

Problem Based Learning for Improving Group Dynamic: Nursing Students Self report and Perception

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Abstract:

Background: 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 study aimed at conducting problem based learning approach in nursing administration teaching methods for improving group dynamic and assessing student perceptions and competences toward problem based learning

Subject And methods: aquasi-experimental research design was used, the study was conducted in 4th year nursing students with convenience sample size(n74)who were enrolled in nursing administration course. One tool was used for collecting data was self- administrated questionnaire

ResultsThe study results showed that, a strong correlation ($P<0.001^*$) between student competency (0.820, $P<0.001^*$) and motivation and interest, learning from others (0.804, $P<0.001^*$), Problem solving skills and peer support (0.541, $P<0.001^*$) finally a strong correlation found between course report and student satisfaction ($P<0.001^*$).

Conclusion: The current study findings had accepted the research hypothesis by evidence that PBL was beneficial learning method as it was effective in construction of student's practiced knowledge, improved their problem-solving skills ,added to their self-directed learning skills; enriched their teamwork experience and improved their' group collaboration skills and related competences .

Recommendation: It is recommended that, Increase awareness among faculty members by providing workshops and training related to use of the PBL method , Nursing educational administrators should assuring and providing supportive and motivating learning environment as important prerequisites to PBL implementation

Keywords: problem based learning, student 'perception, group dynamic

I. Introduction

The dynamic of health care workplace and the fast change of the 21 century have provoked a re-evaluation of traditional nursing curricula among nursing programs in an attempt to prepare nursing students for the complexity and diversity of the workplace. To meet this demand nursing education must develop nurses with continuous learning ability and soft skills attributes of effective communication, critical and reflective thinking, teamwork, counseling, intercultural understanding, ethics, and problem solving technique. These attributes are developed into a Personal and Professional development course within the Bachelor of Nursing program. (Mohamed, 2006, Keeling, 2008 &Engelbrecht and Wildsmith, 2010).

Problem-based learning provides a framework for the development of meaningful learning that incorporates collaborative learning, peer assessment and the ability to monitor their own capacity to think critically within a group (Hodges, 2011).Barell (2010) suggested that education system must be able to prepare students to become inquirers, problem solvers, critical and creative thinking. Problem-based learning (PBL) therefore provides just a right environment for promoting these skills. The PBL approach has been described as an effective learning strategy that can encourage students to become self-directed learners and to develop transferable skills, such as critical-thinking skills, problem-solving skills, and teamwork skill (Morales&Kaitell 2008, Kivela&Kivela 2005, and Burch 2000).

In PBL problems come from clinical cases, and are the learning triggers for group discussion. Through minimal guidance from a tutor, learning issues related to case problems are generated via a brain storming and discussion process. In the process of PBL, students learn to gather patient related information, interpret objective and subjective results, and develop individualized care plans on a patient centered basis. PBL is deemed to outweigh the conventional didactic method of teaching that is the passive received learning approach (Tang & Sung, 2012).

PBL depends upon the ability of students to work together to identify and analyze problems, and/or generate solutions that, allows students to learn from each other while they construct meaning. Active andinteractive learning approaches like PBL are believed to yield important cognitive and motivational benefits (Chi, 2009).Also contributes to the development of self-evaluation and peer evaluation skills which are

