

## FACILITATING PROBLEM BASED LEARNING: A JOURNEY OF DISCOVERY

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### Abstract

Problem Based Learning (PBL) is widely recognised as an effective teaching and learning strategy (Glen & Wilkie, 2000; Price, 2003). Since the 1990's PBL has gained in popularity within nursing curricula throughout the United Kingdom (Andrews & Jones, 1996; Biley & Smith, 1998; Gibbon, 1998; Biley, 1999, Long et al., 1999; Glen & Wilkie, 2000; Darvill, 2003; Horne et al. 2006). Moore (2009) identifies that facilitation is a central component of PBL, however despite the fact that PBL has existed within nursing education for almost twenty years, the effectiveness of its facilitation and implementation remain relatively undiscovered (Horne et al, 2006, Moore, 2009).

*Key Words:* Problem-based Learning; Facilitation; student nurses; lecturers.

### Introduction

As healthcare advances at a rapid pace, nursing roles continue to develop in order to meet increasing patient demand. Consequently there is a need for educationalists to facilitate the development of nurses, equipped with the skills of critical thinking, decision-making and problem solving. The emphasis for nurses to acquire and develop the skills to be active, resourceful, self-reliant learners, independent in methods of inquiry is not a new concept. It is now ten years ago since the Department of Health (DH, 1999) emphasised that nurses need to manage problems in clinical

practice, recommending the need for nurses to develop the skills of self-direction and self-reliance throughout their learning and working. In addition, the development of group skills is considered paramount within the professional practice of registered nurses, as is the ability to work within a team (NMC, 2008).

Having explored the literature, it is widely recognised that Problem Based Learning (PBL) is one teaching and learning strategy, which facilitates the development of such skills (Biley & Smith, 1998; UKCC 1999; ENB 2000; Glen & Wilkie 2000).

## Origins of PBL

It is interesting to note that the notion of students being central to their learning is not new, the origins of self-directed learning (SDL) can be traced to Dewey (1918;1938) who outlined that the role of the teacher should be one who guides, as opposed to one who interferes with or controls the process of learning.

Since then, increasing attempts have been made throughout institutions to introduce SDL into nursing educational programmes (Williams, 2004), such endeavours include the implementation of PBL. PBL was initially introduced in the 1950's within the medical school at Case Western University, United States of America and later developed

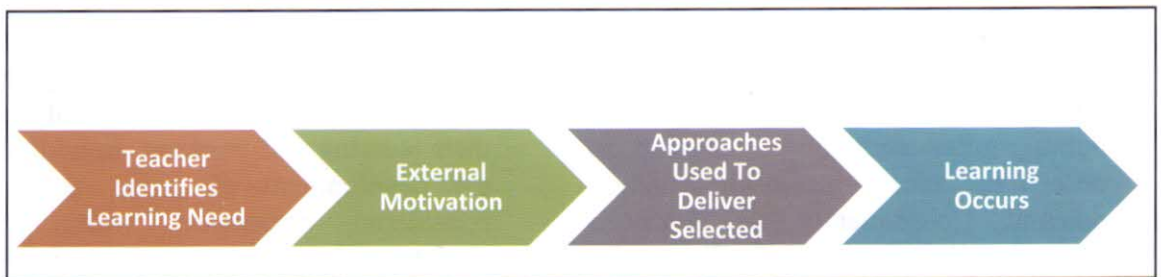
in the 1960s at McMaster University, Canada (Barrows & Tamblyn, 1980). The introduction of PBL evolved from dissatisfaction with traditional curricula and teaching methods employed in the education of medical students (Barrows & Tamblyn, 1980; Frost, 1996). One significant aspect of this dissatisfaction was that students reported difficulties in memorising and recalling information taught earlier in the course.

Since then PBL has continued to develop, generating considerable interest and recognition on an international level (Alavi, 1995; Blackford & Street, 1999; Price, 2003). As a teaching and learning method, PBL has the potential to bridge theory and practice through the identification of practice-based problems and the evaluation of such (Price, 2003).

## The PBL Process

Knowles (1975) outlines how traditional pedagogical approaches to teaching primarily involve the giving of information followed by the application of that information by the use of clinical problems as outlined below in Figure 1.

