

# Efficiency of Problem Based Learning Course at College of Nursing in Egypt and KSA: Comparative Study

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**Abstract Background:** In Nursing Field competence is crucial to ensuring secure, moral and legal nursing performance. A variety of instruction approaches' are used in nursing instruction to improve graduate proficiency. The Problem Based Learning approach to learning in medical education can be considered as the mainly significant educational advance in the previous 35 years. Problem-based learning is promoted as a mean to facilitate critical thinking and self-directed learning among nursing students. Several nursing curriculums are using Problem-based learning in an attempt to help undergraduates to develop advanced level skills correlated with professional nursing performance. **Aim:** To evaluate efficiency of the Problem Based Learning Course at College of Nursing in Egypt and KSA. **Subject and methods:** A descriptive analytic study design was conducted. The study sample was consists of 140 undergraduate nursing students in Port Said University, Egypt and 74 from Qassim University of Kingdom of Saudi Arabia. **Results:** This study revealed that the mean of Qassim nursing students were higher than mean of Port Said nursing students regarding items related to efficiency of course teaching by PBL with statistically significance difference between both groups. **Conclusion:** These findings revealed that Qassim university students were more satisfying with efficiency of the course teaching by PBL comparing with Port - Said university students with statistically significance differences between two groups.

**Keywords:** *efficiency, problem based learning, course*

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## 1. Introduction

Today, PBL in nursing field is reflected an instructive strategy approved by world medical educational and World Health Organization, as an efficient technique of training community oriented students. Paying awareness to the need for rising and growing decision making abilities, creativity, and responsibility research in the learners of nursing and midwifery, with the intention that they will be proficient to use their theoretical knowledge in true situations [1].

Problem-based learning (PBL) is a new innovative teaching method that profound effect on enhancing students' competency in practical and theoretical skills, strengthens motivation to learn, develops clinical reasoning skills, and improves self-directed and life-long learning. During the past 30 years, PBL has been implemented in schools of medicine worldwide, including 100 of the 126 schools in the United States. The potential of PBL for nursing education is examined. The problem-based learning is a learning model which centers on student, develops active learning, problem-solving skills and field knowledge, and is based on understanding and problem solving [2,3].

Undergraduates who get educated through traditional systems raise up a great load of information and concepts, but are not educated in analysis, prioritization, and organization of knowledge as vital elements of proficient and significant learning. In contrast, an proficient learning is a result of appropriate teaching attained through innovative methods. So, adaptation of educational models and application of more active learning strategies should be at the top of attention [4].

The PBL being progressively more used in several areas recently was firstly executed in medical science in the 1950s, specifically in the Medical School of Case W. University in the USA. It was begun to be applied in the Medical School of the McMaster University in Canada at the end of the 1960s. Today, the problem-based learning model is used in pre-clinic classes within medical faculties of many universities such as the Harvard University, New Mexico University and McMaster University. [3]

Also, Faculty of nursing, in Port Said and Suez Canal Universities were firstly implemented "Problem-Based Learning" in Egypt, to prepare the nurse graduate to be a critical thinker, self-directed and to follow continuing learning for professional development.

Harrison et al., [5] emphasized that Baccalaureate nursing education programs have an compulsion to support learning that trains nursing students to meet

professional entry-to-practice proficiencies. The issue that continues to challenge nursing faculty is determining which nursing curriculum and which teaching methods best train students for independent professional practice in a rapidly changing health care environments.

Today's, Performance of nursing requires a cognitive ability that includes problem solving, decision-making, and clinical judgment. Problem-based learning (PBL) is a student-centered education approach in which learners cooperatively solve problems and reflect on their experiences. The 'PBL strategy' encouraged learners to become active and autonomous, to take more responsibility for their own learning process in clinical practice. Quality in nursing practice is dependent upon educational training of nurses to solve problem, think critically and make decisions in today's health care system. PBL positively affect learning outcomes along with learners' top order thinking skills such as creative thinking, problem solving, logical thinking and decision making. Because of these several good benefits of PBL in nursing education. [6]