invaluable in the nursing profession (**Gabr& Mohamed, 2011**).The methodology and application of PBL are not uniform. Some institutions implement single or multiple interventions of PBL within the traditional curriculum framework, whereas others have chosen whole curriculum transformation. (**Andisand Heather2011**).**Othman &Shalaby(2014)** had concluded that , PBL was beneficial learning method as it was effective in construction of student's professional knowledge, improved their problem-solving skills ,contributed to their self-directed learning skills; enriched their teamwork experience and developed their' group collaboration skills.Using the PBL methodology offers high satisfaction in nursing students. The roles change: students being the protagonists of their own learning and teachers guiding them. There is constant feedback on the teaching and learning process in both evaluation sessions and personal contact that improves communication and creates a positive learning environment in the classroom allows an improved teaching and learning process. (**Gonzalez etal 2014**)Group dynamics is a valuable educational tool that can be used to work teaching and learning when it is chosen to a conception of education that values both theory and practice and is considered all involved in this process as subjects. Allows the people involved to go through a process of teaching and learning where the collective work is placed as a way to interfere with reality and modifying it. This is because the experience of working with dynamic promotes meeting people where knowledge is built together in group. (**Gonçalves,2002**)Group dynamics is an extremely important tool to establish better interaction and trust between teacher and student, as this interferes with learning. By using group dynamics the teacher can provide opportunities for the creation of a climate beneficial to integration andresulting greater opportunities for meaningful learning. Moreover, tutorcan know better the student, their needs and specificities and leverage advances, based on experience already experienced. (**Gonzalez et al, 2014**)The practice of group work has been, over time, most required in the society still marked by individualism, hierarchical relationships and competitiveness. The work group increases the possibility of more supportive relationships, to the extent that people recognize themselves in their similarities and differences, learning to build ideas and actions collectively. (**Barbatoetal 2010**)

Significance of the Study

Nursing labor is done in teams and their results are the fruit of an interpersonal relationship between the members that make up this team. For this relationship to become satisfactory it is important for each individual to have primarily knowledge and mastery of emotions and attitudes when faced with situations that arise in the workplace. From this premise, there is a need for a process of teaching and learning that goes beyond technical isolated but that is articulated to the development of the internal resources of the student as a human being. (**Geilsa et al, 2014**). Problem-based learning facilitate the acquisition of knowledge and skills such as communication, team work, self-directed learning, problem-solving and critical thinking through root cause analysis situation and come up with innovative solutions to direct team. It was observed by the researcher that group work skills among students had a negative impressions, poor performance and conflicts arises among them, this state arise a question what would the method be used to help improving group dynamics and skills. So, based on this need problem based learning was selected to be used.

Aim of the study:

- 1- Conducting problem based learning approach in nursing administration teaching for improving group dynamic
- 2- Assessing student perceptions and competences toward problem based learning.

Subjects and Methods:

Research design:

A quasi, experimental research design is adopted in this study to investigate students' perceptions and competency towards PBL approach in nursing administration.

Research Hypothesis:

Research hypothesized that, conducting problem based learning approach will improve student' group dynamics and related competences

Research settings:The study was conducted at Faculty of Nursing, Fayoum University one of the Egyptian government's universities that offers only bachelor because it was opened newly atrural setting. The faculty provides a nursing administration course for the fourth year undergraduate students. The faculty bylaw for the nursingadministration course is 60 practical hours over 15 weeks (two days/week). Teaching strategies adopted by the clinical instructors are problem based learning method in the fall semester of the academic year 2015/2016.

Sample size: All undergraduate nursing students (n=74) who are registered at the fourth year and studying the nursing administration course during the second semester of the academic year 2015/2016 were included in this study. Students were structured assigned into four main groups ranged between 18 to 20, grouping was done alphabetically and students remained in these groups throughout their routine clinical training. All groups started PBL at the first to the end of the semester.

Tools for data collection: One tool was used for data collection in the present study: *A Self-Administered Questionnaire Format*. This tool was adopted and modified by the researcher based on **Chen (2013)**, **Barte & Yeap (2011)** and **Nthabiseng, (2013)**. Minimal modification was done and juried by five professors. This tool was developed to assess students' perceptions and competency. It was written in English language and consists of two parts: **The First part:** students' characteristics; it included age, gender. **The Second part:** Problem-based learning data included students' report on course satisfaction 8 Que., their competence in learning skills which consisted of 18 questions grouped into 6 categories as follows: collaborative learning 4 Que., Ability to learn from others 3 Que., Availability of peer support 4 Que., feeling of motivation and interest 3 Que., and Ability of problem solving skills 4 Que.. Students were asked to respond by indicating whether the course was stimulating or boring, very easy or very difficult, useful or a waste of time, empowering or disempowering and enlightening or confusing. After obtaining institutional permission and informed consent from prospective participants data was collected. Questionnaire was issued to the students with the assistance of their course coordinator according to prior arrangements. The data was collected after completion of the semester and final results appearance for assuring of the data.

