Effect of Learning Method and Self-Regulation of Interpersonal Intelligence in Learning Social Science

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Abstract -- This study Aimed to know the effect of learning methods and self-regulate on student's interpersonal intelligence. Data analysis using analysis of variance (ANOVA), Followed by Dunnet test. The result Showed that: (1) interpersonal intelligence of students who were taught using the inquiry method is higher than students who were taught using the guided inqury method, (2) there were an interaction effect between learning methods and self-regulate on student's interpersonal intelligence , (3) for a group of students who has high self-regulate and using inquiry method is higher than students using guided inquiry method, (4) for a group of students who has low self-regulate and using guided inquiry is not higher than students using inquiry methods , Further trials are expected to find Appropriate learning method for students who were low self-regulate on interpersonal intelligence. Based on the results of the research are expected teachers in the process of learning of narrative writing using inquiry methods in students who have high self-regulation.

Indexed Terms: learning method, self-regulation, interpersonal intelligence

I. INTRODUCTION

In today's educational approach in which the learner participates actively in the learning process (Gurcay & Ferah, 2018). Education that can support the future development is education that is able to face and solve the problems of life faces. Education should touch the conscience and competence potential students. The educational concept was even more important when a person has to enter the life in the community, because he should be able to apply what is learned in school to deal with problems in daily life today and tomorrow.

Has done a lot of research on self-regulation (Boekaerts, 1993; Pintrich, 2000a; Schunk, 2001; Zimmerman, 2000b). Pintrich (2000b) self-regulation is an active process and structural in which learners define their own learning goals, and set the motivations and behaviors.

According to Beni (2012) method of inquiry is a series of learning activities that emphasize the process of critical thinking and analysis to seek and find their own answer to the problem in question. In this regard, according to Banks (1985) learning through inquiry method can be done since the students are at primary school level, it's just that the emphasis is not on measures of inquiry but rather to introduce the facts, concepts, and generalizations

Improve process skills can be developed through direct experience as a process of learning experiences. Inquiry learning can provide instructional framework that helps to ensure that learners develop a broader scope of intellectual and scientific process skills (Wenning & Ali Khan, 2011). Inquiry learning method can significantly improve learning and process skills in students (Ergul et al, 2011: Banchi, 2008).

The investigation made it possible for teachers to be able to build up an inquiry with different levels of guidance so that students have the opportunity to choose the appropriate level for each stage of development of learning styles (Llewellyn, 2011). Therefore, the investigation is a process of learning with an emphasis on the process of critical thinking and analysis to seek and find their own answers to the stated problem and focused on the knowledge, skills, and the development of attitudes based on active cognition of learners who learn to explore their own (Olagoke 2015).

The involvement of teachers in their lessons will be reduced in accordance with the level of ongoing investigations. The higher level of investigation, the more active the students in learning; conversely, the lower the level of the investigation, the greater the role of the teacher in teaching (Schmuckler & Joyce, 2008). Research shows that the inquiry learning has the potential to increase engagement, interest and

motivation in science (Hong Hwang, Lui, Ho & Chen, 2014).

Successful teaching is a complex inquiry and a variety of interacting factors have an impact on its success, including students, teachers, and school factors (Lee et al., 2010). Inquiry-based learning is not just an academic issue. It involves self-regulation and open and critical inquiry which enables optimization goal setting and progress not only individuals, but also a comprehensive initiative for the benefit of mutual understanding (Bennett, 2015).

Students developed into a person who has knowledge of effective learning strategies, in accordance with the learning styles and know how and when to use that knowledge in different learning situations. According to Bandura (1994), found that the use of reactive and proactive strategies for self-regulation. Means this, reactively trying to reduce the difference between achievement and their goals, but after that they can cover up these differences, it will proactively determine new goals and higher for themselves. According to Syamsul Lazarus (2010), explains that control themselves describe individual decisions through cognitive reasoning to unify the behaviour that has been set up in order to increase the yield and specific goals desired. Human self-control will be more prudent in putting yourself in the position worthy of respect and away from nature that could harm others. According to Syamsul Averill (2010), aspects of self-control can be divided into three categories, namely: (1) control the behaviour, is the readiness of a response that can directly affect a state that is not pleasant. And the ability to control is divided into two components, namely a) the individual's ability to find out who is controlling the state, itself or something outside him and b) the ability to manage the stimulus is the ability to know how and when an unwanted stimulus to deal with. (2) Controlling the cognitive, an individual's ability to manage the information that is unwanted by assessing or combine an event. This control capability is divided into two components, namely: (a) the ability to obtain information and (b) the ability to make an assessment. (3) Controlling the decision, namely the ability of individuals to choose the outcome or an action based on something that approval.