By way of PBL, some approaches' of the learners in relation to such areas as problem-solving, thinking, team works, communication, information attainment and information sharing with others are affected positively. The basis of the BPL is mainly included of 'Problem, Solution, Practice, Research, Questioning, Realism, Originality and Integration.' The aim of this learning model is to provide gaining of information based on facts. In order to achieve this aim, problems are chosen out of the real world. [3]

Thus, the advantages of PBL are frequent and different. They domain from a further encouraged self-directed student to the gaining of permanent learning skills in solving problems and the processes that go with it. There are, however, challenges and problems facing those who are executing PBL. The challenges or distress discussed touched on many factors: the attitude of tutors towards change, the philosophy of tutors concerning teaching and learning, new skills, resources and requirements made of tutors, feelings of learners towards learning which tutors need to change, and concerns related to evaluation. [7]

Furthermore, PBL Peer teaching allows learners to attain their maximum potential in nursing while developing a deep understanding of nursing facts. PBL is a form of peer teaching whereby learners work cooperatively in small groups to search for solutions to problems. Together, learners must try to understand the problem, reformulate the problem in such a way that they can explain it to others, and determine what information they need to solve the problem. PBL allows students to make sense of the material in their own way, integrating newly acquired knowledge with prior knowledge and experiences. Also, the learners in this approach are more active in learning and generally value the opportunity to handle given situations and problems. They also value the notes given to them for their work [8].

## 2. Aim of the Study

To evaluate efficiency of the Problem Based Learning Course at College of Nursing in Egypt and Kingdom of Saudi Arabia.

## 3. Subjects and Methods

A Descriptive analytic research design will be utilized in this study aiming to evaluate efficiency of the Problem Based Learning Course at College of Nursing in Egypt and KSA.

### 3.1. Study Setting

This study was carried out in faculty of Nursing from two universities in two countries; in Egypt from Port-said University and in Kingdom of Saudi Arabia from Qasim University. Which the selection of these colleges clarified as follows: Qassim University is the only faculty in KSA follows the trend in learning of problem solving and in Egypt Port-said University considered as Suez Canal University in the past which it is the first faculty follows the trend of problem based learning in nursing education.

### 3.2. Subjects

All available nursing students in four years in both universities from January 2010 to January 2013 from the selected setting as mentioned above and met selected criteria. It included 140 Students from Port-Said University in Egypt and 74 students from Qassim University in Kingdom of Saudi Arabia.

**Exclusion criteria:** Students who are refusing to participate.

### 3.3. Tools for Data Collection

Data was collected by using two modified tools as follows :

It divided into two parts based on Linge and Parsons, [9] as follows:

#### **Tool I: Part I- Socio demographic data:**

Was Contains information related to demographic characteristics of the students as their age, gender, educational class level, etc.

#### **Part II: Course Experience Questionnaire (CEQ):**

It includes 12 items derived from Ramsden, [10] after some modifications and translation to Arabic related to 6 dimensions regarding student experiences as: course content objectives and media, self learning ability, activities, evaluation methods, satisfaction, and generic skills. This would provide an insight into learning issues related to the student experience. In addition to, one question related to the difficulties of the course and open question related to student's suggestions for improved course efficiency.

#### **Tool II: Course efficiency sheet :**

It includes 4 items derived from Tosun and Taskesenligil [11] based on Tatar [12]

Scale that Determine Problem Cases in Accordance with Student Attainment for Bloom's revised scale of cognitive taxonomy levels contributions on some of the sub-dimensions of the cognitive, resource management strategies as using Wight board with PBL, productivity, organization and course instructions with rating scale from 1 to 10, additionally, two items for regulation of time for study courses with and without using PBL approach.

### 3.4. Ethical Considerations

1. Explain the aim of the study to the faculty's directors & coordinators of levels to take his permission to do this study with students.

2. A brief explanation of the purpose and importance of the study was given to the students and assured that the obtained information will be confidential and used only the purpose of the study. Confidentiality of the information was assured by the researcher.

### 3.5. Pilot Study

Pilot study was carried out after the development of the tools on 10% of the students to test applicability of the tools then necessary modification were done according to the results of pilot study and expertise opinions. The purpose of pilot study was:

- 1- To test the applicability of the study tools.
- 2- To estimate any need for addition in the tool.