Ethical Issues: The administration nursing department council approved to apply PBL as a teaching strategy in nursing administration course. Students were made fully aware of the study and invited to participate in this study and informed verbal consent was obtained from them. Also, students were informed that their participation and their opinions about the course would have no effect on their educational assessment. However, the tutorial small group work was obligatory because it was the students work during clinical practice and formed thus a part of their clinical practice performance.

Field Work

The structured questionnaire was filled out by students. Data was collected from the student by the researcher using the pre constructed tool. 1) Each student was individually filling questionnaire; the questionnaire was collected from all the students after passed semester with PBL approach and results announced and to be sure that the learners can judged on the efficiency, study was explained prior to get the questionnaire sheet, and then distributed to be answered within (15-25 minutes). 2) The questionnaire was disseminated started from the first to the end of July, 2016 the data collected.

Study Procedure

Tutor Preparation: Initially, the concepts and required skills of PBL were explained to six nursing administration staff members during training session at the department by the researchers to explain tutor's role/responsibilities during PBL sessions, group dynamics, timeframes, and learning contents for each group.

Implementation of PBL Sessions

The PBL tutorial sessions were held at faculty in classes equipped with; chairs (placed in a cycle shape way that student could have face-to-face discussions), pens, white board, a computer, and a beam projector. Otherwise the students' clinical practice was carried out according to the routine schedule of the department. The intervention was carried out on four PBL tutorial sessions during the weeks' of clinical practice period. Every group had the same trigger situation which was assigned to them by tutor staff member who served as the chief facilitator for all the PBL sessions.

Group Formation

Group formation is a requirement for PBL implementation. A total of 74 students, enrolled for the course for the 2015-2016 academic year, were divided into four groups. Structured problem solving group was used, each group member was given different assigned a different role. The roles were: the group leader, the monitor, and the Recorder. The leader had to subdivide the tasks, assign responsibilities, maintain the speed of the work and represent group performance. He/she also had to produce a short report explaining how the work was divided and the criteria used to assign it to the different team members. The monitor is acts as a timekeeper for timed activities. The Recorder had to writes out the solutions to problems for the group to use as notes or to

submit to the instructor, may also prepare presentation materials when the group makes oral presentations to the class.

Face-to-face interaction was relatively essential in this type of work. They had to rely on the others and create their own sense of responsibility to study his/her part of the topic that will later on help to compose the final task. As the final evaluation will be on the whole theme, there was an obligation for continual feedback of information to update all the team members on the whole subject matter. Along the method, students met with their tutors to provide regular report of group task performance. Conflict resolutions technique was used among groups to facilitate communication. These meetings intentional to guide the groups headed for a solution by introducing explicit information they would need at the same time, the meetings served as periodical progress checks for the tutor.

Teaching Approach

The course was taught in early 2015 by using the traditional teacher-centered method for providing the needed knowledge and the student-centered PBL method for the remaining of the semester. During the, the instructor acted as a facilitator or guider. As the course is administration and the aim was to improve group dynamic and skills, each group member was asked to select a problem from the clinical area they were attended, then problems are gathered and group voting around to choose only one problem the group will be adopt. Each group was asked to work together to identify the problems causes and develop hypotheses through group discussion and brain storming. The group and facilitator started working on the selected problem step by step to investigate the problem through data collection, causes identification, setting alternatives, evaluate alternatives and finally proposed the selected solution for the problem. The student was taught certain techniques that help them in the process as brain storming, Pareto test and fish bone analysis techniques. Group meeting with facilitator and researcher was held weekly for following up task performance. The problems, here called task, was aimed at enabling students to gain some basic knowledge as well as to give them time to get knowing of each other in their groups. Due to the academic calendar and attendance requirement of the university, the students attended the formal lectures as a single group and worked in teams during practical hours.

