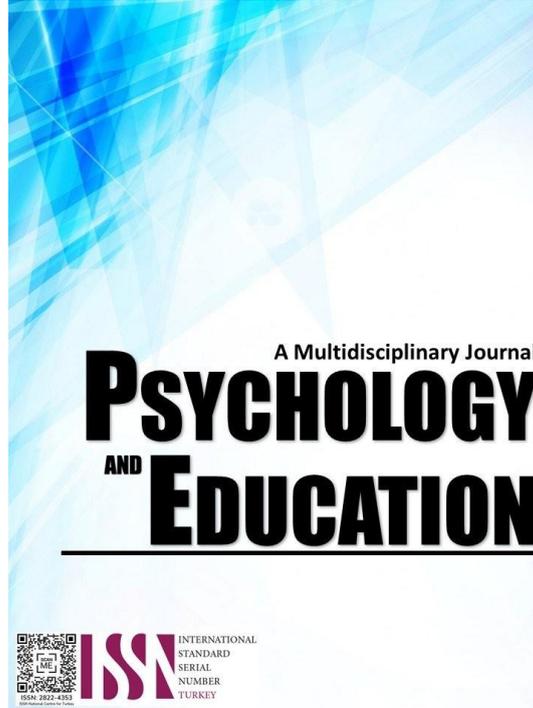


**PERCEPTION OF STUDENTS AND FACULTY ON
PROBLEM - BASED LEARNING AS A
TEACHING STRATEGY**



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Perception of Students and Faculty on Problem - Based Learning as a Teaching Strategy

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Abstract

This study sought to assess the Perception of Students and Faculty on Problem - Based Learning as a Teaching Strategy in Nursing Education. Sixty-three (63) Brokenshire College SOCSKSARGEN, Inc., Level Three Nursing students enrolled in the school year 2008 - 2009, five (5) Level III Student Nurses enrolled in the School Year 2018 -2019 and eleven (11) Clinical Instructors were the respondents. They were chosen as the respondents because they had the experience of using the Problem - Based Learning as a teaching strategy. Three variables were used to assess the perception of students on Problem Based Learning as Teaching Strategy in Nursing Education: a) Development of Critical Thinking, b) Development of Cooperative Learning and, c)Promotion of Active Participation. A validated questionnaire based on the review of related literature. Descriptive Survey was used to collect the data. The findings revealed that the weighted mean of the students on the development of critical thinking is 4.30 which means highly effective while clinical instructors weighted mean is 3.97 which also mean as highly effective. As the Development of cooperative learning, both the students and the clinical instructor evaluated Problem - Based Learning as highly effective revealing the weighted mean of 3.90 and 4.45 respectively. Both the students and clinical instructors agreed that Problem - Based Learning promotes active participation as revealed in the weighted mean, 4.87 and 4.15 respectively. Based on the findings, obtained the Problem - Based Learning can enhance critical thinking, cooperative learning, and student's active participation.

Keywords: *perception of students and faculty, problem - based learning, teaching strategy*

Introduction

As nurse educators, it is a great responsibility to create an environment in the classroom, laboratory and clinical settings that will facilitate student learning and the achievement of cognitive, affective and psychomotor outcomes. It also recognizes the responsibility for helping students develop as nurses, and integrate the values and behaviors expected of those who fulfill that role by utilizing a variety of strategies to assess and evaluate student learning. They also formulate program outcomes, design curricula that reflect contemporary health trends, prepare graduates to function effectively in the healthcare environment as well as create a preferred future for nursing education and nursing practice all the while staying knowledgeable about the educational environment within which they practice and recognize how political, institutional, social and economic forces impact their role. Thus a curriculum based research has to be sought in addressing the needs of the present educational system of the nursing field.

Brokenshire College has been trying to utilize this method for two semesters. But its effectiveness as a teaching-learning strategy is not yet evaluated. The researcher decided to conduct this research to measure information levels, opinions and beliefs, as well as gather factual information from the respondents on how they perceive PBL as a strategy in the learning

process. It aims know the student and clinical instructors perception on problem-based learning is in the enhancement of their critical thinking and collaborative skills, as well as their ability to actively participate in their learning.

Moreover, in accordance to CHED Memo No. 15 series of 2017, otherwise known as the Policies, Standards and Guidelines for the Bachelor of Science in Nursing, the professional nurse is expected to provide safe, humane, quality and holistic care to individuals in various health care settings. Lastly, the professional nurse must be able to develop critical thinking skills through cooperative learning and active listening skills through proper academic preparation. With this, the Filipino nurse will remain the best for the Filipino is and the choice of the world.

Research Questions

This study assessed the perception of students and faculty on Problem-Based learning as a teaching strategy in Nursing Education among Level 3 student nurses of Brokenshire College SOCSKSARGEN, Inc. Specifically, it seeks to answer the following questions:

1. What is the demographic profile of the respondents in terms of:
 - 1.1 Students
 - 1.1.1 Age;

- 1.1.2 Sex; and
- 1.1.3 Admission Status?
- 1.2 Clinical Instructors
 - 1.2.1 Academic qualifications;
 - 1.2.2 Length of Service; and
 - 1.2.3 Civil Status?
2. What is the perception of the respondents on Problem-Based Learning as Teaching Strategy in terms of:
 - 2.1 Development of Critical Thinking Skills;
 - 2.2 Development of Cooperative Learning;
 - 2.3 Promotion of Students' Active Participation
3. Is there a significant difference in the perception of the student and faculty on Problem - Based Learning as teaching strategy in terms of:
 - 3.1 Development of critical thinking skills;
 - 3.2 Development of cooperative learning;
 - 3.3 Promotion of students' active participation

Literature Review

A systematic review is used in this study. Systematic Review of Literature is an appraisal and synthesis of primary research papers using a rigorous and clearly documented methodology in both the search strategy and the selection of studies. This minimize biases in the results. The clear documentation of the process and the decisions made allow the review to be reproduced and updated.

In the Research article written by Mohsen Salari, Amrollah Roozbehi, Abdolvahed Zarifi and Rohani Ahmad Tarmizi in 2018, they stressed that Nursing students encounter many clinical challenges in current healthcare atmosphere. It is unfortunate that they often have no prior experience to deal with these varying complex situations. More importantly, traditional teaching methods often fail to enable students to cope with these clinical conditions. Subsequently, these concerns call for an alternative approach with higher efficacy in teaching nursing. Furthermore, they have suggested for a move toward more learner-centered teaching strategies and pedagogies that can result in improvement in learning. This study was undertaken to investigate the effects of Problem-Based Learning in developing cognitive skills in learning among university students. In 2008, this method has been introduced to the nursing faculty as part of their continuing education program and not all instructors were trained.

Anent to this, researcher decided to do the study to know the Perception of Students and Faculty on Problem Based learning as a Teaching strategy of level

3 student nurses and clinical instructors in terms of the development of critical thinking, cooperative learning and active listening. This study did not attempt to measure the effectiveness of Problem based learning as teaching strategy. In addition, the Problem Based learning has not been used as a teaching strategy in other year levels as a method of instruction.

Problem-Based Learning (PBL)

Problem-Based Learning (PBL), promotes active learning, collaboration, critical thinking skills and autonomous learning in small teams, although approaches might be diverse. According to Fan et.al (2017) PBL should include students' self-directed learning, teachers, problem setting, clinical learning, and resource support. Strictly, PBL is complex however, the goals of PBL should be consistent across contexts and distinct from traditional teaching methods. PBL's original goal was to improve students' abilities to solve clinical problems. To ensure efficiency, teachers should participate as little as possible to enable students' autonomous and dynamic self-directed learning. Thus, in medical science teaching, practical application of PBL is indispensable. PBL seems complex, but its process is orderly, with numerous basic elements, including teachers, students, settings, assessments, feedback, monitoring, and support (Fan et.al 2018). The PBL focus is on enhancing student outcomes. Therefore, to improve PBL, we must ensure that, based on learning theoretical knowledge, students can exercise their practice-based skills as much as possible through autonomous learning and using their skills in their future work and study. Student performance is an influential factor essential to their learning outcomes.

