

The Difference of Influence of Cooperative Learning Jigsaw againsts NHT (Numberes Head Together) with Student Learning Outcome at D3 Midwifery Study Program Faculty of Health Sciences Kadiri University

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Abstract

Based on cards study result of DIII midwifery of Kadiri university academic 2014/2015, there are 30 from 47 students have a value 2,75. The purpose of this research is to know the difference effects of the application cooperative learning Jigsaw type and NHT on learning outcome students DIII midwifery at Faculty of Health Sciences Kadiri University. The research design used pre experimental. The population in this study were all students DIII midwifery second semester at faculty of health sciences kadiri university with totally sampling retrived sample of 32 people. The instrument of this research are questionnaire. The results of this study are analyzed by wilcoxon and mann whitney. The result showsthere is influence of cooperative learning type jigsaw with studentslearning outcomes. And there is influence of cooperative learning type NHT with students learning outcomes. Based on bivariat analyze for difference effects of the application cooperative learning Jigsaw and NHT with $\alpha = 0,05$ obtained *p value* = 0,046 so *p value* < α means H_0 rejecteddan H_1 accepted. Conclusion in this research are the difference effects of the application cooperative learning Jigsaw and NHT type on learning outcome students DIII midwifery on Faculty Health of Kadiri University. Based on the result of the research for educational institutions can apply cooperative learning so can improving learning outcome.

Key words : cooperative learning, jigsaw, NHT, learning outcome

Introduction

Education holds a very important role in improving the quality of human resources in a country (Syah, 2011). Learning midwifery is included in the education process. Therefore, learning midwifery should continue to be developed so the learning objectives can be achieved. In the study, there are two important aspects that is how students learn and how learners think (Rini, 2010). Basically all lectures want to achive competency in each learning. One form of competency is the skill of thinking and student cooperation. Through student activity and cooperation is expected to increase student learning achievement. The idea behind this study is how the subject matter designed so that the students can work together to achieve the goals of learning (Huda, 2015).

In general the process of learning on the program bachelor midwifery of Kadiri University have done with a conventional system with the approach of TCL (Teacher Centered Learning), although there have been several lectures who use the SCL (Student Centered Learning) where students are given the assignment of material by lectures and active learning either in groups or individually and then discussed. One of the subjects being taught are Midwifery Care I course is taught on a Semester II. The researchers chose subjects about the conception and nidasi contained on the course's Midwifery Care I. It is subject to the number of credits at most of the other courses semester II that is as much as 4 credits.

Based on the results of studies Student Card DIII Midwifery of Faculty Health Sciences Kadiri University on semester II academic year 2014/2015 there are as many as 30 students from 47 students, that has the value of Midwifery Care I below 2.75. With details of the 17 students have the value 2.5 and 13 students have a value of 2. Based on the survey results of low student learning outcomes at the course's Midwifery I among them because the students

are less actively involved in the learning process and less involved in the work of the same group of learners. It is also reinforced with learning methods which are not yet using cooperative learning and still tend to use the conventional system.

Micro-impact of the low learning outcomes students will produce in a low learning achievement of students and a decrease in the quality of learning of midwifery. While the impact of the low level of student learning outcomes macro surely have an effect on the quality of human resources (Suryabrata, 2010). Whereas students of midwifery as a health worker as midwife candidate is the spearhead in an attempt to improve the national health particularly in the decrease in the death rate of mothers and babies. Efforts to address the issue at the top of them with the improvement of quality education that can be started from the learning method of repair. Through student-centered learning by applying cooperative learning methods. Cooperative learning, have differing types such as Jigsaw and NHT (Numbered Head Together). Jigsaw learning model and the NHT is part of the cooperative learning model that can increase skill achievement and ability soft student. With this model of learning students are accustomed to working independently (either group or individual) in solving the problem or task given. And expected to cooperate and help each other with their peer (Slavin, 2009). Jigsaw learning methods and the NHT is a variation of a group discussion involving both students and in the process may be the lesson that is a little different. By involving liveliness and co-operation student learning goals can be more easily reached.

Because of benefit from Jigsaw and NHT, the researcher interested to study -The difference of influence of cooperative learning type Jigsaw against NHT (Numbered Head Together) type with student learning outcome D3 midwifery at faculty of health sciences Kadiri University 2016l.

Method

Design

This research is use a pre-experimental study with pre test post test design. This research is giving a pre-test before treatment, after being treated, then given a post-test. This design testing the differences influence of teaching methods cooperative learning towards learning outcome in Jigsaw and learning outcome in NHT.