Data Analysis

Data was analyzed using SPSS (Statistical Package for Social Sciences) version 20. Descriptive statistical methods (mean, standard deviation) and Student's t-test were used together to compare the data from the two groups and the parameters with normal distribution. Qualitative data will be expressed as Number and Percent. A chi-square test was used to compare the qualitative data. A value of $P < 0.05$ was considered significant. This scale is composed of 18 -items scored on a 5-point Likert scale (1 for **strongly agree**, 2 for **agree**, 3 for **Neutral**, 4 for **disagree** and 5 for **strongly disagree**). A 7- point semantic differential (SD) scale consisted of five bipolar pairs of adjectives that characterize students' opinions about PBL was used. The scale ranged from +3 to -3, with 0 representing the middle (neutral value) of the scale. Five positively weighted and five negatively weighted adjective pairs were used and correlation test was used.

Limitation of the Study:

The only limitation was time scale which act as barrier to continue due to the academic calendar and semester closure requirement of the university.

II. Results

This study aimed at conducting problem based learning approach in nursing administration teaching methods for improving group dynamic and assessing student perceptions and competences toward problem based learning and the results are presented in the following tables: Figure (1): distribution of study sample according to gender (n74)

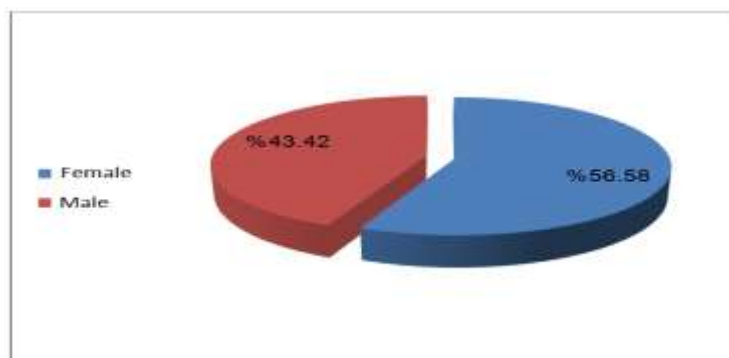


Figure (1): shows that, more than half of the study sample were females according to gender distribution

Table (1): Student'Satisfactionwith Elements of ThePBL Course (N74)

	Very Unsatisfactory		Unsatisfactory		Satisfactory		Very Satisfactory		Chi-Square	
	N	%	N	%	N	%	N	%	X ²	P-value
Course outline	11	14.47	9	11.84	50	65.79	6	7.89	68.105	<0.001*
Essential reading	5	6.58	22	28.95	44	57.89	5	6.58	54.000	<0.001*
Course organization	10	13.16	15	19.74	43	56.58	8	10.53	41.789	<0.001*
Course content	7	9.21	17	22.37	45	59.21	7	9.21	50.947	<0.001*
Teaching-learning method	10	13.16	11	14.47	50	65.79	5	6.58	68.526	<0.001*
Facilitator's skill	13	17.11	14	18.42	44	57.89	5	6.58	46.421	<0.001*
Facilitator's knowledge	7	9.21	11	14.47	50	65.79	8	10.53	67.895	<0.001*
Facilitator's attitude	10	13.16	11	14.47	49	64.47	6	7.89	63.895	<0.001*

Table (1) shows statistically high significant difference ($p < 0.001^*$) between course student's satisfaction regarding all course items as reported by student, table demonstrates that student had a high level of satisfaction (68.105, $< 0.001^*$) related to course outline, teaching-learning method (68.526, $< 0.001^*$) and facilitator's knowledge (68.895, $< 0.001^*$).

Table (2) Students' opinions and feeling Responses Regarding PBL

	0		1		2		3		Chi-Square	
	N	%	N	%	N	%	N	%	X ²	P-value
Stimulating	10	13.16	18	23.68	28	36.84	20	26.32	8.632	0.035*
Very easy	15	19.74	27	35.53	24	31.58	10	13.16	9.789	0.020*
Useful	10	13.16	17	22.37	31	40.79	18	23.68	12.105	0.007*
Empowering	13	17.11	17	22.37	24	31.58	22	28.95	3.895	0.273
Enlightens	12	15.79	19	25.00	35	46.05	10	13.16	20.316	<0.001*

Table (2) demonstrates students' responses to 7- point semantic differential, table revealed statistically significant difference related to positive point of level of scale as stimulating (8.632, $p < 0.035^*$), very easy (9.789, $p < 0.020^*$), and useful (12.105, $p < 0.007^*$) while there is a high significant difference related to enlightens (20.316, $p < 0.001^*$).