Problem - Based Learning was first implemented in medical education at McMaster's University in 1965. This approach to health education has been adopted by many entry and post-professional educational programs in medicine, nursing, physical therapy, occupational therapy, and pharmacy, among others. The PBL approach assumes that responsibility and potential for active learning ultimately lies with the student while the instructor assumes the role of facilitator or guide through the learning process, rather than the "content expert" who imparts his or her advanced knowledge to students via traditional lecture.

Active Participation

Active learning is an approach in which students are given the opportunity to learn independently as well as collaboratively, while understanding an ill-structured

problem. It was originally developed in medical schools to help students integrate basic science and clinical knowledge, as well as to develop clinical reasoning and lifelong learning skills (Yew 2011), this supports student learning in self-directed manner where acquisition of knowledge is based on the problem presented. Also, Yew (2011) said that the effects of active learning on achievement are mainly due to the group interactions and co-construction of knowledge or alternatively, that it is the individual self-directed learning phase that is most important to students' learning. Grant (2011) emphasized that Project-based learning offers promise as an instructional method that affords authentic learning tasks grounded in the personal interests of learners.

As results of learning gains, motivations, and teacher experiences, limited empirical research has presented student perspectives in project-based learning. In using PBL versus traditional learning approach in controlled and experimental conditions, and include the factors such as teacher effect, the module's design, the validity and reliability of instruments, the randomization of study samples, the gaps between the pre-test and post-test, and the possibility of treatment diffusion. In regards to this context of literature review, generally PBL has a great potential to foster students' higher order thinking skills, especially critical thinking ability.

According to Udan (2009), included in the characteristics and attitude of a professional person includes being self-directed, responsible and accountable for his/ her actions and the ability to make independent and sound judgment towards the improvement of quality care.

Learning is not a spectator sport. Students do not learn much just by sitting in class listening to teachers, memorizing prepackaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences, and apply it to their daily lives. They must make what they learn part of themselves. (Ehrenberg, A., Haggblom, M., 2007).

Research has demonstrated that students learn more if they are actively engaged with the material they are studying. Active Learning is, in short, anything that students do in a classroom other than merely passively listening to an instructor's lecture. This includes everything from listening practices which help the students to absorb what they hear, to short writing exercises in which students react to lecture material, to complex group exercises in which students apply

course material to "real life" situations and/or to new problems (Starke, 2009).

In Diane Starke's Professional Development Module on Active Learning, she stated that learning is an active search for meaning by the learner--constructive knowledge rather than passively receiving it, shaping as well as being shaped by experience. To stimulate an active search for meaning, faculty must expect and demand student participation in activities in and beyond the classroom and design projects and endeavors through which students apply their knowledge and skills; and build programs that feature extended and increasingly challenging and build programs that feature extended and increasingly challenging.

Collaborative Learning

Collaborative Learning has been used mostly in the humanities, some in the social sciences, but rarely in other sciences or professional programs. Cooperative learning has been used mainly in the sciences, mathematics and engineering, the social sciences, and professional programs. PBL in various forms has been used across the board, but in its pure forms, it has been used most extensively in the health professions (Weimer, 2014).

Cooperative Learning refers to a set of instructional methods in which students are encouraged or required to work together on academic tasks. According to Davidson (2014) cooperative learning methods may be as simple as having students sit together to discuss or help one another with classroom assignments, or may be quite complex. Cooperative learning is distinguished from peer tutoring in that all students learn the same material, that there is no tutor or tutee, and that information usually comes initially from a teacher rather than a student.

Teachers need to have particular characteristics to teach PBL because of its unique teaching methodology. Pluta (2013) examined teachers' intentions, behaviors, and skills in promoting the dynamics of the PBL method and addressed facilitators' favorable attributes that students preferred content experts and articulate teachers and pointed out that PBL is a collaborative learning method, and teachers need to flexibly adjust their instructional strategies and teaching methods to fit learning contexts to achieve desired learning outcomes.

The development of learning in small groups in higher education has occurred, in part, because of strong evidence indicating that students working in small



groups outperform their counterparts in a number of key areas. These include knowledge development, thinking skills, social skills, and course satisfaction (Davidson, 2014).

In a study done by Springer, Stanne and Donovan (1999), their meta-analysis demonstrates that various forms of small-group learning are effective in promoting greater academic achievement, more favorable attitudes toward learning, and increased persistence through SMET courses and programs. The magnitude of the effects reports in this study exceeds most findings in comparable reviews of research on educational innovations and supports more widespread implementation of small-group learning in undergraduate SMET.

In spite of these advantages, most of the research studies on collaborative learning have been done at the primary and secondary levels. As yet, there is little empirical evidence on its effectiveness at the college level. However, the need for noncompetitive, collaborative group work is emphasized in much of the higher education literature. Also, majority of the research in collaborative learning has been done in non-technical disciplines.

The advances in technology and changes in the organizational infrastructure put an increased emphasis on teamwork within the workforce. Workers need to be able to think creatively, solve problems, and make decisions as a team. Therefore, the development and enhancement of critical-thinking skills through collaborative learning is one of the primary goals of technology education. The present research was designed to study the effectiveness of collaborative learning as it relates to learning outcomes at the college level, for students in technology.

Critical Thinking Skills

The current education climate reflects the importance of not only learning content information but also developing skills to think critically so that evidence based solutions of actual life problems may be proposed more efficiently. "Learning opportunities" derived from real life situations dominate their academic experience, which enrich their perspective as future clinicians. In order to promote meaningful learning, situated learning theory has come to the forefront by providing a framework for modified PBL process, which maintains 'Legitimate Peripheral Participation' as a central process to cultivate clinical reasoning and problem solving in clinical years.5-7 Students trained through PBL after graduation appear

to have better self-directed learning and other professionally relevant skills.

Tayyeb (2013) noted that PBL students have as much content knowledge as their lecture-based counterparts, and they perform better at more complex forms of assessment, and retain more of what they learn. It indicated that PBL when used as an instructional tool does significantly foster critical thinking and problem solving skills, whereas, it does not appreciably influence acquisition of content knowledge. On the other hand, teaching through traditional approach considerably improves content knowledge but does not notably improve acquisition of critical thinking and problem solving skills.

Nowadays, the main point of education is not to teach reading, writing or arithmetic, but it is to teach how to use thinking skills such as not only creativity, but also qualified problem solving skills scientific and technological literacy skills because these are the skills that are required for sustainability and lifelong education in addition to basic education (Tortop, 2013). So these skills should be reflected on educational programs implementing for gifted and average ability students. In the lifelong process, it is possible to say that learners are faced with many real life. The goal is to guide learners to become skilled in acquiring application qualification.

Howard, Tang & Austion, (2015) defines critical thinking as reaching to the conclusion according to the objectives and knowledge, application of previous knowledge and changing it after valuation process. Generally, critical thinking is a kind of ability to look at events, conditions or thoughts with a careful eye and making comments, decisions, studying on the reliability and validity of the knowledge according to standards of logic and the mind. This higher order thinking ability provides the opportunity to reason the existed knowledge or situation to correct the mistakes and complete deficits in order to reach appropriate situations. Indeed, critical thinking skills involve identification and analysis of informational sources for credibility, indicating previous knowledge and making connections and deducing to conclusions. Shortly, the general characteristics of critical thinking according to Demeril (2012) are reasoning and suspecting, looking at situations from multiple perspectives and dimensions, to be open to changes and innovations, to look at thoughts without prejudices, being open minded, thinking analytically, paying attention to details Advantages of critical thinking. Also, people who are critical thinkers think freely and independently people don't behave without thinking

individuals can state the problem explicitly (Demirel, 2012).

In educational perspective both critical and creative thinking skills should be developed because in each branch of area and to analyze discussion, inferences from meanings and comments, to make extensive and comprehensive reasoning and to judge toward assumptions are some competences through which every individual can evaluate what they see, hear or learn. (Samli, 2011).

