

## THE PERCEPTION OF UNDERGRADUATE MEDICAL STUDENTS TOWARD THE PROBLEM-BASED LEARNING IN MEDICAL FACULTY UNIVERSITY OF NAHDLATUL ULAMA SURABAYA

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### *Abstract,*

*Medical faculty is the one of faculties that being though for now. Aspecially in Surabaya, and there is seven medical faculty in Surabaya. And the learning system is problem-base-learning (PBL) where the system was adopted from McMaster University, Canada from the first time. However, whether the PBL system is effective or not applied in Indonesia is still under evaluation. Therefore, aour aim study is to examined whether PBL system is well used in the learaning process, especially in undergraduate student of medical faculty in University of nahdlatul Ulama Surabaya. Material and Methods: This study is descriptive study used based on a self-administered questionnaire. To obtain the data, questionnaire was given by online system containing 12 questions. The measurement variable was using Guttman scale. This online questionnaire is distributed to medical students of 2015 and 2017. Data were analyzed using SPSS version 21.0. Approximately 91% participants agreed that PBL is an interesting method of teaching learning. Most of them (98,6%) accepted that PBL is has made the course seem relevant in their interests. And (92.1%) the tutorial group discussion is and important stimulus for learning activity. Although 98,6% working the group means learning from one another. The participants were also highly rated (96.05%) to the statement the tutor's role in enhancing the constructive active learning and maintaining good intra-personal behavior. The perception of PBL in Student's was positive. They highly appreciated the roles of a tutor as facilitators and motivators for proper activities in PBL session. PBL sessions were considered effective in improving student professional knowledge and refining problem-solving and self-directed learning skills along with enriching teamwork experience.*

**Keywords:** *PBL, medical students, perception, UNUSA.*

### **Introduction**

Problem-based learning (PBL) is an effective and highly efficient teaching approach that is extensively applied in education systems across a variety of countries. The term PBL (Problem Based Learning) was first introduced by Donald Woods McMaster in 1966. In 1969 Barrows & Tamblyn first introduced the PBL learning method in the world of medicine at McMaster University, Canada <sup>1</sup>. In Arends book (2008) states that Problem Based Learning (PBL) is an authentic problem-based learning method and students are expected to be able to search and investigate overall the problem<sup>2</sup>. At the first meeting of learning, students are given a case scenario which the students thoroughly analyze the scenario to find the right solution. The role of the lecturer in the Problem Based Learning (PBL) learning method is to give a case / problem, question, and give facilities for joint discussion of the analysis carried out by students. There are four principles of PBL learning, namely: 1) Learning should be a constructive process, 2) Learning should be a self- directed process, 3) Learning should be a collaborative process, 4) Learning should be a contextual process<sup>3</sup>.

This Problem Based Learning (PBL) also has several advantages and disadvantages. In the book "68

Innovative Learning Models in Curriculum 2013" written by Shoimin (2016) said that the advantages of PBL learning methods, namely: 1) Able to build their own knowledge through independent learning, 2) Learners are trained to have the ability to solve problems in real situations, 3) Learning focuses on the problem being analyzed so that it can reduce the burden on students in learning, 4) scientific activities occur in students through group discussions, 5) students are accustomed to using scientific sources of knowledge, both from books, journals, and scientific articles, 6) students are able to assess the progress of their own learning, 7) students are able to communicate scientifically in the activities of discussion or presentation of their work, and 8) learning difficulties of students individually can be overcome through group discussions in the form of peer teaching. Furthermore, the disadvantages of Problem Based Learning (PBL) learning models, namely: 1) not all lecture material is in accordance with PBL learning models, there are some lecturers who must play an active role in presenting the material, and 2) in a class having a high level of student diversity there will be difficulties in the division of tasks<sup>4</sup>.

Problem Based Learning (PBL) has been applied in learning medical education for decades. In Harvard, PBL learning is applied by dividing into small discussion groups, then the case is presented, and followed by large discussion groups. This method allows each individual to analyze his case scientifically in a small group so that each individual can agree and disagree with the thoughts of each individual<sup>5</sup>.

