist with other groups. Thus children, people with learning disabilities, adults who have difficulty with English may need the researcher to take a stronger role in guiding them than is usual in IPA interviews. (49).

Secondly, this study made use of focus group interviews rather than individual interviews. Smith also considered this challenge in the same paper:

Focus groups have generally been used to establish the themes or discourses present in the group, and they clearly raise interesting issues around group dynamics, e.g., the emergence of dominant voices and perspectives, and the possibility of assumed consensus. While cautious about the use of focus groups for IPA, this is another area ripe for exploration. My advice to someone committed to conducting focus groups within an IPA perspective is to 'parse' transcripts at least twice, once for group patterns and dynamics and subsequently, for idiographic accounts. (50)

The authors' reason for choosing focus groups rather than individual interviews relates to the cultural difficulties of getting Malaysian participants to openly discuss issues of feelings and emotions. The interviewer was advised beforehand by several leading figures in both institutions that group interviews would put the tutors more at ease. This was particularly noticeable for male participants who struggled to express themselves when face to face with the (female) interviewer but gained confidence in the group setting. Rabiee (2004) suggests that the appropriate number of participants for a focus group interview is between six and ten, but given the difficulty in finding tutors to participate, the authors were able to secure five participants for each interview, two women and three men in each case. The tutors knew each other prior to the interview, but were not all from the same departments or course. There was a wide

age and experience range in both groups, representing the programme's tutor population fairly. The focus group interview was conducted with a semi-structured interview schedule. The interviewer prepared five broad themes for exploration, but let the tutors guide the direction of the discussion if they wanted to add elements that were not in the schedule. Some of the themes in the schedule did not generate significant data, while new and unforeseen themes appeared from the transcripts.

The interviewer used the following themes during the semi-structured focus group interviews in both cases:

1. Psychological attitude / coping with the switch to a new method.
2. The impact of formal training, informal training and mentoring.
3. The reactions of non-PBL colleagues and the academic community at large.
4. Personal motivation for using PBL.
5. Attitudes towards subject-matter expertise in their role as tutors.

As per the recommendation of Smith (see above), the interviewer guided the participants more strongly than would have been necessary had their first language been English. In particular, the interviewer often rephrased what the participants said, and asked the participants whether this was their intended meaning, to ensure that the perceived meaning was not simply an error of expression.

The interviews were transcribed, and then checked again against the audiotapes to ensure a verbatim transcription. The transcripts were then read several times separately by each author who each produced a list of themes, which were later

combined. This was done to ensure the coherence of the themes. After discussion, the two lists were combined to form the thematic schedule of this paper.

Findings and Interpretation

In this section of the paper, we present the most relevant findings from our focus group interviews in both groups, organized into four superordinate themes that emerged from the analysis. These are: (1) Tutor perceptions of PBL are embedded in the context of hierarchical social structures. (2) Tutors recount a rewarding but challenging move to PBL (3) Tutors display widely different attitudes towards the role of expertise in PBL. (4) Tutors come to terms with and rationalize their emotional experiences with PBL. Although the data also generated interesting themes on perceptions of training and group dynamics, these were not included in the final write-up in the interest of conciseness and focus – the authors would however encourage further research thereon. In the transcript excerpts, (M) denotes an extract from the medical group, (E) an extract from the engineering group.

Perceptions of PBL are embedded in the context of Malaysian hierarchical social structures.

It was clear from both group interviews that the tutors conceived of PBL as embedded within the hierarchical structure of the university. However, the groups had different attitudes towards this phenomenon.

The medical tutor group perceived top-down hierarchies in a bureaucratic way – identifying an anonymous “top” which provides instructions “downwards” without participation or involvement from those in the lower ranks of the hierarchy. One participant is so keenly aware of this tendency that she made a joke out of it, which was greeted by acquiescing laughter from her colleagues.

(M) Female Participant 2: We are very, very amenable to top down direction! “You do it”, so we do it!

All Participants: laughter.

Female Participant 2: “You have to do it”, so we do it!

The interviewer asked the participant to clarify her statement, and the general laughter that ensued seemed to imply agreement – echoed by explicit agreement from two participants.

