

The Effect of Cooperative Learning Model Based Interactive Media and Interpersonal Communication on Student's Achievement

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Abstract— This study was aimed at finding out: 1) whether the learning outcomes of Islamic studies students who taught by using jigsaw was higher than that who taught by using make and match model; 2) whether the learning outcomes of Islamic studies students who have high interpersonal communication was higher than that who have low interpersonal communication; 3) whether there were any interaction between teaching model and interpersonal communication on students' achievement in learning Islamic studies. This research was conducted by using quasi-experimental research design factorial 2x2. The results showed (1) The learning outcomes of Islamic studies students who taught by using jigsaw was higher than that who taught by using make and match model (2) the learning outcomes of Islamic studies students who have high interpersonal communication was higher than that who have low interpersonal communication; (3) there was interaction between teaching model and interpersonal communication on students' achievement in learning Islamic studies.

Keywords— *jigsaw, make and match, interpersonal communication and learning outcomes, islamic studies*

I. INTRODUCTION

A learning objective is an expected learning outcomes and not a process of learning itself. A demand of qualified human being can only be met by education. The effort is a long journey that has been started since the students were in elementary school. One of the elements that helped in determining the quality of human resources is Islamic Studies. One of the subjects that its quality should be improved in elementary school is religion subject in which elementary school is the students' first place in understanding the concepts of religion fundamental. Thus, the knowledge accepted by students should be a developmental foundation in their higher educational level besides of having practical activities that can be applied in everyday life.

In learning Islamic studies, it is related to daily activities in the real world. Teacher could open student's mind that vary from one to another so that they can learn the concept inside of Islamic studies subject to solve problem as well as relating the subject material and its application to everyday life.

Islamic studies is a fundamental concept of Islam that is a study of religion and has a wide relationship associated with human life. It takes a role in educational process and character development since it made effort in improving students' interest and motivation as well as developing understanding to be a knowledge that can be applied in everyday life. According to Majid and Andayani (2009) Islamic studies is a real effort that is done by education in order to prepare students in believing, understanding, and practicing Islamic theory by specified orientation, teaching or training activities to achieve the goals [1].

Islamic studies curriculum sourced by Islamic studies objective. Its objective is to realizing a moslem man who believes, fear of Allah, and knowledgeable as well as devote himself to the Creator, surrender to Him with best attitude and personality in every aspects of life in order to seek His pleasures, Abdullah (2014) [2]. The objective that would be achieved from Islamic studies curriculum is to build students' character in their relationship to the essence of human creation.

Based on the observation which was conducted by researcher on the grade 5 students of Siumbuh-umbut elementary school Kisaran, it was found that students learning outcomes was still low. The presentation of students who passed the KKM score was only 50% from 120 students and the remedial was required for students who did not pass. There were still many students got the score under the KKM, that was 73. The low quality of student learning outcomes might be caused by many factors. The factors that influenced learning outcomes are classified into two, namely external factors and internal factors (Slameto, 2009) [3]. The external factors are all factors that come from outside of the student such as family, school and community factors. In this case, the lack of Islamic studies learning outcomes if it was viewed from students' external factors, one of them was related to school as educational institution which was the most important of formal informational resources for students. School factor was very important in determining students' success in learning and some factors that affected students' learning outcomes at school environment were teaching model, curriculum and teaching media as well as time allocation at school. Therefore, special assessment was

needed, particularly in teaching model used, whether the teaching model was appropriate to material context and learning objectives, students' potential and background, as well as context of situation and learning environment. Therefore, teacher has an important role especially in choosing teaching model to be used in teaching learning process that will be helped in determining students' score and the achievement of Islamic studies learning objectives.

Based on the identification of the problems done at preliminary observation, one of the causes of this gap was the lack of teaching model variation used by teachers. Classroom learning atmosphere which was too serious and boring was caused by the unvary of teaching model whereas Islamic studies is supposed to be served attractively to students. Students were not sufficiently packed with cognitive rushing, memorizing knowledge through facts, as many have happened so far.

To dig in children potential so that they would always be creative and develop, a meaningful learning should be applied in order to bring students to an interesting learning experience. The experience will be more memorable if the learning process is the result of understanding and self-confidence, that is a process of involving all of the students to formulate the concept. Therefore, it is a teachers' duty to manage the teaching learning process by choosing the right method to create an interesting and effective learning.