Otherwise, the 10% of the students were then excluded from the sample of research work to assure the stability of answers

### 3.6. Field Work

The structured questionnaire was filled out by students. Data was collected from the selecting setting by the researcher using the pre constructed tools.

1) Each student was individually filling questionnaire; the questionnaire was collected from all the students in the free time of study according to their academic schedule, purpose of the study was explained prior to get the questionnaire sheet, and it distributed to be answered within (10-20 minutes).

2) The questionnaire was started from January, 2010 to January, 2013, over a period of 4 years which the data collected from new students each year after passed the first semester with PBL approach and to be sure that the learners can judged on the efficiency of the course with PBL.

### 3.7. Scoring System

Scoring system for Course Experience Questionnaire (CEQ) was includes 12 items, 10 of them ranged from 1 to 5 scores, for ranking of strongly disagree, disagree, neutral, agree and strongly agree respectively, and question related to course difficulties ranged from 1 to 3 which 1 refers to very simple, 2 scores refers to moderate, and 3 scores refers to severe difficult while Course efficiency scale was includes 4 items ranged from 1 to 10 scores which the highest efficiency take 10 score and lowest efficient take 1 score. Total score of 60% and more was considered adequate while total score below 60% was considered inadequate

## 4. Statistical Analysis

### 4.1. Data Analysis

Data was collected and entered into a database file. Statistical analysis was performed by using the SPSS 17 computer software statistical package. Data was described by summary tables  $\chi^2$  square or Fisher Exact test was used. Statistical significance was considered at P-value <0.05 and highly significance at P-value <0.01.

### 4.2. Limitation of Study

Data collection was take long time for collection than the researchers plans and prediction because of political troubles that faced many universities in Egypt in the time of data collection which interfered with good chance to sit with students and found them. Newly nursing college in Al Qassim University so the researchers are waiting four years until complete numbers of students in four years.

## 5. Results

Table 1 shows that statistically significant difference regarding number and percent for the nursing students in both Universities.

**Table 1. Number and percent of nursing students in both Al Qassim and port said universities regarding class years**

Items	Al Qassim		Port Said		$\chi^2$	P-value
	No	%	No	%		
Class year1	30	40.5	23	16.4	27.406	.000
Class year2	23	31.1	27	19.3		
Class year3	14	18.9	46	32.9		
Class year4	7	9.5	44	31.4		
Total	74	100	140	100		

Regarding experience of nursing students and their evaluation about the course teaching by PBL Table 2 reflected that two third Saudi and Egyptian nursing students were satisfied for course teaching by PBL with no Statistically significant difference in both group regarding all items related to evaluation of PBL course.

Regarding evaluation course teaching by PBL (Table 3) shows that mean of Al Qassim students were more than mean of Port Said students regarding course content, coherent unit, objectives were clear, stimulated group discussion, stimulated self-study, Skills lab trainings were attuned to the course, learned a lot from the Skills lab trainings, useful to reach my learning goals, representative for the content of this course and satisfied with the way in which the tutor. It shows statistically significance difference between both groups in all items except course content, coherent unit

Regarding experience of the nursing students regarding Efficiency of the course teaching by PBL Table 4 shows that (85.1%) (79.7%) (83.8%) (81.1%) of Qassimand (82.9%) (85%) (82.1%)(85%) Port Said nursing students evaluate Efficiency of the course teaching with pbl regarding Efficiency of the organization, Efficiency of the instructiveness, Efficiency of the productivity of your pbl-group and Efficiency of the usefulness of Blackboard respectively. Also, It was shows that no statistically significance difference between both studied groups in all items related to efficiency of the course teaching by PBL.

Regarding evaluation of the Efficiency course teaching by pbl Table 5 shows that means of Qassim nursing students were more than means of Port Said students regarding Efficiency of the organization, instructiveness of the course, the productivity of your pbl-group and the usefulness of Blackboard. Also, It was shows that there are a statistically significance difference between both studied groups in all items in related to Efficiency of the course teaching by PBL.

