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The Effect of *Structured Numbered Heads* Suplemented With Student Worksheet Assisted *Mind Map* on Student Learning Competence of Class X Senior High School of Siak Hulu

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ABSTRACT

The purpose of this study is to determine the effect Structured Numbered Head with student worksheet assisted Mind Map to competance learning outcame. This research is a quasi experimental. The population was students of grade X SMAN 2 Siak Hulu in academic year 2016/2017, and Simple Random Sampling and obtained class X_2 as experiment and class X_7 as control classes. The instruments used objective tests and observation sheets. The data analysis are t-test, two-way anova test and Mann Whitney U test. The results showed that competencies cognitive, affective, and psychomotor whos follow SNH equipped with student worksheet suplemented Mind Map better than conventional competence learning outcame. The value of initial ability of students 62.43 with high category while control class 61.36 with low category. The value of Competence in the Cognitive of the experimental class was 82.54 while the control class with an average scores of 62.17. The average score of Competence The affective class of experimental class 88.08 with good category while the control class 62.87 with the fewer categories. The value of Competence at Psychomotor in experimental class is 89.24 with good category while control class 64.81 with less category. There is an interaction between the learning models with the initial ability of learners in influencing the learning competence of the cognitive.

Keywords: Cooperatif, structured numberd heads, lkpd, mind map, learning competence

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INTRODUCTION

Education is a human effort to humanize humans. As a creature of God, man has the ability to speak and have a mind, so as to develop himself into a civilized being. According Hamalik (2011: 2), education is a process in order to influence learners to be able to adjust themselves as well as possible with the environment, resulting in a change in him that allows him to have a function in social life.The development of the world of education today leads to a learning process that is student centered, where learners learn to build their own knowledge. This is done to achieve the educational objectives contained in the curriculum 2013, namely that learners have the necessary competencies for community life. According to Kemendikbud (2016: 1), the competence in question is attitude competence (affective) in the form of religious attitudes and high social ethics in social life, knowledge competence (cognitive), and skill competence (psychomotor) in the form of skill or ability to apply knowledge.

Based on the results of observations of researchers on September 14 and 15, 2016 in class X SMAN 2 Siak Hulu, Kampar regency, in teaching biology teacher activities are still

using conventional learning methods of delivering the material by lecture method, question and answer and then ended by providing exercise in the form of questions written, researchers observe at the time of biology learning process took place, seen only a small percentage of learners who are actively involved and focused in paying attention to the lesson and there are still learners chat with other learners in the process of learning took place, so they seem not want to listen to the material presented by biology teacher. In addition, the cognitive abilities of learners other than caused by the low desire of learners to explore the concepts of biology through the process of thinking, is also influenced by the weakness of the initial ability of learners.

In addition to the results of observation, it can also be known from the average value of the results of the Examination Result (UH) of class X students under the determined KKM school that is 75, the average daily test score can be seen in Table 1.

Table 1. Mean score of UH Test Result on Protista Characteristic Material and Protista Role for Human class X Semester 1 SMAN 2 Upper Siak Lesson 2016/2017.

Class	number of learners	Number of Students complete	The number of students is not complete	Average value	Completeness Classical (%)
X_1	30	29	1	81,83	96,67
X_2	30	2	28	61,83	6,67
X_3	30	4	26	59,33	13,33
X_4	30	5	27	62,34	15,63
X_5	32	7	23	65,33	23,33
X_6	31	3	28	60,00	9,68
X_7	30	2	28	62,50	6,67

(Source: Teacher of Biology class X SMAN 2 Siak hulu)

From the results of interviews conducted on September 14, 2016, it was concluded that learners who are less active in the learning process such as willingness to ask, responding to questions, lack of willingness of learners to work together, learners generally tend to receive anything delivered by teachers, and still many learners who need guidance and direction in completing tasks or problems. As a result, many learners are not serious about learning. In addition, some learners do not have notebooks and they use only biological modules by underlining the biological module of the teacher's clarification. Conditions like these create teacher-dominated learning, less educated learners have the opportunity to build their own knowledge.

The Structured Numbered Heads (SNH) model is the numbered head modification used by Spencer Kagan. Structured Numbered Heads (SNH) model, which is a model of this learning can lead to learner activities because teachers assign tasks based on the number of learners so that each learner plays an active role in the group based on tasks that have been determined by the teacher (Lie, 2010: 60).

As a reading material that will be observed learners, teachers can provide teaching materials in the form of LKPD to simplify and guide learners in understanding the subject matter. "LKPD is one of the teaching materials that contains a summary sheet of material with a collection of practice questions. Students are also required to play an active role in learning

because of the work sheet to be completed. One of the benefits of LKPD assisted in learning is to stimulate the students' curiosity in following the lesson and be a solution to the limited learning materials of learners "(Angkowo and Kosasih, 2007: 55).

In this study, LKPD not only in the form of description of the material and the problems undertaken by learners, but also equipped with mind map. Researchers try to be equipped with media mind map, to improve the activity and learning outcomes, the existence of this mind map illustrates that there is emphasis concept that will be trained themselves by learners through the process of making a mind map. The purpose of the researchers use mind map is that learners can understand important concepts, terms, analyzing images.

Based on these problems, the researcher is interested in conducting research entitled "The influence of cooperative learning model type of LKPD-assisted Structured Numbered Heads (SNH) with Mind Map on learning competence of XAN SMAN 2 Siak hulu".

MATERIAL AND METHODS

This type of research is experimental research. In this study, performed the manipulation of conditions by providing treatment or create a condition or stimulus on the subject under study. This study included quasi experiment (quasi experiment) because the variables can not be fully conventional as pure experiments.