In addition, PBL challenges students to solve authentic problems in information rich settings. They can construct their own solution that contributes to the most effective experience such as method, process and epistemology of discipline. However, some opponents state that all problem-based searching make working memory force a heavy demand. High working memory load does not lead to accumulation of knowledge in long term memory because working memory becomes used to search for problem solution so that it cannot be used to learn. Also the aim should be teaching of discipline by inquiry rather than as inquiry. Finally it is indicated that some participants who trained in PBL cannot acquire forward directed reasoning but retain backward directed reasoning pattern. It can delay development of forward reasoning pattern (Birgili, 2015). The links between PBL and critical thinking ability outside of medical field are still lacking with substantial evidence to be deemed conclusive, especially from education point of views. This scarcity has called for more experimental studies that examine PBL effectiveness in different populations and disciplines. Therefore, the study on PBL and critical thinking remains equivocal and leads to inconclusive evidence. This review however provides some hints that PBL could be more effective in a long-term duration.

Definitions of critical thinking variously emphasize its goals, its process, its methodology, its essential characteristics, or its scope. R. Ennis (1995) emphasizes the focus of critical thinking as “deciding what to believe... or do” based on “reasonable, reflective thinking.” Harvey Siegel (1990) defines critical thinking as being “appropriately moved by reasons and... to seek out and generate new reasons”.

Nurses need to be trained to identify and analyze different situations and health care issues from the perspective of more than one point of view. Nurses who see situations from only one perspective are unable to make fundamental changes and are unaware

of the variety of existing difference and possibilities. (Bandman, E. & B., 2000). Bandman discusses the role of critical thinking in education and sees critical thinking to be an educational ideal. He identifies three imperatives for teaching critical thinking. First, to teach critical thinking is to facilitate students’ self-sufficiency and autonomy, to help students “to act and judge... on the basis of... a reasoned appraisal of the matter at hand” This is incompatible with any educational program that aims to prepare students for preconceived role without active participation. To treat students with respect means to use independent judgment and evaluation on the basis of honest reasons and explanations that are questioned, challenged, and justified.

Siegel’s second imperative for teaching critical thinking is to “empower the student to control his/ her destiny....to encourage them to ask questions, to look for evidence, to seek and scrutinize alternatives, to be critical of their own ideas as well as those of others”. Such students are liberated because they are free of the control of unjustified beliefs and attitudes that cannot be supported.

Siegel’s third imperative for supporting critical thinking as an ideal to promote rationality as the use of reasons. A scientific researcher identifies and selects “what counts as a good reason for or against some hypothesis, theory or procedure.

Critical thinking is a complex set of thinking skills and processes that leads to fair and useful judgment. It is also referred to as a skillful and responsible thinking that facilitates good judgment (Garcia, 2005).

Related Studies

In Instructional design dimensions, many researches and studies also reveal the effect of PBL on these thinking skills with the pros and cons. For instance, Batdı (2014) applied a meta-analysis study with 90 studies had been made in national and international field between the years 2006 to 2013, 19 theses and 6 articles, in which pre-test and post-test experimental design had been applied. And he found problem-based learning approaches were more effective when compared to traditional teaching techniques. On the contrary, there are some studies, which highlight non-significant effects of PBL. Temel (2014) worked on 49 pre-service teachers in chemistry to compare the effects of PBL and direct instruction on their critical thinking dispositions and perceptions of problem-solving ability. According to research results of pre-test-post-test control group design, PBL and direct

instructional method did not have different effects on the critical thinking dispositions of pre-service teachers and they had different effects on their perceptions of problem-solving ability.

In addition, Choi, Lindquist and Song (2014)'s quasi-experimental non-equivalent group pretest post-test design study was aimed at exploring the effect of PBL. In this study, first-year 90 nursing students, who had been recruited from two different junior colleges in two cities in South Korea, were exposed to 16 weeks PBL instruction. The findings pointed out only positive trends apart from significant difference between teaching methods due to the fact that it was discussed as a small underpowered study.

Furthermore, through the context of effect of PBL on creative thinking skills, Ulger and Imer (2013) studied determining the effect of PBL approach on seventy-two 7th grade students in their visual arts education. It was a quasi-experimental pre-test post-test research design in which the students randomly assigned to experimental and control groups. In experimental groups, the students were exposed to 9-week PBL experience whereas control group students were taught demonstration, lecture and question answer method in that time. It was shown that PBL method has a significant effect on students' creative thinking ability in the visual arts education.

In the study conducted by Dr. Bauyot in 2003, he stressed that Problem Based Learning is a student-centered, collaborative, non-traditional approach to education. The PBL approach contends that learning occurs most efficiently when it taps and uses a student's prior knowledge; that knowledge is best expanded and elaborated through active discussion and debate; and that assimilation and retention of knowledge occurs best when learning occurs in a context similar to the one in which students will eventually use that knowledge.

Lian (2014) noted that students were more attracted to the PBL than the traditional lecture because of the resources, critical thinking approach, and interesting learning experiences that positively influenced the learning through the PBL process. Also he found out that most of the teachers were willing to participate in the school's new PBL program, and most of the students were satisfied with the knowledge they had acquired in this program, but a comparison to traditional teaching was not done.

Also, in Iwaoka et al. (2010), students in Food Science and Human Nutrition Courses indicated a significant increase in their critical thinking scores, which were

measured using the Cornell Critical Thinking Test Specimen (CCTTS). This study was conducted without control group, the pre-test and post-test however were deployed to compare the significant gain in critical thinking for a single group of PBL treatment. The study was repeated eight times from 2001 to 2008 with different samples.

In studying a characteristic of critical thinkers, Derry et al. (2000) investigated the students' ability to scientifically and statistically to reason in problem solving in the University of Wisconsin-Madison. The interview processes were employed to assess students' reasoning skills, before and after the new statistical course implementation. Students worked in small groups in solving problems that were simulated based on real-world scenarios. They worked collaboratively with group members, while the tutor responsible in providing suitable instructional method and guidance to the respective groups. The post-interview showed that students improved their ability to reason statistically. This had clearly observed when students presented their problem solutions. Tiwari et al. (2006) compared the effects of PBL and traditional learning approach on students' critical thinking ability for the undergraduate nursing programme in the University of Hong Kong.

A longitudinal study was conducted, which involved a total of 40 students in the experimental group, who had undergone two semesters (one year) of PBL treatment. This study involved 39 students in the control group that were taught using traditional lecturing method. The data collected at four points of interval throughout three years of the course. The California Critical Thinking Dispositional Inventory (CCTDI) was used to measure students' critical thinking ability. The results, students in PBL had improved their critical thinking throughout the three years of the study. Interestingly, students perceived that PBL tutorial sessions had contributed to their critical thinking development. On the other hands, several studies also resulted with negative findings or no significant difference of two groups' comparison in investigating the effects of PBL on students' critical thinking ability.

This indicated by Polanco et al. (2004), PBL did not change the first and second year undergraduate students' critical thinking ability in Mexican universities. In this case, an integrated PBL module of Physics, Mathematics, and Computer Science were used in teaching students in engineering course. The California Critical Thinking Skills Test (CCTST) was used as the pre-test and post-test. The critical thinking changes were based on reasoning skills in making

inference, including analysis, evaluation, deductive, and inductive reasoning. Similarly, Choi (2004) studied the effect of PBL in Nursing Process Course. The result indicated that no significant difference between the pre-test and post-test data, for students' critical thinking aspect.

In Sulaiman's (2011) study, the results also indicated no significant difference for critical thinking, for both the control and the experimental groups. However, further analysis indicated that PBL students had better skills in making inference and assumption than the traditional method students. The study involved a sample from pre-service science teacher in the Malaysian context. Beyond higher education context, the PBL instruction did not change the students' critical thinking ability in school level (Burris, 2005; Anderson, 2007).

In Burris study, the author investigated the effect of PBL on critical thinking and content knowledge in secondary agricultural school. A total of 140 students were involved in the study, where 77 of them were treated with PBL method and 63 were using the conventional supervised method. The pre-test and post-test using WGCTA indicated no changes on students' critical thinking ability in regards of both methods of instructions. Similarly in Anderson study, the pre-test and post-test on 110 students in controlled and experimental group did not significantly different in their critical thinking ability. This study involved secondary students in Urban Agricultural Programme in the Chicago High School in the US.

In critical thinking studies, several predictors might influence an individual's critical thinking. These include gender (Rudd et al., 2000), age (Ennis et al., 2005), and academic achievement (Giancarlo and Facione, 2001). However, based on the studies reviewed, generally no relationship between age and critical thinking, gender role produces inconclusive findings, while academic achievement shows relationship on students' critical thinking ability. In addition, fewer studies that conducted in two isolated locations, in order to control the possible treats of confounding variables. Within these, the author raised a serious concern; particularly the method of controlling extraneous variables and factors those might affect the quality of the research findings.

