

The Effect of Problem Based Learning and Self Efficiency for Improving Learning Outcomes in Pshychiatric Nursing Education

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Received June 25, 2018; Revised August 01, 2018; Accepted August 09, 2018

Abstract This research used quasi experimental method with treatment design by level 2x2. The research instrument used multiple-choice tests to measure learning outcomes and quotionare to measure student self-efficacy. Data analysis techniques include test requirements analysis and hypothesis testing. The collected data was analyzed by using two path Anava test. The result of the research (1) Ho which read the outcome of studying the subject of Psychiatric Nursing on the students which is learned by PBL learning strategy is rejected. (2) Ho that there is no influence of interaction between PBL learning strategy and self efficacy to outcome of Psychiatric Nursing is rejected. (3) Ho that sounds the outcome of studying the subject of Psychiatric Nursing to students who are taught by PBL learning strategy for students who have high self efficacy rejected. (4) Ho that reads the outcome of study of Psychiatric Nursing subjects on the students with low self efficacy which is taught by PBL learning strategy rejected.

Keywords: *learning outcome, PBL, self efficacy, psychiatric nursing*

Cite This Article: Wahyu Kirana, Hartati Muchtar, and Sukardjo, "The Effect of Problem Based Learning and Self Efficiency for Improving Learning Outcomes in Pshychiatric Nursing Education." *American Journal of Educational Research*, vol. 6, no. 8 (2018): 1102-1110. doi: 10.12691/education-6-8-7.

1. Introduction

The success of learning is a change in the ability of learning activities that are increased in nature compared with previous capabilities. One's success in education is influenced by several factors that influence each other. There are very powerful internal and external factors. The success of students in lectures activities is shown by the results of learning. Selection of appropriate learning strategies will affect the achievement of learning objectives. With the achievement of learning objectives it can be ascertained student learning outcomes will increase. There are many learning strategies that can be applied to manage good teaching and learning process such as Problem Based Learning (PBL). PBL has the potential to promote complex, integrative and possibly transformative learning that can mobilize productive and creative capacities in the individual and combine into personal learning as the learners re-think themselves in relation to the problem field and the context of learning [1]. PBL, is a learning strategy that uses real problems as a context so that learners can learn to think critically in performing problem solving shown to acquire knowledge or essential concepts from the subject matter. Confidence in performing the task

is part of self efficacy. Self-efficacy or self-expectations, refers to one's beliefs about his or her ability to learn or perform actions at prescribed levels. The results of nursing students study in the subject of Nursing Psychiatric is still low because the nursing material of the soul is abstract. Lecturers can manage the learning in the classroom by using the appropriate learning strategies so that students can receive and understand the abstract nature of the material becomes more real.

Profession Ners Education is expected to answer the challenge to the demands of nurse professionalism, where the educational process seeks to utilize various learning strategies. Nevertheless, there has been no research that examines the effect of PBL learning strategies, and self efficacy of nursing student learning outcomes. Based on the phenomenon that has been described above, it is necessary to do research about the influence of PBL strategy and self efficacy to nursing student learning outcomes. The formulation of the problem in this research, namely:

1. Are there any effect in learning outcomes of the Nursing Study program that were studied with the Problem Based Learning ?
2. Is there any influence of interaction between learning strategy of Problem Based Learning and self efficacy to result of learning subject of Nursing study ?

2. Theoretical Framework

2.1. Learning Outcomes

Professionalism in nursing practice does not lie only in the type of task performed, nor in the level of skill that is required to perform a particular task [2]. The profession of nursing is indirectly affected by the rapid change in health services [3]. The process of professionalization is a process of recognition of something that is felt, assessed and accepted spontaneously by the community. The nursing practice act now allows for more expanded nurse roles, and the ANA has worked to enhance the status of professional nurses [4]. Professional values control and validate nursing and are generated from a desire to produce as well as maintain professional standards of competency and efficiency [5]. Nursing professionalism focuses on the expansion of nurses' role in the rapidly changing and varied healthcare environment [6]. Professional socialization is an essential process of learning skills, attitudes, and behaviours necessary to fulfill professional roles [7].

Nursing professions, professions that have received recognition from other professions, are required to develop themselves to participate actively in the health care system in Indonesia so that its existence gets recognition from the public. To realize the recognition, the nurses still have to fight for the steps of professionalism in accordance with the circumstances and social environment in Indonesia. This process is a challenge for Indonesian nurses and needs to be well prepared, planned, sustainable and certainly takes a long time.