This phenomena caused by the demands of educational world that learning process is not only to transfer knowledge from teacher to students. Teachers have to change that paradigm to active, creative, effective and fun learning process. Related to the unoptimal of grade V students' learning outcomes in SD Siambut-Umbut Kisaran, then the author sought to apply learning models that could fully engaged students actively in learning activities. The learning outcomes might be different if students learned Islamic studies by using jigsaw learning model as an alternative learning model that led to active, creative and fun learning.

Jigsaw is one of techniques from cooperative learning model. It was firstly developed by Elliot Aronson, et.al in Texas University. Then it was being adapted by Slavis and his friends in the University of John Hopkins (Trianto, 2006) [4]. It becomes one of the choices for teachers, that is in facing world development, especially in learning paradigm which is now directed at student centered approaches that emphasize the process. The technique of implementation is almost the same as group discussion. Firstly, students were asked to sit in groups. Each of the members was given a number. After that, teacher gave material which was being discussed and students turned back to their group. Every students have different material, and as experts discussed it with their group. Teacher did not tell the students which group would present next and so on until all the numbers discussed the material given. According to Slavin (2005), the method developed by Rushh Frank is appropriate to ensure individual accountability in group discussion [5]. (Lie, 1994) Every members of the different group who has similar topic meet to

discuss (an expert) help each other about topic they are assigned [6]. Then they back to their original group to explain to every members of what they have learned before in expertise meeting.

Unlike the learning situation formed through the conventional learning model used by SD Siambut-Umbut Kisaran, was Make and Match learning model. It is also one of the models of cooperative learning that is developed by Lena Curran (Zainal, 2013) [7]. However, Make and Match teaching model needs simultaneous coordination of various activities, requiring special attention in the use of classrooms, and the transition of the entire class into small groups which may cost the valuable teaching time. This condition will affect students' mental in doing a discussion. Make and match model give times to students to think and respond as well as helping each other. Both jigsaw and Make and match learning models have cooperative discussion concept for students in learning activities.

However, technically the implementation of both models was different at the discussion step, teachers in reviewing and measuring students' understanding in a classical way. In jigsaw learning model, the presentation of group discussion result has already pointed out, so group who did present the material would be probably not serious in doing a group discussion. Unlike make and match learning model, where the presentation of group discussion result was chosen randomly by the teachers by assessing whether the question and its answer is perfectly matched. Then similar to media, according to AECT (Association of Education and Communication and Tecnonology), (1997) that media is every forms and channels used in the process of delivering information [8]. Gagne (Sardiman, 2007:1) stated that media is every kinds of component and environment [9]. Ahmet Gurses et al (2015: 44-49) declare the important role in Interactive Direct Teaching Based on Constructivist Learning is higher than conceptual

After examining the external factors above, the internal factors of students also become an important part in determining the quality of student learning outcomes. Internal factors are factors that come from within students such as communication, motivation, interest, interpersonal communication and student intelligence. In this case, interpersonal communication was being studied as a factor that comes from within the student. Each student has different ways or attitudes and it is always done in learning. This is in accordance with some opinions from some experts. According Mulyana (2007), interpersonal communication is communication between people face-to-face, which allows each participant to capture the reaction of others directly, both verbally and non-verbally [10].

Interpersonal communication is a process of exchanging meaning between people who communicate with each other. The process refers to changes and actions that take place continuously. The exchange means the act of delivering and receiving messages on a reciprocal basis.

This interpersonal communication is related to a person who is influenced by his education and developmental history. Devito (2011) suggests that the effectiveness of interpersonal communication begins with the consideration of five general qualities, they are openness, empathy, supportiveness, positivity and equality [11].

Therefore, it is important for a teacher to first consider the characteristics of students based on interpersonal communication to be able to determine the appropriate learning model in order to create an interesting learning activities and achieving an optimal learning outcomes. Based on the explanation above, the author was interested to conduct a research on "The Effect of Cooperative Learning Model Based Interactive Media and Interpersonal Communication on Elementary Students' Achievement in Islamic Studies in SD Siambut-Umbut, Asahan".

The purpose of this research was to investigate the effect of cooperative learning model based interactive media and interpersonal communication on elementary students' achievement in Islamic studies, whereas in particular, this study was aimed at finding out: 1) whether the learning outcomes of Islamic studies students who taught by using jigsaw was higher than that who taught by using make and match model; 2) whether the learning outcomes of Islamic studies students who have high interpersonal communication was higher than that who have low interpersonal communication; 3) whether there were any interaction between teaching model and interpersonal communication on students' achievement in learning Islamic studies.