Population and sample

The population of this study was all students of the D III midwifery second semester at faculty of healthsciences Kadiri university academic year 2015/2016. It used totally sampling and retrived 32 sample.

Variable

This research used independent and dependent variable. Independent variable were cooperative learning type Jigsaw and NHT (Numbered Head Together). And the dependent variable was student learning outcome students of the D III midwifery second semester at faculty ofhealthsciencesKadiri university academic year 2015/2016.

Instrument

The instrument used in this study is a questionnaire. The questionnaires used in this research were made by the researchers about conception. This study used questionnaires with closed question (closed anded) This question provides some answers / alternatives and the respondents only choose one of them in accordance with his opinion (Notoadmodjo, 2012). Provision for positive question, correct answer given value 1 and wrong answer given value 0. Answer for negative statement, wrong answer given value 1 and correct answer given value 0.

Data analysis

In this research analysis was conducted to find out the difference of influence of cooperative learning type Jigsaw against NHT with student learning outcomes DIII Midwifery

Kadiri University. To know the influence of cooperative learning type Jingsaw with student learning outcomes and influence of NHT with student learning outcomes used wilcoxon test. And the test for different types of cooperative learning Jingsaw and NHT used mannwhitney. Both descriptive result and hypothesis were analyzed by using an SPSS software version 20.

Result

The research took place on March 2016. And the implementation for the learning steps was in one week, two times class meeting.

Table 1. Cross Analysis Student Learning Outcome DIII Midwifery on Midwifery Care I before after cooperatif learning Jingsaw type at Faculty of Health Sciences Kadiri University

Pretest Jingsaw	Posttest Jingsaw									
	A		B		C		D		Total	
	F	%	f	%	F	%	F	%	F	%
C	2	12,5%	1	6,2%	0	0,0%	0	0,0%	3	18,8%
D	2	12,5%	1	6,2%	0	0,0%	0	0,0%	3	18,8%
E	4	25,0%	2	12,5%	3	18,8%	1	6,2%	10	62,5%
Total	8	50,0%	4	25,0%	3	18,8%	1	6,2%	16	100,0%

Pvalue : 0,000 α : 0,05

Based on table 1 may be aware that the results of the study before the cooperative learning Jingsaw type most (62.5%) have a value of E and the results of the study after learning of cooperative Jingsaw type half of respondents (50%) had an A.

Table 2. Cross Analysis Student Learning Outcome DIII Midwifery on Midwifery Care I before after cooperatif learning NHT type at Faculty of Health Sciences Kadiri University

Pretest NHT	Posttest NHT									
	A		B		C		D		Total	
	F	%	F	%	F	%	F	%	F	%
D	1	6,2%	4	25,0%	2	12,5%	0	0%	7	43,8%
E	1	6,2%	3	18,8%	3	18,8%	2	12,5%	9	56,2%
	2	12,5%	7	43,8%	5	31,2%	2	12,5%	16	100,0%

Pvalue : 0,000 α : 0,05

Based on table 2 be known that the results of the study before the cooperative learning NHT type most (56.2%) is the study and results E after learning of cooperative NHT type almost half the respondents (43.8%) got the value of B.

Table 3. Analysis of difference cooperatif learning Jingsaw type and NHT on Midwifery Care I at Faculty of Health Sciences Kadiri University

Learning outcome	Jingsaw		NHT	
	F	%	F	%
A (> 80-100)	8	50,0%	2	12,5%
B (> 75-80)	4	25,0%	7	43,8%
C (> 69-75)	3	18,8%	5	31,3%
D (>60-69)	1	6,3%	2	12,5%

Pvalue : 0,046

$\alpha = 0,05$

Based on table 3 learning outcomes can be known after learning of cooperative Jigsaw type most respondents i.e. 8 respondents (50%) have a value of A and the results of the study after learning of cooperative NHT type most of respondents (43.8) have a value of B.

Discussion

First hypothesis

There is influence of cooperative learning type jigsaw with students learning outcome, from wilcoxon test the p-value is 0,000 which is less than 0,05. At table 1 we can conclude that cooperative learning type jigsaw can improve student learning outcome. The result of this study was similar with the result of Permatasari (2010), which stated that implementation of type jigsaw learning outcome model can improve student learning outcome in statistic.