(M) Interviewer: So you think that there is a strong push from the top down to convince you to do PBL? It didn’t really come from the bottom up?

Female Participant 2: No, it was from the top.

Female Participant 1: From the top.

All Participants: laughter.

Male Participant 2: Yeah.

In addition to the explicit references to figures of authority, the tutors in the medical group referred to PBL as a very rule-bound method – with rigid rules and strict guidelines.

(M) Male Participant 2: And basis, and also, certain boundaries, important boundaries that we need to adhere to, when are running such a session.

(M) Female Participant 2: Erm, there are cases like neurology cases, which are quite tougher than the others. At that time, we resort to the principle of the PBL to not to open your mouth too much.

The references to these “boundaries” and “principles” seem to indicate that in the tutors’ minds, PBL follows strict rules which are imposed from an authority on the matter – this does not leave much room for creativity and improvisation.

The engineering group, on the other hand, harboured very personal feelings towards their perceived PBL mentor (Dr. X). The hierarchy was less formal, more implicit.

(E) Female Participant 2: I've been to Dr. X's class, observe her, and I learned a lot from her.

She really guided me and she is really amazing and inspirational.

The sense of respect, and even affection – “amazing and inspirational”, for the leader is particular to this engineering group.

(E) Female Participant 1: I think what Dr. X did, now I realise, *haha*, for these new lecturers who is using PBL for the first time, without formal training, the strategy was to shepherd them with not so experienced *lah*.

This participant is suggesting a nurturing relationship between the PBL programme leader and the tutors, like a “shepherd” with his sheep. This feeling was particularly strong among the female participants. With the perception of such a strong leader, there was a sense that she was in charge and the tutors were mere implementers.

(E) Female Participant 2: So actually it was done by Dr. X, so we just implemented it!

In addition, one participant felt that the provision of incentives for PBL should come from the university structure rather than from the intrinsic rewards of student centred learning:

(E) Female Participant 1: Because our institute does not give any incentive or additional reward to do so, implementing, as a motivation, you know?

In both the medical and the engineering interview, there was almost no sense of ownership or bottom-up empowerment of tutors with regards to PBL.

Tutors recount a rewarding but challenging move to PBL

In both interviews, the participants raised the challenge of encouraging and managing student participation, without prompting by the interviewer. In the early stages, tutors in both groups seem sceptical about their students' ability to adapt to PBL. This is evident in the medical transcript where one participant states:

(M) Female Participant 1: Because in the very beginning, I was questioning, inside. The students will go Google and come up with these topics. To me, I felt they don't read text books anymore. Because they can just Google everything under the sun. And they don't really know what is a good resource and what is a bad resource...

A participant in the engineering group mirrors this worry:

(E) Male Participant 1: Because PBL is not really at a stage, not really, it's not interesting for the student. Because you need people to work a lot, finding their own resources...

The requirement for students to research by themselves could be problematic, however, (M) Female Participant 1 states that:

(M) Female Participant 1: ...So, initially, I had a mental block against it. Then later, I found that if I actually just direct them away from... sources which are not reliable, then they will do better. Now I am much happier with the way I see it.

This would then suggest that students, particularly in the early days of PBL study, need more guidance and support, not necessarily in what to learn but how to learn it. After a time being immersed in PBL, students develop an understanding of the correct sources to use.

The tutors at both institutions noted an improvement in their students' self-study skills over the years they have been using PBL. For instance, in the medical group:

(M) Male Participant 3: ...If I want to compare it to two years back, I can tell you that they improved a lot [...] So, compared to two years back, at that time I found that, for the first session, just maybe one or two of them just discuss. And then, when you reached the learning objectives, and you teach they should go and search about that, I found at that time, they sometime, they share those things between together. It means that ok, this is my job to do this, this is my job to do that. Then, at the end of the day, they come together and share it together. So, I mean, it was not good. Nowadays I found that each of them going through the references and Internet whatever. They found everything. It means that, nowadays they getting more eager compared to that time.

