

# Motivations for the Use of Problem-Based Learning (PBL) for Preparation of Undergraduate Nursing Students for Professional Competences: A Literature Review

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**Abstract** Traditional nursing education as characterized by classroom approaches inter alia the lectures, where students are merely passive listeners and more concern about the final grade than learning tends to produce graduate with information to memorize while unable to apply knowledge into practice for problem solving. Thus the intensive basic lectures, followed by equally exhausting clinical teaching has proven ineffective in preparing professional nurses who are problem-solvers. These factors dictate the need for a shift from a focus on teaching to a focus on learning by adopting a problem-based, student-centered and self-directed learning approach in a form of problem-based learning for both classroom and clinical teaching context. As opposed to the traditional reductive lecturing method of teaching, Problem-Based Learning approach is more inductive; students learn contents as they try to solve the problems. Problem-Based Learning approach therefore facilitates the development of disciplinary knowledge bases, skills and problem solving strategies by placing the students in the active role of problem solvers for the problems that are aligned with real-life situation.

**Keywords** Problem-based Learning, Student Centered Learning, Self-directedness, Facilitator and Students

## 1. Introduction

Despite the decades of effort by the Nursing training institutions in Namibia to produce graduate of academic standard compatible for providing quality care to clients of nursing services, criticisms continue to emerge that some registered nurse products of the current basic nursing education programme, tend to perform below the level of expectation. At the center of poor performance are the characteristics such as lack of critical thinking and reflective practice as demonstrated by poor care plan for patients, lack of problem-solving skills and inability to identify patients' problems and make appropriate recommendations based on theory to provide quality care and prevent complications, all which indicate a lack of managerial skills that are necessary inter alia to coordinate care activities for patients [19].

Of course, it is understandable that not only education plays a role in facilitating the development of students into competent practitioners. Health care environment which demands a high standard of care and urges the practitioners to aspire competent performance also plays a significant role in the development and maintenance of competences by the practitioners.

Nevertheless the binal determining factors, the education sector ought to do its outmost best, to ensure that the graduates have been exposed to strategies which best facilitate development of independent thinking and self-directed sound decision making [22,2]. This phenomenon calls for innovative strategies of teaching to ensure that the graduates exit training programmes equipped with the ability for critical thinking and leadership skills that are essential for provision of safer health care to clients.

Improvement on teaching strategies should be based on the presumptions that innovative teaching methods can be borrowed from other existing training institutions that demonstrate exceptional performances and that the resources to implement the borrowed innovations exist in the organization that aspires to change. All that is necessary is for the institution to take a bold step for change and implement the innovation that facilitates student-centered and active class room pedagogy for the undergraduates to ensure quality teaching [21,9]. Based on conclusions derived from review of literature, this article presents an account of advocacy for the use of Problem-Based Learning in basic nursing education.

## 2. Goal and Objectives

The goal of this study was to examine the meaning and application of problem-based learning. The objectives were to:

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- Discuss the meaning of problem-based learning
- Explain the advantages of problem-based learning in nurse education
- Explain the role of the facilitator and students in problem-based learning process.

### 3. Methods

A systematic investigation of available literature was conducted in regard to the meaning and advantages of problem-based learning as well as the role of both the facilitator and the students regarding problem-based learning process in health education.

#### 3.1. Target Population

The target population for the concept “problem-based learning” was the qualitative and quantitative studies on problem-based learning in the field of education, health (medicine and nursing) and psychology.

#### 3.2. Sampling Method and Sample

In the absence of local data on problem-based learning, a series of searches of the EBSCO Host, and Medline data bases were conducted. In addition, selected textbooks with definitions and the uses for problem-based learning approached were consulted. A purposeful sampling method was used. The searches were directed at identifying potential sources that met the criteria of: problem-based learning, student centered learning, self-directedness, facilitator and students. After eliminating inappropriate sources, seventeen electronic sources and three textbooks met the criteria. Thus a total of twenty (26) resources were utilized to reflect on the objectives of the study.

#### 3.3. Data Analysis

The Tesch method of qualitative data analysis as proposed by Creswell (2008) was used. Each source was first read in its entirety to gain an overview of the content. The data from each source was organized into terms which indicate the meaning or the advantages of problem-based learning and those indicating the role of the facilitator and students in problem-based learning, after which they were then summarized.

#### 3.4. The Findings

The prominent findings that were discovered from varying qualitative and quantitative sources were the similarity of the definitions and descriptions of the meaning of problem-based learning, the advantages of problem-based learning, as well as the role of the facilitator and students as discussed in the next sessions.