Table (3): Relation between Student'Competency Elements and Course Report Of The PBL Course (N74)

	Low		Average		High		Chi-Square	
	N	%	N	%	N	%	X ²	P-value
Course report	19	25.00	47	61.84	10	13.16	29.395	<0.001*
Student satisfaction	6	7.89	21	27.63	49	64.47	37.605	<0.001*
Collaborative Learning	2	2.63	19	25.00	55	72.37	57.816	<0.001*
Learning from others	4	5.26	29	38.16	43	56.58	30.816	<0.001*
Motivation & Interest	8	10.53	26	34.21	42	55.26	22.842	<0.001*
Peer Support	7	9.21	27	35.53	42	55.26	24.342	<0.001*
Problem solving skills	3	3.95	27	35.53	46	60.53	36.658	<0.001*
Student competency	2	2.63	26	34.21	48	63.16	41.789	<0.001*

Table (3) show a statistically high significant difference between course report and student's competency ($P < 0.001^*$) elements, table demonstrates that there is a relation between student satisfaction ($P < 0.001^*$) and collaborative learning ($P < 0.001^*$) while moderate relation between satisfaction and course report.

Table (4): Relation between Course Report and Student'Competency Elements of The PBL Course Regarding Gender (N74)

	Gender						T-Test	
	Female			Male			t	P-value
	Mean	±	SD	Mean	±	SD		
Course report	21.744	±	4.376	20.697	±	4.043	1.069	0.289
Student satisfaction	40.558	±	3.984	35.879	±	6.730	3.781	<0.001*
Collaborative Learning	16.093	±	1.887	16.182	±	2.351	-0.183	0.856
Learning from others	11.581	±	1.905	11.212	±	2.522	0.728	0.469
Motivation & Interest	11.163	±	2.159	11.242	±	2.818	-0.140	0.889
Peer Support	15.465	±	2.539	14.485	±	3.519	1.411	0.162
Problem solving skills	15.953	±	2.299	15.303	±	2.710	1.131	0.262
Student competency	70.256	±	8.116	68.424	±	11.473	0.815	0.418

Table (4) shows statistically a high significant difference between females and male related to student's satisfaction (3.781, $P < 0.001^*$) while no significant difference regarding all course report and student's competency elements.

Table (5): Correlation Matrix between Course and Student‘Competency Elements of ThePBL (N74)

Correlations		Course report	Student satisfaction	Collaborative Learning	Learning from others	Motivation & Interest	Peer Support	Problem solving skills
Student satisfaction	r	0.461						
	P-value	<0.001*						
Collaborative Learning	r	0.216	0.315					
	P-value	0.061	0.006*					
Learning from others	r	0.201	0.491	0.496				
	P-value	0.082	<0.001*	<0.001*				
Motivation & Interest	r	0.147	0.461	0.503	0.584			
	P-value	0.204	<0.001*	<0.001*	<0.001*			
Peer Support	r	-0.034	0.412	0.403	0.659	0.606		
	P-value	0.769	<0.001*	<0.001*	<0.001*	<0.001*		
Problem solving skills	r	0.178	0.411	0.483	0.459	0.538	0.541	
	P-value	0.123	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	
Student competency	r	0.164	0.529	0.704	0.804	0.820	0.840	0.769
	P-value	0.156	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*

Table (5) clarify that there are a strong correlation ($P<0.001^*$) between student competency (0.820, $P<0.001^*$) and motivation and interest, learning from others (0.804, $P<0.001^*$),Problem solving skills and peer support (0.541, $P<0.001^*$) and finally a strong correlation found between course report and student satisfaction ($P<0.001^*$)

