The Effect of Problem Based Learning Compared with Traditional Method on Learning of Pediatric Nursing Students

Thesis Submitted for Partial Fulfillment of the Requirements of the Doctorate Degree In Pediatric Nursing

By **Hayam Zedan Badrawy**

M.Sc., Pediatric Nursing, 2007 Nurse Instructor in Embaba Technical Institute

> Faculty of Nursing Ain Shams University 2012

The Effect of Problem Based Learning Compared with Traditional Method on Learning of Pediatric Nursing Students

Thesis Submitted for Partial Fulfillment of the Requirements of the Doctorate Degree In Pediatric Nursing

Under Supervision of Prof. Dr. WAFAA EL-SAYED OUDA

Professor of Pediatric Nursing & Vice Dean of Education & Students' Affairs, Faculty of Nursing / Ain Shams University

Prof. Dr. IMAN IBRAHIM Abd El-MONIEM

Professor of Pediatric Nursing & Head of Pediatric Nursing Department, Faculty of Nursing / Ain Shams University

> Faculty of Nursing Ain Shams University 2012

CONTENTS

Subject	Page No.
LIST OF TABLES	i
LIST OF FIGURES	iv
ABSTRACT	viii
INTRODUCTION AND AIM OF THE STUDY	1
REVIEW OF LITERATURE	5
Part I: The Problem Based Learning. Historical overview Definition Design Roles of teacher and students inPBL Benifets and Negative aspects of the PBL The nurses role as an educatore in PBL	5
Part II: The Traditional Methods of Teaching (Lecture and Modefied Lecture). Historical overview Definition Types Method Roles of teacher and students in lecture Advantages and Disadvantages.	32
SUBJECTS AND METHODS	42
RESULTS	50
DISCUSSION	77
CONCLUSION & RECOMMENDATIONS	85
SUMMARY	87
REFERENCES	92
APPENDICES	105
ARABIC SUMMARY	1

Acknowledgment

First, thanks to **ALLAH** for helping me to accomplish this work.

I would like to express my deepest gratitude and sincerest appreciation to **Prof. Dr. Wafaa Ouda, professor** of pediatric nursing and vice dean of education and studens' affairs, Faculty of Nursing, Ain Shams University, for her guidance, support and supervision throughout the study.

I am also grateful to **Prof. Dr. Iman Ibraheim** professor and head of pediatric nursing department, Faculty of Nursing, Ain Shams University, for her support and supervision throughout the study.

Special thanks is dedicated also to all pediatric nursing students, at Faculty of Nursing, Ain Shams University, for their agreement to participate in the study.

My deep heart gratitude and thankfulness for my father spirit, my mother, my husband and my children. Last but not least, I would like also to express my gratitude and appreciation to all those who helped me directly or indirectly for the completion of this work.

The candidate

Hayam Zedan

LIST OF TABLES / LITERATURE REVIEW

Table No.	Title	Page No.
1-	Generic skills and attitudes of problem based learning.	27
2-	Role of nurse as an educator in problem- based learning.	29

LIST OF TABLES / RESULTS

Table No.	Title	Page No.
1-	Distribution of the studied Subjects (control & experimental) according to their previous qualifications.	51
2-	Distribution of the studied subjects (control & experimental) knowledge regarding to the role of teacher in the problem based learning (PBL) pre/post test.	54
3-	Distribution of the studied subjects (control & experimental) according to their knowledge about the role of leader and recorder in the problem based learning pre/post test.	55
4-	Distribution of the studied subjects (control & experimental) in relation to their achievement at the clinical area of pediatric nursing medicine (selected area) at post test.	66
5-	Distribution of the studied subjects (control & experimental) according to their evaluation outcomes scores in practice at post-test.	67
6-	Distribution of the studied subjects (control & experimental) as regards to their attitude toward the problem based learning (Pre / post-test).	68

Table No.	Title	Page No.
7-	Distribution of the studied subjects (control & experimental) according to their attitude toward learning of pediatric nursing by problem based learning compared with lecture (pretest).	69
8-	Distribution of the studied subjects (control & experimental) according to their attitude toward learning of pediatric nursing by problem based learning compared with lecture (posttest).	70
9-	Distribution of the students' attitude (+ve) toward the problem based learning compared with the lecture (post-test).	71
10-	Distribution of the experimental group according to their peer evaluation of an oral presentation (post-test).	72
11-	Distribution of the experimental group according to their group performance $(n = 8 \text{ groups})$.	74
12-	The relation between attitudes (+ve) toward the problem based learning and the evaluation outcomes scores of the studied subject (post test).	75
13-	The relation between attitudes (+ve) toward problem based learning and the evaluation outcomes scores of the studied subject in practice (post test).	76

LIST OF FIGURES / LITERATURE REVIEW

Figure No.	Title	Page No.
1-	The problem-based inquiry learning space.	7
2-	The problem-based learning implementation.	10
3&4	The problem-based learning process.	10 & 13
5-	Steps in problem-based learning.	17
6-	Problem-based learning teaching and learning template.	18
7-	Self-directed learning in PBL.	25
8-	Benefits of the problem based learning.	26
9-	A lecture at a Medieval University (1350s).	33
10-	The introduction prepares the students to receive the information in the lesson.	39
11-	Notes allow the accurate dissemination of complicated informaton.	39