## 4. Discussion of the Findings

### 4.1. The meaning of Problem-Based Learning (PBL) approach

Problem-based learning approach is a teaching strategy that promotes critical inquiry on the part of the students. Problem-based learning process begins with the introduction of a problematic situation, one that is aligned to the real life situation of nursing. Thus the starting point in practicing problem-based approach is the introduction of a problem or a puzzle that students should try to solve and according to which learning objectives are formulated [2, 6, 7]. Subsequently, the students conduct independent, self-directed study before returning to a group to discuss and refine their acquired knowledge [25]. Problem-based learning approach (PBL) is therefore a method in which learners are progressively given more responsibility to plan, learn, produce and evaluate the knowledge and skills for their own education. They also learn to depend on each other in order to successfully solve complex problems.

### 4.2. Formulating Problems for Problem-Based Learning

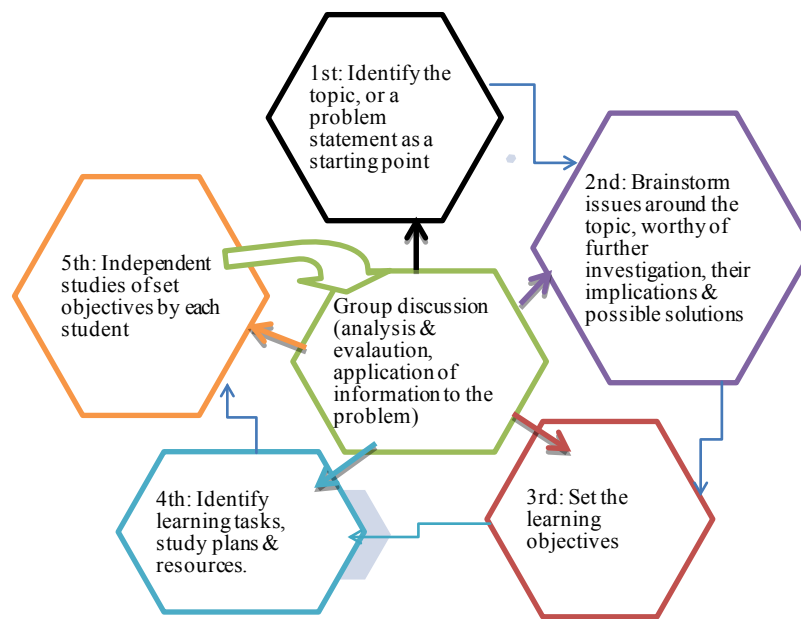
White (1995) concurs with Duch (1995) and indicates that a good problem case or a scenario to facilitate problem-based learning should involve a complex, discipline-based real world, relevant to future practice and which demands that students connect new knowledge to old; recognize what they know and understand and point out what they don't; learn concepts thoroughly enough so they can explain and teach in their own words. This exercise facilitates the students to gain understanding, apply multiple concepts, and make decisions based on their work [22, 14]. Furthermore, the scenario should be sufficient enough to engage a group of students productively for up to a week or longer [25].

The use of prepared problems of clinical case studies, scenarios, self-directed studies and tutorial discussion in small groups, supplemented by practical experiences in the simulation and real clinical practices and projects, thus offering a variety of perspective on the topic are the techniques at the center of problem-based learning approach [11, 12].

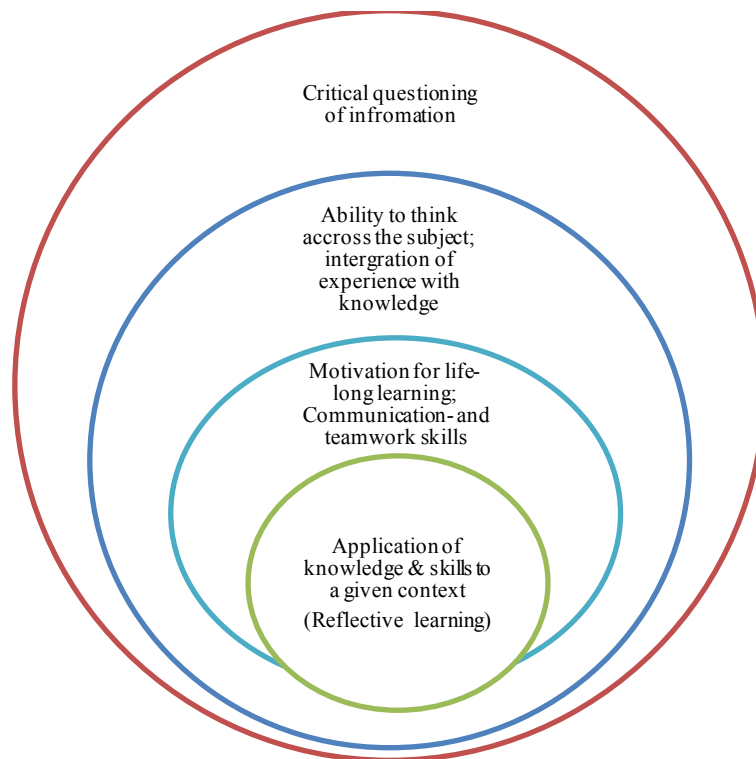
### 4.3. Process of Facilitating Problem-Based Learning