Learning outcomes are something that students develop from learning outcomes. These learning outcomes are sedentary and will affect students both in terms of problems and in behavioral attitudes. Assessment of learning outcome can do by formative and sumative. assessment of learning outcomes in this study is a category of summative learning outcomes in the subcategory conception care I.

In the assessment of learning outcomes can be done into several aspects including cognitive, affective and psychomotor. Affective spheres greatly influence the judgments in affective and psychomotor. Because in the affective domain the information obtained will be processed so as to affect the perspective of a person reflected from the behavior.

Important to improve student learning outcomes including learning outcomes in the cognitive domain. One way to improve student learning outcomes is by improving the teaching and learning process. Teaching and learning process has many components such as model. Thus, to improve student learning outcomes can be done by changing the learning model.

Cooperative learning type Jigsaw, students are placed in small groups. Each group was given information that discuss one topic from the issue of their learning time. After studying the information in each group, each member of the who study these parts assembled with members from other groups who also receive part of the same material. Assembly of the student who has the same information section is known as the Group of experts. This group of experts in each of these learners mutual discussion and looking for the best way how to explain parts of that information to friends of one of the group that originally. (Huda, 2015).

According to the researchers, cooperative learning Jigsaw type involves students actively in the learning process and make the student able to cooperate with the group. So increasing the understanding of students of a given material and can be applied well and have an impact on the improvement of student learning outcomes.

Second hypothesis

From analysis influence cooperative learning type NHT with learning outcome at table 2 with the p-value of 0,000, which less than α : 0,05. So, there is influence of cooperative learning type NHT (Numbered Head Together) with students learning outcomes. The result of this study was similar with the result of Febliyanti (2014), which stated there is influence of cooperative learning type NHT (Numbered Head Together) with learning outcome student XI science program on colloid chemistry.

Learning activities are student activities to obtain information (Hamalik, 2008). From this learning activity the student will get the learning result. Results are strongly influenced by the learning process that students experience. Because of the learning process students will gain experience, information and how acceptance of the material. One of the factors that influence learning outcomes is the learning model. So to improve learning outcomes can be done by changing the learning model. One of them by changing the model of learning into cooperative learning model type NHT (Numbered Head Together).

In model learning NHT learners are divided into small groups, in small groups that every student is responsible for sub material that has been shared with educators. The student in addition to mastering the material must also ensure that all group members understand the material mastered. This encourages every student to engage actively in the learning process as

well as help each other with their fellow group members to understand the material being studied. The total involvement of all learners in a learning model course NHT will positively impact against the learning motivation of learners. Learners will strive to understand the concepts or to solve problems presented by educators.

NHT model of learning that will either create an environment that's fun in learning as well as increase the liveliness of the learners in the learning process. On the model of learning students actively involved in NHT process of learning so that students' passion for learning and mastering the material given rise. Passion and liveliness of the students encourage students to understand the material provided and have an impact on increasing student learning outcomes.

Third hypothesis

At table 3 can be know there is an increase in learning outcomes after a cooperative learning model of jigsaw and NHT type. And based on mann whitney test results in the get p value 0.046 less than $\alpha = 0.05$. So there is a difference in cooperative learning Jigsaw type against NHT with students learning outcome D3 Midwifery at the Faculty of Health Sciences Kediri University 2016.

According to Roger in the Huda (2015) Cooperative Learning is a learning group activities organised by one principle that learning should be based on the change of social information among groups of learners responsible for analytical study on their own and encouraged to enhance the learning of the other members so that the required presence of the liveliness of the learners.

NHT and Jigsaw is the types of cooperative learning. Both are equally involving different students may be in its implementation. This study has two systems of equations, namely the division of students in small groups so that the value of the difference between the average of both the little learning.

The cooperative learning difference NHT and Jigsaw type occurs because of the difference in the implementation of cooperative learning NHT and Jigsaw type. Within the cooperative type NHT students only involved one time in a group discussion. While in cooperative learning type Jigsaw, student involved twice in the discussion. Student involvement twice in this discussion would enhance the understanding of the students regarding the material being taught, so that student learning outcomes on the Jigsaw larger than on the NHT (Numbered Head Together).

Conclusion

In this research it can be concluded that there is the influence of cooperative learning Jigsaw and NHT type with student learning outcomes DIII Midwifery on midwifery care I at the Faculty of Health Sciences Kadiri University 2016. And it can be concluded that cooperative learning Jigsaw more effectiveness than NHT (Numbered Head Together) to improve student learning outcome.

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