II. RESEARCH DESIGN

This research was located at SD Siambut-Umbut Kisaran Asahan Regency. It was conducted in March academic year of 2016/2017. The population of this study was the whole students of grade V which consisted of 3 parallel classes with the total number of student is 120.

This study was using factorial design 2x2 as the independent variable was the use of teaching models that differs with Jigsaw and Make and Match. The attributive variable was students' interpersonal communication, which was classified into High interpersonal communication and low interpersonal communication.

TABLES 1 RESEARCH DESIGN

Interpersonal Communication	Model Pembelajaran	
	Jigsaw (A ₁)	Make and Match (A ₂)
High (B ₁)	A ₁ , B ₁	A ₂ , B ₁
Low (B ₂)	A ₁ , B ₂	A ₂ , B ₂

Where,

- A : Teaching model
- B : Interpersonal communication
- A₁ : Jigsaw teaching model
- A₂, : Make And Match teaching model
- B₁ : High interpersonal communication

- B₂ : Low interpersonal communication
- A₁, B₁ : Islamic studies learning outcomes taught by using jigsaw model on high interpersonal communication students.
- A₁, B₁ : Islamic studies learning outcomes taught by using jigsaw model on low interpersonal communication students.
- A₂ B₁ : Islamic studies learning outcomes on high interpersonal communication students taught by using make and match model.
- A₁ B₂ : Students' learning outcomes with interpersonal communication
- A₂ B₂ : Low by using make and match teaching model

The technique of data analysis in this study was by using descriptive analysis and inferential analysis. Technique of descriptive analysis means to describe the research data including mean, median, deviation standard, mode and data median. To test the truth of hypothesis proposed in this study, the technique of data analysis used was 2 ways Analysis of Variance (ANOVA). The used of this technique with the intention that the result achieved by the subject of research was due to the influence of the treatment given during the study. The significant level used in this study was $\alpha = 5\%$. Furthermore, if the test results indicate the presence of interaction, then further test need to be done by using Scheffe test if the number of students (n) in each cell is different or Tuckey test if the number of students (n) in each cell is equal.

The formulations of statistical hypotheses in this study were shown as follows:

Hypothesis 1

$$H_0 : \square A_1 \square \square \square A_2$$

$$H_a : \square A_1 \square \square A_2$$

Hypothesis 2

$$H_0 : \square B_1 \square \square B_2$$

$$H_a : \square B_1 \square \square B_2$$

Hypothesis 3

$$H_0 : A \square \square B \square 0$$

$$H_a : A \square \square B \square 0$$

TABLES II. TESTING HYPOTHESIS BY USING 2 WAY ANAVA

Varians	Dk	JK	RJK	F _{Hitung}	F _{Tabel}
A	1	797,13	797,13	9,59	4
B	1	1140,01	1140,01	13,72	4
AB	1	350,58	350,58	4,21	4
Galat	57	7062,67	83,09	-	-
Total	60	9350,4	-	-	-

Where,

- A : Teaching model
- B : Interpersonal communication
- Dk : Degree of freedom
- JK : The sum of squares
- RJK : The average of the sum of squares

The interaction can be seen in fig. 1

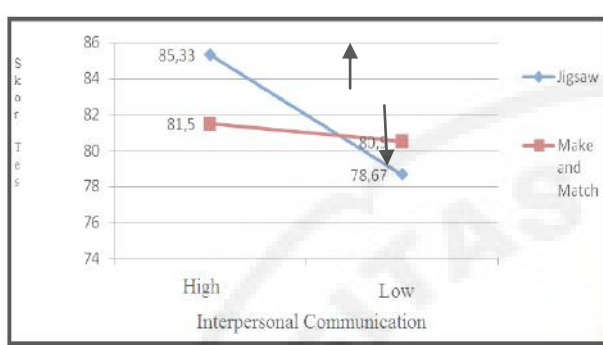


Fig. 1. Interaction between teaching model and interpersonal communication on students achievement in learning social sciences.

III. RESULT AND DISCUSSION

The major purpose of this study was to describe the effect of teaching model and interpersonal communication on students' achievement in learning Islamic Studies. The first thing to do was performing a descriptive analysis that aimed to see the picture of student learning outcomes. Then, inferential analysis was done to its effect. Based on the results of data processing, the description of each variable was described respectively in the following, testing requirements analysis and hypothesis testing.

The result of testing first hypothesis Students' Achievement in Learning Islamic Studies Taught By Using Jigsaw is Higher Than That Who Taught by Using Make and Match Learning Model.