Self-regulation Refers to the ability to change one's behavior (Baumeister & Vohs, 2007). Self-regulation consists of three phases: top-down, reflection and bottom up. (Zimmerman, 2008), self-regulation consists of three top-down phases, reflection and bottom-up. The first stage is the previous thinking, top-down processing by setting learning goals. The second stage is performance. During this phase of learning the use of bottom-up processing by monitoring the progress by one realizing one cognition, motivation, and behavior. (Schunk, 2005). The third stage is self-reflection. At this stage students judge a performance and Determine what works and what can be improved in order to get better (Zimmerman, 2000).

Every child has a type of intelligence is different. Stated that the intelligence present in every person, but with a different level. One of them as interpersonal intelligence. According to Thomas in Syaiful (2010) Interpersonal intelligence is the ability to understand and make differences in moods, intentions, motivations and feelings of others. This can include sensitivity to facial expressions, voice and gestures. According to Gardner and Checkley in Yaumi (2012: 21) Interpersonal intelligence is the ability to understand the thoughts, attitudes, and behaviours of others. This intelligence is an indicator of intelligence with fun for others. That is, someone who has the potential of this intelligence is easy to communicate well with others and he was able to recognize a person's mood, different feelings, temperaments and intrinsic motivation of others.

According to Anderson, there are three levels of interpersonal intelligence dimensions are: (1) Social sensitivity (social sensitivity), a person's ability to feel and observe the various individuals who demonstrated both in verbal and non-verbal; (2) Social insight (understanding social), the ability to understand and find solutions to a problem in social interaction; and (3) Social communication (social communication), a person's ability to communicate well, be it in the form of verbal or non-verbal.

II. METHOD

This research was conducted by using the experimental method. Hypothesis testing is done by using analysis of variance of two lanes (ANOVA). The collected data is processed through descriptive analysis and analysis of variance using the program to process the data statistically Special Statistical Package for Science (SPSS) 24. Researchers tried method of inquiry and guided inquiry *method;* the subjects were divided into two classes, namely the experimental class and control class. The total number of students who are the subject of research is 41 people, who were divided into two classes (class A and class B), each consisting of 20 students of class A and class B 21. The method used is an experimental design method Treatment Bay level 2 x 2. the variable in this study is the dependent variable (learning methods), independent variables (interpersonal), and variable attributes (self-regulation). The learning method (A) includes two forms: the inquiry learning method (A1) and your Inquiry (A2). Self-regulation (B) was classified as high (B1) or low (B2). There are four groups were tested: a group of learning inquiri with self-regulation is high (A1B1), a group of methods inquiri guide and students with self-regulation are high (A2B1), group inquiri and students with self-regulation of low (A1B2), and the group inkuri guided and students with low self-regulation (A2B2). The following treatment table design by learning designed as follows.

Self-Regulation (B)	Learning Method (A)	
	Inquiry (A1)	Guided Inquiry (A2)
high self regulation (B1)	A_1B_1	A_2B_1
low self regulation (B2)	A_1B_2	A_2B_2

Table 1: Design Treatment by level

In this study sample consisted of all elementary school students in Banda Aceh Jaya Baru sub-district. Samples were selected using random sampling techniques. Two classes are used as a sampling source for this study. Researchers tried method of inquiry and guided inquiry *method,* the subjects were divided into two classes, namely the experimental class and control class. Experimental class (Class IV A) taught by motede inquiry and the control class (Class IV C) are taught with guided inquiry method, while variable attributes are classified into high and low self-regulation. This method is used to examine whether there is influence by giving different treatment to each experimental group.

Normality test done to test the significance of normality *(Liliefors)* overall. The test results showed that the variables of interpersonal and self-regulation has a significance value> 0.05, namely 0.372 and 0.452. Therefore, the research data can be expressed in normal distribution. The result can be seen in table 2 below:

		Self-Regulatory	Interpersonal Intelligence
N		14	14
Normal Parameters[a, b]	Mean	78.07	74.29
	Std.Deviation	11.750	14.123
Most Extreme Differences	Absolute,		230,245
	Positive,		226,245
	Negative	-, 230	-, 157
Kolmogorov-Smirnov		Z,859,	915
Asymp. Sig.(2-tailed),			452,372
a. Test distribution is Normal.			
b. Calculated from data.			