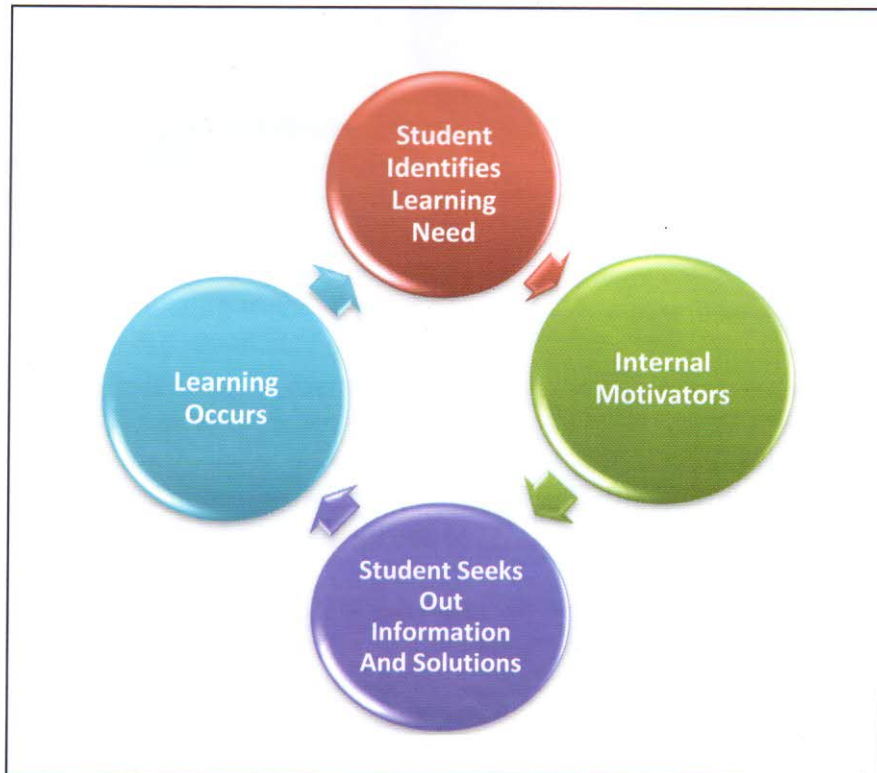
**Figure 1: The pedagogical approach to learning**



In contrast to the pedagogical approach where the teacher identifies the learning need, the humanistic or andragogical approach to learning places the student at the centre of the learning and teaching process (Knowles, 1975).

This process relies on the learner to identify and recognise his or her own learning needs which are believed to result in internal motivation as outlined in see Figure 2 below.