Here, he notes a shift in the way the groups work together. He suggests that in the beginning, students would divide research tasks and then share information in the reporting phase. The implication here is that students would be less likely to cover all areas of a topic and thus be less able to discuss it fully when the group reconvened. However, once students adapted to PBL, they began to each research the whole topic and cover the themes more broadly in their reporting phase.

The engineering group also compared the student experience before and after the introduction of PBL. They seemed positive about the results:

(E) Male Participant 2: [...] when we teach conventional method, that we give lecture, is it difficult to make students involved in the discussion, during which, when we ask a student, do you have any question: no response.

All: No! Haha! No!

Male Participant 2: So when we implement, not PBL, like, active or cooperative learning, so the response from students is [...] better. And I feel happy when students start to discuss, give response in the class, so my class not so boring!

(E) Male Participant 3: Don't be surprised, you will have a difficulty to stop them!

Female Participant 2: Yes, yes! talking too much!

Male Participant 3: That is a big problem!

(E) Female Participant 1: It is very irritating that sometimes, its not that they do not have anything to ask, but they didn't even answer. Do you have any questions? Not even no! [...] Not even no, just keep quiet. Ooh.

In the beginning, students do not engage with the learning, not willing to ask any questions or participate in the lecture. But in the eyes of (E) Male Participant 2, now that he uses PBL, his classes are more interesting. Indeed, the students have transitioned from “sleeping at the back” to discussing in class to the point where tutors find it difficult to stop them.

With this new dynamic, the way in which teachers interact with their students is dramatically changed. In the medical group, one participant talks about his tutorials as conversations around a table, a chance to unwind and have fun with the topic at hand:

(M) Male Participant 2: Haha, I am not, haha, a very serious lecturer! Haha, I take it more as an unwinding or relaxing session in between me and the students more, on a casual environment. Session for casual interactions... ...These sort of sessions for us are well, ‘there’s some topic on the table, so lets have fun about it’. So that’s what I normally do with the students. They gather information and a lot of time, those informations, right when they start to present the information, in a discussion, a lot of time, haha, it end up, haha, into story telling, maybe some cases they have seen in the hospitals, when they go for walk rounds, some of the stories I think are from my friends, or some urban legend related to all the topic of discussion.

His sessions go from discussing information that the students have researched to storytelling of real life situations the group has been involved in. This is a major move away from the traditional teacher-student interaction but this participant suggests that it is a better method of learning. Other participants in the medical group echoed his enthusiasm.

But as the group interaction is governed by the students and not the tutor, sometimes, the “magic” of PBL doesn’t happen, as pointed out by (M) Male Participant 3:

(M) Male Participant 3: But, still the main important problem for me is the cooperation of the students. Still, I don’t know how I can, I mean, force them that all of them join the discussion. Maybe still is the main problem for me...

Without student participation the structure of the session risks falling apart. If the students of (M) Male Participant 2’s did not participate in the storytelling then the group dynamic might break down.

Tutors display widely different attitudes towards the role of expertise in PBL.

The effect of perceived content expertise on tutor experiences of PBL became apparent in both interviews. Firstly, the tutors in both groups admitted that they were not content experts on all of the problems. Therewith comes a potential difficulty for the tutors; if they are no longer content experts then they run the risk of not knowing something. The doctors and the engineers dealt with this very differently. The medical group were relaxed about it.

(M) Female Participant 1: It is also all right to say I don’t know also to the students. I find because just being honest about it, and the next week we will come back and discuss about it.

(M) Interviewer: How do you feel about saying I don’t know?

Female Participant 2: Well in the beginning... oh, now, I don’t mind at all. [...] But sometimes, you think it sounds a bit iffy if you ask them ‘are you sure’ and they are insisting and you know it’s wrong and perhaps you should go and look up in that book.

Neither participant has any difficulties admitting that they did not know to their students.

The medical tutors seem comfortable with displaying lack of knowledge to students, and they also appear not to fear the students' reaction to this:

(M) Male Participant 3: Because I didn't face to, I mean, a lot of such kind of things. So students, ok there is not, I mean they didn't react to it in a bad way or something like that, I came and I said I don't know. And then, I can go and see and next week you can come back with something and its ok, there is no problem..."

