

**A COMPARISON STUDY ON THE EFFECT OF COOPERATIVE TEACHING
LEARNING AND PROBLEM BASED LEARNING METHODS ON THE
LEVEL OF ACADEMIC PERFORMANCE AMONG YEAR 2 AND
YEAR 3 GENERAL NURSING DIPLOMA STUDENTS AT
OMAN NURSINGINSTITUTE, MUSCAT**

L. LAKSHMI

ASIA e UNIVERSITY

2018

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L. LAKSHMI

**A Thesis Submitted to the Asia e University in
Fulfilment of the Requirements for the
Degree of Doctor of Philosophy**

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ABSTRACT

Introduction: Cooperative Teaching Learning (CTL) and Problem Based Learning (PBL) are the innovative methods which potentially help the student to learn more effectively and to make teaching learning process student friendly. Regardless of widespread evidences representing that these two methods improve academic performance, there are very few studies conducted in nursing education. There is lack of research about the utilization of the above-mentioned innovative teaching methods in Oman.

Objective: The study aims to compare the effect of the CTL and PBL on the level of academic performance of the nursing students.

Methodology: The one group post-test only design under quasi experimental approach was adopted for 162, year 2 and 127, year 3 General Nursing Diploma students at Oman Nursing Institute, Muscat. After imparting the CTL and PBL methods, five quizzes were conducted after each session with one week of interval to evaluate the innovative methods. Initially the population characteristics and study habits of the students were assessed. In addition, the questionnaires were distributed to the students to express their views on the advantages, disadvantages, factors facilitating, factors hindering, and student's satisfaction of CTL and PBL.

Results: The findings revealed that there was a significant impact of CTL and PBL methods on the student's level of performance. However, the result indicated that, the PBL method was more effective when compared to CTL method for year 2 and year 3 students. The students expressed that the PBL was more advantageous. The facilitating and hindering factors showed association with CTL and PBL

respectively. Finally, the students were satisfied with both the methods however they are more in favor of PBL when compared with CTL.

Conclusion: These findings demonstrated that CTL and PBL was an effective teaching strategy incorporated to improve the level of academic performance of the nursing students. If the entire course is implemented through the innovative teaching learning methods the output will become much better.

Key words: Cooperative Teaching Learning (CTL). Problem Based Learning (PBL), Innovative teaching and learning methods, Academic performance and comparison.

APPROVAL PAGE

I certify that I have supervised / read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in quality and scope, as a thesis for the fulfilment of the requirements for the degree of Doctor of Philosophy

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DECLARATION

I hereby declare that the thesis is submitted in fulfilment of the PhD degree is my own work and that all contributions from any other person or sources are properly and duly cited. I further declare that the material has not been submitted either in whole or in part, for a degree at this or any other University. In making this declaration, I understand and acknowledge any breaches in this declaration constitute academic misconduct, which may result in my expulsion from the programme and/or exclusion from the award of the degree.

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A handwritten signature in blue ink on a light blue background. The signature is stylized and appears to be 'L. Lakshmi'.

Signature of Candidate

Date: 1.12.2018

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LIST OF ABBREVIATIONS

CTL	Cooperative Teaching and Learning
DGET	Directorate General of Education and Training
GCC	Gulf Cooperation Council
GG	Graduating Group
GND	General Nursing Diploma
ICN	International Council for Nurses
MCQ	Multiple Choice Questions
MoH	Ministry of Health
NCLEX RN	National Council Licensure Examination for Registered Nurse
NLN	National League for Nursing (USA)
ONI	Oman Nursing Institute
PBL	Problem Based Learning
SPSS	Statistical Package of Social Sciences
SQU	Sultan Qaboos University
UNICEF	United Nations International Children's Emergency Fund

CHAPTER 1

INTRODUCTION

“Education is the manifestation of the perfection already in man”

Swami Vivekananda

1.1 Introduction

Education is important for all of us as it brings all round development and changes in the behavior. The vision of education in each discipline is to bring development in their profession. To achieve this, the education should be innovative, flexible and adaptive to the younger generation in the present days.

The aim of education has undergone a considerable shift moving from surface-level, rote instruction within a teacher-fronted framework to a learner-centered, context-grounded approach in which the goal of education is to foster the ability of learners to “communicate with others, find relevant and accurate information for the task at hand, and be co-learners with teachers in diverse settings”. Therefore, teaching methodologies are increasingly formulated around a constructivist approach, where learners expected to actively create new understanding by integrating their existing knowledge with new experiences. (Celeik Servet et al., 2013).

Contemporary propensity in nursing education has set certain requirements on the proficiency to be obtained. To enable the future nurses to work at a highly competitive level the educational preparations need to be based on innovations. According to UNICEF it is highlighted that, “Innovation does not just mean new technology. Educational innovation can be found in processes, services, programmes and partnerships. To be truly innovative, an intervention should, improve learning,

equity and systems; solve a real problem in a simple and clear way (be demand-driven); match the scale of the problem it is trying to solve” (UNICEF, 2017).