One effort to improve the professionalism of nurses is done through the education channel with the opening of Ners Profession education program. Graduates of professional education program ners are expected to become nurses who have a role parallel to other professions. The proficiency profile of Ners profession program is as care provider, communicator (interaction and transaction with client, family and health team), educator and health promoter (education and health promotion for client, family and society), manager and leader (management practices / rooms in the order of hospitals and society), and researcher [8].

The results of this study are expected to provide benefits from both theoretical and practical aspects. Theoretically, the results of this study can develop learning methods for education. Especially Ners profession education, this research is necessary for the development of learning methods in Ners profession education, which is an area that is still rarely studied. The practical benefits of this research, as input for lecturers and nursing education institutions, in an effort to improve the performance of the Ners profession. The further development that can be done from the results of this research is to become a reference in the effort to improve the quality of professional learning ners.

Learning outcomes are the abilities that the learners have after receiving their learning experience. Learning outcomes are also described as a form of change that occurs in the learners as a result of the learning process. Learning outcomes are a complete unity in the learners. In term, the learning outcomes include the desired outcome of the learners from participating in a particular program

in higher education. Cowan put forward several opinions to illustrate the learning outcomes of a course: 1) learning outcomes give participants an idea of the competencies they want to develop during their learning, 2) learning outcomes provide an idea to future participants about what they can expect when they graduate, 3) learning outcomes show educators about what competency development they should facilitate in the curriculum, 4) learning outcomes show to educational institutions in what dimensions they can measure the achievement of learners in their courses [9].

Increased learning results require educators to know that: 1) learners are active participants in establishing their own learning process, 2) contextual learning and related to past experiences and learners' expectations, 3) teaching-centric and learning-centric activities are the same - equally important and complementary, 4) institutional institutions should change the way to organize into a way to evaluate learning programs, 5) all stakeholders; learners and administrators need to develop and adopt new roles in the learning program, 6) the assessment should focus on the learning outcomes compared to the satisfaction of the learners [9].

Moreover, individual characteristics such as intelligence, cognitive styles, and personality play an important role in learning and instruction as does the context of learning. Other research findings have shown that individual students' characteristics variables such as motivational orientations, self-esteem and learning approaches are important factors influencing academic achievements [10].

In addition, individual characteristics such as intelligence, cognitive style, and personality play an important role in learning and teaching as well as the context of learning. Other research findings indicate that individual student characteristic variables such as motivation orientation, self esteem and learning approach are important factors that influence academic achievement. One of the most important goals for educators is to facilitate learners in making the transition from class to classroom implementation into real situations. Classroom and laboratory learning provides basic knowledge that students should be able to master clinical practice or skills. Clinical experience is more often structured as a learning experience separate from that goal, whereas in fact both classrooms, laboratories and clinical practices must be integrated to provide students with real experience so that the goals of the learning program can be achieved as a whole. The goal or desired outcome of any nursing education is to pass a competent nurse who is ready to provide safe and participatory care in an ever-changing and increasingly complex healthcare system [11]. The nurse's competence includes knowledge, attitude and practice skills. Nursing students' competency is the individual experiences, dynamic process, and positive interactive social and beneficial changes in the equality of one's professional life which causes meta-cognitive abilities, touch reality, motivation, decision making, job involvement, professional authority, self-confidence, knowledge and professional skills, in which are included the five factors of "nursing process," "caring," "professionalism," "communities," and "diversity [12]. Building a competent community of learners also requires that instructors be prepared and well-versed in their subject matter, design courses that reflect standards, and clearly communicate course content and expectations. Such instructors stimulate students'

inter-est via discussion, experiential and action-oriented activities, and group work. [13]. It is essential that teachers continually assess how well students are understanding the material being taught, and adjust subsequent instruction to better meet students' needs [14]. Model for learning outcomes management in institutions of higher education might be grounded on a process-based quality management system. While developing the model for learning outcomes management, the following aspects have to be taken into account: internal organizational culture of the institution, traditions and attitude towards quality management system, its role and significance [15] Learner's self-evaluated 'resource management strategies' and willingness to 'learn by doing' were also positively connected to learning outcomes [16].