A typical Problem-Based Learning consists of a group of 7-10 students and a tutor who facilitates the session. In that smaller groups, the students effectively communicate their discovery and learn to teach each other. Traditionally, Problem-Based Learning tutorials are conducted in ways of seven steps, which can be modified according to the context of application [13, 25]. Figure 1, illustrates the sequential steps of the process of problem-based learning approach to facilitate active participation and effective learning on the part of the students.

### 4.4. Advantages of Problem-Based Learning Approach to Nurse Education



**Figure 1.** Process of facilitating Problem-Based Learning Approach



**Figure 2.** Outcomes of problem-based learning approach

Experiences from the problem-based learning approach (PBL) pays off in a positive way for the students and as prospective professionals. By independent responsibility for learning, the students make discoveries to learning and develop the ability to question the information critically rather than a recollection of mere facts. Through the use of variety of learning resources, including the textbooks, internet and experts in their discipline, the students develop reasoning and analytical problem solving skills, think across the subject, rather than focusing on solitary aspects of it, and develop the ability to integrate experiences with new knowledge to competently solve professional environment-based dilemmas. In addition, the students develop skills in respect of teamwork, sharing information, respect for others as well as communication skills[25]. Furthermore, as the students explore and engage in problem-solving and critically reflect on the subject, the students' ability for anticipation of clients' needs is enhanced[15, 7, 2]. As regard to clinical practices, presentations of clinical material serve as the stimuli for learning which enable the students to understand the relevance of scientific knowledge and principles to the clinical practice[25]. In the final analysis, as a products of the Problem-Based Learning curriculum, the graduate are inclined to be competent at reflective practice, capable of working independently, well versed in collaborative team problem-solving, and therefore, confident in her/his professional ability[16, 7, 25]. Figure 2, illustrates potential outcomes of problem-based learning approach.

#### 4.5. The role of the Facilitator and of Students in Problem-Based Learning Approach

The assumptions about the students' active role in implementation of Problem-Based Learning approach should not be perceived as implying redundancy of responsibility of the facilitator. Implementing problem-based approach holds few vigorous responsibilities for the facilitator. The facilitator ought to act at all time as a resource person to enable transition to independence and self-motivated inquiry on the part of the students. He or she is to develop PBL trigger teaching scenarios that relate to real-world in order to capture students' interest, integrate content objectives with problem-solving skills and model different problem-solving strategies. During group discussion, the facilitators should guide the students to make connections among concepts, while striking balance between providing direct guidance and encouraging self-directed learning[2]. He/she is to coach students' progress, identify problems, harmonize group interaction issues and ensures that the student complement each other to find the solution to the learning objectives, while guarding for complacency from the isolated group members to ensure that all the students have collectively participated towards the realization of the learning objectives[14, 12, 18, 25]. Finally, learner-achieve in regard to application of knowledge and skills should be assessed while the students be guided to monitor their own progress in terms of communication skills, individual contributions and respect for others as well as to

device their goal for improvement with respect to the course learning objectives[11].

Furthermore, the students play a significant role for their own learning. In this regards, the students delineate what they need to learn, set learning the objectives, identify appropriate resources, research, share and synthesize their findings and develop a solution to the problem[2].

## 5. Summary

Problem-Based Learning approach is worthy implementing in undergraduate nursing education. Problem-Based Learning approach has proven to be an effective way of delivering nursing education in a coherent, integrated way and therefore offers more advantages over traditional teaching methods. As a student-centered approach, problem-based learning approach enables the students to be more analytical in learning process, responsible, self-aware and motivated for long-life learning. In conclusion, although a preponderance of teaching in health discipline, problem-based approach can be as well employed in teaching of other disciplines in the academic environment [2, 6, 10, 25].