However he does mention "And then, I can go and see and next week you can come back with something and its ok, there is no problem..." which could suggest that in order to feel comfortable he needs the option of checking up on his knowledge after class.

However, the reactions of the engineering tutors were markedly different.

(E) Female Participant 1: I proposed it to the department to create a new class from my research doctoral area. So I was so excited, and I think everything is so easy, lets make it PBL. Because we know inside out about it, each student asks something out of the moon I think I can answer (laughter). But like he said, if I get something, a new subject that I'm not an expert, I don't dare. I... to be honest, I don't dare to use PBL. Because the students will become very smart, very critical, and they like to ask something out of the blue, and I cannot really cope with it. I mean, I cannot... I am not prepared to deal with that. I'm not good with that.

This passage suggests that for these tutors, subject expertise is interlinked with the confidence to undertake PBL. (E) Female Participant 1 is confident and actively encourages the move to PBL in her area of research, yet she would not dare to use it in another unfamiliar area. This sentiment is shared by two of her colleagues.

(E) Female Participant 2: So what I'm saying there, if I am an expert in oleo-chemical and also PBL, then I will do it. I will do it.

(E) Male Participant 3: Even though I will be teaching subject for quite long, for 6 years, but I'm still not confident to implement the PBL. Maybe I need somebody who are expert.

Both participants view subject expertise as a necessity for the implementing PBL.

It is important to note that there is one dissenting voice within the medical group. Whilst four of the participants did not have difficulty admitting lack of expertise, (M) Male Participant 3 dissented from his colleagues and his own previous statements, and explained his viewpoint:

(M) Male Participant 3: For me, this is the problem. Because I'm a PhD holder. I don't have any background in the MBBS. And some cases are totally different from my field. So, I mean, when I receive all the tutor guides and everything, for example, two weeks ahead, I try to prepare myself for that. But definitely, I cannot feed myself totally to that. So sometimes you have some questions that you cannot answer. And, the things that we had in my previous place, all the tutors and facilitators for the MBBS programme, they must have the MBBS degree, at least. Then, yes, they will be able to join as a PBL facilitator. Otherwise, I think the PhD holders, no. They were not able to join us. But here, I found that everyone should join and you know, go there as facilitator. But I think, is all right, there is not a big problem, but there still is a problem. Especially for PhD holders.

He finds that as a PhD holder, he does not have the same skillset as the MBBS¹ holders, putting him at a perceived disadvantage. He finds problematic that he need to tutor in areas that are completely different from his field of expertise. He suggests that the institution's decision to allow PhD holders to become tutors puts them at a disadvantage - to tutor properly he must become a student himself, which adds extra work as compared with his colleagues. He voices this dissenting opinion quite prominently throughout the transcript.

Tutors come to terms with and rationalize their emotional experiences with PBL

¹ The MBBS in the Malaysian equivalent of the American M.D. degree.

In both the medical and the engineering group, acceptance of PBL was set against the backdrop of strong negative feelings towards the traditional ways of teaching. Both groups made use of strong vocabulary, charged with connotations, such as “irritating”, “regurgitate” and “gospel” as well as superlatives like: not saying anything, “not even no”, repeating information “over and over again”, students “don’t bother to read at all” – all signaling a strong rejection of traditional teaching methods. This does not mean, however, that the transition to PBL was easy. Here, the medical group differs from the engineers – the former were much more comfortable with the journey than the latter.

Some of the doctors viewed PBL as a familiar object – implying that it was already embedded in their comfort zone as they proceeded through the transition:

(M) Male Participant 2: And the rest, to me, it’s sort of like, I associate it with the past experience in – personally when I was a postgraduate I was involved in helping and supervising students.

(M) Female Participant 2: Everyone’s eager to do PBL. I think it’s part of our accreditation for these, so everyone is interested in doing it, so...

We have seen one participant’s account of coming to grips with her anxiety and developing an acceptance of PBL:

(M) Female Participant 1: So, initially, I had a mental block against it. Then later, I found that if I actually just direct them away from... sources which are not reliable, then they will do better. Now I am much happier with the way I see it.