PBL entered Indonesia in the early 2000s. And now, based on the Indonesian Medical Council in 2012, PBL has been established as one of the learning methods that must be applied in every medical faculty<sup>6</sup>. One of them is the Faculty of Medicine of Nahdlatul Ulama University in Surabaya applying the Problem Based Learning (PBL) method since 2014. The PBL method is applied in tutorials in small groups of 11 people. In the tutorial students are permitted freedom of opinion, not only can they support the opinions of students but also have the opportunity to challenge the opinions of students to deeper understanding of the topic or scenario being discussed in the discussion. Student participation is very influential in this learning process. The application of basic medical concepts that are relevant for clinical scenarios plays a strong role not only in understanding and synergizing basic medical concepts but also in integrating basic medical principles with clinical medicine<sup>5</sup>.

Medical students believe that in addition to independent learning, PBL learning is the most important part of the learning process, because we can see the results of independent learning that has been done by students in the tutorial group which is then discussed with the lecturer. However, the curriculum applied to each learning has a large impact on student academic success, and can be a process of evaluating the curriculum program<sup>7</sup>. Based on the above explanation, researchers want to know, the perception of undergraduate medical students toward the problem-based learning in medical faculty of University of Nahdlatul Ulama Surabaya.

## Research Methods

This research uses descriptive survey research method by collecting as much data as possible by giving online questionnaires conducted in the medical faculty of the Nahdlatul Ulama University in Surabaya. To obtain the data, researchers spread online questionnaires that have been provided by researchers. This questionnaire is a closed questionnaire containing 12 questions (table 1). The instrument used to measure this research variable is using the Guttman scale so that the answers given are firm, that is, agree or disagree (table 1). This research sample is taken using a total sampling technique.

*Data was entered and analyzed in Statistical Package for Social Sciences 16.0 (SPSS, Inc., Chicago, IL, USA). Descriptive statistics were performed for mean scores and proportions. Results were recorded as frequencies, means  $\pm$  standard deviations (SD), p-values, standardized and unstandardized regression coefficients. For all purposes, a p-value of was considered as the criteria of significance.*

## Research Results and Discussion

The data above is a combined data between level 2 students and level 4 students consisting of 76 respondents. Based on the data above the researchers knew that overall students (90,79%) agreed that PBL is an interesting method of teaching learning. Most of them (98,68%) accepted that PBL is has made the course seem relevant in their interests. And (90.79%) the tutorial group discussion is and important stimulus for learning activity. Although (98,68)% working the group means learning from one another. This statement supported by (82.89%) determines to a large extent what student will study.

**Table 1.** Perceptions and attitude of undergraduate medical students toward PBL (n=76)

No	STATEMENTS	Agree	Disagree	P-Values
1	I have found the PBL course interesting.	69 (90.79%)	7 (9.21%)	
2	I have found that focusing the course on common medical problems has made the course seem more relevant to my interests.	75 (98.69%)	1 (1.32%)	
3	Working in groups means learning from one another.	75 (98.68%)	1 (1.32%)	
4	I have understood the applied aspects of the course better than if it had been lectured in the conventional way.	61 (80.26 %)	15 (19.27%)	
5	This approach has taken less time than conventional lecture in learning the course objectives.	66 (86.84%)	10 (13.16%)	<0,001
6	The discussion in the tutorial group determines to a large extent what I will study.	65 (85.53%)	11 (14.47%)	
7	The tutorial group discussion is an important stimulus for my learning activities during self-study.	70 (92.11%)	6 (7.89%)	
8	The learning issues generated are the most important starting point for my learning activities during self-study	72 (94.74%)	4 (5.26%)	
9	I study to a large extent independently from the learning issues generated.	67 (88.16%)	9 (11.84%)	
10	Tutors have stimulated my learning activities	66 (86.84%)	10 (13.16%)	
11	In general, tutors stimulate students to make use of different sources of information.	73 (96.05%)	3 (3.95%)	
12	In general, tutors have an important influence on the selection of learning issues	71 (93.42%)	5 (6.58%)	

The participants were also give highly rated for the statements that are generally tutors (93.42%) have an important influence on the selection of learning issues and (96.05%) stimulate students to make use of different sources of information.