**Table 2. Experience of nursing students among Al Qassim and port said universities regarding their evaluation about the course teaching by PBL**

Items		Adequate		Inadequate		$\chi^2$	P-value
		No	%	No	%		
The course content linked to my prior knowledge	Al Qassim	50	67.5	24	32.5	.230	.654
	Port Said	90	64.3	50	35.7		
The different aspects of the course were a coherent unit	Al Qassim	42	56.8	32	43.2	.947	.377
	Port Said	89	63.6	51	36.4		
The course objectives were clear to me	Al Qassim	57	77	17	23	1.698	.207
	Port Said	96	68.5	44	31.5		
The tasks stimulated group discussion	Al Qassim	55	74.3	19	25.7	.313	.633
	Port Said	99	70.7	41	29.3		
The tasks stimulated self-study	Al Qassim	57	77	17	23	.598	.514
	Port Said	101	72.1	39	27.9		
The content of all Skills lab trainings were attuned to the course	Al Qassim	58	78.4	16	21.6	2.970	.113
	Port Said	94	67.1	46	32.9		
I have learned a lot from the Skills lab trainings	Al Qassim	56	75.7	18	24.3	.233	.731
	Port Said	110	78.6	30	21.4		
The advised learning material was useful to reach my learning goals	Al Qassim	60	81.1	14	18.9	.187	.725
	Port Said	110	78.6	30	21.4		
The assessment of this course was representative for the content of this course	Al Qassim	51	68.9	23	31.9	.025	1.000
	Port Said	95	67.9	45	32.1		
I am satisfied with the way in which the tutor has discussed professional behavior in the pbl-group	Al Qassim	65	87.8	9	12.2	.323	.681
	Port Said	119	85	21	15		
Total	Al Qassim	69	93.2%	5	6.8%	4.344	.050
	Port Said	138	98.6%	2	1.4%		

$\chi^2$ : Chi square test

\*: Statistically significant at  $p \leq 0.05$ .

**Table 3. Mean of Problem based learning course regarding the experience of the studied groups**

	Port Said (n=140)	El Qassim (n=74)	t	p
The course content linked to my prior knowledge	2.77 ± 1.30	3.09 ± 1.28	1.738	0.084
The different aspects of the course were a coherent unit	2.74 ± 1.23	2.97 ± 1.33	1.301	0.195
The course objectives were clear to me	3.06 ± 1.22	3.70 ± 1.45	3.000*	0.003*
The tasks stimulated group discussion	3.16 ± 1.32	3.70 ± 1.45	2.739*	0.007*
The tasks stimulated self-study	3.10 ± 1.33	3.76 ± 1.34	3.421*	0.001*
The content of all Skills lab trainings were attuned to the course	3.11 ± 1.42	3.74 ± 1.38	3.154*	0.002*
I have learned a lot from the Skills lab trainings	3.13 ± 1.41	3.64 ± 1.37	2.520*	0.012*
The advised learning material was useful to reach my learning goals	3.0 ± 1.35	3.74 ± 1.23	3.943*	<0.001*
The assessment of this course was representative for the content of this course	3.01 ± 1.32	3.45 ± 1.36	2.289*	0.023*
I am satisfied with the way in which the tutor has discussed professional behaviour in the pbl-group	2.75 ± 1.34	3.82 ± 1.25	5.697*	<0.001*
<b>Average scale</b>	2.98 ± 0.99	3.55 ± 0.99	3.996*	<0.001*

\*: Statistically significant at  $p \leq 0.05$ .

**Table 4. Perception of nursing students among Al Qassim and port said universities regarding Efficiency of the course teaching by PBL**

Items		Adequate		Inadequate		$\chi^2$	P-value
		No	%	No	%		
organization of the course	Al Qassim	63	85.1%	11	14.9%	.184	.703
	Port Said	116	82.9%	24	17.1%		
instructiveness of the course	Al Qassim	59	79.7%	15	20.3%	.961	.342
	Port Said	119	85.0%	21	15.0%		
productivity of your pbl-group	Al Qassim	62	83.8%	12	16.2%	.091	.850
	Port Said	115	82.1%	25	17.9%		
usefulness of Blackboard	Al Qassim	60	81.1%	14	18.9%	.543	.560
	Port Said	119	85.0%	21	15.0%		
Total	Al Qassim	54	73.0%	20	27%	1.374	.301
	Port Said	112	80.0%	28	20.0%		

