Active Learning: Type of Card Sort to Enhance Students Achievement

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Abstract— **This research is intended to know the use of active learning type card sort to enhance students achievement in history material of elementary students. This research gives solution regarding the problem of the lowest achievement of history lesson which is faced by the teacher who uses student center methodology. The pattern of this research is action research in the class that uses Kemmis and Taggart comprised of scheming, action, and observation, also a reflection that involve fifth-grade students amount 17 students and a teacher. Technique for collecting the data is in form of test to measure students achievement with the test instrument that already been validated by the expert lecturer. Technique for analyzing the data uses descriptive analysis to analyze students achievement data. This research explains the result of how to enhance students achievement on history material uses active learning type card sort in two cycles. This research also explains steps the use of active learning type card sort in learning history material. The research finding uses type card sort is beneficial in learning history becomes active and enhance students achievement, in case, it can help teacher or school in the use of learning methodology more innovative, so that it can enhance students achievement in others material. This research is expected able to be used as further research that apply for active learning type card sort yet on a different variable such as creativity, critical thinking, or with different learning.**

Keywords— active learning; card sort; achievement

I. INTRODUCTION

The problems that are occurred in SD Negri Krawitan based on the interview that is done, it is obtained information that students achievement, especially on a Social science material of fifth-grade students, classified low compared with others material. Based on the data that is obtained from the average of a mid-term test of fifth-grade students SD Krawitan in the school year of 2016/2017 namely Mathematics 46.45, Indonesian Language 60.62, Science 61,72, Social 46,69, and Civics 69.65. From the data, it can be seen that achievement in two materials is relatively low, namely Mathematics and Social. Nevertheless, from the two contents of the materials above, the teacher does not obtain a solution in solving the problem of students scores in low average at Social yet. Students who pass the minimum score in Social are amount 5 students with maximum score 9,97 and minimum score 2,5.

After doing further observation, it can be recognized that the low score of Social science has occurred in history material. Moreover, this learning does not involve the students (student center). It is proven while students less enthusiastic even though the teacher gives an opportunity activity question and answer that it makes the teacher has the hardship to comprehend and discover how far students understanding about the material in a learning process. Hence, the teacher does the assessment after learning process uses task based on the material that has just already been delivered by the teacher.

Historical content in the Social science lesson is one of the content that essential for students of elementary school. It is expected to bear Indonesian people that decent, responsible to their country, and also world citizens who love peaceful. Furthermore, by learning Social, students are also learning social environment that it can train students character to be sensitive toward the social issue in a social environment. Considering the importance of Social lesson in its implementation is required teacher's competence to manage the learning process, so that students achievement can be optimum and the expectation of its goals are attained. The enhancement of students achievement are able to be attained if the learning process which is doing can encourage students to learn. Students learn as well if they are able practice it. So they are easier to recognize the lesson and knowledge which they get becoming more meaningful. Therefore, one of the solutions to solve this problem is by applying a proper learning. According to students achievement that is still less optimum in learning social science on history material, the effort which has done to enhance students achievement is by applying active learning type card sort as one of the learning alternatives.

Active learning conducts students to always do learning experience which meaningful and also thinking about what can they do during the learning process. Thus, active learning is compatible to be used in learning history material. Active learning has various types. One of the types which is convenient to be applied that is active learning card sort. The stages of active learning type card sort are started from teacher uses media card that contains information which it is distributed to students then, so students will attempt to find another card that has same category [21]. By applying this active learning card sort makes students motorik more dominant, so students will not feel bored and it is expected that students are able to understand and master the material because they learn based on experience directly.

According to Silberman [21] students are able to learn as well from concrete experience based on activity, and according to Khanifatul [12], a teacher should be able to invent learning situation which encourages students to learn to gain the knowledge, value, and skill. This active learning is already been researched before by Ikaningtyas [10], Baharun [5], Lau [14] who revealed that the application of active learning that can enhance students achievement and liveliness through action class research. This research is already properly selecting active learning as a solution, however, in the previous researches that have mentioned

before, this research has different focuses on students, material, and type of active learning. This research focuses on students of elementary school with history material that uses active learning type card sort. Hence, it is known that this research is never researched before, and the researcher interested in doing research. There are several steps that the researcher does before research that is, observe the steps of action research class, then scheme the learning design uses card sort fit to the material, time, and students character.

II. LITERATURE REVIEW

A. Learning Achievement.

Arifin [2] states the word "achievement" comes from the Dutch language that is prestatie and in the Indonesian language it becomes "prestasi". Learning achievement is a measurement which is done by the teacher that reflects the level of material mastery for students in a form of number or statement [23].