To determine the level of knowledge, performance, mastery and proficiency, educators often rely on Bloom's Taxonomy, a scheme used to categorize educational learning objectives into three interconnected domains: cognitive, affective and psychomotor. Each domain consists of several levels of behavior, ranging from simple to complex and usually using verbs that relate to that level of behavior. Identifying related levels of behavior and verbs are important steps in creating effective student learning goals [16]. The cognitive domain in Bloom's taxonomy focuses on the acquisition of knowledge and the various levels of thought, categorized from the simple to the complex (Billings & Halstead and Krathwol cited in Eddison, Rosselli & Dempsey). The cognitive domain consists of six levels of cognitive behavior that represent different levels of cognitive ability [16].

2.2. Results of Student Learning on Pshichyatric Nursing Courses

Profession Education Ners is a nursing profession education that produces professional nursing graduates, has attitudes and abilities in the field of nursing obtained through the application of educational curriculum with various forms of learning experience, including classroom, laboratory, clinical and field learning experience, equipped with learning facilities that support the achievement of learning objectives. According to AIPNI in the core curriculum of Ners education (2015), the profile of Ners study program graduates are: (1) care provider, (2) communicator (interaction and transactions with clients, family, and health team), (3) educator and health promoter (educator and health promotion for client, family, and community), (4) manager and leader (practice manager / room in hospital and community order), and (5) researcher (researcher) [17].

Nursing education is now more focused on encouraging nurses with critical thinking skills; they can use such problemsolving traits to make efficient decisions [18]. In nursing education, if outcomes are to be the qualifiers that define the curriculum design and ultimately the educational model for graduates, then the phase of defining outcomes within the curriculum is where the curriculum developers will ensure that the outcomes are clearly identified, defined, and integrated with the outcomes of the professional licensing body [19]. The goal or desired outcome of any nursing education is to pass a competent nurse who is ready to provide safe and participatory care in an ever-changing and increasingly complex healthcare system.

Batool Nehrir, et all says that ...nursing students' competency is the individual experiences, dynamic process, and positive interactive social and beneficial changes in the equality of one's professional life which causes meta-cognitive abilities, touch reality, motivation, decision making, job involvement, professional authority, self-confidence, knowledge and professional skills, in which are included the five factors of "nursing process," "caring," "professionalism," "communities," and "diversity" [20]. On the other hand, Hakimzadeh, et all argue that clinical competence is an important outcome in nursing education. Evaluating clinical eligibility and indicating factors affecting it may be helpful in promoting the quality and effectiveness of nursing education" [21]. The challenge for nurse educators is to continue to study and implement teaching methodologies that prepare novice nurses to think in practice. Educational methodologies that incorporate the use of context in a reflective, dialogical approach over time hold much promise in developing a dynamic process of thinking in practice.

Forneris & McAlpine says that in nursing education, an environment should be created where students begin to operationalize a process of thinking that is derived from classroom learning, from practice experiences, and from what they think about when they care for patients [22].

The result of soul nursing learning is aimed to learners able to master nursing care of clients in healthy range until mental disorder using stress mechanism of mental health adaptation. Learning outcomes resulted in the ability of learners in mastering mental health nursing care at various stages of development from infancy to advanced age, psychosocial problems and behavioral disorders.

Control of nursing care with various behavioral disorders that have been defined as Ners competence in AIPNI curriculum 2015, including the ability to master nursing care clients by: 1) the risk of violent behavior, 2) sensory hallucinations perceptual perception, 3) social isolation, 4) low self-esteem chronic, 5) self-care deficit, 6) ideology, and 7) suicide risk [8].

Assessment of the results of Nursing Soul study in this study, aimed at the assessment of cognitive ability of the critical thinking stage. Expected abilities include the ability to apply, analyze and menints care nursing on various behavioral disorders of clients with mental disorders. The use of learning instrument is adjusted with Ners competence test instrument.

2.3. PBL Method

PBL is a cognitive strategy that begins by confronting learners on real, authentic or simulated problems. According to Barell, PBL can be defined as an inquiry that resolves question, curiosities, doubt and uncertainty that invite or needs some kins of resolution [23]. The PBL model is one of the learning models born in 1966 in the medical faculty of McMaster University of Canada. Until now Problem Based Learning has spread especially in the world of nursing, construction, engineering, business and education. The PBL model is a learning that begins by confronting learners on a problem. The strength of PBL in shaping attitudes as well as creating interest and excitement in learning otherwise dry content, and motivating students to cultivate interdependence in

learning, thinking and problem-solving together in their teams and amongst teams [24].