**Table 5. Mean of Efficiency the course teaching by PBL regarding the perception of the studied groups**

	Port Said (n=140)	El Qassim (n=74)	t	p
organization of the course	4.77 ± 3.05	7.01 ± 2.51	5.757*	<0.001*
instructiveness of the course	4.70 ± 2.77	7.05 ± 2.61	6.032*	<0.001*
productivity of your pbl-group	5.43 ± 7.30	2.94 ± 2.33	5.088*	<0.001*
usefulness of Blackboard	4.47 ± 3.26	7.42 ± 2.87	6.549*	<0.001*
<b>Average scale</b>	4.84 ± 2.49	7.20 ± 2.17	6.869*	<0.001*

\*: Statistically significant at  $p \leq 0.05$

Nursing students experience among both studied group and their opinions (Table 6) shows that (72.1%) of Egyptian and (89.2%) of Saudi nursing students have evaluated content of course teaching by PBL as just right with statistically significance difference between both studied group. Also, the table reflected that their opinions

regarding numbers of hours for self-study in related to course teaching by PBL (62.1%) Egyptian and (51.4 %)Saudi nursing students were ≤ 5 hours. While numbers hours of total study in related to course teaching by PBL (64.3%) Egyptian and (50%) Saudi nursing students were ≤ 15hours.

**Table 6. Nursing students experience among both studied groups and their opinions regarding course difficulty, numbers of hours for self-study and numbers hours of total study in related to course teaching by PBL**

	Port Said (n=140)		El Qassim (n=74)		$\chi^2$	p
	No.	%	No.	%		
The content of this course was					14.315*	0.001*
• too easy	5	3.6	5	6.8		
• just right	101	72.1	66	89.2		
• too hard	34	24.3	3	4.1		
How many hours did you on average spent per week on self-study during this course? <i>Self-study is working on learning goals and (group) assignments</i>					11.625	0.058
≤ 5	87	62.1	38	51.4		
6-10	22	15.7	20	27.0		
11-15	16	11.4	12	16.2		
16-20	4	2.9	2	2.7		
21-25	6	4.3	0	0.0		
26-30	4	2.9	0	0.0		
≥ 31	1	0.7	2	2.7		
How many hours did you spent in total studying for this course?					7.861	0.248
< 15	90	64.3	37	50.0		
16-20	24	17.1	23	31.1		
21-25	10	7.1	7	9.5		
26-30	8	5.7	2	2.7		
31-35	3	2.1	1	1.4		
36-40	2	1.4	2	2.7		
≥ 41	3	2.1	2	2.7		

p: comparing between the two studied groups

$\chi^2$ : Chi square test

MC: Monte Carlo test

\*: Statistically significant at p ≤ 0.05.

Nursing students opinions among Al Qassim and port said universities (Table 7) shows that (46.4%) Egyptian nursing students suggestions to improve course teaching by PBL were Applied ideal methods for PBL. While the

majority of suggestions from the Saudi student were Increase number of staff members with statistically significance difference between both studied group.

**Table 7. Nursing students opinions among Al Qassim and port said universities regarding their Suggestions for improvement the course teaching by PBL**

	Port Said (n=140)		El Qassim (n=74)		$\chi^2$	MC p
	No.	%	No.	%		
Suggestions for improvement					113.528*	<0.001*
Applied ideal methods for PBL	65	46.4	4	5.4		
Nothing	14	10.0	3	4.1		
Increase number of computers	8	5.7	1	1.4		
Followed only one course not multi courses	6	4.3	5	6.8		
Quality of problems	4	2.9	1	1.4		
Simplify pbl course	4	2.9	4	5.4		
Developing methods of teaching	9	6.4	2	2.7		
Collecting all courses in book	6	4.3	0	0.0		
Increase time for pbl sessions	10	7.1	0	0.0		
Increase number of staff members	10	7.1	54	73.0		
Increase number of classes	4	2.9	0	0.0		

p: comparing between the two studied groups

$\chi^2$ : Chi square test

MC: Monte Carlo test

\*: Statistically significant at p ≤ 0.05.