**Figure 2: A humanistic / andragogical approach to learning**

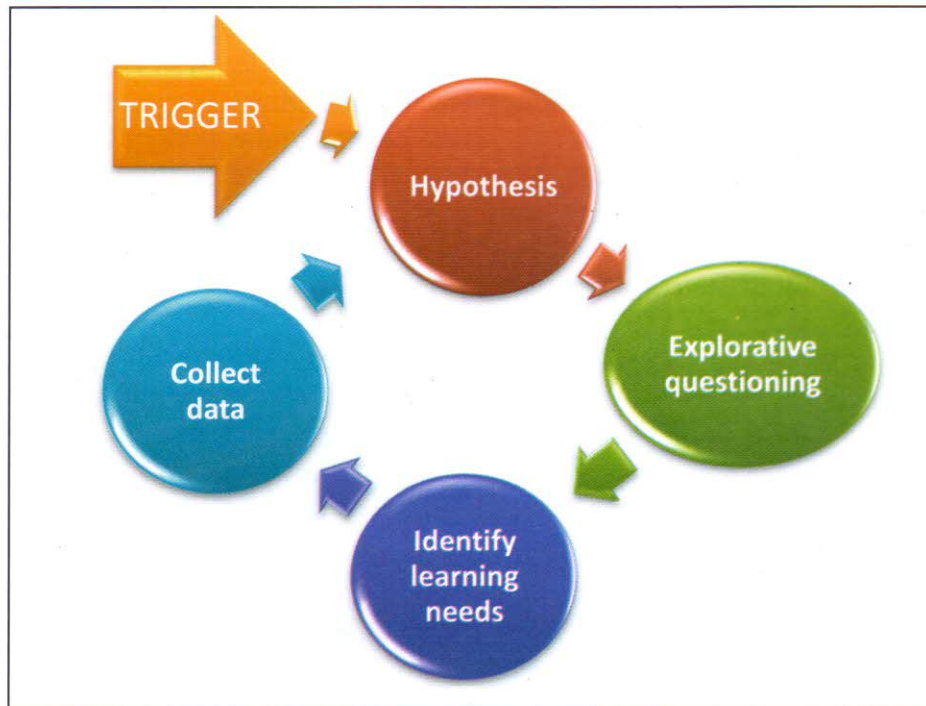


Biley & Smith (1998) describe how the process of PBL supports the andragogical approach. The educational philosophy underpinning PBL is centred on the belief that students should be actively involved in the process of learning and gaining knowledge within the appropriate context (Barrow & Tamblyn, 1980).

The starting point of PBL is the 'problem' or 'scenario', which may also

be described as a 'Trigger', for the purpose of this paper the term trigger will be used. The trigger is initially presented to the students and within small groups, students are encouraged to analyse the trigger by initiating and developing appropriate investigations, thereby acquiring a broad knowledge base through a process of progressive enquiry (Boud and Feletti, 1998) see Figure 3.

Figure 3: The Process of Problem Based Learning.



### PBL At The University Of Huddersfield

The authors' initial experience of facilitating PBL was during the initial introduction of PBL to the pre-registration nursing curriculum at the University of Huddersfield. The module, entitled 'Developing the Roles and Responsibilities of the Qualified Nurse' was introduced to student nurses' studying on the undergraduate nursing programme from the Adult, Child, Mental Health and Learning Disability branches. The module team consisted of the module leader and module associates, representative of each of the four branches.

In addition to PBL being new to the nursing curriculum, both of the lecturers were newly appointed and also new to teaching within a Higher Education Institution (HEI). The fact that both lecturers were unfamiliar with the facilitation of PBL, meant that they entered into the facilitation process with no preconceived ideas.

### Preparation Of The Facilitator

As PBL aims to liberate students by providing learning that is student centred, Rogers (1983) emphasises how the role of the facilitator is paramount. Whilst some lecturers would welcome PBL as a teaching and learning strategy, it is acknowledged that others may regard it as a challenge as they shift from the position of "expert lecturer" to the role of the facilitator (Walsh et al. 1997, p 623). More recently Dalley et al. (2008) discuss how many nursing lecturers prefer to teach in ways by which they themselves were taught. Consequently, prior to the implementation of PBL, the preparation of the facilitators was regarded as a crucial step to promote the successful implementation.

Various resources were made available for the lecturers to support the process of facilitation, including a series of half-day workshops, conducted by the module leader, Dr Robert Burton. The workshops served to develop the

lecturers understanding of the role of the facilitator and provided a framework to work with, developed by Barrows & Tamblyn (1989). Using the trigger as a

starting point, the framework requires the students to identify emerging information, hypothesise ideas and identify learning issues. Based on their ideas and learning issues, the students can formulate action plans to meet the identified learning issues. In addition, a facilitator guide was developed by the module leader to support the lecturers in the process, as recommended by Briggs (2003).

### **First Steps In The Implementation Of PBL**

Darvill (2002) acknowledges how student nurses' previous experiences within education can result in preconceived ideas in relation to teaching and learning. Students may believe that this involves them listening passively to lecturers who provide them with information. Considering that all of the students were in the third year of the course, with no prior experience of PBL, it could be suggested that they were more familiar with traditional pedagogical approaches to learning.

At the outset of the module, a lecture was held to introduce the students to the module, the process of PBL was explained, and the students were divided into groups, each consisting of approximately 6-12 students. Students within groups of 12 were given the option to divide into 2 smaller groups of 6, some chose to do this whilst others expressed a preference to remain in a larger group. Wilkie & Burns (2003) recommend an optimum group size of between 10 and 12 students to achieve effective facilitation for PBL.

### **The Trigger**

Wilkie (2000) outlines the various forms in which a trigger can be presented, including case based materials; clips taken from videos; storyboards; photographs; pictures; audio tapes, pieces of equipment; poetry or a simulated patient. It is suggested that materials for triggers can either be developed locally or obtained from other institutions. Wilkie & Burns (2003) suggest that triggers which are developed locally have the added advantage that they can be engineered to reflect local issues. Roberts & Ousey (2004) recommend the involvement of practitioners in trigger development to reflect on the variety and context of professional practice. Whilst Ward & Hartley (2005) discuss how authentic 'live' patients contained within specific virtual learning environments, may be readily available and can also be used to serve as valuable triggers. One important factor to consider when developing the trigger is that it should be open and unstructured, so that discussion is not curtailed in the initial stages of the PBL process (Barron et al., 2008).