Problem Based Learning focuses more on solving authentic problems such as problems that occur in everyday life. According to Sears and Hersh, the characteristics of PBL are 5, namely: (1) the problem must be related to the curriculum, (2) the problem is unstructured, the solution is not single, and the process is gradual, (3) the problem-solving student and the teacher of the facilitator, (4) students are only given guidance to identify problems and are not formulated to solve problems, and (5) authentic performance-based assessments [25]. In contrast to Paul Eggen & Don Kauchak who pointed out that PBL characteristics are 3 points, namely (1) lessons focus on solving problems, (2) responsibility for solving student-centered problems, and (3) teachers supporting the process as students work on problems [26]. Boud & Fetteli, stated: Problem-based courses start with problems rather than with exposition of disciplinary knowledge. They move students towards the acquisition of knowledge and skills through a staged sequence of problems presented in context, together with associated learning materials and support from teachers [27].

2.4. Self Efficacy

Albert Bandura is a character who introduces the term self efficacy, self-efficacy refers to the belief in one's ability to organize and implement the actions necessary to manage the situation to come. Self-efficacy affects how they think, feel, motivate themselves and behave. Self-efficacy relates to one's belief in competence and ability. In particular, self-efficacy refers to a person's ability to successfully perform a task. . Self-efficacy is also called effectance motive, is a more specific version of self-esteem. Self-efficacy is defined as one's self-confidence about the possibility of him or herself successfully completing a particular task.

Self-efficacy is an individual's estimate of his ability to perform a specific task in a particular situation. The greater the ability of the participants to perform a task, the greater the efficacy it has. Self-efficacy affects a person's choice and how long it will take to reach a predetermined goal. Self-efficacy has a great influence in learning as they seek to learn the behavior they perceive to be successful. McShane & Von Glinow points out that: "Self efficacy refers to a person's belief that he or she can successfully complete a task. Those with high self-efficacy have a "can do" attitude [28]. They believe they possess the energy (motivation), resources (situational factors), understanding of the correct course of action (role perceptions) and competencies (ability) to perform the task".

Self-Efficacy reflects how confident a student is about his or her ability to perform a particular task, so that a person's High Self-Efficacy in certain parts does not guarantee a person's high self-efficacy on the other. Self-Efficacy indicates how strong a person's belief that they have the skills to do something, they can be sure that with other factors will make them succeed. Self-Efficacy is not to conduct an objective assessment of a person's ability, but rather an assessment of what a person can accomplish with his or her skills. In other words, Self-Efficacy judgment is what one thinks of what he can do, not what

he has. It goes on to say that Self-Efficacy is the product of a complex process of self-appraisal and self-persuasion that relies on cognitive processing of various sources of efficacy information.

3. Research Methods

This research uses experimental method using quasi experimental method approach. Campbell and Stanley refer to experiments that lack random assignment as quasi-experiments. Experimental research with reduced random treatment is called pseudo experiments. This study aims to examine the influence of independent variables (PBL method and self efficacy) to the dependent variable (learning outcomes of the course of mental nursing). The learning method of PBL in this case is the treatment variable, while the self efficacy as attribute variable.

This research uses experimental method with design which is design treatment by level 2x2, because each variable has two levels (level), namely: 1) difference of learning result of Nursing Study as result of treatment of learning method of PBL to group students with high self efficacy and 2) difference of learning result of Nursing Study as result of treatment of learning method of PBL to group students with low self efficacy.

3.1. Population and Sampling Techniques

Styles for table title, table head, and table text are provided. Tables should be set in one column wherever possible and be placed near their first mention in the body. Tables and figures do not need to be placed on separate pages at the back of the manuscript.

3.1.1. Population

The population in this study were all Ners students in Kalimantan Barat any number 827. While the target population in this study were all students of Ners regular program semester IV in Kalimantan Barat, amounting to 46 people.

3.1.2. Sample

Sampling in this research using probability sampling technique, especially proportionate stratified random sampling. The probability sampling technique is the best procedure of selecting samples, where the method takes the subject at random, and each subject in the population has the same opportunity to choose. The sample selection is done through the following stages:

- a. Randomly, the researcher determines one institution that conduct Ners Education, given different treatment, that is learning by PBL. The result of random selection was obtained by STIKes Yarsi Pontianak as the place of research implementation.
- b. Determining the treatment of group learning methods implemented, with the following conditions: Group A consisting given PBL learning method with high self-efficacy as experimental group and Group B, given PBL learning method with low self-efficacy as control group;
- c. Determine the upper group (students with high self efficacy) and the lower group (students with low

self efficacy) in each group. The determination of a group of students who have high self-efficacy is done by taking 33% or 1/3 rank on each class of the experimental group or control group. While the determination of the group of students with low self-efficacy in both groups is done by taking 33% or 1/3 rank down. Determination of the upper and lower groups inappropriate with the opinions expressed by Anastasi & Urbina that any amount between 25% to 33% of the upper and lower groups will be quite satisfactory.

