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ORIGINAL RESEARCH **E-ISSN:**

DIFFERENCE METACOGNITIVE SKILLS WITH ACHIEVEMENT INDEX IN NURSING STUDENTS DIPLOMA IN LUMAJANG

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ABSTRACT

Background: To realize active and independent learning need concrete ways of learning strategy and direction. According to O'Neill and Brown in Usman, Mulbar (2008) argued that metacognition is the process whereby a person thinks about thinking to develop strategies to solve problems. With metacognitive learner can build a new plan for the operation of metacognition in learning-centered planning, problem-solving, and evaluation during a learning activity. Nursing students should apply the metacognitive ability to earn achievements.
Objectives: The purpose of this study wanted to study the differences in student achievement are used with no use of metacognitive skills when performing activities of student learning.
Methods: The design used is a cross-sectional comparative study. The population is all students of Diploma in Nursing in Lumajang totaled 3 275 people taken by simple random sampling. They measure devices in the form of a questionnaire. Analysis of continuous data sample characteristics describes as mean, SD, minimum, maximum in the frequency, and percent. Differences in metacognitive skills with student achievement index analyzed by paired sample t-test.
Results: There are differences in student achievement that using metacognitive skills with who do not use metacognitive skills while doing the learning activities indicated significance value of 0:00 with a 95% confidence interval.
Conclusion: Metacognition ability one can be used to improve the achievement of students. Learning techniques need to be implemented to stimulate metacognitive skills, and when students accustomed to applying metacognitive skills while learning the understanding of learning, especially in nursing science will increase.

Key words: Metacognitive, achievement index, student.

INTRODUCTION

Nursing as a profession then high nursing education curriculum is based on a robust framework of educational concepts that include: the mastery of science and technology Nursing, resolve the problem scientifically, attitudes, behavior and professional capability, self-study and independent and learn in society.

The hope of education and the learning process of nursing can be conceived and developed in a focused to cultivate the professional skills that include intellectual, technical skills and interpersonal skills required to carry out nursing care services to clients (Nursalam, 2003).

The learning process of nursing can be arranged directionally able to cultivate professional skills include intellectual, technical skills, and interpersonal skills required to carry out nursing care services to clients (Nursalam, 2003). To realize active and independent learning need concrete ways of learning strategies and direction. To ensure the problem-solving ability by O'Neill and Brown in Usman, Mulbar (2008) states that metacognition as a process in which a person thinks about

thinking to develop strategies to solve problems. With metacognitive learner can build a new plan for the operation of metacognition in learning-centered planning, problem-solving, and evaluation during a learning activity.

Nursing students should apply metacognitive skills to build a strategy to solve the problem, a person's knowledge of the process of thinking itself. Besides learning to use metacognitive learner can create a new plan for the operation of metacognition in learning-centered planning, problem-solving and evaluation during a learning activity. At the end of students' academic achievement is expected to be no improvement.

The general purpose of this research is studying the differences in student achievement using metacognitive skills with who do not use metacognitive skills when performing activities on student learning 3 Nursing Diploma Course.

While the specific goal is to study the relationship metacognition ability with the ability of the real understanding of nursing during a learning activity, learning the difference metacognition ability with academic achievement performance index as well as examining the different achievements of students use metacognitive skills with those not using metacognitive skills while doing learning activities.

METHODS

Study Design

The study design was a cross-sectional comparative study.

Setting

This research was conducted at Nursing Diploma Program of University of Jember, Lumajang Campus.

Research Subject

The target population is the overall student who numbered 275 people. The inclusion criteria in this study as follows: 4th-semester student, was at the test site and willing to become a research subject, while the sample size in this study was 22 people using randomization techniques. The sample divided into four levels of achievement with each achievement level comprised of 5-6 respondents.

Instruments

Identification of the following research variables is independent variables and the dependent variable metacognitive skills that student achievement index while the operational definition of variables metacognitive skills is the ability of cognitive knowledge of the declarative knowledge, procedural knowledge, and conditional knowledge. And the strength of metacognition regulation, namely planning, information management strategies, comprehension monitoring, debugging strategies, and evaluation.

In this study, metacognitive skills were measured using questionnaires Metacognitive Awareness of Reading Strategies Inventory (MARSI), which has been translated and modified by Poncorini (2006).

