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IMPLEMENTATION OF PROBLEM BASED LEARNING AMONG STUDENTS
IN DIPLOMA IN NURSING PROGRAM

CHAN LI KWAN

A project report submitted in partial fulfillment of the
requirements for the award of the degree of
Master of Education

Faculty of Education
Universiti Teknologi Malaysia

JUNE 2012
I declare that this thesis entitled “implementation of problem based learning among students in diploma in nursing program” is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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To my beloved parents, husband and my daughter
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ABSTRACT

Critical thinking and effective problem solving skills have been regarded as an important element and as an educational outcome in professional nursing. Nurses in their everyday life have to shift through abundant amount of information regarding patient care. Are the new nurses prepared to undertake this responsibility when they graduate from the nursing colleges? Do the students have the inclination to think scientifically or perform analytical reasoning skills? The purpose of this study is to examine the implementation of Problem Based Learning among students in Diploma in Nursing Program. More specifically, it compares pre test and post test scores of the implementation of Problem Based Learning among Year Three students. The correlation between the levels of satisfaction of students toward Problem Based Learning and the effectiveness of Problem Based Learning were also examined. A 20 items Likert scale questionnaires was used as an instrument in this quantitative study. A convenient sample of ninety four (94) students comprising of Year Three students from a private nursing college served as samples for this study. The data of this study was analyzed statistically using T test. The result of the analysis indicated that there is significant differences in overall scores of pre test and post test among Year Three students. The result also demonstrated that the students’ level of satisfaction towards to Problem Based Learning correlated with the effectiveness of Problem Based Learning. From the finding, it has been concluded that implementation of Problem Based Learning can be further developed through creative and innovative approach in the students’ learning process.
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CHAPTER 1

INTRODUCTION

1.1 Introduction

There have been tremendous advancement and transformation taking place in recent decades resulting in rapid growth in technology and theory in healthcare industry. This rapid growth has exerted great amount of pressures on nursing practices which is the backbones of healthcare. The expansion includes advancement in medical technology, increased patient demand for quality care, pressure for better cost containment, increased patient acuity resulting from increased aged population and complex diseases. These changes are also associated with incumbent ethical and moral dilemmas encountered in daily practice of nurses. Nurses being part of the healthcare team like any other healthcare professionals are in essence clinical problem solvers. When they encounter problems during patient care, they must inquire about it. They have to retrieve information about the problem, process it and act on it. Therefore in the current era of nursing education, particular emphasis should be placed upon the necessity of facilitating effective clinical reasoning that is teaching nurses how to, rather than what to, think about complex nursing problems.
Traditionally student nurses are trained in a passive learning environment. Nurse educators are considered as the disseminators of knowledge and student nurses are required to memorize information or specified algorithms to solve problems. However in line with the current pedagogy of training, the goal of nurse educators should always be to develop initiatives and innovations that will prepare nurses for practice. Nurses do not only nurse patients based on previous nursing rituals, modeling from nursing mentors, learning on the job and learn with an apprenticeship system but are now accountable for providing research-based evidence for nursing intervention, evidence supporting cost effectiveness of nursing practice and the promotion of improved patient outcomes for a diverse and aging population.

Andrew and Jones (1996) suggested that the proliferation of problem based learning in nursing education boils down to the ‘theory-practice’ gap. The nature of the relationship between theory and practice has changed over the years but the need for nursing practice to be based on sound theoretical principles remain constant.

To bridge the gap, nursing educators must focus on how curriculum content and practice placement can be integrated. Andrew et al. (1996) mentioned that in order to develop more creative aspects of practice and to integrate the theory with practice, a variety of methods are employed by educators including those associated with problem solving. Diploma nursing program now must equip nursing students with the skills to assemble information, to assess, plan, implement and evaluate care either in hospital or community health setting.

Since the McMaster University Canada introduced problem-based learning (PBL) into medical education in the late sixties (Spaulding, 1969), this innovative approach has spread globally. Many new schools have adopted PBL at inception while several established schools have transited from the traditional lecture based curriculum to the PBL. This trend is dictated by the need to devise innovative curricula in the face of increasing health sciences information, requiring healthcare providers who can adapt to the rapidly changing attitudes and practices (Dornhorst, 1981; Bushby, 1994). It calls for
healthcare professionals who are community-oriented, good communicators, self-directed and life-long learners. The PBL approach is thought to inculcate these attributes (Achike and Kwan, 1997; Nandi et al., 2000; Alexander et al., 2002). Various medical education bodies have responded to these challenges through landmark prescriptions for newer approaches (AAMC, 1984; GMC, 1993).