- d. The group of unelected students remains included in the study, to maintain the confidentiality of the research and to maintain equal rights owned by each student

The composition of the research sample according to treatment given in Table 1 below:

Table 1. Composition of research sample by agency and treatment type

Type behavior	Group A	Group B
	PBL (A ₁) Experiment Class	PBL (A ₂) Control Class
Self Efficacy		
High (B ₁)	15	16
Low (B ₂)	15	16
Total	30	32

The treatment procedure in this research consists of three stages: 1) preparation, 2) implementation, and 3) evaluation and result.

1. Stage of Preparation

In the preparation phase, the Semester Learning Plan (RPS) and the Daily Learning Design (RPH) of the Soul Nursing course using the PBL learning method approach. Some instruments are prepared, including: self-efficacy questionnaire, and the test of student learning outcomes. Activity at the preparatory stage is followed by validity and reliability test of instrument. Random sample selection to determine the experimental group and control group was conducted at this stage. The preparatory activities are conducted in January-February 2018.

2. Implementation Phase

Activities at the stage of conducting the research, is to provide treatment to the group of research subjects. The treatment provided is the learning activity of Nursing Soul subject with PBL learning methods in two different groups, each 14 times the treatment (face-to-face), according to the lecture schedule at each institution, as stated in the semester study plan.

3. Evaluation and Results

Implementation of the evaluation to assess the learning outcomes of the Nursing students of Ners after receiving treatment with PBL learning methods, was carried out at the end of the subject of learning on the treatment of mental disorders in adults, designed for 14 meetings. Evaluation tool used to measure the learning outcomes of the course of Psychiatric Nursing is a matter of test. After the data collected will be done data analysis. Data analysis performed include data description, testing requirements analysis and hypothesis testing.

3.2. Data Collection Technique

Technique of collecting data using test instrument and non test. Self efficacy variables were assessed using a

questionnaire. Self-efficacy instruments are filled out by students prior to the intervention. While the learning result variable of Soul Nursing using the test instrument in the form of multiple choice questions. The test result instrument is filled out by the students after the PBL interventions are given. The concept of validity of the test is divided into three kinds, namely: 1) test the validity of content, 2) construct validity test, and 3) empirical validity test.

1) Content validity and construct validity

The validity of the content and the validity of the construct to the instrument of learning outcomes, conducted through expert judgment, on the feasibility of the instrument to be used. Expert assessment aims to assess the suitability of the instrument with the subject and sub-subject, as well as the accuracy of the indicator measuring what should be measured. The way it is done is through the review of the instrument grille to ensure that the instrument represents or reflects the overall material to be mastered proportionately. In addition to note the language on each question / statement so that no sentence is doubtful, causing misinterpretation.

2) Empirical validity

The empirical validity used in this study is the validity of the item (internal), which indicates how far the grain size is consistent with the overall instrument result. Prior to an instrument test, a grain assessment by an expert was conducted. Then tested all the items about the results of learning test of Nursing Psychiatric using the formula of Point Biserial (rbis) correlation, by the formula:

$$r_{bis}(i) = \frac{X_i - X_t}{St} \frac{\sqrt{p_i}}{q_i}$$

The test instrument reliability test of the learning outcomes uses a composite consistency reliability test item. The consistency of the item's consistency consistency relates to stability or consistency between items of a test. The combined consistency coefficient of consistency item to be used in this research is Kuder Richardson 20 (KR-20) formula with the formula:

$$r_i = \frac{[k]}{k-1} \frac{[1 - M(k-M)]}{kV_t}$$

There are two types of self-efficacy statements, namely positive and negative statements, with the details in Table 2 as follows:

Table 2. Variable Instruments Self Efficacy

No	Dimention	Indicator	Instrumen Gain	
			Positif	Negatif
1	Magnitude	Feeling on the difficulty level of the task	1,2,3,4,5	6,7,8,9,10
2	Generality	Confidence in the ability to self on certain activities and situations	11,12,13,14,15	16,17,18,19,20
3	Strength	A strong and steady expectation	21,22,23,24,25	26,27,28,29,30
Number of Problem			15 soal	15 soal

The concept of validity can be divided into three kinds, namely: 1) test the validity of content, 2) construct validity test, and 3) empirical validity test.