II. Discussion

Interdisciplinary work demands responsibility, dialogue skills, pact, and integration, adaptation to changes, tolerance and ability to manage uncertainty. For the health professionals to consolidate the challenge of interdisciplinary dialogue as a work instrument, a symmetric position is lacking that permits the expression of each of the disciplines at an equal level(Ruiz, 2008).Using an active methodology such as PBL has optimal interactions between the tutor and the students; creates a positive learning environment in the classroom facilitating communication and allows an improved teaching and learning process.Gonzalez et al, (2014)The present study finding indicates that , student‘had a high level of satisfaction regarding all course items as reported by student this finding was supported by (Qalawa& Keshk,2014) who found that Egyptian nursing students were satisfied of course teaching by PBL. Also, Chen (2013) clarified that the students were satisfied with the PBL technique and the students’ efficacy and skill enhancement after this learning technique.Other finding that student had a high level of satisfaction related to course outline, teaching-learning method and facilitator’s knowledge ,This finding was supported byNthabiseng, (2013) who found that, students had a high level of satisfaction related to course content PBL elements as facilitators’ knowledge,Nettath (2013), added that the students opinion survey on the effect of problem based learning was positive reaction which also recommended significant value, and Gonzalez etal,(2014) who found high overall satisfaction and higher quality in teaching and learning. On the contrary, withVahidi, Azamian&Valizadeh, (2007), In a study on the barriers to implementing PBL in Iran, facilitator/lecturer competence was a concern for 98% of staff.The study finding demonstrates that, regardingstudents’opinions and feelings students had positive feeling toward problem based learning as stimulating, very easy, useful and enlightens This finding was supported by Nthabiseng, 2013; Seymour (2013) who found that, the majority of students found PBL stimulating, course to be useful, courses to be empowering and enlightening. Also, Gonzalezetal, (2014) who found more advantages than disadvantages are perceived by student as positive aspect is that PBL can be discussed with colleagues and work done collaborativelyThe study finding revealed that, there is a relation between student satisfaction and collaborative learning this finding is in agreement with Gonzalezetal , (2014) who found high overall satisfaction perceived by students related to problem based learning, This finding was supported byChiriac,(2014) who concluded that, group work facilitated learning, especially concerning academic knowledge. By listening to the university students’ voices and elucidating their experiences and conceptions, we have been able to add new knowledge and understanding of what the essence is behind successful group work in higher education. The study finding revealed that, a strong correlation between student competencyand motivation and interest, learning from others, this finding is in agreement of Satish and Shital, (2014) had resulted that, the majority of students found PBL very effective for development of generic skills and attitudes. Students also expressed their greater interest in having most of their contents to be delivered through PBL.The study finding revealed that, a strong correlation between Problem solving skills and peer support this is in congruent with Othman and Shalaby, (2014) who statedthat, the great majority of the students perceived that

PBL improved their problem-solving skills, as it increased their ability to solve real- problems of critically ill patients, encouraged them to consider alternatives and correlated theories to practice. Also this is in agreement with **Al-Naggar and Bobryshev (2012)** who reported that the implementation of PBL improved student's problem solving skills among medical students at the management and science university in Malaysia. Regarding peer support **Othman and Shalaby, (2014)** stated that, PBL developed students' group collaboration skills, as it improved their abilities to participate in open discussion of differing opinions, work on a team, and accept the other opinion. It may be attributed to regular meetings with other students for reflection and their relation with the tutor enhanced their learning skills, which coheres with findings from previous research (**Ehrenberg & Haˆgblom, 2007**). According to international and Egyptian studies, the group discussion and sharing points of views foster self-confidence and sense of responsibility in students to support each other (**Al-Naggar & Bobryshev, 2012; Tork & Shahin, 2011; Yuan et al., 2011; Gabr & Mohamed, 2011; Ali & El-Sebai, 2010; El-Nemer et al., 2009**).

