

# PBL in Physiotherapy: A Review of Perceptions and Attitudes of students

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## Abstract

*Problem-based learning has been used in medical school in a number of different countries around the world for over 50 years, with both undergraduate and graduate students.<sup>5</sup>*

*The perceptions and attitudes of physiotherapy students towards problem based learning have not been adequately reviewed for current researches. This study thus, has tried to bring different studies under one and has made recommendations for the schools that are considering adopting PBL as their curricula. (PHD 2006 Vol 13 No 2 Pages 137 - 139)*

## Introduction

Problem-based learning has been used in medical school in a number of different countries around the world for over 50 years, with both undergraduate and graduate students.<sup>5</sup>

Problem Based Learning (PBL) is an instructional method that challenges students to "learn to learn" working co-operatively in groups to seek solutions to real world problems. As defined by Dr. Howard Barrows and Ann Kelson of southern Illinois University School of medicine (1999), PBL is both a curriculum and a process. The curriculum consists of carefully selected and designed problems that demand from the learner, acquisition of critical knowledge, problem-solving proficiency, self-directed learning strategies, and team participation skills.

Problem based learning is characterized by certain ground rules. It is a combination of educational method and philosophy. Philosophically, problem based learning is centered on the student and on problem-first learning, whereas in subject based learning teachers transmit knowledge to students before using problems to illustrate it.<sup>6</sup> Thus, traditional classroom teaching is where the teacher is helping students try understanding concepts by explaining and giving notes. It may also involve administering tests, assignments, and presentations.

PBL is a curriculum in a number of schools of medical sciences around the world. To many it is a new concept altogether, thus not all schools have adopted it as a curriculum and therefore continue in a traditional classroom teaching method of education. Many are in a process of reviewing current knowledge and research made in this area. A review of current researches in physiotherapy section is not adequately available in terms of perceptions and attitudes of physiotherapy students. What is available; however, are different studies done in different parts of the world under different headings. This study thus, has tried to bring these studies as one outlook on the perceptions and attitudes towards PBL of the physiotherapy students. It has shown the strengths and weaknesses of PBL and thus, recommendations have been made for those who consider adopting PBL as their curriculum.

## Methodology

The PUBMED was searched for articles that gave studies in Physiotherapy either as individual or combined with other profession. HINARI and FSM library was used to get the full texts of those articles.

**Studies:** In West London, the initial experiences of interprofessional PBL of the first year physiotherapy students at Brunel University were surveyed by Reynolds using questionnaires<sup>4</sup>. According to the result of the study, the students were quite positive about their initial experience of PBL. The major themes identified as positive aspects of PBL, were the depth/detail of study, working in a group/support from others, relevant/real problems to solve since there was higher percentage of students identifying these. The further minor themes that were included by less than 10% of the students as reasons for liking PBL were; opportunity to be creative; opportunity to practice communication skills; the group presentation provided a sense of achievement. To the final question that asked what the students had disliked about PBL, many responded that they did not dislike anything about it. Other comments made were related

to anxiety provoked by the final group presentations, difficulties of good teamwork. Reynolds in his study compared the male and female students' views and found no significant gender difference. However, males showed more preference for lectures than women (insignificant). The quantitative evaluations provided evidence that both women and men felt similarly confident to voice their opinions during the PBL group discussions.

The strength of the evidence for PBL was reviewed in the UK regarding adoption of PBL in physiotherapy education'. According to Morris who undertook this review, although undergraduate physiotherapy education in the UK used to be designed along the lines of traditional medical curricula with non-integrated, subject-centered content taught largely in lectures, in recent years there has been a consistent move towards curricular design which focuses on integration basic and clinical sciences involving a concurrent focus on relevant clinical problem-solving processes, use of student centered teaching/learning methods including small group tutorials and use of a variety of theoretical and practical assessment formats. Many of these developments involve incorporation of characteristics central to PBL, sometimes even as small scale PBL, and the question thus arises as how strong the case is for the adoption of formal large scale PBL in physiotherapy in the UK.<sup>1</sup>

In their review, Albanese & Mitchell (1993) found that, although medical students in PBL curricula tended to perform better, the differences were very small and rarely significant. Colliver (2000) supported these findings and questioned the place of PBL in medical education on the basis that research over decades had not demonstrated that PBL improved either knowledge base or clinical performance to an extent which justifies the resource requirements of PBL.<sup>1</sup> These conclusions were supported by the findings of a study which compared the clinical performance of physiotherapy students from traditional and PBL curricula (Kaufman et al; 1997). The study showed, although the PBL students demonstrated an advantage over the other group in regard to self directed learning during the early clinical experiences, this advantage was lost over time. They did not find any significant differences between the two groups.