1) Content validity and construct validity

The validity of the content and the validity of the construct to the instrument of learning outcomes, conducted through expert judgment, on the feasibility of the instrument to be used. Expert assessment aims to assess the suitability of the instrument with self-efficacy variables consisting of 3 dimensions, namely: magnitude, generality, and strength, with measurement indicators: 1) Feelings on the difficulty level of the task; 2) Confidence in self-ability in certain activities and situations; and 3) Strong and steady expectations. In addition, note the language of each statement so that no sentence is doubtful, causing misinterpretation.

2) Empirical validity

The empirical validity used in this research is the validity of the item (internal). In testing the validity of the grains, a questionnaire was conducted on 30 Ners students, excluding the study sample. Test the validity of the self efficacy questionnaire using the correlation coefficient (Pearson Product Moment) for each item of the question, by the formula:

$$r_{\text{hitung}} = \frac{N(\sum XY) - (\sum X)(\sum Y)}{\sqrt{[N(\sum X^2) - (\sum X)^2][N(\sum Y^2) - (\sum Y)^2]}}$$

Testing of instrument reliability is done by using Alpha Cronbach formula, by formula:

$$r_{tt} = \frac{M}{M-1} \left[1 - \frac{V_x}{V_t} \right]$$

3.2.1. Control Validity Internal and External of Research Design

The purpose of the study design is to provide answers to credible research questions, showing reality. There are two concepts used to explain the level of trust as a result of learning in experimental research, namely internal validity and external validity.

3.2.2. Internal Validity

Internal validity is the control of other variables that may lead to doubt the results of experimental research. In experimental research, the purpose of research is basically to determine the effect caused of independent variables (free) are manipulated. The design of a strong experimental control in the study will increase internal validity. There are two conditions that pose a threat to internal validity, (1) factors affecting the dependent variable, and (2) other factors in the number or intensity at the independent variable level.

Some of the threats of internal validity in Gall, Gall & Borg's experimental research, which is supported also by the opinions of Gay, Mills, & Airasian, include: history, maturation, testing, instrumentation, statistical regression, differential selection of participants, mortality, selection-maturation interaction and other interactive effect. Meaning: history, maturation, testing, instrumentation, statistical regression, differential selection of participants,

mortality, maturation interaction selection and other interactive effects.

External Validity

External validity refers to the generalizability of a study. Threats to external validity can produce significant results within a sample group, but can not be generalized to a wider population. External validity refers to the extent to which results can be generalized to subjects, measurements, interventions, procedures, and other places. Threats to external validity put forward by Gay, Mills, & Airasian consist of pretest-treatment interaction multiple treatment interference, selection-treatment interaction specificity of variables, diffusion treatment, experimenter effects, reactive arrangements, meaning interaction pretest-treatment multiple interference treatment, interaction selection of variable specificity, treatment diffusion, experimental effect, reactive setting.

a. Pretest-Treatment Interaction

Pretest-treatment interactions occur when the response of the subjects reacts differently to the treatment because they follow the pretest. Treatment effects will be different from those obtained by subjects not following the pretest. This study does not use the pretest value, so the problem of pretest-treatment interaction will not be encountered.

b. Multiple Treatment Interference

Multiple treatment interferences may occur if the same subject receives more than one treatment in substitution. In this study, each subject received only one type of treatment, so the possibility for the occurrence of this problem will not be found.

c. Selection-Treatment Interaction

Treatment-selection interactions are similar to those of different subject selection, associated with internal inactivity. Subjects who were not randomly selected from the population restricted the researcher to generalize, because the representative of the sample was questioned. The probable interaction problems of selection-selection in this study are anticipated by the selection of probability sampling techniques, particularly proportionate stratified random sampling. The technique takes subjects randomly, so that every subject in the population has the same chance to choose. The results of this research by using this sampling technique can be generalized, because the selected sample from the randomization conducted can represent the student population of Ners study program in Kalimantan Barat.