Table 8 shows that there was correlation between course Efficiency and total mean course and strong correlation between course Efficiency and course

difficulty in port Said University. Also, it shows strong correlation between Efficiency course and course difficulty in El Qassim University.

**Table 8. Correlation between Course Efficiency, Total mean course and Course Difficulty among nursing students in both Port Said and Al Qassim Universities**

Items	Course Efficiency			
	Al Qassim		Port Said	
	r	p-value	r	p-value
Total mean course	.128	.276	.175*	.039
Course Difficulty	.314**	.006	.398**	.000

## 6. Discussion

Nurses are required to provide safe, evidence-based care in increasingly complex and diverse environments. They must integrate knowledge from numerous domains and apply it to their practice. Nursing programs should the reform incorporate strategies to integrate theoretical and clinical components, facilitate lifelong learning, and cultivate clinical inquiry skills, thus fostering integrative learning [13]. Integrative Learning must be intentionally and strategically designed and fostered. Innovative, discipline-relevant integrated curricula, student-centered pedagogies, and performance based assessment are essential in an integrative strategy [14]. So, Problem-based learning (PBL) method has progressed as an alternative to lecture-based learning (LBL) method in recent decades [15]. Quality in nursing practice is dependent upon educational preparation of nurses to solve problem, think critically and make decisions in today's health care system [6,16].

The finding of the study reflected that two thirds of Saudi and Egyptian nursing students were satisfied for course teaching by PBL. This result agree by Stephen et al., [17] who mentioned that Students are fulfilled with many objectives of the Problem Based Learning represented comprehensively in the relevant Blocks planned by the tutors and confirmed by experts. Also, Shamsan & Syed [18] are measured that the students favorite concerning PBL system. 68.8% of participants agreed that it is better than the traditional system and the PBL system helps improving student skills mostly problem solving skills and help whetting analytic skills. Also, Chen [19] clarified that the students satisfied with the PBL technique and the students' efficacy and skill enhancement after this learning technique. Approximately 80% of the participants experienced with the satisfaction in their achievement in PBL technique. In the meantime presently 9% were not satisfied with it. Nettath [20], added that the students opinion survey on the effect of problem based learning was 69.22% positive reaction which also recommended significant value. These findings suggest that problem based learning is an efficient teaching learning method with a good outcome perception of medical students.

In addition to Zerihun et al., [21] indicated that students offered their experiences in the courses designed in learner centered pattern. 94% responded that they learned better in the learner centered classes, and they referred this to their use of new learning skills such as group participation and presentation. They also added that they were reported to why they learn a given topic and what they should do to clasp the concepts. 87% of the students responded that they performed the requirements in learner centered

classes, such as working in team activities, performing desired responsibilities, and performing peer as well as self evaluation. Also, Nettath [20] suggested that the problem based learning is an efficient way of small group learning and the students' have a good conception towards the PBL.

The majority of both groups are satisfied regarding course content, coherent unit, objectives were clear, stimulated group discussion, stimulated self-study, Skills lab trainings were attuned to the course, learned a lot from the Skills lab trainings, useful to reach my learning goals, representative for the content of this course and satisfied with the way in which the tutor has discussed professional behavior in the PBL group these findings are congruent with Staun et al., [22]. The 'PBL approach' supported students to become active and autonomous, to take more task for their own learning process in clinical practice. It is very essential that clinical education be organized in such a way that students have occasion to use their theoretical information in practice and to reflect during their practical work. Integration of theory and practice during clinical training has been emphasized as a necessary module.

Harrison et al., [5] mentioned that the PBL alumnae more indicated that clinical practice, skill proficiency, and evidence-based practice as essential components of graduate nurse competency. Although the NPBL group rated themselves as having met the entry-to-practice competencies, less than 10% of the group noted on critical thinking as an important part of practice. PBL alumnae commented that self-directed learning was encouraged through group discussion, integrated to the exchange of ideas, and shared advance to problem solving. Williams [23] emphasized that self directed learning is another considered as intended result of PBL learner of the nursing programs. The NPBL alumnae noted less on the significance of self-directed learning and communication in meeting the entry-to-practice proficiency. They indicated that they are self aware and assured that responsibility, and professionalism is important to the curriculum. Having the ability to find, assess, and interpret the evidence essential to critically analyze patient situations is very important in ensuring proficient practice [24]. An obligation to teamwork is important in achieving proficiency [25,26]. While PBL alumnae showed that evidence-based practice was a significant focus in their program, but a few NPBL graduates commented. Both PBL and NPBL alumnae identified teamwork as a vital program focus for proficient practice. [27]. Shamsan & Syed [18] concluded that the greater part of participants agreed that PBL is better than the traditional system and consider it advanced to the traditional Lecture-Based System in Medical Education.