She moved from a situation of mental block to one in which she could be happier with the way PBL was run. By contrast, the engineers explicitly stated the difficulty of the transition process:

(E) Female Participant 2: OK, largely, last semester was my first experience conducting PBL, and I think this was very difficult, because PBL is totally new to me

(E) Male Participant 3: It's very difficult for me to switch from traditional to PBL style, so I'm learning, in the process of learning.

(E) Male Participant 1: All right, so in my opinion, the PBL process is very difficult to implement.

Although the journey was not so easy, the tutors from both institutions ultimately felt positively about their experience in both institutions, as exemplified by these statements from the engineering group:

(E) Male Participant 2: And I feel happy when students start to discuss, give response in the class, so my class not so boring!

(E) Female Participant 1: But I do believe it is the solution to everything: to a boring class, to a student who are not participating in the class, sleeping at the back, this is the solution to everything

(E) Female Participant 1 feels so strongly about this that she uses the hyperbole “solution to everything” in her remark, as if PBL were an all-encompassing key to all educational problems. These positive sentiments were echoed by the medical group:

(M) Male Participant 2: When it turns into stories, and experience sharing, it may improve their mind better, so I do enjoy the sessions in that sense. So that's why for me, I don't mind running those sessions.

(M) Female Participant 1: If they are enthusiastic about the topic, then it makes me happier. I look forward to the next one. But if a group is not so enthusiastic, huh, it puts me down.

Here, though, we see a nuance, as (M) Female Participant 1 clearly relates her own mood to that of the students.

The engineers employed a discourse of reassurance to help them cope with the difficulties enunciated previously. In this dialogue, the tutors are trying to convince each other that the difficulties they face are a normal part of the transition process:

(E) Male Participant 1: But that's normal.

Female Participant 1: But that's normal.

Male Participant 1: I think not just in Asia, everywhere in the world.

Female Participant 1: Everywhere, yeah it's everywhere. Yeah.

By the end of this exchange, one gets the feeling that both participants feel reassured that they are not alone in facing these challenges. The comfort provided by knowing that they are not alone was echoed by some of the medical tutors:

(M) Female Participant 2: But it was quite attractive, the fact that they said that a lot of medical schools were following this model, so we will see how it goes.

It seems that the feeling of being part of something bigger helped the tutors in both groups come to terms with the transition to PBL.

Discussion

Having considered the data from the interview transcripts, this section discusses the findings and interpretations of the data in an attempt to extend this paper's relevance to the PBL community. The discussion will follow the same four themes that were uncovered in the previous section.

Malaysia and the context of hierarchical structures

It will be obvious to anybody who has been to Malaysia that this is a country where hierarchy is of the uttermost importance. For those not familiar with the

Malaysian context, suffice to look at the most recent iteration of the Hofstede's five-dimensional cross-cultural comparison model (Lonner, Berry & Hofstede, 1980; Hofstede, 1984), in which Malaysia scored 104 on the "Power Distance Index" (PDI) dimension (The Hofstede Centre, 2013). This makes it one of the countries with the highest power-distance in the world. According to this model, people in societies with a high PDI are more likely to accept inequality in power relationships as given and less likely to try to shift the balance of power. Not everybody agrees with the Hofstede classification (for a review of criticism see Jones, 2007), but it does serve as a useful observation to set the scene. In the light of this description, it is hardly surprising that the decision to take up PBL in Malaysian Universities would come from the top-down rather than the bottom-up. Indeed, hierarchy is such an integral part of the Malaysian social fabric that top-down directives would not be seen in a negative light solely on that basis.

However, it would be unfair to conclude that PBL is merely another manifestation of power-distance in Malaysian Higher Education. Indeed, we firstly note that the Medical Faculty tutors are keenly aware of the state of affairs: all of the participants agree that PBL was an imposition "from the top". Unexpectedly, the tutors deride the situation: "We are very, very amenable to top down direction! 'You do it', so we do it!" Self-awareness, the ability to see things in a humorous light, and to openly deride the situation in the presence of a foreign interviewer indicates to the authors that change may be afoot. While the statements of the medical participants do not read like open criticism, the authors feel that the gap between blind acceptance and open questioning has been bridged – just how wide that bridge is and whether the tutors choose to cross it remains to be seen.