Therefore, the study on PBL and critical thinking remains equivocal and leads to inconclusive evidence. This review however provides some hints that PBL could be more effective in a long-term duration.

According to Hoon Eng Khoo (2003), in the study ,”

Implementation of problem-based learning in Asian medical schools and students' perceptions of their experience, it concluded that Asian medical schools have few implementing difficulties using Problem – based learning curriculum but will need strong support from academic administrators, including the dean and the staff responsible for implementing the curriculum. There also needs to be careful preparation and planning before PBL can be implemented successfully. However, Ho added that argued that Asian students lack passion for what they study. Asian students expect the teachers to tell them exactly what to read and assign clearly defined tasks. They do not ask questions and seldom participate actively in class. In addition Ho stated that, In discussion groups, Asian students also take a long time before they will speak. Therefore, according to Ho, in an educational setting, these behavioral characteristics of Asian students fit in with the traditional view of the teacher imparting knowledge while the student just listens passively. Therefore, if all Asian students behave like this, PBL will not be successfully implemented in Asian medical schools as a group of students who simply remain silent during PBL sessions are not going to develop any self-directed or lifelong learning skills.

Methodology

Research Design

This study used an exploratory design. Exploratory Design is conducted about a research problem when there are few studies are used to refer to. The purpose is on gaining insights and familiarity for later researches. The purpose of this is to produce well-grounded picture of the situation being developed and determination whether the study is still feasible in the future. This is a useful approach for gaining background information about Problem-Based Learning.

In addition, this study also utilized a descriptive evaluative survey which is concerned with the development, testing and evaluation of methods, procedures, guidelines and instruments after which evaluative judgment is done. It also tries to compare several intact groups to find out the difference between and among them in certain dependent variables of interest

Participants

This study is focused on the perception of students and faculty on Problem-Based Learning as a teaching



strategy in the Nursing Education. It involves 74 respondents; 63 Level III Student Nurses and 11 Clinical Instructors handling these students in their Related Learning Exposures. The study has been limited to this group because they have been utilized this teaching-learning strategy for two semesters, thus they were selected to be the focus of the study

Instruments of the Study

The instrument was formulated by the different Clinical Instructors of the College of Nursing to assess the perception of student nurses and clinical instructor regarding the implementation of the Problem-Based Learning as teaching strategy. The questionnaire was validated by the Dean of Nursing, RLE Coordinator and the Level 3 coordinator of Nursing Department. In addition, the Clinical Instructors handling other year levels have tested the validity of the questionnaire. The consensus of both students and instructors were rated as answers that facilitated accurate and unbiased data.

The questionnaire is preceded by a cover letter introducing its purpose. The first part of the questionnaire is the data pertaining to the personal profile, background and characteristics of the respondents. The second part of the questionnaire pertains to sets of questions assessing the respondents' evaluation of the effectiveness of Problem based learning as a teaching strategy in Nursing Education particularly in the development of critical thinking, collaborative skills and active participation of the learners.

Scale	Verbal Description	Qualitative Description
(5)	Very Highly Effective	I completely agree with the given statement to a very great extent.
(4)	Highly Effective	I agree with the given statement to a great extent.
(3)	Moderately Effective	I agree with the given statement to most extent.
(2)	Less Effective	I agree to the given statement a less extent only
(1)	Least Effective	I entirely disagree with the given statement.

Procedure

Permission to conduct this study is done through a letter from the Researcher addressed to the Dean of the College of Nursing of Brokenshire SOCKSARGEN, Inc.

The questionnaire was distributed personally by the

researchers to the Level III student nurses and Level III Clinical Instructors who have been utilizing Problem based learning as a teaching learning strategy in Nursing Education, particularly in their Related Learning Experience.

The researchers exerted their effort to closely monitor the respondents in completing the retrieval and reliability of the responses.

The researchers reviewed the accomplished questionnaire to determine if there are oversight, omissions or deficiencies that necessitate to request some respondents to re-do or complete their answers.

Results

A validated questionnaire based on the review of literature was used to determine the perception of Problem-Based Learning as a Teaching strategy in Nursing Education. It involved 74 respondents in particular, there were 63 Level III Student Nurses and 11 Clinical Instructors handling these students in their Related Learning Exposures were the respondents of the study. On the other hand, this study is also limited to the respondents' perception on Problem-Based Learning in terms of development critical thinking, development of cooperative learning and active participation. Other aspects such as weaknesses foreseen in the use of this strategy and its comparison with traditional teaching methods have not been included.

Profile of the Respondents in Terms of Age

Table 1.1. *Frequency and Percentage Distribution of Students by Age*

Age	Frequency (f)	Percentage (%)
17 – 20 years old	41	65.08
21-24 years old	17	26.98
25-28 years old	4	6.35
30-32 years old	1	1.59
Total	63	100

It can be seen that among 63 Level III Student Nurses, 41 of them or about 65.08% belong to the age group of 17-20 years old. About 26.98% or 17 among them belong to 21-24 years old. Four students or about 6.35% belong to 25-29 years old, and the remaining 1.59% or one of them fall between thirty to thirty two years of age.



Table 1.2. Frequency and Percentage Distribution of Clinical Instructors by Age

Age	Frequency (f)	Percentage (%)
25-29 years old	2	18.18
30-34 years old	5	45.45
35 -39 years old	3	27.27
40 -45 years old	0	0
50 – 55 years old	1	9.09
Total	11	100

On the other hand, Figure 1.2 shows the frequency distribution of Clinical Instructors by age. It can be seen that majority of them or 45.45% are between 30-34 years of age, while 27.27% of them belong to 35-39 years old. About 18.18% belong to 25-29 years old while the remaining 9.09% fall between the ages of 50-55 years old.

Profile of the Respondents in Terms of Sex

Table 2.1. Frequency and Percentage Distribution of Students and Clinical Instructors by Sex

Sex	Student Nurses		Clinical Instructor		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Male	15	23.81	5	45.45	20	27.03
Female	48	76.19	6	54.55	54	72.97
Total	63	100	11	100	74	100

Table 2 shows the frequency distribution of students and clinical instructor by sex. It can be seen that 76.19% of the Level III student respondents are female while the male students comprise of about 23.81% of their total population. While, frequency distribution of clinical instructors by sex it can be seen that 54.55% of them are female while male clinical instructors comprises about 45.45% of the total population.

Table 3. Frequency and Percentage distribution of Students in Terms of Admission Status

Admission Status	Frequency (f)	Percentage (%)
Regular	58	92.06
Second Courser	5	7.94
Total	63	100

Table 3 shows the frequency distribution of students by admission status. It can be seen that 58 of them or about 92.06% of the Level III student respondents are enrolled in a regular program while 5 or 7.94% of them enrolled in Bachelor of Science in Nursing as a second coursers.

Table 4. Frequency and Percentage distribution of Profile Clinical Instructors in Terms of Academic Qualification

Academic Qualification	Frequency (f)	Percentage (%)
BSN Graduate	0	0
BSN Graduate with MA Units	7	63.64
BSN Graduate with MA Degree	4	36.36
Total	11	100

Table 4 shows the frequency distribution of clinical instructors by Academic Qualification. About sixty four percent (64%) of the Clinical Instructors are BSN Graduates who have MA units while about thirty six percent (36%) of the clinical instructors have already earned their Master’s degree.

Table 5. Frequency and Percentage distribution of Clinical Instructors in Terms of Length of Service

Length of Service	Frequency	Percentage
1-2 years	6	54.55
3-4 years	5	45.45
5 years and above	0	0
Total	11	100

Table 5 shows that about fifty five percent (55%) of the Clinical Instructors have rendered 1-2 years of teaching service while about forty five percent (45%) have an estimate of 3-4 years of experience in teaching service.