LIST OF FIGURES / RESULTS

Figure No.	Title	Page No.
1-	Percentage distribution of the studied subjects (control & experimental) according to their gender.	51
2-	Percentage distribution of the studied subjects (control & experimental) according to their age.	52
3-	Percentage distribution of the studied subjects (control & experimental) knowledge regarding to definition of the problem based learning pre/post test.	53
4-	Percentage distribution of the studied subjects (control & experimental) as regards to their knowledge about the design of the problem based learning pre/post test.	57
5-	Percentage distribution of the studied subjects (control & experimental) as regards to their knowledge about how the problem based learning work pre/post test.	58

Figure No.	Title	Page No.
6-	Percentage distribution of the studied subjects (control & experimental) as regards to their knowledge about the steps of problem based learning by using problem solving technique pre/post test.	59
7-	Percentage distribution of the studied subjects (control & experimental) as regards to their knowledge about the benefits of the problem based learning pre/post test.	60
8-	Percentage distribution of the studied subjects (control & experimental) as regards to their knowledge about the negative aspects of the problem based learning pre/post test.	61
9-	Percentage distribution of the studied subjects (control & experimental) as regards to their knowledge about the skills learned through problem based learning pre/post test.	62
10-	Percentage distribution of the studied subjects (control & experimental) in relation to their total knowledge about the problem based learning pre/post PBL implementation.	63

Figure No.	Title	Page No.
11-	Percentage distribution of the studied subjects (control & experimental) in relation to their evaluation outcomes scores at the clinical area of pediatric nursing medicine (pre-test).	64
12-	Percentage distribution of the studied subjects (control & experimental) in relation to their evaluation outcomes scores at the clinical area of pediatric nursing medicine (post-test).	65

ABSTRACT

Problem-based learning is a student-centered approach whereby it refers to learning opportunities that are relevant to the students. This study aimed to study the effect of problem based learning compared with traditional method on learning of pediatric nursing students. A Quasi-experimental design was used for the conduction of the study. The sample of the study consisted of 70 pediatric nursing students at third year of Pediatric Nursing Department. Upon inclusion in the study they were divided into two groups (experimental and control groups), where 67% of them were females and the rest of them were males. **Tools** used in the study included: Questionnaire (pre & post) by interviewing & Likert-type rating scale, The student's assessment tools for evaluation (oral, written and practical examination) and the problem based learning module. **Results** of the study revealed that, The problem based learning improve the learning of the study subjects in pediatric nursing compared with the traditional method. There was a statistical significant difference between the experimental and control groups regarding to their knowledge and attitude about the problem based learning at pre/post intervention. Conclusion of the study support that the problem based learning is useful instructional method of teaching for pediatric nursing students compared with the traditional method. The study **recommends** applying problem-based learning in teaching the pediatric nursing curriculum. Further studies are required to examine barriers hindering the problem-based learning implementation.

Key Words: problem-based learning, traditional teaching, curriculum & Pediatric Nursing

INTRODUCTION AND AIM OF THE STUDY

INTRODUCTION

The educational system has created and propagated the fact of, from first grade through college, students sit passively while teachers practice the art of teaching. A given amount of information is transmitted and students are tested to evaluate how well they retain the information (*Heidi* et al., 2005).

Students must be taught not only the information currently available but more important, how to learn the information that will be available tomorrow. Problem based learning (PBL) is a method of instruction that foster these abilities (*Major & Palmer*, 2001). The curricular revolution occurring in general education is also appearing in nursing education. The rapidly occurring changes in health care delivery have required changes in nursing practice, employment and education. Educators have a professional responsibility to prepare nurses to cope with these changing roles (*Geri*, 2005).

Nursing—along with the environment in which nurses work-has changing rapidly. These changes in nursing practice necessitate changes in nursing education. The problem based learning is a new approach to learning and is considered as one of the enduring approaches to education that supports the use of web quests. It is focused on the learner constructing meaning and knowledge from an assigned activity. In PBL students are given an assigned task or questions that include the creation of a product that will illustrate or represent what they have learned (*Merrill*, 2005).

Active learning methods have become increasingly popular in modern curricula. One such method, Problem based learning is advantageous in its ability to promote problem solving, critical thinking and interpersonal communication skills. In contrast to lectures, where

problem based learning can increase student engagement and behavioral interaction (*Chris*, 2008).

The curriculum revolution in nursing education calls for a shift from conventional learning method (lectures) toward approaches that empower both students and teachers. In problem based learning, student learning is organized around small group and self directed work which is intended to empower students to develop the critical thinking and interpersonal communication skills (*Heidi et al.*, 2005).

The problem based learning as a new method of teaching can help nursing students in the field of pediatric medical problems to provide the complex care that patient with a potential or actual diagnosis of diseases and their family require an in-depth knowledge base (Meltzer & Mindell, 2006).

The problem-based learning is a student-centered approach whereby it refers to learning opportunities that are relevant to the students. The goals are at least partly determined by students themselves. This consequently will develop problem solving skills as well as the necessity of helping students to acquire necessary knowledge and skills (*De Gallow*, 2010 and Schmitz, 2008).

Traditional instruction, such as the typical lecture-based session often involves delivering as much information, quickly as possible. The lecture method was one of the most effective and efficient ways to disseminate information and has often been used for this end. Because students are often poor participants in the lecture, this type of instruction has often allowed students to be passive in the classroom. Students, not knowing how to be active participants in the lecture, have relied on transcription, memorization, and repetition for learning (*Norman*, 2004).