The widespread adoption of PBL in Medicine, Nursing and allied health professions in America and Europe (Biley and Smith, 1998; Baker, 2000) has just begun to catch up with the Asia-pacific region, particularly in the last ten years (Khoo, 2003). This delay is attributable to such factors as the lack of leading regional PBL experts, conservative attitudes with attendant resistance to change, and the long standing myth that Asians students are not suited to the PBL approach. We observe that it has been easier, in this region, for new medical schools to adopt PBL from onset than to get older schools to convert to PBL. Presumably, the pioneers of new schools maintain an open mind that easily accepts PBL. In contrast, the conservative attitudes of academic staff tend to work against adopting PBL in established traditional curricula. For example, the medical faculty of the Science University of Malaysia, and the International Medical University both adopted PBL at inception in 1979 and 1992, respectively. The much older University Malaya only began to introduce PBL in 1998 (Achike and Nain, 2005).

Increasingly, medical education experts in the region are debunking the myth that Asian students are unable to adapt to PBL because they enter medical school at a much younger age (18–21 years) than their North American counterparts (Khoo, 2000). This new awareness, coupled with governmental support and mobility of PBL expertise – locally and from overseas, has had positive impact. For example, the academic staff driving PBL in the Pantai Institute of Health Science and Nursing – PIHSN) are new PBL enthusiasts who joined from the University of Malaya (Achike and Nain, 2005).

Various associations dedicated to PBL have been born in recent years, such as the Asia Pacific Association of PBL in Health Sciences (inaugurated at the National University of Singapore late in 2000) and the Asian Medical Education Association (inaugurated at the University of Hong Kong in 2001). The year 2000 inaugural
conference in Singapore was open to all disciplines – including Accountancy and Law, and currently an annual meeting of PBL educators in all disciplines is in existence. The Malaysian Nursing Board continues to encourage the adoption of PBL in the nursing curriculum (Achike and Nain, 2005).

Under this scenario, it became compelling to take stock of the status of PBL in nursing education in Malaysia. Of the 20 nursing colleges in Malaysia, none ran a full PBL curriculum. About five schools have broached the idea while two have adopted PBL in principle, but not in practice. The Pantai group (mother organization of the PIHSN) runs two nursing colleges, none of which has implemented PBL. Some of the lecturers have been sponsored to PBL seminars, but there has been no official adoption of PBL. In the year 2001, therefore, the senior management of PIHSN decided to begin a gradual process of staff training for an eventual adoption of PBL. The plan was to organize a series of PBL seminars and workshops, so the teaching staff could make an informed decision (Achike and Nain, 2005).

1.2 Background of Problem

The training of nurses in Malaysia (Malaya then) began as early as 1950s by a group of Nurse Tutors from England and Wales using Nursing Curriculum of England and Wales. The length of training was 3 years 4 months. The emphasis was mainly based on acquisition of skill rather than knowledge in the medical dominance hospital based environment. The nurses were then being placed in the subservient role and did not have any autonomy over their profession. Knowledge was not considered as priority issue for nursing as long as the nurses could perform the procedures and able to carry out the physicians’ orders (Ajimah, 1998). It was until 1960s, few years after independence, the curriculum was then revised to meet the healthcare needs and social
economic demand of the new country. The length of training was reduced to 3 years. More emphasis was placed in theories underpinning the skill components. The ratio of theory to practicum was 40%: 60 %. Practical experiences were acquired in the hospitals where the nursing schools were located as well as in the community health setting.

In mid 1980s, the official professional organization for nurses, Malaysian Nurses Association, recommended that since nurses formed the bulk of the manpower in the healthcare setting under Ministry of Health, the training of nurses must be upgraded from certificate to diploma level so that nurses could be at par with other paramedics like Physiotherapist, Occupational Therapist and Radiographers. This upgrading was in response to the official statement by the Health Officials that ‘the changing role of nurses in a multidisciplinary health care system demands a more effective and dynamic training’. The upgrading could enable nurses to function more effectively in this technology driven healthcare setting and thus meeting the healthcare needs of Malaysian society. Hence, by the end of 1991, the curriculum was eventually revised and nursing training was officially upgraded from certificate level to diploma level. The nurse training from then has been recognized as nursing education. The theory content has been increased from 40% to 60% and practicum has been reduced from 60% to 40%.