Table 6. Profile of Clinical Instructors in Terms of Civil Status

Civil Status	Frequency (f)	Percentage (%)
Single	4	36.36
Married	7	63.64
Total	11	100

The table 6 shows that sixty four percent (64%) of the Clinical Instructors of Brokenshire College SOCSKSARGEN , Inc. are married while thirty six (36%) are still single. Most of the Clinical Instructors belong to the age bracket of 25-29 years old in which at this age level



Perception of Students on Problem-Based Learning as Teaching Strategy

Table 7. Perception of Students on Development of Critical Thinking Skills

Item	Statements	Combined Mean Ratings	Description
1	It enhances knowledge on collecting relevant and adequate data.	4.52	Very Highly Effective
2	Assist in prioritization of identified nursing problem	4.46	Highly Effective
3	It utilizes the Nursing Process Approach in analyzing a client's case.	4.43	Highly Effective
4	Guides in formulating an appropriate plan of care.	4.41	Highly Effective
5	Stimulates learners to realize the importance of conducting a comprehensive nursing history.	4.41	Highly Effective
6	It helps identify current health problems and probable contributing or risk factors for client's condition.	4.38	Highly Effective
7	Makes use of previously learned concepts to relate to present problem	4.38	Highly Effective
8	It helps determine significant data from various sources to help determine nursing problems of a given client.	4.37	Highly Effective
9	Facilitates identification of appropriate nursing diagnosis related to given assessment findings.	4.32	Highly Effective
10	Considers holistic perspective in planning care	4.19	Highly Effective
Total mean ratings		4.30	Highly Effective

Legend:

Numerical Scale

4.50 - 5.00
3.50 - 4.49
2.50 - 3.49
1.50 - 2.49
1.00 - 1.49

Verbal Description

Very Highly Effective
Highly Effective
Moderately Effective
Less Effective
Least Effective

Table 7 shows that the weighted mean result of student responses on their perception on Problem Based Learning as a Teaching Strategy in Nursing Education in terms of critical thinking skills is generally highly effective.

Table 8. Perception of Clinical Instructor on Development of Critical Thinking Skills

Item	Statements	Combined Mean Ratings	Description
1	Stimulates learners to realize the importance of conducting a comprehensive nursing history.	4.64	Very Highly Effective
2	It helps determine significant data from various sources to help determine nursing problems of a given client.	4.55	Very Highly Effective
3	It enhances knowledge on collecting relevant and adequate data.	4.55	Very Highly Effective
4	Guides in formulating an appropriate plan of care.	4.55	Very Highly Effective
5	It utilizes the Nursing Process Approach in analyzing a client's case.	4.45	Highly Effective
6	Makes use of previously learned concepts to relate to present problem	4.45	Highly Effective
7	It helps identify current health problems and probable contributing or risk factors for client's condition.	4.27	Highly Effective
8	Assist in prioritization of identified nursing problem	4.27	Highly Effective
9	Considers holistic perspective in planning care	4.27	Highly Effective
10	Facilitates identification of appropriate nursing diagnosis related to given assessment findings.	4.18	Highly Effective
Total mean ratings		3.97	Highly Effective

Legend:

Numerical Scale

4.50 - 5.00
3.50 - 4.49
2.50 - 3.49
1.50 - 2.49
1.00 - 1.49

Verbal Description

Very Highly Effective
Highly Effective
Moderately Effective
Less Effective
Least Effective

Table 8 shows that the weighted mean result of

Clinical Instructors' perception on Problem Based Learning as a Teaching Strategy in Nursing Education in terms of critical thinking skills is generally highly effective. The development of critical thinking is perceived to be highly effective as students are able to enhance knowledge in collecting relevant data regarding the patient's condition. In addition, students believed that through Problem Based Learning they are able to make use of learned concepts and theories in making individualized nursing care appropriate for the patient's condition.

These two tables relatively show that both the students and the Clinical Instructors perception on Problem Based Learning as a highly effective teaching strategy which enhances the development of critical thinking skills of learners.

Problem-Based Learning (PBL) is perhaps the most innovative instructional method conceived in the history of education. PBL was originally designed to respond to the criticism that traditional teaching and learning methods fail to prepare medical students for solving problems in clinical settings. Instead of requiring that students study content knowledge and then practice context-free problems, PBL embeds students' learning processes in real-life problems. (Woei Hung, David H. Jonassen, Rude Liu Problem-Based Learning). In the survey conducted by the researcher on May 2019, involving five (5) of the 7 level 3 student nurses enrolled at Brokenshire College SOCKSARGEN, Inc. it was found out that the perception of students on Problem Based Learning in the development of critical thinking is Very Highly Effective with a weighted mean of 4.80. Therefore, based on the results of the survey, Problem Based Learning is very highly effective in the development of critical thinking.

In an increasingly demanding healthcare context, nurses are expected to develop complex clinical reasoning skills in order to solve clinical problems, make the most suitable care decisions to ensure positive health outcomes (Billings and Halstead, 2016). Various teaching and learning methods, such as Problem-Based Learning (PBL), have been developed to prepare nursing students for clinical practice in this complex environment. (Wosinski, Jacqueline, Belcher, Anne E., Durrenberger, Yvan, Allin, Anne-Claude, Stormacq, Coraline, Gerson, Linda, Facilitating problem-based learning among undergraduate nursing students: A qualitative systematic review, Nurse Education Today (2017).

Problem Based Learning approach contends that

learning occurs most efficiently when it taps and uses a student's prior knowledge; that knowledge is best expanded and elaborated through active discussion and debate; and that assimilation and retention of knowledge occurs best when learning occurs in a context similar to the one in which students will eventually use that knowledge (cited by Bauyot and Porras, 2003).

It is also stated that Problem-based learning promotes increased mental processing, understanding, and recall. Because content is learned in context, definitions, information, theories, correlations, and principles are learned and integrated with one another.

In the study undertaken to investigate the effects of problem-based clinical education on nursing students' Critical Thinking. Study findings revealed that problem-based clinical education was more effective than conventional clinical education in improving nursing students' critical thinking ability of student nurses. While the quasi experimental study conducted by Ozturk et al. (2008) showed that problem-based education was more effective than traditional lecture-based education in enhancing students' critical thinking. This quasi experimental study was supported by Yuan et al. (2008) also reported that compared with lecture method, problem-based education had stronger effects on students' critical thinking ability. Problem-based clinical education helps students assess patients more carefully and identify their problems and needs more accurately. Problem Based Learning enables student nurses to critically analyze a given situation and seek all possible solutions to the existing problems. According to Yuan et al. (2008), PBL techniques such as data collection, data sharing, small group discussions, hypothesis making, and hypothesis testing are all effective in enhancing students' critical thinking skills. Moreover, Yuan et al. (2008) also found that compared with lecture method, problem based education was more effective in improving students' analysis and deductive reasoning skills.

Hosseini et al. (2014) also reported that an active education approach significantly enhanced students' analysis and deductive reasoning skills (26). Students who had participated in a study conducted by Barrow et al. (2002) also referred to problem-based education as an effective means for improving their exploration, group discussion and work, clinical reasoning, and evaluation skills. (Bandman, E. &B, 2000).

Various studies on the development of critical thinking according to Arrue,Martha,Alegria,Begona,et al, 2016 , Bandman, E. &B, 2000, Harvey Siegel (1990),

discusses the role of critical thinking in education and sees critical thinking to be an educational ideal. It stressed that Problem Based Learning is a tool for the acquisition of argumentative study. In the earlier date, Siegel, (1990) identified three imperatives for teaching critical thinking.

First, to teach critical thinking is to facilitate students' self - sufficiency and autonomy, to help students "to act and judge... on the basis of... a reasoned appraisal of the matter at hand".

Siegel's second imperative for teaching critical thinking is to "empower the student to control his/ her destiny to encourage them to ask questions, to look for evidence, to seek and scrutinize alternatives, to be critical of their own ideas as well as those of others". Such students are liberated because they are free of the control of unjustified beliefs and attitudes that cannot be supported.

Siegel's third imperative for supporting critical thinking is an ideal to promote rationality as the use of reasons. A scientific researcher identifies and selects "what counts as a good reason for or against some hypothesis, theory or procedure

Researchers have found consistently that interaction among students, in the form of well-structured group discussions, plays a central role in stimulating critical thinking. Discussing course material and its applications allows students to formulate and test hypotheses, practice asking thought-provoking questions, hear other perspectives, analyze claims, evaluate evidence, and explain and justify their reasoning. As they become more sophisticated and fluent in thinking critically, students can observe and critique each other's' reasoning skills ("Essential points", n.d.)