Table 2: Testing Normality

Testing homogeneity of variance performed on variables of interpersonal intelligence and self-regulation. These variables must meet the

assumption that the variance homogeneous in order to do the testing of each treatment. The homogeneity of the data is tested using Bartlett test with the test resultstest *Barlett* at α =0.05.Homogeneity calculation results can be seen in Table 3 below:

Variable	X^2_{count}	X^2_{tables} (α = 0.05)	Conclusion
A1 A2	0.317	3.84	Homogeneous
A1B1 A1B2 A2B1 A2B2	0.963	7.82	Homogeneous

Table 3: Test Results Data Homogeneity

Results Xtest indicated that the $^2_{count}$ is smaller than the value X^2_{table} so that it can be concluded that the group examined data derived from the sample variance are homogeneous.

Test the validity of using content validity and construct validity. Construct validity was tested using expert judgment. Content validity was tested with reference to the primary school curriculum for fourth grade. Multiple choice questionnaires using a formula based on points biserial dichotomy. The validity of each questionnaire is determined by comparing the correlation coefficient (rvalue) with a correlation number biserial (rtable) based on the significance level of 5%, as follows: 1) if the rhythm> rtabel and α = 0.05, then the item is considered to be valid; 2) if ritem$\leq$ rtabel and α = 0.05, then the item is considered invalid. Based on this calculation, 20 questions on a multiple choice test has rphi value> 0, and the significant level of α = 0.05. Test the validity of the test essay, based on a formula product moment, shows that the whole test (7 questions) has a value of r value> rtable (0.355) and the level of significance of α = 0.05. To determine the reliability of the instrument, the formula used Hoyt.

III. RESULTS AND DISCUSSION

This study was conducted to test the hypothesis. The first hypothesis determines differences in teaching methods guided the inquiry and the inquiry. The second hypothesis is the interaction between learning method. The third hypothesis was conducted to determine differences in interpersonal intelligence of students who use the inquiry and the inquiry learning method guided the students who have high self-regulation. The fourth hypothesis testing to determine differences in interpersonal intelligence of students who use the inquiry and the inquiry learning method guided the students who have low self-regulation. The following is a summary of the results of the calculation of hypothesis testing that can be seen in Table 4:

Source	Type IISum of Squares	Df	Mean Square	F	Sig.
Corrected Model	3431.250A	3	1143.750	46.866,	000
Intercept	155,258.036	1,	155,258.036	6361.793	000
A,	3322.321	1	3322.321	136.134	000
B,	893	1,		893,037,	850
A * B		1	108.036	4.427	108.036
Error	585.714	24	24.405		
Total	159,275.000	28			
Corrected Total	4016.964	27			

a. R Squared =, 854 (Adjusted R Squared =, 836)

Table 4: Summary of Test ANOVA

The results of ANOVA analysis based on table 1 above are described as follows:

1. Interpersonal intelligence of students who learn with the learning method Inquiry to students who have self-regulation low

Based on Table 1 above were obtained F_{count} equal to 136.134 greater than $F_{table.}$In the real level of α = 0.05 (F count> F table = 136.134> 4.26). At the level of α = 0.01 (F count> F table = 136.134> 7.82). That is, there are very significant differences in the average scores of interpersonal intelligence among students learning with inquiry learning methods and student learning with guided inquiry learning methods. The results of the analysis of the average score of interpersonal intelligence showed that students who

learn by using the method of inquiry is higher than guided inquiry method.

2. Interaction methods of learning and self-regulation of the interpersonal

Based on Table 2 obtained F_{count} equal to 4.427 greater than F_{table}. In the real level of $\alpha = 0.05$ (F_{count}> $F_{table} = 4.427$> 4.26). At the level of $\alpha = 0.01$ (F count> F table = 4.427> 7.82). That is, tarpaper pengeruh highly significant interaction between method of learning and self-regulation of the student interpersonal intelligence.

Average interpersonal intelligence on learning methods *inquiry* that have high self-regulation by 87.14 and a low of 61.42 where regulations. For the average interpersonal intelligence on learning methods *guided inquiry* that have high self-regulation by 83.57 and the average which have a low self-regulation at 65.71. This suggests that interpersonal to group students by method of inquiry and self-regulation in kecerdeasan interpersonal, interpersonal intelligence scores tend to be higher. The group of students were given a guided inquiry method and have high self-regulation, the trend of lower value interpersonal intelligence and interpersonal intelligence propensity result will be high if you have low self-regulation.