III. Conclusion

The study aimed at conducting problem based learning approach in nursing administration teaching methods for improving group dynamic and assessing student perceptions and competences toward problem based learning. The current study findings had accepted the research hypothesis that ,by evidence PBL was beneficial learning method as it was effective in construction of student's practiced knowledge, improved their problem-solving skills ,added to their self-directed learning skills; enriched their teamwork experience and improved their' group collaboration skills and related competences. The results provide evidence to support the integration of PBL as an effective teaching strategy in undergraduate nursing administration course. Also, nursing students are overall satisfied with elements of the PBL, feel competent in certainly understanding their patients' problems and expressed confidence about their competence in skills and processes as a result of PBL.

IV. Recommendations

Based on the study finding, it is recommended that,

- 1- Disseminate research result among faculty staff members by providing workshops and training related to the use of the PBL method
- 2- Nursing educational administrators should assure and providing supportive and empowering learning environment as prerequisites to PBL implementation
- 3- Periodically exploring student feedback related to teaching method to develop a new method to meet student needs.
- 4- Further studies should be conducted at different nursing faculties and universities to meet latest challenges and teaching barriers.

References

- [1]. Mohamed , R.B .(2006): Evaluation of the personal and professional development course in a nursing programme : A case study , Published doctorate thesis in philosophy , Public university , Malaysia , p. 8
- [2]. Keeling . A (2008) —We Are Scholars!: Using Teamwork and Problem-Based Learning in a Canadian Regional Geography Course Memorial University of New found. Mountain Rise, the International Journal of the Scholarship of Teaching and Learning pp1:13
- [3]. Engelbrecht , C ; Wildsmith , R . (2010) :Exploring Multilingualism in a Problem-based Learning Setting: Implications for Classroom and Clinical Practice in the Nursing Discipline, *Alternation Journal* , 17(1) :p.115
- [4]. Hodges HF. 2011. Preparing New Nurses with Complexity Science and Problem-Based Learning .*Journal of Nursing Education* 50(1): 7- 12.
- [5]. Bell ,S (2010) Project-Based Learning for the 21st Century: Skills for the Future, The Clearing House: A Journal of Educational Strategies, Issues and Ideas .Taylor & Francis Group, LLC 83: 39–43
- [6]. Morales-Mann ET, Kaitell CA,(2008). Problem-based learning in a new Canadian curriculum.*J Adv Nurs*33: 13–19.
- [7]. Kivela J, Kivela RJ, (2005). Student perceptions of an embedded problem-based learning instructional approach in a hospitality undergraduate programme.*Int J Hospit Manag*24: 437–463.
- [8]. Gabr, H., & Mohamed, N. (2011). Effect of problem based learning on undergraduate nursing students enrolled in nursing administration course. *International Journal of academic research*, 3, 154-162.
- [9]. Barbato RG, Corrˆea AK, Souza MCBM. Aprender em grupo 2010: experiˆencia de estudantes de enfermagem e implicaˆoes para a formaˆao profissional. *Esc Anna Nery Ver Enferm*. [periˆodico on line] 2010 jan; [citado em 19 ago 2012]; 14(1): 48-55. Disponıvelem: <http://www.scielo.br/pdf/ean/v14n1/v14n1a08.pdf>
- [10]. Ruiz V.2008; Interdisciplinaredad y trabajo en equipo en los cuidados de enfermerıa al paciente psicogerıatrico. *Rev. Inform. Psiquiátricas*.;(192):159-62.
- [11]. Gonzalez H. Carolina, Carbonero M. Miguel, Lara O. femando, and Martı́n Villamor Pedro ,(2014); nursing student ' satisfaction in problem based learning; *Enfermeria Global*;Nˆo 35 Julio;p 105-112
- [12]. Qalawa A. Shereen, Keshk Ismail Lamiaa (2014), Impact of Problem based learning on acquiring 21 century Skills among Nursing students (comparative study); *International Journal of Advanced Research* (2014), Volume 2, Issue 7, 770-783
- [13]. Chen, C. (2013): Problem-based learning in Gross Anatomy: Assessment Outcomes and Student Perceptions. *Journal of Biology and Life Science*, Vol. 4, No. 1, pp 194-204.