The trigger was developed by a group of lecturers based upon the module learning outcomes as recommended by Dolmans et al. (1997). The trigger was thought to represent a typical problem that the students may face upon qualification as a registered nurse. This was regarded as important in view of the fact that the module was entitled 'The Roles and Responsibilities of the Qualified Nurse'. The trigger took the form of a written statement, as outlined below.

"A staff nurse rings in to say that she is not coming in for the late shift"

## The Facilitation Process

On the second week of the module, each facilitator met with their prospective group and the students were encouraged to set ground rules, as recommended by Azer (2005); the purpose of this was to highlight the shared values of the group. Following this, the students were presented with the trigger. At this point some students turned to the facilitators for explanations, whilst others began to question how such a limited scenario, could result in learning which would effectively complete their preparation for practice as a registered nurse. Some of the students demonstrated non-verbal behaviours such as closed body language and limited eye contact.

Such responses from the students at this early stage could potentially undermine the facilitators' confidence in their own abilities. In the case of the novice facilitator, if such cues are interpreted as challenging the facilitators' ability, the facilitator may become despondent to the process.

## Confidence of the Facilitator

The level of confidence within the facilitator was crucial, particularly in the early stages of the PBL process. When students are unfamiliar with the facilitator they may begin to question the facilitator's credibility. Remaining confident and focused, whilst providing reassurance to the students appeared to overcome this initial obstacle. This confirms the findings of Williams (2004), who found that students valued facilitators who appeared confident, credible and were consistent in their approach to PBL.

## Style of Facilitation

Wilkie (2004) emphasises that effective facilitation requires a different

approach to teaching and learning to that of the traditional lecturer, which some lecturers may find difficult. Unlike the teacher centred approach to teaching and learning, within PBL the facilitator is not there to provide information but to encourage the group to discover what knowledge is required.

Numerous approaches of facilitation are available, which are interchangeable and no one is recommended above another. Haith-Cooper (2003) describes two styles of facilitation, one being where the facilitator guides the content, and another where the students guide the process. Facilitators who are less confident in problem-based learning appear to favour a content driven approach (Haith-Cooper, 2003). However, Carlisle & Ibbotson (2005) recommend that a balance between the two approaches is required to achieve effective facilitation.

During the initial periods of facilitation a content driven approach was used, in order for the facilitators' to retain some control whilst they gained experience. There was an initial relief that the trigger was something which the facilitators could relate to, based on their previous professional experience. It was felt that if a process driven approach had been adopted, with minimum input from the facilitator, it would result in despondency from the students'. Moore (2009) discusses this further by identifying that the potential of this despondency may result in a negative impact upon student learning within PBL.

Having gained further experience and confidence within the role of facilitation, components of both approaches were used. As the facilitators confidence levels grew, they felt more prepared to release some of their "control" over the group, by

enabling the students to take a greater lead and experience the process of PBL.

### **Trust**

During the PBL process, it is important that the facilitator is seen to be honest and trust worthy of others intuition and judgements. In addition the facilitator is required to encourage mutual respect and trust within the group through group interaction (Quinn, 2000; Savin-Baden, 2003).

Furthermore, the students need to be comfortable in relating to the facilitator, and feel that the facilitator is a real person who gives genuine responses to the students, whilst acknowledging their contributions as valuable to the group (Quinn, 2000). These behaviours create an environment in which the students feel that they are enabled to explore the problem in depth and test their knowledge.

The facilitators found that by creating a supportive environment, whereby there was an element of trust and the students' contributions were valued relieved some of the students' anxieties. Anxiety is one factor which has been identified as prevalent amongst students within the PBL process (Biley & Smith, 1998; Biley, 1999; Wilkie, 2004).

### **Questioning**

Whilst creating a supportive environment, it is important that the students do not become too comfortable and fail to challenge or engage in debate with one another to seek explanation and relevance to the problem (Wilkie, 2004). Wilkie & Burns (2003) recommend that the facilitator should use skilful questioning to challenge the student's understanding and any assumptions made by the group. Facilitators may use a number of strategies to achieve this, including

probing questions to discover the students' beliefs or opinions in relation to a specific issue. This strategy facilitates exploration around the issues uncovering materials and ideas which may need further investigation by the group.