3. Differences in interpersonal intelligence of students who have high self-regulation that learning bylearning methods *inquiry* and learning methods *guided inquiry*

Results *Dunnet's t-test* showed that t0 = 8.115, p-value = 0.000 / 2 = 0 <ttab = 0.05 or H0 is rejected. That is, the average score of students learn interpersonal intelligence with the method of inquiry is higher than the guided inquiry method for high self-regulation. The third hypothesis testing verified .By thus be concluded that interpersonal intelligence to learn the method of *inquiry* is higher than the group of students learning with method *guided inquiry* for students who have high self-regulation. Thus, the learning method that is suitable for students who have high self-regulation is the method of *inquiry* learning.

4. Differences in interpersonal intelligence of students who have low self-regulation in the

learning with the learning method of inquiry and guided inquiry learning methods

T test results *Dunnet* show that that t0 = -8.386, p-value = 0.000 / 2 = 0 <ttab = 0.05 or H0 rejected. That is, the average score of students learn interpersonal intelligence with the method of inquiry is not lower than the guided inquiry method for low self-regulation. The fourth hypothesis testing verified. Interpersonal intelligence to learn the method of inquiry is not lower than the group of students learning with guided inquiry method for students who have low self-regulation. It can be concluded that there is no influence learning methods of inquiry and guided inquiry against interpersonal intelligence of students who have low self-regulation.

Results of research and statistical analysis have shown that using inquiry effective learning methods used in both high and low self-regulation. These findings indicate that overall there are differences in the results of students' interpersonal intelligence between groups of students who are taught using learning methods of inquiry and groups of students taught using guided inquiry learning methods. Application of different learning methods also have consequences on students' interpersonal differences. In addition, self-regulation differences also have consequences on student interpersonal intelligence differences.

The first hypothesis, this is because the Inquiry Method is a method of emphasis on the process of critical thinking and analysis to seek and find their own answer to the problem in question (beni, 2012). The characteristics required by the high self-regulation so that students can follow the lesson well. In contrast to the inquiry guided, guided the inquiry learning in almost all learning activities that require the guidance of a teacher. The entire system is directed to a neat series of events in educational institutions. learning investigation the inquiry can have a positive impact on student achievement, because it gives students the opportunity to discover new ideas or ways of thinking, clarify and justify their perspective, build or fix ideas to each other by comparing various viewpoints, as well as establishing new scientific knowledge (Gijlers & de Jong, 2013; Sampson & Clark, 2009).

The second hypothesis, Shah explains that the more appropriate teaching methods / approaches used the more effective and efficient learning activities conducted between teachers and students will eventually deliver the support and success of student learning and teaching success made by the teacher. Students who have high self-regulation given the inquiry method show a greater interpersonal intelligence than students given inquiri guided learning methods. Conversely, students who have low self-regulation given show less interpersonal intelligence than students who are given the inquiry learning methods. This suggests that in choosing teaching methods based on self-regulation.

The third hypothesis, teaching methods guided the inquiry and the inquiry can have a varying effect when viewed from the self-regulation of the students. Inquiri emphasizes learning methods and demanding activity of students in learning. Teacher serves as a facilitator and a dynamic so that learning can take place more enjoyable.

The fourth hypothesis, the fourth hypothesis which states that interpersonal intelligence given the inquiry learning methods with low self-regulation to score smaller than a given interpersonal intelligence guided the inquiry method with low self-regulation, received significantly at $\alpha = 0.05$. So that students who have low self-regulatory approach inquiri lower than the students who have low self-regulation by the inquiry supervised learning methods.

Based on the hypothesis fourth Elington (1988) suggest that the use of learning methods wherever possible not only as a tool to improve students' interpersonal intelligence, which means that the learning method of learning is also used to improve the quality of learning in the classroom.

IV. CONCLUSION

Based on data analysis and statistical calculations, this study drew the conclusion that the first, students use learning methods inquiry higher compared with the inquiry guided. Secondly, there is the effect of the interaction between methods of learning and self-regulation of the interpersonal intelligence elementary school students who depend on the level (high or low) of self-regulation. Third, students who have high self-regulation, and given the inquiry method have interpersonal intelligence higher than guided the inquiry.

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