Since nursing education has been upgraded to diploma level, it is essential to build a firm knowledge base in the basic nursing education so as to churn the nurse into a knowledgeable doer from merely a technical worker. Additional theory input was added to the curriculum with the purpose of improving knowledge. This can foster the development of critical, analytical thinking and reasoning ability in nurses and preparing them to be safe and competent practitioners. With this, the care rendered to the patients can be further improved. As such, it is imperative that various teaching and learning strategies have been adopted to facilitate the development of such high order thinking skill in student nurses. Strategies such as writing of reflective journals; case studies and the practice of nursing process are being utilized in clinical setting to engage students in activities that promote development of critical thinking skill. Examination questions are also based on problem solving approach and case scenario.
The reviewed curriculum has been implemented for more than 10 years with the emphasis on teaching thinking. Have the nurses acquired and developed this high order thinking? No one can provide an answer to this question because to date no evidence can be traced to demonstrate the status of critical thinking skill of nurses. However, the Management Committee of X Hospital revealed that incidences of nurse-related errors in the workplace had risen from 10 % to 20 % over the past 10 years. Majority of the incidences were related to nurses’ inability to make appropriate decision resulting in poor quality patient care. The Management Committee Meeting Minute documented increased number of complaints by the doctors stating that newly graduated nurses were not prepared adequately to think critically thus resulting failure on their part to assess and evaluate patients’ condition. This statement has created great concern to nursing administration and nursing education as poor nursing care reflects poor nursing standard which is terribly alarming in the private healthcare. Thus, this warrants nurse educators to seriously examine critical thinking skill and dispositions of students in Diploma Nursing Program.

1.3 Statement of the Problem

Traditional nursing education in Malaysia has depend upon the concept of training and has tended upon the teacher centered, ‘chalk and talk’ pedagogy. However, recent changes in the requirement of nursing education and practice have necessitated changes in curricula in order to develop the new qualities in nurses, such as the ability to act autonomously and to take an active role in decision making. In order to achieve this goal, there has been some interest in problem based learning method, which has become an acknowledged educational methodology.

In recent decades, there has been a paradigm shift in nursing education. Barrow et al. (2002) reported that problem based learning within the nursing education has
escalated in the recent year. Numerous explanations have been presented along with suggestions as to how the evident divide can be bridged. A key component according to Andrews and Jones (1996) is problem solving but not all student nurses are competent at finding suitable solutions to the problems they face in practice settings. Therefore, ways of developing learner proficiency in problem solving is crucial and should occupy a substantial part of an educator’s activity.

One educational method for promoting problem solving skills in student nurses is problem based learning. Andrews and Jones (1996) further accentuate that, “this approach encourages students to work through problem situations, generate hypotheses and test these against the relevant literature and personal experiences” (p. 23). The process itself is seen as the essential component in developing problem solving skills, so that when the students are qualified they can apply the same methods to patient care.

The expectation of problem based learning as learning and teaching strategy is that it will enable nurses to develop skills required for professional practice including: enquiry, reasoning, interpersonal and lifelong learning skills. Barrow et al. (2002) noted that the pursuit for an effective learning approach in the preparation of student nurses as knowledgeable doers, critical thinkers, lifelong learners and responders to the ever changing health needs of their communities which may in turn sparked their interest and zeal in problem based learning.

It is the challenge of nursing education to explore ways to enhance student learning and clinical decision making. So, nurse educators have to investigate new teaching methods that promote active learning and increase critical thinking skills in students nurse. In the reality of a complex healthcare structure with changing society needs, it is important for students to learn how to access knowledge, synthesize the information, apply these data into practice and commit to life-long learning. Thus this study investigated the implementation method of Problem Based Learning in Diploma in Nursing Program. Based on the finding of this research it is hoped that students and lecturers can achieve the educational outcome through active learning methodologies.
1.4 Objectives of Study

The objective of the research is to identify the Problem Based Learning implementation method in Diploma Nursing Program, as follow:

1) To identify the knowledge of students toward the PBL method.
2) To compare initial knowledge acquisition from the use of problem based learning method in one group by using pre tests and post tests.
3) To identify the levels of satisfaction of students towards the PBL experiences.
4) To identify the effectiveness of the PBL method in Diploma Nursing Program.
5) To determine the correlation between the levels of satisfaction of students and the effectiveness of the PBL method in Diploma Nursing Program.

1.5 Research Questions

The research questions to be answered by this study are:

1) To what extent is the student nurses’ knowledge toward the PBL method?
2) Is there a statistically significant difference between scores on the pre test and post test for the problem based learning method in Diploma Nursing Program?
3) To what extent are the levels of satisfaction of students towards the PBL experiences?
4) To what extent is the effectiveness of the PBL method in Diploma Nursing Program?
5) Is there a significant correlation between the levels of satisfaction of students and the effectiveness of the PBL method in Diploma Nursing Program?
1.6 Statement of Hypotheses of Research Questions

The statement of hypotheses of research questions are as follow:

$H_0_1$: There is no significant difference between scores on the pre test and post test for the problem based learning method in Diploma Nursing Program.

$H_0_2$: There is no significant correlation between the levels of satisfaction of students and the effectiveness of the PBL method in Diploma Nursing Program.