Also, Ehrenberg & Haggblom [28] added that perception of problem-based learning the undergraduates stated that PBL supported greater freedom but also greater

responsibility. They realized taking greater responsibility for how they would reach the goal of the clinical studies. The undergraduates expressed how they improved the ability to be active and to expand the knowledge autonomously, and to be able to hold situations when interacting with patients and their families. Some learners expressed the importance of the base group. But there were also students who perceived PBL as troubling their clinical training. They hoped that clinical studies were completely free from base group meetings and teaching duties.

In the same line Gaber and Mohamed [6] mentioned that learners were encouraged in that they used a wider diversity of information resources rather than immediately textbooks. The results is agreed with Tiwari et al., [29] study who explores students' self-directed learning practice and the ability to search for information in meeting the learning objectives. They concluded that the active learning in problem-based learning promotes self-directed learning skills.

The results of this study showed that greater part of both groups satisfied Regarding Efficiency of the organization, instructiveness, productivity of your PBL group and usefulness of Blackboard.

In the same line Distler [30] indicated that PBL resulted in a greater exchange of information between faculty and students and that the use of small-group work seemed effective in helping them to remember information better. They also commented that the discussion of real patient scenarios during the large-group work with the use of media was helpful for them to adapt this information to their clinical setting. Finally, students reported that PBL made them "read and search for answers" to their own questions, instead of relying on faculty to fill their knowledge gaps.

Also, Zerihun et al., [21] revealed that high internal stability, reliability and good content and create validity. Four fundamental dimensions were identified, namely, (1)learners self assessment, (2) learners level of commitment, (3)the excellence of feedback students give and receive, the suitability of the evaluation used, and (4)the method course content is organized and offered. The nearly all student used ratings are designed based on selected characteristics agreed by students

While Shamsan & Syed [18] clarified that teaching facilities (PBL room),the learners are satisfied about tutor's role in PBL session (29.2%),and tutor evaluation (18.4%).The students stated their dissatisfaction about tutors role (45.9%), problem scenario (15.5%), tutor evaluation (45.6%) and facilities (books, internet, etc) in the PBL room (72%). More than half students agreed that the course was more theoretical and less clinical while 20.4 disagreed. Nearly half students in the vein of the idea of self evaluation and evaluation of their group members while 27.8% disagreed. 31% students agreed that they used SDL time in the Faculty for self study while 52.6% disagreed

The result of the study reflected that student's opinions regarding numbers of hours for self-study in related to course teaching by PBL (62.1%) Egyptian and (51.4 %) Saudi nursing students were  $\leq 5$  hours. While numbers hours of total study in related to course teaching by PBL (64.3%) Egyptian and (50%) Saudi nursing students were  $\leq 15$ hours.

Cheong [31] referred that students spent 11 hours per week studying on their own for this course while they exhausted 13 hours per week on informal work. In the same line Ruiz-Gallardo et al., [32] indicated that the text contains a small number of researches that assess the workload after a strong alteration in teaching method, towards a more student-Centre done and is especially lacking in those that maintain a record of the number of hours worked. Learner workload after a teaching system change from lecture to PBL and cooperative learning during the 12 weeks that learners had Geology in the pilot study e(2004-05), 2056 studies were collected the mean student effort a total of 111.92 h. Bearing in mind the 42 h assigned as A greatest, this means that the average of the learner effort 2.6 times more than the founded greatest to accomplish satisfactory academic objectives and concentrate on all contents [33,34,35].