The dependent variable is the form of academic achievement whereas learning success expressed by four levels Grade Point Achievement (GPA) as follows: GPA 2.00 to 2.50 pretty, GPA 2.51 - 2.75 satisfactory, GPA 2.76 - 3.50 highly competent, GPA 3.51 to 4.00 with honors (cum laude).

Measurement tool uses a list of the value of the learning achievement, with a kind of absolute measurement scale. The research instrument used a questionnaire composed of several groups of questions that include: Identification of the

respondents, and the data take in the form of a name, age, gender, past semesters

Data collection techniques using primary and secondary data. The primary data obtained through a questionnaire containing statements and questions that prepared following the purpose of research. This data is directly collected from the study through a survey with Likert scale to measure metacognitive skills using metacognitive questionnaire Awareness of Reading Strategies Inventory (MARSI) which has been translated and modified by Poncorini (2006). Secondary data is data obtained from the achievement of learning outcomes recapitulation data cumulative value of the index during the second semester.

Test validity and reliability of this research through SPSS using Cronbach's Alpha test item-item questionnaire called internal consistency.

Data Analysis

Analysis to examine the difference metacognitive skills with student achievement index analyzed by paired sample t-test.

Ethical Consideration

This research has gone through an ethical test from the Nursing Diploma Program of University of Jember.

RESULTS

Characteristics of Respondents

Table 1. Distribution of Frequency of Respondents in the Nursing Diploma Program of University of Jember, Campus Lumajang (n = 22).

Variables	N	mean	Std. deviation	Std. error Mean
Metacognitive	22	102.6364	20.02985	4.27038
Grade point	22	3.0000	.69007	.14712
Age	n	Percent (%)		
19 years	13	59		
20 years	7	32		
22 years	2	9		
N =	22	100		
Gender				
Man	9	41		
Woman	13	59		
N =	22	100		

Based on data table 1, it found that the average metacognitive ability 102.63 and the average GPA 3.0 While most age 19 years old or 59% and most female gender that is equal to 59%.

Examination of Relationship between Studying Metacognition Abilities and Nursing Material Comprehension Ability While Doing Learning Activities

Table 2. Examination of Relationship between Studying Metacognition Abilities and Nursing Material Comprehension Ability While Doing Learning Activities using the Paired Sample T-Test Analysis.

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Metacognitive	24.034	21	.000	102.63636	93.7556	111.5171
Grade point	20.391	21	.000	3.00000	2.6940	3.3060

Interpretation of results paired sample t-test analysis found that the metacognitive skill had correlation with increasing student achievement index at Nursing Diploma Program in Lumajang as indicated by the significant value of 0:00 with 95% confidence intervals as in Table 2.

The Differences in Student Achievement using the Metacognitive Skills that Do Not use Metacognitive Skills while Doing Learning Activities

The differences in student achievement that use the capabilities metacognitive those who did not use metacognitive skills learned while doing the activity were no difference where the value of cognitive ability is directly proportional to the amount of the index means the achievement of positive range, can see in Figure 1.

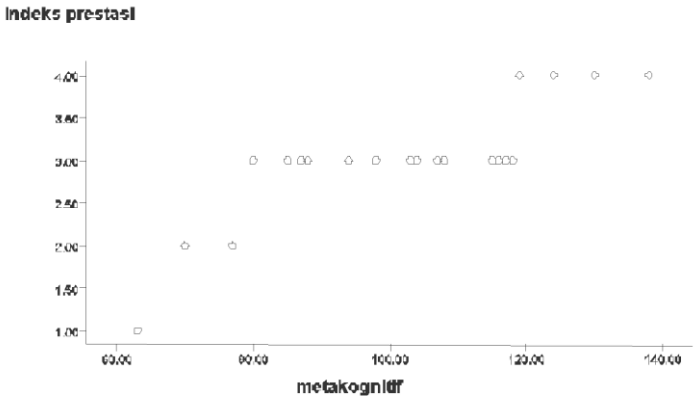

Figure 1. The Differences in Student Achievement using the Metacognitive Skills that Do Not use Metacognitive Skills while Doing Learning Activities

DISCUSSION

Relationship between Studying Metacognition Abilities and Nursing Material Comprehension Ability While Doing Learning Activities

According the results on the table 2, the metacognitive skill had correlation with increasing student achievement index at Nursing Diploma Program in Lumajang as indicated by the significant value of 0:00 with 95% confidence intervals.