The main concern of education specialists in the modern world revolves around the best teaching methods to prepare the students to face the myriad of challenging issues. This entailed changing a swing of pendulum towards learner-centered methods that could meet the student’s needs” (Motaei Bahman, 2014).

In the changing global environment where we are living, it is very critical for the educationist (Azizan et al., 2018) especially for nurse instructors to prepare students who can resolve issues and face commendable challenges in the current twenty first century.

“Nurse Educators use innovative methods of teaching that engage students as active learners continues at a rapid pace. Although nursing students in many settings still prefer being passive learners, many faculty are forging ahead with teaching approaches that provide active learning in which students work in teams preparing them for their future practice” (Marylyn Oermann, 2015).

In past few decades, Cooperative Teaching Learning (CTL) method has emerged as a leading novel approach to classroom instruction. Numerous studies revealed that it is more effective in terms of increasing the knowledge compared to traditional forms of instruction. It is competitive and individualistic approach to instruction which gives higher productivity. This method enhances group cohesion, communication and interpersonal skills. Cooperative teaching has proved to be student-centered where the students are extremely satisfied (Johnson & Johnson, 2016). Although in nursing there are only few studies conducted on CTL method, numerous studies in other disciplines like engineering, medicine, pharmacy,

psychology, management, higher education, school education and so on have provided robust evidence that it is an effective method.

The effect of cooperative learning on reading comprehension of English Foreign Language learners in Iran was investigated by Marzban Amir & Alinejad, (2014). Sixty participants who were divided into 2 groups were administered a pretest before intervention and a posttest after cooperative learning for reading comprehension. The study findings showed that the experimental group had marked difference after the use of cooperative learning. Further the study suggested that it encourages students to transform “teacher-centered” methods into “student-centered” methods. It helps students to develop more self-esteem and reduced level of anxiety when they are engaged in classroom activities and encourage active participation in all classroom events.

A study was conducted at a German University among 265 participants of student teachers who were enrolled in nine introductory educational psychology classes. The impact of high-structure versus low-structure cooperative learning on student teacher’s knowledge, perceived self-competence and task values were examined by Supanc, Vollinger & Brunstein, (2017). The findings of the study indicated that participants in the high-structure cooperative learning outperformed the participants from low structure group. This provided with evidence that highly structured cooperative learning increases the effectiveness in collegiate education.

A research utilizing quasi experimental design with one group pre-test, post-test was done to assess the effect of cooperative learning on general English achievement of Iranian university students by Motaei Bahman, (2014). The findings of the study indicated that in all four components of general English a marked

difference was identified between the experimental and control groups. The cooperative learning group of participants outperformed than the others in this study.

CTL has been well documented in the educational research as a successful pedagogy to improve student's academic achievement and this is proved through many research studies as mentioned above.

Another teaching method namely Problem Based Learning (PBL) is equally useful to students in developing many abilities apart from improving knowledge. PBL helps to cultivate critical thinking readiness, problem solving skills, group communication abilities and a commitment to lifelong learning. Studies on use of PBL method and benefits achieved by the learners are highlighted below.

A systematic review and meta-analyses by Kong et al., (2014) reported that the efficacy of problem-based learning (PBL) on evolving analytical thought process among learners was found to help nursing students. This literature search was done to estimate the impact of this innovative method over the traditional lecture methods in nursing education. The combined consequence results showed PBL had a capacity to enhance the analytical thought process among the nursing candidates with skills at 0.000 level compared with traditional lecture. There were a total of 9 randomized controlled trials included in the review and the results recommended that additional research projects be conducted with generous samples and with better affirmation to obtain greater evidence to underpin the impact of the innovative method.

Two different programs which followed problem-based learning methods and traditional lecture methods were compared to determine the analytical thought process skills, subjective learning and project-based skills among Korean nursing students. The study results showed that there was no statistical difference in their outcomes, but

the learning outcomes were correlated positively significant. Students from the PBL program showed improvement in all the abilities. Meanwhile students in the traditional lecture program had decreased problem solving skills, critical thinking and self-directed learning skills when compared to the students in the problem-solving program (Choi et al., 2014).

The relationships between teaching, learning approaches and critical thinking in a foundation nursing course which used problem-based learning were investigated by Martyn et al., (2014). The study findings showed positive results to support the use of problem-based learning which facilitated the critical thinking readiness among the students. Further the results showed a marked association of teaching and, learning methods and analytical thought process skills among nursing students under the study. The results indicated the robust prognosticator of analytical thought process is PBL instructional methodology.

Medical student's perspective on problem-based learning was investigated by Chang, (2016). The article provided the thoughts, conversations and observation of peers on the effectiveness of pros and cons of problem-based learning. Overall the participants of this study were positive despite potential areas of development and enhancement.

The effect of problem-based learning as an efficient method of teaching science lessons among students was examined in Romania. The results of implementing classroom of 17 modules through problem-based learning indicated that the feedback obtained from teachers and students were positive with important achievements in learning (Gorghiu et al., 2015).