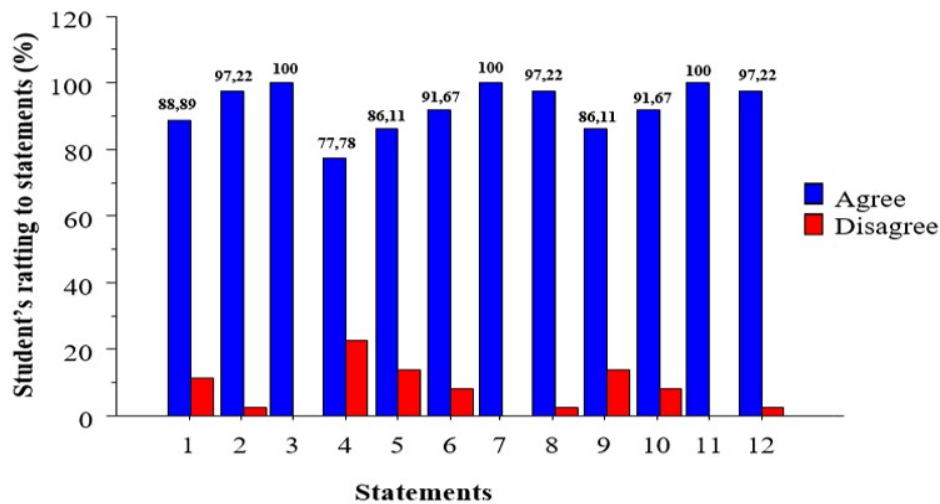


Figure 1 Students' perception about PBL in 2<sup>nd</sup> year  
 Notes: I have found the PBL course interesting (1); I have found that focusing the course on common medical problems has made the course seem more relevant to my interests (2); Working in groups means learning from one another (3); I have understood the applied aspects of the course better than if it had been lectured in the conventional way (4); This approach has taken less time than conventional lecture in learning the course objectives (5); The discussion in the tutorial group determines to a large extent what I will study (6) The tutorial group discussion is an important stimulus for my learning activities during self-study (7); The learning issues generated are the most important starting point for my learning activities during self-study (8); I study to a large extent independently from the learning issues generated(9); Tutors have stimulated my learning activities (10); In general, tutors stimulate students to make use of different sources of information (11); In general, tutors have an important influence on the selection of learning issues(12); Abbreviation: PBL, problem-based learning.