d. Specificity of Variables

Specific variables are threats to those that do not heed the generalizability of the experimental design used. The variable specificity refers to the fact that a given study is conducted with a specific type of subject, the use of a specific meter, at a specific time, under a set of specific circumstances. The problem of variable specificity that may occur in this study is anticipated by defining variables in a way that has broader meaning, and making general conclusions. For example, a study involving Ners study program students in Kalimantan Barat, the researchers will conclude that an effective treatment for students of Ners courses throughout Indonesia.

e. Treatment Diffusion

Treatment diffusion occurs when different treatment groups communicate with each other and learn from each

other. When participants from the experimental group know about the interventions given to other groups, they will borrow that aspect of the treatment, which will lead to overlapping with each other. The problem of diffusion of treatment in this study is anticipated by selecting respondents who will be given different interventions, in different educational institutions as well.

f. Experimenter Effects

One possible effect in experimental research is the contamination or familiarity of the researcher with the subject, thus influencing the results of the study. Researchers may unintentionally influence their behavior or become subjective in their behavioral assessment. The experimental effects in this study can be solved by the researchers not directly involved in the interventions. In addition, the use of learning result assessment instruments is objectively prepared using test questions.

g. Reactive Arrangements

Reactive arrangement refers to a number of factors associated with how the research is conducted and the feelings and attitudes of the subjects involved. In an effort to maintain a high level of control, researchers can create an experimental environment that is artificially high and can obstruct generalization of findings in non experimental settings. The problem of reactive arrangement that may occur in this study is anticipated by giving different treatment to the two groups according to the method of study to be studied, rather than giving better treatment to the experimental group or vice versa.

3.3. Data Analysis

Data analysis to be done in this research is normality test and homogeneity test and hypothesis test. Detailed explanation of each test to be performed, described as follows:

1. Test data normality

The data obtained will be grouped based on self efficacy results (high and low) in the two groups of students treated, each experiment class and control class. So there will be 2 (two) data groups. The 2 groups of data will be tested for normality using Liliefors Test. The data will be said to be normal if F_{count} is smaller F_{table} .

2. Test the homogeneity of the data

Homogeneity test or equality test aims to know whether the data obtained have the same variance (homogeneous). Homogeneity test was done by Bartlett test with significance level $\alpha = 0,05$. Data is said to be homogeneous if X^2 count smaller X^2 table. Hypothesis testing

Hypothesis testing in this research using Varian Analysis (ANAVA) with design treatment by level 2x2 at signification level $\alpha = 0,05$. The purpose of statistical hypothesis test in this research is to test the main effect or the effect of interaction between A and B or interaction effect. If there is an interaction effect between A and B, the test is continued by testing the effect of the interaction (simple effect) using the Tukey test to see the comparative results among the treatment groups.

The following results of hypothesis testing using Variant Analysis (ANAVA) with design treatment by level 2x2 at signification level $\alpha = 0.05$

Table 3.

Self Efficacy	Learning Strategic				Number of Line	
	Experiment Class (A1)		Control Class (A2)			
High (B1)	nA1B1	15.00	nA2B1	16.00	nB1	31.00
	$\sum x$	294.00	$\sum x$	335.00	$\sum x$	629.00
	$\sum x^2$	5910.00	$\sum x^2$	7133.00	$\sum x^2$	13043.00
	S^2	10.54	S^2	7.93	S^2	18.47
	\square	19.60	\square	20.94	\square	20.29
Low (B2)	nA1B1	15.00	nA2B1	16.00	nB2	31.00
	$\sum x$	311.00	$\sum x$	363.00	$\sum x$	674.00
	$\sum x^2$	6633.00	$\sum x^2$	8403.00	$\sum x^2$	15036.00
	S^2	13.21	S^2	11.16	S^2	24.37
	\square	20.73	\square	22.69	\square	21.74
Number of Columns	nA1	30.00	nA2	32.00	N	62.00
	$\sum x$	605.00	$\sum x$	698.00	$\sum x$	1303.00
	$\sum x^2$	12543.00	$\sum x^2$	15536.00	$\sum x^2$	28079.00
	S^2	23.75	S^2	19.09	S^2	42.84
	\square	20.17	\square	21.81	\square	21.02

In accordance with the research design used in this study using treatment by level 2 x 2, the data obtained are grouped into eight data groups. The descriptions of the eight data sets are presented as follows:

1. Description of the learning result data in the subject of Psychiatric Nursing which is learned by using learning PBL

Data of student learning outcomes in the subject of Psychiatric Nursing with PBL learning strategy is a test score obtained after learning with PBL learning strategy. Based on the above table, of 36 multiple choice questions given to the students obtained the highest score is 26 and the lowest score 13. The average count of the data is and variance. The average count of the data is 23.83 and variance 22.27. Based on these data can be presented data of learning outcomes Nursing Lecture Soul on students after dibelajarkan with PBL learning as in the frequency distribution list as follows.