The case of the engineering tutors is interesting indeed: while admitting that the decision to implement PBL was not theirs, they display a reverential respect for their perceived PBL leader, “Dr. X”. From the vocabulary used by the participants – words such as “shepherd”, “amazing” and “inspirational” – the authors do not get the impression that this authority is based on formally imposed subordination. There may be social forces at play here, with particular reference to social class, nobility and respectability, which could only be understood with culturally sensitive sociological approach, but that is outside the remit of this paper. It should be noted that in the Engineering case, the decision to implement PBL did not come from the institution, but from the leader in question, whose journey to converting the Faculty to PBL is far more reminiscent of the actions of a grassroots movement than a bureaucracy (Mohd-Yusof et al., 2011). It is somewhat ironic while the traditional structures of hierarchy seem to be called into question by the engineering tutors with regards to their institution, the same cannot be said of their relationship with their students. Indeed, we have seen that the engineering tutors fear displaying vulnerability to their students and “dare not” use PBL in situation where they might find themselves answerless. It is possible that this has to do with a context in which PBL is not implemented Faculty-wide. Thus, teachers who choose to convert their courses to PBL at greater risk of finding themselves outside of their comfort zone than their colleagues who stick to lecture-based teaching. This risk-taking is especially acute if student expectations are already shaped by their experience with classic courses. The tutors may perceive their authority to be undermined compared with their lecturing colleagues, hence their expressed fear of venturing outside of their field of expertise. This might not be such a problem in an institution where PBL is implemented

Faculty-wide, as in the case of our medical group, since student expectations are the same for all courses.

Tutors recount a challenging but rewarding move to PBL

According to the findings of this study, the switch to PBL was not easy and both tutors and students stumbled along the way. Indeed, the tutors reported their doubts as to the quality of the sources uncovered by the students in an age where the latter can “Google everything under the sun”. In this situation, tutors cannot be certain that students will reach the learning outcomes of the course. Faced with such uncertainty, tutors had to either spend more time updating their own knowledge, or learning how to facilitate groups towards a higher quality self-study and reporting phase. Either way, this was more time consuming, as duly noted by one of the medical tutors. If tutors lacked both the ability to facilitate (through lack of training, self-confidence or experience) and content expertise, this resulted in a pronounced reluctance to implement PBL, as demonstrated by the engineering group. But the challenges of implementing PBL were apparent in students’ attitudes: the tutors reported that students still look to their tutors for forms of guidance such as answering questions or suggesting appropriate learning resources. Harland’s (2002) study of PBL in a zoology module may suggest a reason for this: he found that students set limits to their own learning with preconceived ideas of the role and responsibilities of the tutor. He argues this is because the students in his study had not experienced PBL before, and thus had pre-conceived notions of the respective roles of student and tutor. The tutors interviewed for this research believe their students capable of developing learning routines and confidence in their own abilities, however, student beliefs about

educational roles may explain certain behaviours that are more compatible with a teacher centric environment. These barriers may break down as more and more tutors emerge which were themselves products of the PBL system like (M) Male Participant 1.

The new learning dynamic provided by PBL impacts the relationship between our tutors and their students, as a result of the growing self-directedness of students. At one end of the scale, Male Participant 2 in the medical group talks of the tutorial as “an unwinding or relaxing session” with his students. At the other end of the scale, the engineering tutors state: “because the students will become very smart, very critical, and they like to ask something out of the blue, and I cannot really cope with it. I mean, I cannot”. Indeed, as with any dialogue, PBL implies the possibility of a situation whereby a student knows more than the teacher about a topic. Whereas some of the tutors experienced this as an opportunity to establish a close rapport with their students, for others this was seen as a potential loss of position, status and “face”. There is repeated talk amongst the engineers of students asking difficult questions or not fully understanding how to use PBL.