In a cross-sectional survey of perceptions and attitudes to research of the physiotherapy students from three Swedish universities using either traditional or problem based learning methods, Kamwendo & Tornquist<sup>3</sup> compared the PBL and traditional students by term in relation to 'role', 'ability', 'intent', and 'attitude' towards

research. They found significant difference in 'ability' in that traditional students perceived themselves as being better able to perform research-related activities. A further analysis showed that they in particular regarded themselves as better equipped to read research literature in order to update knowledge. Other two significant differences were that the PBL students to a greater extent intended to engage in research activities in future and they had a more positive attitude towards research. Further it also showed that the problem based learning students also to initiate i.e. plan and execute research to a greater extent than traditional students. The attitude was significantly more positive for applying research findings to improve practice among the PBL students. They however concluded, a PBL education method may be more conducive to the shaping of a professional research consumer and initiator than a traditional method; however more research was needed to substantiate these claims.<sup>3</sup>

### **The strength of the evidence for PBL was reviewed in the UK regarding adoption of PBL in physiotherapy education**

In an overview of the McMaster University experience of PBL, the authors identified advantages and disadvantages of PBL over traditional curricula. The advantages documented are the enhancement of problem solving and clinical reasoning skills; students will be more self-directed, enthusiastic learners and graduates will be more responsible learners-for-life; better retention and application of knowledge in clinical settings; enjoyable for students and faculty etc whereas the disadvantages were increased financial and faculty time expenditure and lower levels of content specific knowledge. However, studies have also shown no difference in problem solving processes or ability between students in PBL curricula and those in traditional curricula.<sup>2</sup>

### **Discussion**

Perceptions and attitudes towards PBL have shown to be positive in almost all studies however, the outcomes may be no different than traditional or other similar sounding curricula. The aim of this review however has been fruitful in determining the attitudes and perceptions of PBL in physiotherapy students.

PBL has perceived to be helpful in proficiency in problem solving, becoming life long learners, enhancing interpersonal skills, self directed learning, better retention of knowledge. The attitude of PBL students towards research is also more positive than other students. Some however, stated the difficulty in good teamwork.

Another important aspect as perceived by PBL students is that they find learning more enjoyable and therefore

are enthusiastic about it. This could also be one of the factors that facilitate students to learn more in depth and detail together when solving well structured problems.

### Conclusion and Recommendations

Overall, the perception and attitudes of physiotherapy students towards PBL is positive despite some finding difficulty in good teamwork. The limitations of this study was that it only reviewed journal articles from PUBMED and thus, only limited number of articles were reviewed. However, it is recommended for schools that are considering adopting PBL as a curriculum that they carry out a research of perceptions and attitudes and outcomes in their school or country since cultural, social factors undoubtedly play important role in the upbringing of an individual. This research may be carried out before and after exposure of PBL to students.

### Acknowledgement

I wish to convey my sincere gratitude to each and every one of the following who have assisted me in this piece of work;

- My Lord for constantly supplying His great power, patience, and endurance throughout this project
- My parents and siblings for encouraging and reminding me always to strive to complete the work I had taken up.
- My course convener, Prof. Finau for his guidance and patience
- My classmates for having healthy discussions regarding literature reviews

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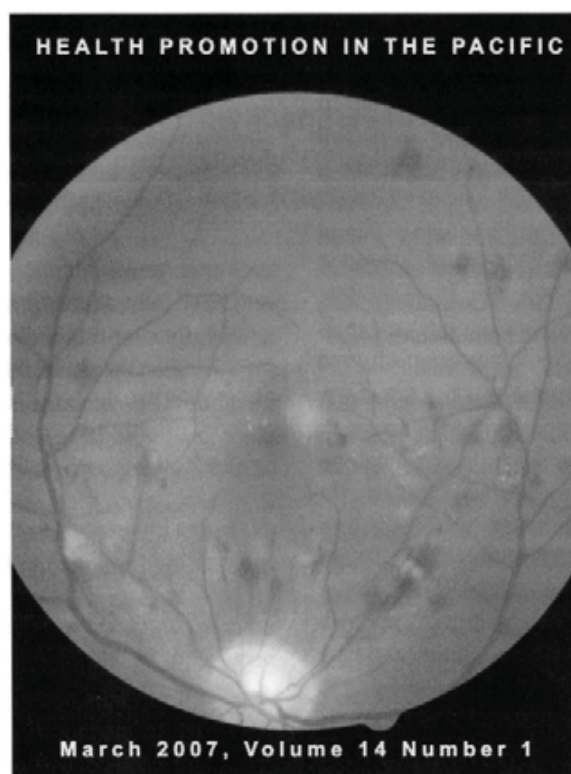
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