Moreover, learning achievement is the level of students succeed in achieving the learning activity which is set in a program that stated into a symbol, number, or word in the certain period [24] [25]. This program, for instance, is done after learning the material every chapter by giving a daily test, mid-term test, and final test to know how far do students understand the lesson after teacher delivers it. Students are given a test to know students achievement after learning with the teacher. As states by Riduwan and Akdon [19] that learning achievement test is used to measure someone achievement after learning something. By understanding the students' achievement, the students' achievement in the class is able to be identified. Do the students categorized as high, medium or less. Moreover, Syah [24] also states that learning activity can be said efficiently if there is an effort in certain learning that gives high learning achievement. Thus, a learning process is called success if students gain a proper achievement.

Arifin [2] proposes the principal function of learning achievement comprised of 1) learning achievement as indicator of quality and quantity of knowledge that students mastered, 2) learning achievement as a symbol of curiosity, 3) learning achievement as material information in innovation of education, because it encourages students to enhance science and technology, also has a role as feedback in increasing the quality of education standard, 4) learning achievement as intern and extern indicators from educational institution. As intern indicator means that it can be contrived as an indicator of educational institution productivity. Whereas, extern indicator means low and high of learning achievement that can be used as an indicator of students succeed, 5) learning achievement can be used as an indicator of students absorption ability (students intelligent).

In elementary grade, social science contains materials namely Geography, History, Sociology, and Economic. It fits Trianto's notion [26] who said that social science regarded as the alliance of various social science branches namely sociology, history, geography, economics, politic, law, and culture. Moreover, Sapriya [20] states that social science in elementary school is the name of a lesson which is stand-alone as the alliance from the amount of social science disciplinary concept, humanities, science as far as kinds of problem and issue in social life. Social science material for elementary grade does not look from disciplinary concept because which is more intended is pedagogical, psychological, and characteristics of students ability in thinking which is holistic. It is because, social science in elementary grade is aimed to set up students as citizens who master knowledge, skills, attitudes, and value that are able to be used as the capability to solve social and personal problems, also capability to take a decision and participate on every community activities for being a good citizen in their own country.

Based on several ideas from the experts above, it can be understood that learning achievement of social science is the level of students success in mastering social science lesson that comprised of History, Geography, Economic, and other social sciences after following the learning process which is avowed into a symbol, number, or word in cognitive aspect. The measurement of learning achievement of social science is done by using a test which is due to the stage of cognitive-related social science material that has been taught. Learning achievement is used to know the capability of each student, do the students already understand with the social science material or not during the learning process, so that the teacher is able to make an evaluation and reflection for social science learning activity which is done. In this research, the learning achievement of social science that is researched is history material.

B. Active Learning

Active learning is the teaching method that involves students to be active in the learning process [27]. Active learning conducts the students to always do the learning experience which is meaningful and also thinking about what can be done along the learning. Active learning involves students to do and think of something that they are doing. Whereas, Yamin [26] stated that active learning is a human effort to build knowledge for itself. In the learning process is occurred an alteration and rise of ability, students skill and knowledge either cognitive, psychomotor or effectiveness.

According to the ideas above, Zaini, et al [1] active learning is a learning process which invites students to learn more active, it means that it is dominated the learning activity. By active learning, students are actively using their brain to find out the main idea from the material of lesson, solve the problem, or apply what they have already learned into one of the problems in the concrete life. This active learning urges students to involve in all learning process, not only mentally but also physically. The use of this method, students usually will feel the environment to be more fun, so their learning achievement can be maximized. It is corresponding to Baepler & Walker research [3] that class which uses active learning will generate positive education. That matter happens because of the active learning constitutes one of the learning processes that involves physic effectively that gives effect for students in learning achievement [9] [17].

Learning is not only applied by memorizing [21]. It is suitable with a statement of Muhtadi [16] who proposes that learning is not only memorizing process amount of facts or information, however, it constitutes of mental phenomenon and experience process. Hence, the learning process should be focused on students by using active learning. Active learning is proven able to enhance students achievement compares with conventional learning [4] [8]. Silberman [21] proposes about 101 types of facilitating and help the

instructor does the learning process actively with lots of choices. From 101 types of active learning, there are true or false, the study group, card sort, learning tournament, and quiz team.