**Figure 1.** Student's perception about PBL in 2<sup>nd</sup> year.

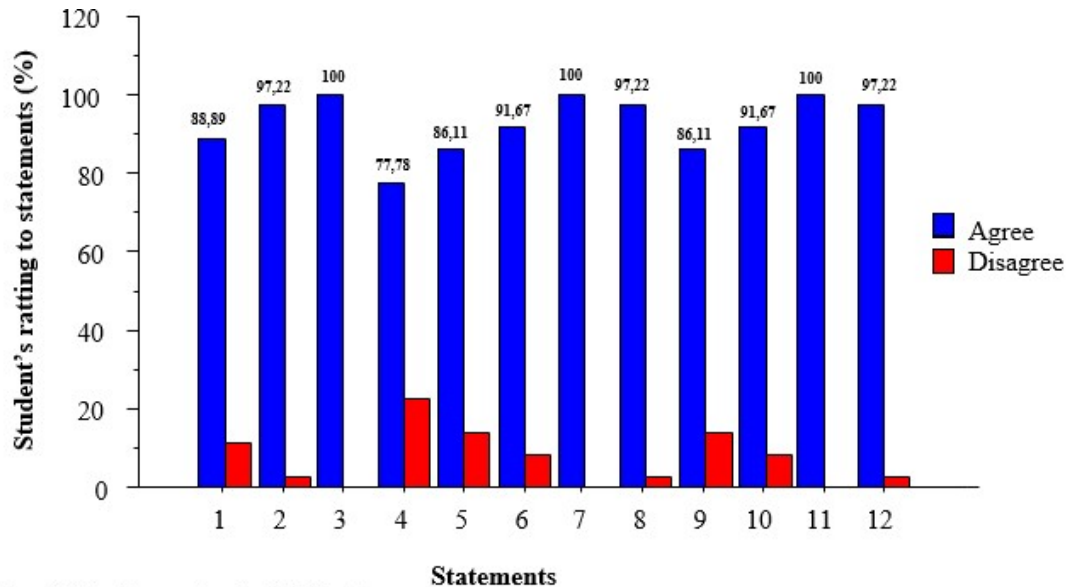


Figure 2 Students' perception about PBL in 4<sup>th</sup> year

Notes: I have found the PBL course interesting (1); I have found that focusing the course on common medical problems has made the course seem more relevant to my interests (2); Working in groups means learning from one another (3); I have understood the applied aspects of the course better than if it had been lectured in the conventional way (4); This approach has taken less time than conventional lecture in learning the course objectives (5); The discussion in the tutorial group determines to a large extent what I will study (6) The tutorial group discussion is an important stimulus for my learning activities during self-study (7); The learning issues generated are the most important starting point for my learning activities during self-study (8); I study to a large extent independently from the learning issues generated(9); Tutors have stimulated my learning activities (10); In general, tutors stimulate students to make use of different sources of information (11); In general, tutors have an important influence on the selection of learning issues(12); Abbreviation: PBL, problem-based learning.

Figure 02. Student's perception about PBL in 4<sup>th</sup> year.

The present study shows that perception of PBL in medical student's in Unievrstiy of nahdlatl Ulama Surabaya was positive. They highly appreciated the roles of a tutor as facilitators and motivators for proper activities in PBL session.

As we knows that PBL has been apply in many medical universities in the world. PBL system was existence the response to a set of perceived problems in medical education. These problems include limited direct orientation of basic science education to clinical career, and the need to develop habits of lifelong learning<sup>8</sup>.

Our study showed that PBL was interesting for majority of students (90,79%). They also highlighted that working in group discussion means learning from another and focusing on common medical problems made the course more relevant to their interests. Our results related with the PBL system that the PBL has a course of relevance in their interests because in PBL they use scenarios that are integrated based on the lecture block being pursued by students, so that this PBL can fill and stimulate learning through small group discussions followed by a lecturer<sup>9</sup>. Moreover, most of them reported that the PBL sessions helped to apprehend basic medical sciences concepts and increase their performance in cognitive and psychomotor domains. They also agreed to the statement that the tutorial group discussion was an important stimulus for their learning activities during self-study. Their discussion in the tutorial group determined to a large extent what they would want to study. The learning issues generated were the most important starting point for their learning activities during self-study. In line with previous studies that students in the PBL curriculum use a wider range and number of resources for achieving learning goals and also feel more competent in information-seeking skills as compared to LBL<sup>10</sup>.

In this study, students also highly agree that the tutors as they stimulated them for constructive and self-directed learning to search for links between issues generated in discussion and to understand underlying mechanisms/theories. And also they appreciated that the tutors encouraged them to solve applied clinical problems with creative thinking by applying the knowledge acquired by collaborative and self-directed learning during PBL. In line with our study, the several studies about PBL also found that one of the prime roles of a PBL tutor is to facilitate the PBL process by keeping the group focused on tasks and guiding the students to achieve their goals from discussion process<sup>11</sup>. This is in line with the previous report mentioning that one of the prime roles of a PBL tutor is to facilitate the PBL process by keeping the group focused on tasks and guiding the students

to achieve their goals.28 other than the tutors should have the skill in group dynamics are evaluated more highly than those who are not so skilled<sup>11,12</sup>.

### Conclusion and Recommendation

The perception of PBL in Student's was positive. They highly appreciated the roles of a tutor as facilitators and motivators for proper activities in PBL session. PBL sessions were considered effective in improving student professional knowledge, refining problem-solving and self-directed learning skills along with enriching teamwork experience.

Conceived and designed the experiments: HMS. Performed the experiments: BSIZ, HMS and MQBZ. Analyzed the data HMS and BSIZ. Wrote the paper HMS and BSIZ.

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