## REFERENCES

- [1] Albanes, M.A. & Mitchell, S. (1993). Problem-based learning: A review of literature on its outcomes and implementation issues. *Academic Medicine*, 66(1), 52-81.
- [2] Arora, A. (2004). Problem-Based Learning. *Teaching and Learning Bulletin*, 7(3) 1-2. Retrieved 22 November 2012 from <http://depts.Washington.edu/cidweb/Bulletin>
- [3] Barrows, H.S. (1983). Problem-based, self-directed learning. *JAMA*, 250(22), 3077-3080.
- [4] Barrows, H.S. Meyers, A., Williams R.G. & Motika E. (1986). Large group problem-based learning: A possible solution to the 2-sigma problem. *Medical Teacher*, 8(4), 325-331.
- [5] Bell F.A. & Hendricson W.D. (1993). A problem-based course in dental implantology. *Journal of Dental*, 57(9), 687-695.
- [6] Blich, J. (1995). Problem-based learning in Medicine: an introduction. *Post Graduate Medical Journal*, 71(836), 323-326.
- [7] Boud, D.J. (1985). *Problem-based learning in Education for the professions*. Sidney: High Education Research and Development Society of Australia.
- [8] Bookfield, S.D. (1987). *Understanding and facilitation adult learning*. Bucks: Open University Press.
- [9] Bradley, E.H., Curry, L.A., Ramanadhan, S., Rowel, L., Nebhard, I.M. & Krumholze, H. M. (2009). Research in action: Using positive deviance to improve quality of health care. *Implementation Science*, 4(25), 4-25.
- [10] Bridges, S., McGrath, C., & Whitehill, T.L (2012). Problem-based learning in clinical Education. The next

- generation. *The Interdisciplinary Journal of Problem-based learning* 6(1)126-128.
- [11] Coles, C.R. (1985). Differences between conventional and problem-based learning curriculum in their students approach to studying. *Med Education*, 19(308-309).
  - [12] Creswell, J.W. (2008). *Educational research: Planning, conducting and evaluating qualitative & quantitative research* (4th ed.). New Jersey: Pearson Education.
  - [13] De Gallow, (2012). *What is Problem-Based Learning?* Institutional Resources Center. Retrieved June 12, 2012 from [www.pbl.uci.edu/whatispbl.html](http://www.pbl.uci.edu/whatispbl.html)
  - [14] Duch, B. (1995). *The Power of students Teaching Students*. About Teaching-# 47. A Newsletter of the Center for Effective Teaching. The University of Delaware. Retrieved November 22, 2012 from <http://www.udel.edu/pbl/cte/jan95-bisc.html>
  - [15] Haith-Cooper, M. (2003) An exploration of tutors' experiences of facilitating problem based learning. Part 2- implications for the facilitation of problem based learning. *Nurse Education Today*, 23(1), 65-75.
  - [16] Iwaw, C. (1987). The role of the teachers in self-directed learning. *Nurse Education Today*, 7(5)222-227.
  - [17] Leary, H.M. (2012). *Self-Directed learning in Problem-Based Learning Versus Traditional Lecture-Based learning: A Meta-Analysis*. (Published Dissertation). Utah State University. Utah: Logan
  - [18] Levette-Jones, T.L. (2005). Self-directed learning: Implications and limitations for undergraduate nurse education. *Nurse Education Today*, 25(5), 363-368.
  - [19] Mierson, S. (1995). *A Student-Centered Model of PBL*. About Teaching-#47. A Newsletter of the Center for teaching Effectiveness. The University of Delaware. Retrieved November 25, 2012 from <http://www.udel.edu/pbl/cte/jan95-bisc.html>.
  - [20] Oelofsen, N. (2012). Using reflective practice in frontline nursing. *Nursing Time*, 108(24), 22-24.
  - [21] Pretorius, L. (2008). *An Educational Programme to facilitate critical thinking for the student nurses in Namibia*. Windhoek: University of Namibia.
  - [22] Schmidt, H.G. (2000). The foundation of problem-based learning: Some explanatory notes. *Medical Education*, 27(5), 422-432.
  - [23] The McGraw Hill (2002). *Dictionary of American Idioms & Phrasal Verbs*. Place: McGraw Hill & Companies.
  - [24] White, H. (1995). Creating problems for PBL. About Teaching- # 47. A Newsletter of the Center for Effective Teaching. The University of Delaware. Retrieved November 22, 2012 from <http://www.udel.edu/pbl/cte/jan95-bisc.html>.
  - [25] Wood, D. F (2003). Helping doctors making better decisions. *British Medical Journal*, (326)328.
  - [26] Wood, S. (2006). Views of the effectiveness of problem-based learning. *Nursing Time*, 102(21), 34.