The study conducted by Yin and Yin (2017), stressed that Problem based learning improved learning performance and reducing cognitive loads. Appropriate learning strategies and tools are needed to ensure its effectiveness. Unfortunately, Yin and Yin study result convey that learning support is inadequate in most clinical programs. While the findings of Ehrenberg and Haggblom, (2007) , that Problem Based learning has an unanticipated disadvantage which is the traditional assumptions of the students that their teacher was the main disseminator of knowledge and that the changing role of the student in the Problem Based Learning process is a difficult transition. The unwanted change for students, since it requires most of the student's time and expects students to be responsible and independent learners.



Problem-Based Learning promotes “deep understanding” where students study more for meaning. Problem based learning as a teaching strategy helps the student to “form the mind and not just inform it. Problem Based Learning reflects the importance of not only learning content information but also developing skills to think critically so that evidence based solutions of actual life problems may be proposed more efficiently. Critical thinking as defined by Howard, Tang & Austin, (2015) as reaching to the conclusion according to the objectives and knowledge, application of previous knowledge and changing it after valuation process.

As Students and Clinical instructors use Problem-Based Learning in the deepening the understanding the patient’s condition. Problem-Based Learning utilizes the Nursing Process Approach in analyzing a client’s case. Furthermore, Problem- Based Learning enhances knowledge on collecting relevant and adequate data and assist in prioritization of identified nursing problem. While students learn more about the patient’s condition, the student makes use of previously learned concepts to relate to present problem to make a holistic perspective in planning care.

Perception of Students on Development of Cooperative Learning

Table 9. Students’ Perception on Development of Cooperative Learning

Item	Statements	Combined Mean Ratings	Description
1	It provides opportunities for conducting group discussion in analysis of given problem	4.21	Highly Effective
2	It promotes problem solving analysis of client’s on going problem	4.14	Highly Effective
3	It promotes group analysis to determine relevant finding about the given case	4.00	Highly Effective
4	It helps the group to identify several problem solving techniques and come up with objective solution	3.95	Highly Effective
5	It promotes involvement of every member in a way that is productive and inclusive.	3.89	Highly Effective
6	It helps the group in presentation of organized information	3.89	Highly Effective
7	It promotes group flexibility and resourceful ness in planning patient care	3.87	Highly Effective
8	Stimulate the group to action or decision when indicated	3.77	Highly Effective
9	It promotes effective group dynamics by recognizing unique contribution of each member	3.67	Highly Effective
10	It creates the right atmosphere so that students will feel comfortable in discussing their ideas to the group	3.60	Highly Effective
Total mean ratings		3.90	Highly Effective

Legend:

<u>Numerical Scale</u>	<u>Verbal Description</u>
4.50 - 5.00	Very Highly Effective
3.50 - 4.49	Highly Effective
2.50 - 3.49	Moderately Effective
1.50 - 2.49	Less Effective
1.00 - 1.49	Least Effective

Table 9 shows that the weighted mean result of student’s responses on the effectiveness of the Problem-Based Learning as a Teaching-Learning Strategy in Nursing Education in terms of

collaborative efforts is generally highly effective.

Table 10. Clinical Instructors’ Perception on Development of Cooperative Learning

Item	Statements	Combined Mean Ratings	Description
1	It promotes involvement of every member in a way that is productive and inclusive.	4.36	Highly Effective
2	It creates the right atmosphere so that students will feel comfortable in discussing their ideas to the group	4.55	Very Highly Effective
3	Stimulate the group to action or decision when indicated	4.64	Very Highly Effective
4	It promotes problem solving analysis of client’s ongoing problem	4.73	Very Highly Effective
5	It provides opportunities for conducting group discussion in analysis of given problem	4.55	Very Highly Effective
6	It promotes group flexibility and resourceful ness in planning patient care	4.18	Highly Effective
7	It helps the group to identify several problem solving techniques and come up with objective solution	4.18	Highly Effective
8	It promotes group analysis to determine relevant finding about the given case	4.64	Very Highly Effective
9	It helps the group in presentation of organized information	4.27	Highly Effective
10	It promotes effective group dynamics by recognizing unique contribution of each member	4.36	Highly Effective
Total mean ratings		4.45	Highly Effective

Legend:

<u>Numerical Scale</u>	<u>Verbal Description</u>
4.50 - 5.00	Very Highly Effective
3.50 - 4.49	Highly Effective
2.50 - 3.49	Moderately Effective
1.50 - 2.49	Less Effective
1.00 - 1.49	Least Effective

Table 10 shows that the weighted mean result of the Clinical Instructors’ responses on their perception on Problem Based Learning as a Teaching Strategy in Nursing Education in terms of cooperative learning is generally highly effective.

Although it is noted that the Clinical instructors have a higher mean percentage (4.45) than the students (3.9), both groups still perceived Problem based learning as a highly effective teaching strategy which enhances the development of cooperative learning of learners. Clinical Instructor plays an important role in the promotion of cooperative learning since Clinical Instructors group students into smaller groups to maximize learning opportunities. Students are given the time to work with their respective group as they search on the assigned task. Through problem Based Learning, the clinical Instructor can strengthen the group’s dynamics.

In the survey conducted in May 2019, student nurses perceived Problem - Based Learning as Very Highly Effective in developing cooperative Learning. Accordingly, each student nurse in the group is involved in each process of the Problem Based Learning. Student nurses are comfortable in discussing their ideas to the group and promotes effective group dynamics.

This finding is supported by different studies and

researches.

The medical delivery system is changing rapidly due to developments in health technology. Aging populations, complicated changes in diseases, and increases in the number of patients with advanced diseases result in diverse and high-level health needs (Lee et al. BMC Medical Education, 2016). According to Jennifer C. Carulla, and Jocelyn B. Hipona., 2018, Exploration of the attitude towards learning and learning styles adopted by nursing students to support the improvement of nursing education today. Thus, the expected output of the assessment will be to enhance the instructional strategic plan in order to attain motivated, focused, organized and independent successful nurses in the future.

Problem-Based Learning had a positive impact on mutual respect and that the tutor (clinical instructor) had a positive influence through his cooperative learning guidance. Problem Based Learning challenges students to organize their own acquisition of knowledge and to intensify this knowledge through the exchanges in the group collaboration. This are some of the positive effects of collaboration and leads to improved mutual understanding and trust according to Dreier-Wolffgramm, et al. (GMS Journal for Medical Education 2018).

According to Asero, Javier and Castro (2007), collaborative effort is characterized by positive interdependence among group members with shared goal, shared division of labor, and shared materials. Bauyot and Porras (2003), also cited in their supplemental readings that the implementation of Problem Based Learning mandates a need for the students to undergo a thorough group discussion. Following the initial research phase, students must meet with group members to discuss what they have learned. Information is analyzed and integrated as group members construct new understandings of the problem and possible solution hypotheses. As new questions arise, the cycle of conducting research and discussing findings is repeated. In order for the students to solve the problem given in each situation, collaborative work is important to complete the task or answer the questions, and this entails much time and effort for the learners. This can be a basis why student have lower mean rating than the Clinical Instructors.

In collaborative classrooms, the lecturing/listening/note-taking process may not disappear entirely, but it lives alongside other processes that are based in students' discussion and active work with the course material." Regardless of

the specific approach taken or how much of the ubiquitous lecture-based course is replaced, the goal is the same: to shift learning from a teacher-centered to a student-centered model ("What is collaborative", n.d).

However, the general finding for this study on the effectiveness of Problem based learning on the development of Collaborative efforts of the learners is also supported by the study made by Garcia (2005), who stressed that collaborative effort of the students address the controversial issues and help learners clarify values and encourage research. Students work with mix ability group and partially rewarded for group, rather than individual effort and success.

In a study done by Springer, Stanne and Donovan (1999), their meta-analysis demonstrates that various forms of small-group learning are effective in promoting greater academic achievement, more favorable attitudes toward learning. Thus, in a collaborative learning setting, learners have the opportunity to converse with peers, present and defend ideas, exchange diverse beliefs, question other conceptual frameworks, and be actively engaged.