Table 4. Distribution List of Frequency of Learning Results of Mental Soul Subject which is taught by PBL

Interval	Frekuensi
18 – 20	7
21 – 23	7
24 – 26	7
27 – 29	5
30 – 32	3
33 – 35	1
Jumlah	30

Based on the list of frequency distribution of student learning outcomes in Table 4 above, to clarify the distribution of student learning outcomes in the subjects of Nursing Soul which dibelajarkan by learning PBL can be presented in the form of the following histogram:

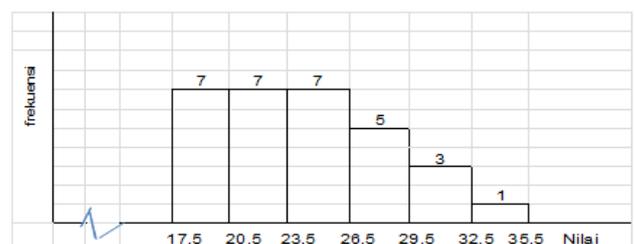


Figure 1. Histogram data of learning outcomes of Soul Nursing subjects that are learned by using learning PBL

Based on the above histogram it can be seen that the average data of 70% lies at intervals 18-27. Thus there are 21 students or 70% of the total number of students who get learning outcomes around the average and there is 1 student or 3.33% who get below-average learning outcomes.

2. Description of the data of learning outcomes in the course of Psychiatric Nursing which students have high self efficacy

Student data with high self efficacy in the course of Psychiatric Nursing as follows.

Table 5. Student data with high self efficacy at STIKES YARSI

Interval	Frekuensi
18 – 20	5
21 – 23	6
24 – 26	9
27 – 29	7
30 – 32	3
33 – 35	1
Account	30

Based on the above table, for STIKes YARSI students who have high self efficacy in the range 103-107 amounted to 6 students and in the range 123-127 amounted to 1 person. Distribution of students who have high self efficacy on STIKES YARSI as shown in the following histogram.

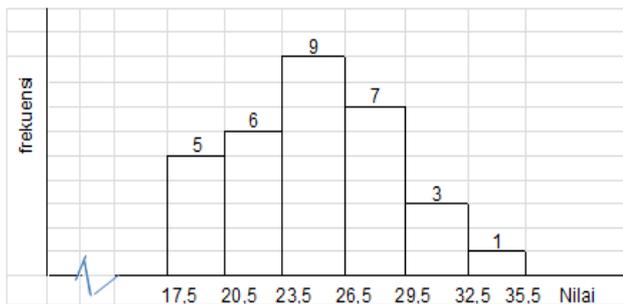


Figure 2. Histogram data learning outcomes subjects of Psychiatric Nursing Having High Self Efficacy

3. Description of the data of learning outcomes of Psychiatric Nursing subjects that students who have high self-efficacy by treating PBL learning strategies

Data on student learning outcomes in the course of Nursing Soul that has high self efficacy with the treatment of PBL learning strategies obtained the highest score 125 and the lowest score 104. Here is the data of learning outcomes.

Table 6. Student data with high self-efficacy with treatment of PBL

Interval	Frekuensi
20 – 22	2
23 – 25	4
26 – 28	4
29 – 31	3
32 – 34	2
Jumlah	15

4. Conclusions and Suggestions

4.1. Conclusion

- The conclusions can be drawn from the analysis and discussion shows that:
- The results of student learning in the course of Nursing Psychiatric with PBL learning strategy is higher.
- There is an interaction effect between learning strategy and self efficacy on the learning outcomes of Soul Nursing.
- Students' learning outcomes in the subjects of Nursing Psychology with PBL learning strategies are higher for students who have high self efficacy.
- Students' learning outcomes in the subject of Psychiatric Nursing with PBL learning strategies are not lower than students who have low self efficacy.

4.2. Suggestion

From the research results obtained then suggested things as follows:

- Learning method is one component that influence student learning outcomes, because it is recommended to the lecturers to be able to choose the appropriate learning method in accordance with the learning objectives to be achieved.
- Lecturers are expected to use PBL and CL method because of the effect on student learning outcomes.
- This research may be used for a foothold on further similar research.

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