Ruiz-Gallardo et al., [32] illustrated that PBL demands more time than lecture, measured weekly and as a total, possibly due to the required improvement of essential skills. In the PBL approach, there is a minor trend to reduce the time spent on these greatest, possibly due to advance skill acquisition by learners. PBL and cooperative learning had a clearly positive effect on the learner performance. The number of students who did not take the exam or failed was markedly lower than in the lecture system. Mean grades were also higher, possibly due to increased motivation, responsibility and satisfaction, but probably also because knowledge was more accommodated.

The approximate recommended time allocation is as follows: computation of PBL study time contact teaching is 1 hour while autonomous functioning 5 hours. If there are two two-hour contact sessions weekly, the total learner workload is thus estimated as  $4 \times (5+1) = 24$  hours. This time distribution also includes reading the supplementary course text. In this point view Nettath [20] indicated that the disadvantages of PBL were time consuming.

In the present study found that nursing students opinions among Al Qassim and Port Said universities were (46.4%) Egyptian nursing students' suggestions to improve course teaching by PBL for applied ideal methods for PBL. While the majority suggestions of the Saudi student were increase number of staff members with statistically significance difference between both studied group.

ATEŞ& ERYILMAZ [36] reported that the majority combined grievance of learners (64%) was different PBL performances of the tutors. For example, a first class learner stated that behaviors and feelings of the tutors are different from one another. Separately from these, some learners mentioned that tutors do not guide them efficiently (50%), have negative attitudes towards PBL (43%), and come to the sessions unprepared (36%). Although PBL hours are designed as 4 hours in the curriculum, learners criticized that some tutors may finish a scenario in 15 minutes. This study shows that those learners (particularly beginner ones) who are familiarized to traditional learning may feel uncomfortable while satisfying their roles (doing research, cooperation with students etc.) and have difficulty to adapt PBL. Similarly, tutors who are unfamiliar with this manner of nontraditional learning environment may feel that PBL is useless and unsure. Therefore, both tutors and students should not be involved in PBL cursorily until they are

familiarized with their roles, benefits of PBL, process and the learning environment completely. It is necessary to develop a detailed learner training/orientation program processing their roles (how they work in sessions, how to cooperate with each other in sessions, how to improve their study skills etc.). Moreover, tutors training programs should be given more importance and tutors should be trained about their roles/responsibilities (how to guide students, how to write a scenario, how to assess students etc).

Regarding the finding indicated that strong correlation between Efficiency course and course difficulty for both groups. These results are similar to Gabr & Mohamed [6] indicated that 96.15% and 92.30 believed problem based learning teaching strategy feeling them knowing less from the textbook and wasting time on explaining the material to others respectively. On the other hand, 31.53% of students reported during learning by problem based learning teaching strategy causing conflict among them.

Saalu et al., [37] illustrated that Seventy two percent of the learners stated that PBL gives better realistic facts of Anatomy when compared to TDL and an overpowering greater part of the learners (87%) identified that PBL promotes better student participation in the learning process as compared to TDL. The findings in this regards are in complete agreement with reports by many other medical educators and experts [38-43].

Nettath [20] added that the pretest score was 2.88+/-0.74, the post test score was 7.80+/-2.12 which was statistically significant. The learners' opinion survey on the effect of PBL was 69.22% positive response which also proposed significant value. These results proposed that PBL is proficient teaching strategy with a good effect opinion of medical students

Finally, Shamsan & Syed [18] suggested that the proper preparation for both teachers and learners is an important feature to ensure the successful achievement of PBL program in medical schools. There is a strong require for well- prepared teachers who can behavior small group PBL sessions skillfully. Evaluation methods of the learners need to be consistent with how students learn.

## 7. Conclusion

PBL course is having an impact on the performance of students, their perspective on learning and teaching methods in both groups. Also, the findings revealed that Qassim University students were more satisfying with efficiency of the course teaching by PBL teaching approach comparing with Port - Said University students. Also found statistical significance differences between two groups.

## 8. Recommendations

From the foregoing discussion, it can be seen that there are obvious needs for instructional scheme offered on simple media to increase students awareness regarding problem based learning approach and its effect in student's life and skills mainly critical thinking, decision making, problem solving. Within this context, there is a great require for strategies and programs that take into

consideration all the needs of the future nursing curriculum be a mix form of PBL and traditional methods with specific training on the unknown PBL approach for learners.

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