Students tend to prefer new approaches if they are more enjoyable, have potentiality to grow enthusiasm and interest in students towards the course and its content. Literature review shows that Problem Based Learning enhance interactions between students and their instructors, and increase students' understanding of the course content. (Salari et al. BMC Medical Education (2018). This cooperative learning among students is developed as the students go through the process of Problem-Based Learning. Problem-Based Learning allows students to detect the concepts by inquiry, self-directed learning and group discussion, worked together to extract learning issues during the brainstorming. Through individual research to find the details on the patient's condition, students recognized all the resources and information they needed to solve the problem. The students learns to communicate results of each individual's search. As the students continue to search for more data that could be analyzed and incorporated into the process of problem solving students are able to collaborate more efficiently with each other.

Perception of Students on Development of Active Participation



Table 11. *Students' Perception on Promotion of Active Participation*

Item	Statements	Combined Mean Ratings	Description
1	It enhances individual's effective communication skills by joining active discussion	4.51	Very Highly Effective
2	It enhances individual's effective communication skills by joining active discussion	4.51	Very Highly Effective
3	It motivate students to share in responsibilities in setting goals and making decisions	4.49	Highly Effective
4	It motivates student to take more responsibility for his learning	4.46	Highly Effective
5	It increases self-awareness of individual's learning needs	4.42	Highly Effective
6	It encourages for a meaningful participation in group discussion and ward classes	4.41	Highly Effective
7	It teaches self - reliant problem solving	4.37	Highly Effective
8	It promotes sharing of relevant personal ideas and information with the group	4.36	Highly Effective
9	It encourages sharing of personal expertise to ensure quality client care	4.35	Highly Effective
10	It encourages members to assume a fair share of group task	4.11	Highly Effective
Total mean ratings		4.38	Highly Effective

Legend:	Numerical Scale	Verbal Description
	4.50 - 5.00	Very Highly Effective
	3.50 - 4.49	Highly Effective
	2.50 - 3.49	Moderately Effective
	1.50 - 2.49	Less Effective
	1.00 - 1.49	Least Effective

Table 11 shows that the weighted mean result of the Students' perception on Problem- Based Learning as a Teaching Strategy in Nursing Education in terms of active participation is generally highly effective.

Table 12. *Clinical Instructors' Perception on Promotion of Active Participation*

Item	Statements	Combined Mean Ratings	Description
1	It enhances individual's effective communication skills by joining active discussion	4.45	Highly Effective
2	It motivates student to take more responsibility for his learning	4.27	Highly Effective
3	It teaches self - reliant problem solving	4.27	Highly Effective
4	It encourages for a meaningful participation in group discussion and ward classes	4.09	Highly Effective
5	It encourages members to assume a fair share of group task	4.09	Highly Effective
6	It promotes sharing of relevant personal ideas and information with the group	4.09	Highly Effective
7	It increases self-awareness of individual's learning needs	4.09	Highly Effective
8	It motivates students to share in responsibilities in setting goals and making decisions	4.09	Highly Effective
9	It encourages sharing of personal expertise to ensure quality client care	3.91	Highly Effective
Total mean ratings		4.15	Highly Effective

Legend:	Numerical Scale	Verbal Description
	4.50 - 5.00	Very Highly Effective
	3.50 - 4.49	Highly Effective
	2.50 - 3.49	Moderately Effective
	1.50 - 2.49	Less Effective
	1.00 - 1.49	Least Effective

Table 12 shows that the weighted mean result of the Clinical Instructors' perception on Problem Based Learning as a Teaching Strategy in Nursing Education in terms of active participation is generally highly effective. These two tables relatively show that both the students and the Clinical Instructors evaluated Problem Based Learning as a highly effective

teaching-learning strategy which enhances promotion of active participation of learners. Active participation of learners is strengthened through the process of Problem Based Learning. As a Teaching strategy, students are grouped with 5-6 members. The group of students are given the biographical data and the medical diagnosis of the patient and they are tasked to search about the patient's condition. Student Nurses must search about the appropriate nursing management and pathophysiology as well as the prognosis of the patient. Through this process, the students will share relevant information and share their knowledge with one another. As they share their views and opinion, students will develop good communication skills.

Moreover, the result of the survey conducted by the researcher in May 2019, it was found out that, all of the five (5) student nurses perceived Problem based Learning as Teaching Strategy as very highly effective in promoting active participation. Student Nurses perceived that Problem based Learning enhances effective communication skills when the student nurse joins the group discussion. During group discussion the student nurse is encouraged to share relevant ideas and information vital in understanding the patient's condition.

Active learning involves use of different student centered teaching strategies. Whereby, students are actively engaged in building and understanding complex concepts through different activities. Interactive activities and discussions in classes create a productive environment for students' that promotes critical thinking. (International Journal of Nursing Education, October-December 2016).

The increasing workload and the growing complexity of the treatment of patients will in future require increased collaboration between the healthcare professions (GMS Journal of Medical Education 2018). From the point of view of the WHO, healthcare professions' knowledge of their own roles and the roles of the other healthcare professionals are one of the indispensable competencies for good inter - professional work within a team. The development of this kind of understanding of roles can be trained extensively within the scope of problem-based learning (PBL).

Many of the current graduates still lack many skills like communication skills, creativity, analytical and critical thinking skills, problem-solving skills and decision-making skills. Therefore, there is a sturdy requirement of higher education institutions to focus on training future graduates to be more adaptable to

the community needs, as well as to match between graduates' skills and the prerequisite skills for their future career. In contrast, many challenges around the world need students who will be future citizens who will not only build their knowledge capacity but also will develop higher thinking skills such as critical thinking, problem solving, and decision making. (Journal of Nursing Education and Practice 2017, Vol. 7, No. 6).

Problem-Based Learning promotes students' interest and draw them into the "action" of the problem from the beginning. It is a free exchange of ideas among students, clarifying ideas, explaining of point and generating opinion. Students are encouraged to voice out their sentiments and express their views (Asero, Javier, Castro, 2007).

In the supplementary readings provided by Bauyot and Porras (2003), it was stated that one's learning and group experience is an integral component of the Problem Based Learning process. While reflection on content and process occurs throughout the Problem Based Learning cycle, summative reflection on group member contributions enables students to develop their abilities to assess their own performance as well as that of their peers.

Learning in PBL helps students share one's ideas with each other which improves thinking and deepens understanding.[14,20] PBL creates opportunities for students to interact with the teacher and their peers, which further promotes their conflict resolution skills as well as facilitates a greater student motivation, broadens the use of a variety of learning resources and encourages team building and group working, self-directed work and communication skills. PBL processes which help students work in small groups, share their knowledge, opinions, think with each other, search for solutions, and then solve problems together. In addition, applying PBL processes helps students have more points of view from their peers, and work independently under the guidance of the researcher who was available to students all the time (Mona Thabet, Eman EL-Sayed Taha , et al).

Peer evaluation which affect one's grade may provide additional incentives for students to be active participants. By replacing lectures with discussion, forums, faculty mentoring, and collaborative research, students become actively engaged in meaningful learning. As students pursue solutions to their classroom problem, they tend to assume increased responsibility for their learning. Few people in society work in isolation. Because social interaction is such an

important aspect of work life, problem based learning incorporates collaborative teams in the solving of relevant problems.

Researcher found out that students generally favor problem-based learning classes, and therefore demonstrate increased attendance and attitudes than traditional classes. Students think problem-based learning is a more interesting, stimulating, and enjoyable learning method, and that it offers a more flexible and nurturing way to learn (Bauyot and Porras, 2003).

Learning is not a spectator sport. Students do not learn much just by sitting in class listening to teachers, memorizing prepackaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences, and apply it to their daily lives. They must make what they learn part of themselves (Diane Starke, 2009).

The results of this study also opposed the study of Felder and Brent ("Navigating the", n.d.) that burden is shifted to the students in Student Centered Instruction. D. R. Woods (1994) observes that students forced to take major responsibility for their own learning go through some or all of the steps psychologists associate with trauma and grief." .While the students are grouching, faculty may have second-thoughts as well. The authors in this article detail the more common causes for student non-involvement—instructors using one-way communication; students preferring involvement-avoidance learning styles; courses lacking specific structures that foster participation—and offer some possible solutions.