One way in which the facilitator can encourage the students to question themselves and others further is by encouraging them to reflect on their experiences. Throughout the process the students were encouraged to "dig deeper" in relation to the problem and relevant issues. Price (2003) outlines how the facilitator may encourage group members to summarise or hypothesise at intervals throughout the process. At each meeting the students were prompted to revisit the framework to enable them to build on their progress by highlighting gaps in their knowledge base and identifying areas for future learning. Such attempts to understand and synthesize the material results in higher level or deeper learning, this being the objective of problem-based learning (Wilkie, 2004).

### **Group Size**

The size of the group within PBL cannot be underestimated as this can significantly impact the effectiveness of the process. It was found that students' in the smaller groups formed relationships earlier, contributed to the discussions more and were willing to share information and knowledge. Their contributions were much more noticeable within the smaller groups. This observation is supported by Quinn (2000) and Barrow et al. (2002) who identified that working in small groups allows students to develop interpersonal, negotiation and collaborative skills. Quinn (2000) outlines how small group working ensures that the student remains at the centre, providing the opportunity for

enabling the students to take a greater lead and experience the process of PBL.

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face-to-face interaction. Although Wilkie & Burns (2003) recommend an optimum group size of between 10 and 12 students to achieve effective facilitation for PBL, it was found that groups of between 6-8 students was more effective in this situation.

### Challenging Issues

It is suggested that on occasions, situations may arise within PBL where there is tension or a conflict of interest within the group (Price, 2003). Wilkie and Burns (2003) refer to this as team dysfunction. Savin-Baden (2000) describes how such dysfunction can lead to disjunction which can often result in feelings of loss and frustration for the student. Consequently, it is recommended that such issues be dealt with at the time so that student learning is not hindered (Price, 2003).

In terms of the facilitators' experience, there was one occasion where group members complained to the facilitator about another member's attendance. They highlighted the fact that the student did not attend the PBL sessions on a regular basis and were therefore not contributing to the group work. The students' on this occasion were advised to explore how this could be managed

through the effective use of facilitation. They were advised that if the situation continued to remain problematic, the facilitator would intervene. Initially the students' did not see it as their responsibility to address this matter but the responsibility of the facilitator. However, they were reminded that they may potentially be faced with a similar situation in practice when qualified as a registered nurse, which they would have to manage. The students agreed with this as they could relate it to their own practice, they then addressed the issues appropriately within the group.

### Conclusion

PBL as a teaching and learning strategy is recognised to promote students' ability to challenge, resulting in the development of independent learners.

Having explored the experiences of the facilitation of PBL, the most significant aspect appears to be the balance of control between that of the facilitator and the students, using a combination of styles of facilitation. Although an element of the content driven approach needs to be retained to ensure that the students meet the learning outcomes, the key element of PBL is the process itself. A process driven approach, where the students are encouraged to identify their learning needs promotes student-centred learning.

The facilitators' level of confidence was also regarded as being significant to effective facilitation of PBL, the more confident the lecturer; the more confident the students were, both within themselves and the facilitator. Throughout the PBL process, trust was also considered to be important. Trust is essential between the students themselves and the facilitator as highlighted by Azer (2005). However it is important to note that this is one aspect of facilitation which cannot be developed within one session, but can only be achieved over a number of PBL sessions.

Throughout the overall experience the facilitators experienced what could be described as 'peaks and troughs'. Each group varied depending on the student members and the group dynamics. On particular weeks many of the students' appeared motivated and enthused, whereas on other occasions some appeared despondent. Consequently, the role of the facilitator requires skills of adaptation and flexibility in order to

respond to the students' needs at the time. There were also occasions when difficult situations arose which required the facilitator to respond promptly and effectively to avoid group dysfunction and subsequent disjunction.

However, despite such challenges, the process was found to be extremely rewarding as many students began to question their practice and explore areas of their practice which may have been undiscovered. Verbal feedback from students to lecturers has been positive in relation to the effect of the module and PBL on their practice following qualification as a registered nurse. However, the effect of PBL on the newly qualified nurses who have studied this module warrants further investigation. Considering the process in its entirety, the PBL process has proved to be a journey of discovery for both the facilitators and the students.

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