Islamic studies play an important role since it is able to form a strong mental student, so as to overcome problem and challenge they faced. It needs attention in motivating students to achieve better learning outcomes in Islamic studies. Islamic studies require an exemplary and good atmosphere at home, school, community, nation and country. Through the Jigsaw and Make and Match learning model, the learning objectives of Islamic studies is expected to be achieved. The students-centered learning conditions are highly expected in the implementation of both learning models.

The findings of this study were in line with the results of research conducted by Yueh Min Huang (2013) which stated that Cooperative Learning based Jigsaw could improve students' learning outcomes in Taiwan [12]. Through the learning model that could improve students' activity in learning, it was proven could optimize the student learning outcomes. Different condition occurred with the Make and Match learning model that focused on teaching activities with teacher as the source of learning information while students only found some of the material from the teacher.

Testing hypothesis 2, the learning outcomes of Islamic studies students who have high interpersonal communication was higher than that who have low interpersonal communication. The findings of this study have proven this. For students who have high interpersonal communication

positioned themselves as always driven to achieve optimal achievement in learning, to obtain the highest appreciation from the teacher even for self-satisfaction. Therefore, students who have high interpersonal communication have more learning effort compared to students who have low interpersonal communication. Students with high interpersonal communication learn by thinking and doing. They love to do things and experience their own learning. In addition they were able to make decisions intelligently by using their intellectuality rather than intuition and feeling. The characteristic of students with high interpersonal communication is aligned with the objectives of Islamic studies as described by Al-Abrasy (1985: 1) Islamic studies is to educate their morals and souls, to develop a sense of virtue, to familiarize them with high courtesy, prepare for something sacred entirely [13].

Something different happens to students who have low interpersonal communication where students with low interpersonal communication are the type of person who are generally able to explore the opinions of others. Because of its position, they have some common weaknesses like, tend to be less active but have lots of ideas. They are the type of expectant. The situation makes them unable to see the problem wisely and detail in facing many problems. People of this type tend to be unhappy with harsh criticism because they also do not like being criticized.

By considering the characteristics of students based on their interpersonal communication in learning will further help teachers to find the best learning solutions for students in order to avoid the exhaustion of learning and improving students' learning arousal based on their learning needs. Based on the explanation above, it can be concluded that the learning outcomes of Islamic studies students who have high interpersonal communication was higher than that who has low interpersonal communication was verified.

Testing hypothesis 3, there was interaction between teaching model and interpersonal communication on students' achievement in learning Islamic studies. In affecting students' achievement in learning Islamic studies through Scheffe further test analysis, there were positive and significant interaction between teaching models and students' interpersonal communication in order to optimize students' learning outcomes in Islamic studies.

Based on the results of further test analysis, it was found that the learning outcomes of Islamic studies students who have high interpersonal communication taught by using Jigsaw learning model was better than other student learning outcomes. This result proved that students who have high interpersonal communication maximized the learning outcomes of Islamic studies if supported by an effective learning model to involve students in active learning as well as a challenging and fun learning atmosphere as happened in Jigsaw learning model treatment. The Jigsaw learning model invites students' learning attractiveness and this is a condition favored by groups of students with low interpersonal communication. They were more challenged to be actively

involved in teaching learning process as it provided learning conditions with real experience.

The findings of this research were in line with the opinion of Slameto (2009) on factors that influence the learning outcomes which are classified into two, namely (1) Internal factors, are factors that come from within the students which includes two aspects, namely: (a) Physical factors such as health and disability and (b) Psychological factors such as intelligence, attitudes, learning styles, interests and motivations; (2) External factors are factors that are outside the students themselves, this factor is divided into three namely (a) family factors such as how parents educate their children, relationships between family members, home atmosphere, financial situation and cultural background ; (b) school factors such as learning models, curriculum, learning methods, home tasks; and (c) Community factors. By combining the right learning model factors to interact with interpersonal communication, the optimal learning outcomes are obtained [3]. The Jigsaw learning model was suitable for students who have high interpersonal communication because the learning activities presented could spurred the students' learning spirit through real learning problems and knowledge construction based on the students preference. While make and Match turned out to had no significant effect. This means that between the selection of learning modes and by observing the interpersonal communication of students

learning that having different interpersonal communication will optimize students' achievement in learning Islamic studies.

IV. CONCLUSION

Based on the result of the study, it can be concluded that there were positive and significant interaction between teaching models and students' interpersonal communication in which Jigsaw teaching model can be applied to students with high interpersonal communication in order to optimize students' learning outcomes.

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