Problem-Based Learning helps students to cultivate active participation and enhances individual's effective communication, participate in a meaningful in group discussion and ward classes. Moreover, it promotes sharing of relevant personal ideas and information with the group and motivate students to share in responsibilities in setting goals and making decisions.

It has been more than 40 years that Problem-Based Learning, as a student-centered strategy, has been substituted for traditional ones, and there exists some empirical research evidence in support of problem-based learning. It is often argued that development, learning, and higher mental functions take place through social interactions in a constructive environment by engaging in an active process of discovering knowledge. Also, student-centered strategies can enable the educators to help learners to be actively involved in promoting lifelong learning,

problem solving, critical thinking, group process skills, creativity, information literacy, student success, and empowerment. (Salari et al. BMC Medical Education, 2018).

According to Fan-Hao Chou and Chi-Chun Chin College of Nursing, Kaohsiung Medical University, Kaohsiung, Taiwan, Nursing education must keep up with the rapidly changing medical landscape to support the competences of nurses in the areas of critical thinking, problem solving, and creativity. Problem based learning (PBL) provides an appropriate strategy for nursing education innovation.

According to Mona Thabet, Eman EL-Sayed Taha, the environment in Problem Based Learning develops self-control in students and enables them to see multidimensional events with a deeper perspective. In PBL, there is a clinical reasoning process which develops problem-solving skills including hypothesis generation, questioning, analysis, problem synthesis and decision-making.

Many studies agree that Nursing students utilize both surface and deep approach to learning. It is therefore necessary for teachers to utilize teaching learning activities that apply these approaches to improve student engagement and learning. Schools should design a learning environment that supports and complements surface and deep learning objectives. Knowledge of students' learning styles is important for teachers to formulate appropriate teaching-learning strategies for enhancing students' learning.

Table 13. *Significant Difference between Students and Clinical Instructors on the Effectiveness of Problem-Based Learning*

T-test result			Test of Statistics/ Type of Test	Level of Significance/ Critical Value	Significance
Critical Thinking	Collaborative Effort	Active Participation			
0.18	0.68	0.36	T-test of significance between means Two-tailed test	$\alpha = .05$ 1.7431	There is no significant difference

The table represents the t-test results of the Students and Clinical Instructors in Problem-Based Learning in three areas such as critical thinking, collaborative effort and active participation. The values were computed at the level of significance at 0.05 where critical thinking obtained 0.18, collaborative effort obtained 0.68, active participation obtained 0.36, meanwhile, the critical value is 1.7431, showing that the t-test results are clearly lower, hence, giving an interpretation of no significant difference.

Educational systems worldwide are searching for the most effective teaching strategies in order to foster thoughtful critical thinkers. Critical thinking and independent information-seeking skills are the prerequisites to informed decision making. Nursing instructors usually strive to employ strategies for developing students' critical thinking ability. One of the effective strategies for helping them manage novel situations in their daily practice is problem-based learning. Problem Based learning (PBL). PBL is a student-centered learning strategy in which students from small groups and work together to identify problems, collect the necessary data about it, and understand and manage their problems. Accordingly, Problem Based Learning necessitates self-directedness and collaborative work. In other words, PBL teaches students how to learn. Problem Based Learning techniques such as data collection, data sharing, small group discussions, hypothesis making, and hypothesis testing are all effective in enhancing students' ability to learn and enhance knowledge on certain situation or case.

In general, both the students and the clinical instructors perceived Problem Based Learning as an Effective Teaching Strategy. The Researcher therefore agree based on the study of Mona Thabet, Eman EL-Sayed Taha that Problem Based Learning is an inquiry based method that guides students to find the best solutions of real-world problems through cooperative group work. Furthermore, PBL gives room to students to search for knowledge and information to solve problems, thus allowing them to learn and acquire the problem solving skills. In addition, when students solve such problems, they generate hypotheses and face multiple alternatives or solutions to the problem in which they should choose to be stone from these alternatives or solutions; thus, such student scan acquire decision-making skills. On the other hand, Kim and Kellough (1994) that the use of PBL as teaching strategy create greater motivation, interest and involvement in learning and decision making. Furthermore, in the supplemental readings of Bauyot and Porras (2003), in the implementation of Problem-Based Learning, students need to undergo a thorough group discussion. Following the initial research phase, students must meet with group members to discuss what they have learned. Information is analyzed and integrated as group members construct new understandings of the problem and possible solution hypotheses. As new questions arise, the cycle of conducting research and discussing findings is repeated. In order for the students to solve the problem given in each situation, collaborative work is important to complete the task or answer the questions.



Lecturing is the most common teaching strategy in the nursing education, and problem based learning has not yet been of widespread use in Asia. Educators need to serve as a facilitator or apply a floating tutoring role in the context of small groups. Such a role is uncommon in traditional educational approaches. One strategy in which the attention shifts from teacher to student is Problem-Based Learning (PBL). This strategy is able to get the graduates ready for the uncertainties of future managerial practice and facilitates the students' construction and reconstruction of their own knowledge base. PBL could help to bridge the gaps between education, practice, and knowledge development in professional schools including nursing, which is, in turn, able to prepare the learners for their future role as Registered Nurses. (Salari et al. BMC Medical Education, 2018).

Problem-Based Learning engages students' interest and draw them into the "action" of the problem from the beginning. It is a free exchange of ideas among students, clarifying ideas, explaining of point and generating opinion. Students are encouraged to voice out their sentiments and express their views (Asero, Javier, Castro, 2007).

Discussion

This study focused on the perception of students and faculty on the Problem- Based Learning as a Teaching Strategy in Nursing Education.

There were a total of 74 respondents including 63 Level III Student Nurses and 11 Clinical Instructors who have been utilizing Problem-Based Learning in discussing different concepts in Nursing Care Management- Related Learning Experience.

To determine the profile of the respondents, the frequency count and percentage were used. The questionnaire for the study was formulated by the researchers themselves.

A validated questionnaire was used in the survey, which were divided into three areas to be evaluated: respondent's perception on the development of critical thinking skills, development of cooperative learning and active participation of student nurses. The values were interpreted using a five point rating scale to determine the effectiveness of Problem-based learning. A frequency count was used to get the average weighted mean of each area of the survey. All data obtained from the questionnaire were analyzed based on the five point rating scale.

The results of the study showed that the Level III Student Nurses and Clinical Instructors perceived that Problem-Based Learning as a highly effective method for the development of critical thinking, cooperative learning and active participation of student learners. It was found out that there is no significant degree of difference between the perceptions of both groups.

Researcher found out that students generally favor problem-based learning classes, and therefore demonstrate increased attendance and attitudes than traditional classes. Students perceived that problem based learning is a more interesting, stimulating, and enjoyable learning method, and that it offers a more flexible and nurturing way to learn (Bauyot & Porras, 2003).

Conclusion

Based on the findings of the study and the systematic review of literature, there is no significant difference between the perception of the students and Clinical Instructors on Problem-Based Learning as a Teaching in the development of critical thinking skills, cooperative learning and promotion of active participation. Both the student nurses and clinical instructor perceived that Problem-Based Learning allows student learners to make use of previously learned concepts to relate to present problem. It helps student nurses to determine significant data from various sources to help determine nursing problems of a given client while utilizing the Nursing Process to collecting relevant and adequate data. Problem-Based learning guides student nurses in formulating an appropriate plan of care for the patient. In addition, Problem Based Learning promotes involvement of every member of the group is productive and inclusive. It creates the right atmosphere so that students will feel comfortable in discussing their ideas to the group, thus it promote group flexibility and resourcefulness in planning patient care. Lastly, Problem-Based Learning promotes effective group dynamics by recognizing unique contribution of each member. It motivates student to take more responsibility for his / her learning. Furthermore, Problem Based Learning enhances individual's effective communication skills by joining active discussion and motivate students to share in responsibilities in setting goals and making decisions.

The core value of Problem-Based Learning is to use a contextualized problem to motivate learners to actively seek relevant knowledge using all possible resources. Problem-Based Learning is intended to equip students

with hands-on learning strategies to help them meet their future responsibilities and establish a lifelong knowledge-seeking habit which is self-directed learning (Weihua Zhang, 2014).

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