Based on several ideas of experts above is concluded that active learning is a learning process which involves students to always do learning experiences that meaningful. This research, researcher chooses type card sort as learning alternative that is used to enhance learning achievement in the history lesson for fifth-grade students at SD N Krawitan. Card sort type (sort out and choose card) is a collaborative activity which is able to be used to teach a concept, character classification, fact of a certain object, or repetition of information [21]. The Steps of the use of type card sort in this research refer to a type that is found by Silberman by conforms the history lesson as follow:

- Students discover the information by reading the material.

- Students listen the explanation of learning instruction uses card sort.

- Each student is given a card randomly.

- Students are asked to move and walk around the class to find out their friend who has the same category.

- Students in a group do a discussion.

- Students in a group stick each their card upon the media.

- Every group presents their teamwork.

III. MATERIAL & METHODOLOGY

A. Data

Based on the problem that happened on students achievement, the technique for collecting the data is in a form of a test to measure students achievement with test instrument that it is in multiple-choice format according to the material and assessment that already adjusted on basic competence and indicator of social science in history lesson that is going to be reached. The instrument of the test is amount 20 questions for every pretest and post-test in each cycle. The instrument of learning achievement which is in a form of test on this research has already been checked its validation by the expert lecturer and convenient with difficulties level of the questions from taxonomy blooms (C1-C6). Moreover, it is supported by field notes during the learning process. Furthermore, the steps for analyzing the data in this research is data assessment, descriptive analysis after calculating the result of students achievement every final cycle and pretest quantitatively. The formulas which are used to measure the result of students achievement as follow:

The final score of students learning

$$NA = \frac{Students\ score}{total\ score} \times 100$$

Note:

NA: Final Score

Find the average score of class
Daryanto [6] to find average score uses this formula :

$$\overline{X} = \frac{\Sigma x}{N}$$

Note :

$\overline{X}$: average (*mean*)

ΣX : total score

N : quantity of subject.

Learning completion

The formula to calculate the percentage of learning completion according to Daryanto [6] as follow:

$$P = \frac{\Sigma\ students\ who\ complete\ the\ study}{\Sigma\ students} \times 100\%$$

Note :
P : percentage of completeness score

Based on the calculation which is obtained then it is analyzed to attain conclusion by using the triumph of learning completion table according to Djamarah & Zain [7], that is :

TABLE I. TRIUMPH OF LEARNING COMPLETION

Level of Triumph	Qualification
85%-100%	Excellent
70%-84%	Good
55%-69%	Fair
46%-54%	Less
0%-45%	Very less

B. Method

Based on the problem that occurred in fifth-grade at SD N Krawitan 2016/2017, the method that is used in this research is action research class (action research class uses Kemmis and Mc Taggart model that is known as a spiral model). The purpose of this research is to enhance learning achievement of social science in the history lesson for fifth-grade students at SD Krawitan. The research subject of this research is the entire of fifth-grade students amount of 17 students comprised of 10 male students and 7 female students.

This research is held until the second cycles. The first cycle is held with scheming, action, and observation, and reflection from the action that is done does the process need to fix it for the next cycle. From both cycles use the same method namely active learning type card sort. In each step that is done in every cycle must be discussed with the teacher to minimize the problem either the students or the learning process.
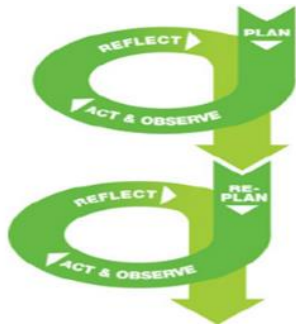
Fig. 1.   Kemmis Mc Taggart Spiral Model

Cycle I

1.   Plan

2.   Act & Observe

3.   Reflect

4.

Cycle II

1.   Revised Plan

2.   Act & Observe

3.   Reflect

IV.   RESULTS AND DISCUSSION

A.   Result

TABLE II.   LEARNING ACHIEVEMENT OF SOCIAL SCIENCE PRE ACTION

No	KKM		Percentage		Mean	Score	
	T (≥ 60)	BT (< 60)	T	BT		Max	Min
1	1	16	5.88%	94.12%	38,53	65	15

Note :
KKM : Minimum completion score
T   : Complete
BT   : Incomplete

From the table above can be explained that students complete in the history lesson as many as a student or 5,88% from whole students, meanwhile students who do not complete amount of 16 students or 94,12%. The average score of the class is too slightly, it is only 38,53%. It is because there are still many students who get score <60.