The results of this study are consistent opinions Toccasu Project (2008). According Toccasu Project (2008), metacognitive is the ability to learn how to learn by considering one of them to participate in solving problems such as the work of nursing science test.

In this study focused problem solving based on the service delivery of nursing care when students perform clinical nursing practice following the concept of nursing by Kozier (1997). The nursing services provided to clients in the form of nursing care to solve the client's problems following the 14 basic human needs (Hendersen, 1964).

The results also support the research results Hsu LL (2010) found that the ability of metacognitive skills in nursing students in Taiwan can develop both in class and in the clinical nursing practice. The results also consistent research results from Kuiper (2005), which says the use of methods of learning self-regulation in the practice environment can stimulate metacognitive activity mainly clinical experience and critical thinking skills in problem-solving nursing.

If the student has a sufficient basis, metacognitive skills students are expected to be able to perform activities of nursing care started stage assessment, nursing diagnosis, action planning, implementation and evaluation of nursing actions successfully.

Flavel in Livingston (1997) explains that metacognition has two kinds of metacognitive knowledge itself first and second regulation of metacognition.

Relationship between Metacognition Abilities and Academic Achievement

If the student has a sufficient basis, metacognitive skills students are expected to be able to perform activities of nursing care started stage assessment, nursing diagnosis, action planning, implementation and evaluation of nursing actions successfully.

Flavel in Livingston (1997) explains that metacognition has two kinds of metacognitive knowledge itself first and second regulation of metacognition. Also, according to OLRC News (2004) each of the two metacognitions divide into several sub capabilities includes: understanding of metacognition consists declarative knowledge is knowledge about themselves as learners and strategies, skills and learning resources needed. The second procedural knowledge is knowledge of how to use what known in the declarative knowledge in learning activities and conditional knowledge that when using a procedure knowledge, skills or strategies and when these things are not in use.

The regulation of metacognition consists of five sub capability, which includes planning, information management strategies, comprehension monitoring, debugging, and evaluation. Planning is the ability to make a program. Information management strategies are the ability of the plan to manage information relating to the process of learning. Comprehension monitoring is the ability to monitor the learning process. Debugging the strength of the strategy used to correct the wrong action in education, as well as the sub-component evaluation is the ability to evaluate the effectiveness of learning strategies whether he would change his approach, given up or put an end to these activities.

To do the exam or test in the nursing sciences, metacognitive skills for each sub-ability of metacognition be fundamental in the learning process of nursing sciences. So that when students use metacognitive abilities while learning it will be easier when implementing the learning process in the classroom or when running tests or final exams, students can quickly answer that will ultimately improve academic achievement.

The Differences in Student Achievement using the Metacognitive Skills that Do Not use Metacognitive Skills while Doing Learning Activities

There are differences in student achievement that using metacognitive skills with who do not use metacognitive skills while doing activities where cognitive ability have a positive relationship with the value of the index achievement, can see in Figure 1.

The students who are using metacognitive skills will do the following things: has a goal before the study, make notes or summary of the current learning. They also have a particular strategy to increase the understanding as creating tables or images, circling or underlining, set the pace of learning, use tools typefaces to identify, discuss or ask another friend who does know, add references, summed up the material, analyze or look for the relation of subject matter being learned. They can make the question to be answered themselves and try to guess the meaning of words or sentences understandable.

If things are familiar with, it will increase the understanding of the lesson so that when carrying out the test will get an excellent performance than not using metacognitive skills.

CONCLUSION

This study concluded that there are differences in student achievement using metacognitive skills with those not using

metacognitive skills when performing activities student learning in Nursing Diploma Program of University of Jember Campus Lumajang, indicated with a significance value of 0.00 with a 95% confidence interval.

SUGGESTION

The ability of metacognition can be used to improve student learning achievement in Nursing Diploma Program of University of Jember, campus Lumajang, therefore the lecturer needs to be implemented learning techniques that can stimulate metacognitive skills to enhance learning achievement. When metacognitive skills have become accustomed to using when learning activities, it will improve the understanding of learning nursing sciences.

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