It is somewhat paradoxical that within the medical group, which accepts and internalizes the fact that PBL was a top-down imposition, hierarchy breaks down between tutors and students. Whereas in the engineering group, whose adoption of PBL was much less formal and structured, hierarchy and power distance still lingers between the students and tutors. A possible explanation for this observation is follows on from our comments on the difference between Faculty-wide adoption of PBL and selective adoption of PBL. In a system-wide implementation, tutors are comforted by the fact that their colleagues are likely to be facing the same challenges as they are. If things go drastically wrong, tutors need not feel responsible as the whole PBL

enterprise is directed from the top, thus solutions must also be proposed from the hierarchy. On the other hand, in such a loose structure as the one found in the engineering group, the entire PBL experience rests on the trust that the group places in their leader. It is possible that their reluctance to expose themselves to their students stems both from the fear of disappointing their leader and the perceived burden of being pioneers in hostile territory.

In spite of these challenges, the tutors in both groups related improvements in student attitudes, self-endeavour, group behaviour and motivation, with the latter mentioned most prominently. The tutors talk about the differences between their old classes in which students would sit in silence and not ask questions, sometimes sleeping at the back, and their current PBL groups, in which students can no longer be silenced. These findings are in line with the literature suggesting that students in a student-centred learning environment are more motivated, engaged and enthused by the learning process (Lea, Stephenson & Troy, 2003; Tam, Heng & Jiang, 2009). These finding also support research specifically done on tutorial groups showing that PBL improves students' intrinsic motivation to learn as compared with extrinsic motivation (Dolmans & Schmidt, 2006; Wijnia, Loyens & Deros, 2011).

The role of expertise in perceptions of PBL

The role of subject-matter expertise plays an important part in the tutors' perceptions of PBL. It affects both their ability to cope with adopting the role of a knowledge facilitator, and their confidence to transition to a PBL model.

It was clear from the medical groups' comments that in a PBL setting, the students no longer see what the tutors say "as gospel". The tutors lose their position as subject experts, which could imply a sense of loss of status. This in turn can have negative emotional effects and cause stress (Kessler, 1979). As such it is necessary for the tutors to adjust to their new role and to rationalize their perceived change of status. The tutors mention two methods of coping with unknown topics: the first is to take responsibility for finding the information upon themselves, thus elevating their status in the group as the figure that is solely responsible for the unknown, something which is reminiscent of the "gospel" position of teacher. The second method is to avoid contact with the area in which there is a perceived lack of subject expertise, by handing over the responsibility of finding information to the students. Poor quality of information would therefore be perceived as the responsibility of the student rather than as a failure on behalf of the tutor, thus removing potential sources of stresses and loss of status. Both of these strategies can be observed in the medical group transcript, where both Female Participants admit to saying "I don't know" to students, whereas (M) Male Participant 3 talks of the stress he feels from telling his students that he does not know a piece of information, but does not offer a method of overcoming this.

The potential lack of expertise has another effect on the participants: it affects their perceived ability to conduct classes using PBL. Gilkison's (2003) study found that subject expertise leads to different tutoring styles, with expert tutors leading the questioning process in the class whilst non-experts expect students to question each other. However there does not appear to be any research that indicates how expertise affects tutors' emotional ability to adapt to PBL. The evidence from this research would suggest that the more they perceived themselves to be subject experts the more tutors feel confident in transitioning to PBL. This theory is supported by statements

like: “if I am an expert in oleo-chemical and also PBL, then I will do it. I will do it”. Here, the tutor does not want to risk making the transition and putting himself in a position of not knowing. He therefore resists the move until he perceives himself as a subject expert capable of maintaining his status as head of the class. Our research suggests that in environments where PBL is relatively new and unstructured, until tutors reach this level of expertise, the risk of potentially negative emotional impact is too high to risk the transition. But given that IPA is not designed to produce generalizable outcomes, we encourage further research on this topic with different methods of analysis.