TABLE III.   LEARNING ACHIEVEMENT OF SOCIAL SCIENCE

No	KKM		Percentage		Mean	Score	
	T (≥ 60)	BT (< 60)	T	BT		Max	Min
1	9	8	52,94%	47,06%	61,76	85	40

Note:
KKM: Minimum completion score
T   : Complete
BT   : Incomplete

CYCLE I

Based on the data above, it can be seen that students gain the score over the KKM are amount 9 students or 52, 94% and students who do not complete yet are 8 students or 47,06%. This result indicates that there is a loss in history lesson because students do not reach the level of triumph which is targeted amount 75% from the total of fifth-grade students at SD Negri Krawitan attain minimum completion score which is already appointed ≥ 60.

No	KKM		Percentage		Mean	Score	
	T (≥ 60)	BT (< 60)	T	BT		Max	Min
1	15	2		11,76 % 88,24%	75,59	95	55

Note :
KKM : Minimum completion score
T   : Complete
BT   : Incomplete

TABLE IV.   LEARNING ACHIEVEMENT OF SOCIAL SCIENCE CYCLE I

From the data above, it can be seen that students gain the score over the KKM are the amount of 15 students or 88,24% and students do not complete the minimum score are amount 2 students or 47,06%.
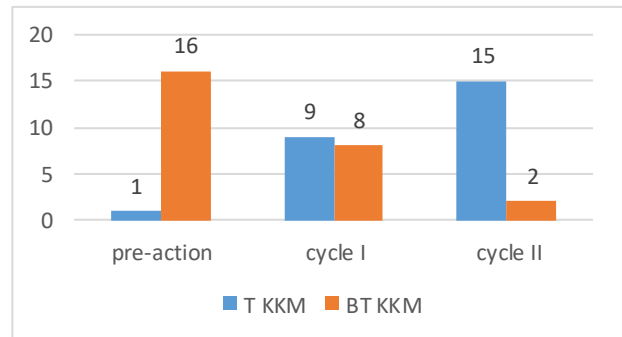

Fig. 2.   Diagram of learning achievement pre-action, cycle I, and cycle II.

From the diagram above, it can be known that there is an enhancement of the pre-action in the first and second cycle. In the pre-action stage, it is found 1 student or 5,88% from the whole students who complete the score. Moreover, in the first cycle, students who complete the score are amount of 9 students or 52,94%. After in the first cycle has done, then it is held the reflection. So, in the second cycle the number of students who have completed the score enhance into amount of 15 students or 88,24%. Meanwhile, students who do not complete yet in pre-action are amount 16 students or 94,12% become 8 students or 47,06% in the first cycle, then it becomes 2 students or 11,76% in the second cycle. Whereas, the average score in pre-action is amount 38,53 becomes 61,76 in the first cycle and then it becomes 75,59 in the second cycles

Students achievement in the history lesson that obtained is perceived quite satisfying for teacher and researcher because it has fulfilled the indicator of research triumph that has been appointed 75% from the number of fifth-grade students at SD Negeri Krawitan with minimum completion score (KKM) ≥ 60. However, in the post-test of the second cycle, it is found 2 students named MGR and K who do not

complete the minimum completion score so that both students will have repetition which is given by the teacher

B. Discussion

The research regarding the learning achievement of social science in history lesson uses active learning card sort for fifth-grade students at SD Negeri Krawitan which is held for two cycles that comprised of 4 meetings. The first cycle is held two times meeting on Wednesday, February 08, 2017 and Thursday, February 09, 2017. Meanwhile, the second cycle is held two times meeting on Thursday, February 16, 2017, and on Monday, 20 February 2017. This research is held based on the early activity of pre-action and pre-test which is held before doing an action which denotes the students' achievement of social science are low. From the research that has already done, there is an enhancement of students achievement in learning the social science of history lesson uses learning completion which is getting an increase.

The enhancement of students achievement can be seen from the percentage of students learning completion from the pre-action in first and second cycles. This enhancement due to the learning aspects that applies active learning. Active learning becomes a learning process that is fun and also convenient to the theory that is delivered by Zaini, et al [1] that using these active learning students are usually will feel the comfortable atmosphere that is more pleasure, so the learning achievement can be maximized. It denotes learning process that uses active learning card sort is able to enhance students achievement because students are involved directly as stated by Silberman [21] that students are able to learn properly from concrete experience based on the activity.

The application of active learning type card sort corresponding to its steps are indirectly encouraging students to understand the material about the preliminaries of independencies and proclamation as if students are asked to find their friend who has the same category then they should analyze the information on its card. Afterward, students with their group should discuss to sort out the card based on certain category and then analyze it. Therefore, students are able to understand the material uses active learning type card sort. Based on active learning, it can be found that students also learn responsibility among individuals and groups in solving the problem. As confirmed by Baepler & Walker [3] that active learning in groups can assign students to take responsibility for their self and their group due to the task they have.