- [14]. Nettath S (2013): Problem based learning has an efficient teaching and learning method for small group teaching-its evaluation and medical perception student's. Journal of Dental and Medical Sciences (IOSR-JDMS) e-ISSN: 2279-0853, p-ISSN: 2279-0861. Volume 11, Issue 4 PP 83-86 www.iosrjournals.org.
- [15]. Vahidi RG, Azamien A & Valizadeh S. 2007. Opinions of an Iranian nursing faculty on barriers to implementing PBL. *Eastern Mediterranean Health Journal* 13(1): 193-196.
- [16]. Seymour A. 2013. A qualitative investigation into how problem-based learning impacts on the development of team-working skills in occupational therapy students. *Journal of Further and Higher Education* 37(1): 1-20.
- [17]. ChiriacHammarEva ,(2014); Group work as an incentive for learning student' experiences of group work; *Frontiers in Psychology*; June 2014 | Volume 5 | Article 558 | 2
- [18]. SatishR.Ghimire, ShitalBhandary . 2014, student' perception and performance of problem based learning during introductory course of a Nepalese medical school, *Journal of Patan Academy of Health Sciences*. Jun;1(1):64-68
- [19]. Othman Y. Sahar and Shalaby A. Samah. (2014), Students' Perception and Acceptance of Problem-based Learning Approach in Critical Care Nursing Practice, Scientific cooperations International Workshops on Medical Topics, Ankara-TURKEY, 7-8 June 2014
- [20]. Al-Naggar, R.A., & Bobryshev, Y.V. (2012). Acceptance of Problem Based Learning among Medical Students. *J Community Med Health Educ*, 2:146. doi:10.4172/2161-0711.1000146.
- [21]. Ehrenberg, A.C., & Ha'ggblom, M. (2007). Problem-based learning in clinical nursing education: Integrating theory and practice. *Nurse Education in Practice*, 7, 67-74.
- [22]. Tork, H. M. , & Shahin, E. S. (2011). The Effectiveness of Problem-Based Learning (PBL) in Nursing Education: Cross-Cultural Student's Perspective. *Journal of American Science*, 7, 516- 521.
- [23]. Yuan, H. B., Williams, A., Yini, L., Liu, M., Fang, B., & Pang, D. (2011). Nursing students' views on the effectiveness of problem-based learning. *Nurse Education Today*, 31, 577-581.
- [24]. Ali, W. G., & El-Sebai, N. A. (2010). Effect of Problem-Based Learning on nursing students' approaches to learning and their self-directed learning abilities. *International Journal of academic research*, 2, 188-195.
- [25]. El-Nemer, A.M., Downe, S., & Awadalla, J. (2009). The impact of problem based learning module on maternity nursing students' experiences and achievements. *Bulletin of High Institute of Public Health*, 39, 80-98.
- [26]. Barte & Yeap (2011). "Problem-based Learning approach in Enhancing Engineering Graduates' Employability" in
- [27]. 2011 IEEE Colloquium on Humanities, Science and Engineering Research, Dec 5-6, 2011 Penang, Malaysia
- [28]. Gonçalves A M, Perpétuo S C; 2002. *Dinâmica de gruponafomação de lideranças*. 5 ed. Rio de Janeiro: DP&A.
- [29]. Walshe N, O'Brien S, Murphy S, Hartigan I, (2013): *Integrative Learning Through Simulation and Problem-Based Learning*, 9, 47-48.
- [30]. Keshk Ismail Lamiaa, Qalawa A Ahmed Shereen, Abd El-Azim Sanaa (2016); Efficiency of Problem Based Learning Course at College of Nursing in Egypt and KSA: Comparative Study; *American Journal of Educational Research*, 2016, Vol. 4, No. 6, 450-458
- [31]. Tang, L.C., & Sung, H.C. (2012). The Effectiveness of Problem-based Learning on Nursing Students' Critical Thinking: A systematic review. *JBIM Library of Systematic Reviews*, 10, 3907-3916.