Tutors attempt to construct explanations and rationalize their emotional experiences with PBL

The Malaysian tutors taking part in this study did not have the advantage of the tutors who participated in the early PBL programmes of McMaster University and the Maastricht University – namely, the university in which they perform their teaching duties was a traditional, teacher-centred institution before moving to PBL, and thus the tutors would have undergone a transition process rather than adopting the mind-set of PBL from the outset. Nias (1996) found evidence that High Schools teachers involved in educative reforms were suffering emotionally as their roles changed. They experienced feelings of anxiety, guilt, confusion and anger. With the notable exception of anger, the two groups interviewed for this research also displayed these emotions.

The medical tutors had a distinct twofold advantage over the engineering tutors: on the one hand, PBL has been present in Malaysian medical education since

1979 and its use is widespread throughout the country (Lim, 2008), and on the other hand, PBL has been around long enough in some medical establishments that we are beginning to see tutors that were themselves educated using PBL, as was the case with one of the participants in our medical group. This significantly increased the medical tutors' ability to cope with PBL, as evidenced by their attitude: "and the rest, to me, it's sort of like, I associate it with the past experience". Far from its controversial beginnings at USM in the 1980s (Zabidi & Fuad, 2002), PBL has become an established practice in Malaysian medical education, supported by accreditation mechanisms that promote it. As a case in point, the only participant from the medical group which expressed reservations about the use of PBL was not originally from Malaysia. As we have seen, the other participants expressed very little anxiety, and mostly relayed positive emotions with regards to their PBL experience.

For the engineering tutors, however, the situation was substantially different. We have seen that they experienced more anxiety, more sense of difficulty and more apprehension than the medical tutors. There are two factors at play here which may serve to explain the emotional response of these tutors: firstly, PBL in Engineering has not been as well defined as it has been in medicine. Around the world, different models of PBL in engineering compete for the same name – the project-organized model of PBL has been at the forefront of developmental efforts and academic research (Du, Graaff & Kolmos, 2009), but almost as soon as the medical programme was started in Hamilton 1969, some faculty members of the engineering departments took interest in adapting the medical PBL model for their classes in chemical engineering (Woods, 1994). In Malaysia, neither model has fully taken hold. As such, the programme at the university in which the interview was conducted is a home-grown product rather than directly imported from any school in particular. It takes

inspiration from the medical world, in particular the PBL experiments in Singapore, Australia and other Asian schools, but it is adapted to the circumstances and resources of the institution in question. While this may make for a more resilient programme in the future, it does generate a lot of anxiety for the pioneers who do not have a well-trodden path to follow. Secondly, while PBL has been almost completely adopted by medical schools in Malaysia, this is far from being the case in engineering schools – and while PBL was adopted in medicine at USM in 1979, it was not until the late 1990s and early 2000s that Malaysian engineering schools began to take interest in it. It is hardly surprising in this context that the participants expressed such a strong sense of challenge and difficulty with regards to their task as tutor.

The engineering tutors constructed a dialogue amongst themselves to account for and translate their difficulties. Three main strategies were expressed for coping with the emotional journey to PBL. For some, bringing PBL within the sphere of their expertise made it “easy, so easy” - this was done by shifting the new method into the pre-existing comfort zone of subject-matter expertise. For others, the knowledge that they were not alone, that not only Asian but tutors all over the world struggled with the same difficulties seemed to reassure them. Finally, one participant offered a rational deconstruction of the challenges of PBL implementation at her Faculty. The strategy employed did not seem tied to any particular professional characteristics of the tutors, and the authors surmise that they were tied to personality traits instead.

Conclusions

Despite the phenomenal uptake of PBL in Malaysia, the impact of transitioning from traditional teaching methods to students-centred learning on

Malaysian teachers has been to this day largely unexplored. Given the lay of the land, the authors of this paper chose to approach the topic from an exploratory, phenomenological perspective, which has generated an in depth analysis of four themes of research. The authors intended to demonstrate the research potential of the topic rather than provide an authoritative overview of the subject. Within the data collected for this study, there is still more that could be extracted, such as the role of training, the nature of interpersonal relationships in tutorial groups and the social construction of tutor identity in Malaysia. A mirror study could focus on the same topic from a Malaysian students' perspective. The authors believe the development of Malaysian PBL to be one of the most interesting happenings in education in Asia, and welcome the opening of new lines of inquiry, both quantitative and qualitative, on the subject.

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