In the pre-action test, students who complete are amount 1 student or 5.88% and students who incomplete are amount 16 students or 94,12% with average score 38,53%. In the first cycle test, students who complete the test are amount 9 students or 52,94% and students who incomplete are the amount of 8 students or 47,06% with average score 61,76%. However, this enhancement cannot be said success enough, because the percentage of students in minimum completion score does not reach ≥75% yet, although it has increased to 47.06%.

The teacher and researcher then do the reflection and strive the refinement in the second cycle for the deficiency in the first cycle can repair it. Some of the things that need to be reflected there are, remind the teacher to deliver the learning goal in the learning activity, do the refinement by modifying card sort into several colors, so it is looked more attractive

and easy to make a group and students become more enthusiastic in learning. Students are easier to find out their friend in the same category because in one group students must collect 4 to 5 different color of its cards that brings by their friend in a group which is divided into 4 groups per category. Moreover, card sort is adjusted with the material and group creation that limited for 4 to 5 students. Thus, each student can participate and does not disturb other groups. While presentation, students have pay attention to the group that presents in front of the class because students should focus to be able to accomplish the worksheet that is already been distributed. It is aimed for the learning process goes optimally so that the material of social science can be delivered properly. After the obstacle in the first cycle is able to be handled, then the students' achievement in the second cycle also increase. Students who complete the minimum completion score are the amount of 15 students or 88,24% and students who incomplete are amount 2 students or 11,76% with average score 75,59%. In this second cycle, the learning achievement of social science material is increased amount 35,30%. This result is perceived quite enough because the triumph indicator of this research is reached, and it has fulfilled the target of 75% of the amount of fifth-grade students at SD Negeri Krawitan. Furthermore, based on the observation of the learning process in the second cycle has increased compare with the first cycle.

Students achievement that is attained has fulfilled the triumph of research indicating that is already been appointed 75% from the amount of the fifth-grade students at SD Negeri Krawitan with minimum completion score (KKM) ≥ 60. However, in the second cycle post-test, there are 2 students named MGR and K who do not complete the test. So, both the students must do the repetition which is given by the teacher. Based on the result from the pre-action until the second cycle, it can be known that the use of active learning type card sort gives positive effect and it is rated succeed and be able to enhance learning achievement in social science for fifth-grade students. It convenient with research which is done by Moores et al. [15] that learning uses cards which contains knowledge are able to build skill, and learning process that is fun will develop students confidence in the discussion. Active learning also facilitates the students to gain feedback about what they are thinking and the response toward a certain issue. While students feel happy during the learning process, the students' motivation in learning will increase too. As stated by Hwang [9] that active learning is not only giving a positive effect on students achievement, however, it also motivates and satisfied the students in the learning process. Hence, the learning environment is very influential. Smith & Palmer [22] state that students respond to the school environment will generate the positive result cause of school climate namely, a) class, b) interaction between students and teacher, c) the relationship between each student with the adult counselor, d) curriculum that is meaningful and attractive. Smith & Palmer also show that there is a good relationship between academic achievement and school environment. Moreover, the class atmosphere with active learning has a positive effect on communication and it encourages the students in process of participation to be higher [13] [18].

The success of this research shows that according to the hypothesis on this research which is sound learning achievement of social science in history lesson is able to enhance uses active learning card sort for fifth-grade students

at SD Karawitan. Students to be more active, interactive, responsible, cooperative with other students, and also students want to discuss the material so that students achievement is increased. The result of the research that applies active learning type card sort is beneficial in class management while in learning process, it can help the teacher in making design of learning activity to be innovative, able to help school when it is a workshop refer to learning methodologies, and become a reference for other teachers of elementary as the teaching provision.

V. CONCLUSION

Based on the research findings and the research discussion, this research study about the enhancement of learning achievement in the history lesson for fifth-grade students at SD N Krawitan. This research is limited to learning achievement (cognitive) so it does not discuss the psychomotor and its effects. In this research, the learning process which uses active learning type card sort is able to enhance the learning achievement of social science material for elementary students. Therefore, it is known that active learning type card sort can be an alternative method that is used by the teacher in the learning activity. This method is expected able to help the teacher in scheming learning process which innovative, so it does not only enhance the students' achievement but also become a reference for other elementary teachers in learning activities. Moreover, this research can be used as the follow up of the next research for other researchers who apply the active learning type card sort method but on the different variable such as skill, critical thinking, or with another material in different learning.

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