In this study learners are divided into two classes, namely experimental class and conventional class. The experimental class is the learner given treatment using cooperative learning model type Structured Numbered Heads, while the conventional class uses the conventional model. The research design used is factorial design 2 x 2 for cognitive domain competence and Posttest-Only Control Design for the competence of affective and psychomotor spheres.

Determination of high and low initial abilities of learners is grouped by dividing test followers by a percentage of 50% of the upper group and 50% of the lower group, before all groups are divided. Scores obtained by learners are determined from the top score to the bottom score first.

a. This research was conducted in class X in SMAN 2 Siak Hulu Kabupaten Kampar. The time of this research is conducted in semester 2 (even) of the lesson year 2016/2017. In this study, two classes were taken, one class as a class which was taught by cooperative learning model of LKPD supported Structured Numbered Heads (SNH) equipped with Mind Map and one class as class which was taught by conventional learning. Of the 7 classes in SMAN 2 Siak hulu there is a class 1 class that is class X1 which UH 1 data is not included in the processing for sampling, because the class has a classical completeness that is far different from the other class. To determine the sampling technique performed the following steps:

b. Collecting UH values 1st grade X SMAN 2 Siak Hulu Academic Year 2016/2017, UH value of 1 learner can be in Appendix 1.

c. Carry out a test of normality

1) Conducting normality test on test data obtained by Kolmogrof Smirnov test. This test aims to determine whether the population is normally distributed or not. Each class in the population is greater than 0.05. Thus it can be concluded that the population data is normally distributed.

2) Conducting homogeneity test of variance, this test is done by using Levene test. From the homogeneity of variance obtained sig value = 0.162. Because the sig value. greater than 0.05, it is concluded that the population data has a homogeneous variance.

d. Test the average equality using one-way ANOVA test. From result of equality test average obtained by sig value. Since the sig value is greater than 0.05, it is concluded that the population data has an average similarity.

e. Sampling

Because the population data have been known to have the average equation then the sampling is done by Simple Random Sampling technique that is by drawing using a roll of paper which amounts to 6 rolls containing the class name, then do a random picking by taking 2 rolls of paper at once. The first open class is class X2 defined as a class that is taught using SNH type cooperative learning model and the second open class is class X7 as a class that is taught using conventional learning.

RESULTS AND DISCUSSION

Research Results

Data description: The data obtained in this study in the form of competence learn biology learners in the realm of cognitive, affective, and psychomotor. Data on the cognitive domain was obtained after the learning process of two basic competencies was completed, while the data on the affective and psychomotor aspects were obtained from the observer's observation during the learning process using the LKPD-assisted LPSP-supported Structured Numbered Heads (SNH).

Data description competence cognitive sphere: The data of cognitive domain learning competence in this study was obtained through the assessment conducted at the last meeting of each one of the basic competencies. This assessment is done through a final test by a written test technique in the form of multiple choice questions given to both sample classes. Overall, biological learning competence data after being given treatment revealed information about the total score, highest score, lowest score and average sample grade. Data of competence study of learners cognitive domain is presented in Table 2.

Table 2. Average Values Learners of the sample class of Cognitive Sphere Competence

Class	Initial ability	N	$\bar{X}$	Xmax	Xmin	S
Experiment	High	15	87,96	96,97	83,56	3,67
	Low	15	77,13	82,13	70,06	3,34
All		30	82,54	96,97	70,06	6,5
Conventional	High	15	68,54	77,63	61,19	6,62
	Low	15	55,81	59,72	50,72	2,88
All		30	62,17	77,63	50,72	8,2

Based on Table 12. It can be seen that the learning competence of the cognitive domain of learners get the maximum and minimum score, the average value of the final test of learning competence of cognitive domain of experimental class is 82,54 and the conventional class is 62,17. The standard deviation also shows the experimental class gets the highest score compared to the conventional class.

Description of competence data of affective sphere: Research data on the affective aspects obtained through observations made by three teachers as an observer using the format of assessment of affective aspects of learners at the time of the learning process takes place. The affective field competence research data is presented in Table 3.

Table 3. Experimental and Conventional Classroom Affective Scores

Class	N	$\bar{X}$	Xmin	Xmax	S
Experiment	30	88,08	79,17	93,06	3,2
Conventional	30	62,87	56,25	68,06	3,0

Based on Table 3. It can be seen the average value of the affective aspect of learners filled by the observer in the experimental class obtained the maximum and minimum value of 88.08 and that using conventional learning is 62.87.

Description of psychomotor domain competence data: Research data on the psychomotor aspect obtained through observations made by two teachers as observers using the format of psychomotor domain assessment of learners during the learning process takes place. Psychomotor domain competency research data are presented in Table 4.

Table 4. Scores of Psychomotor Experimental and Conventional Classes

Class	N	$\bar{X}$	Xmin	Xmax	S
Experiment	30	89,24	84,09	94,32	2,4
Conventional	30	64,81	51,14	71,59	4,2

Based on Table 4 it can be seen that the total value of the psychomotor domain of learners filled by the observer in the experimental class obtained a higher average than the conventional class.

Testing requirements analysis: The analytical requirement test was performed before continuing to hypothesis test, the first test was a normality test using Kolmogrov-Smirnov test and homogeneity test of variance using levene test with SPSS software. If the data is normally distributed and homogeneous then the hypothesis testing using t-test.

Normality test: The normality test carried out on the competence of the cognitive domain was performed on the average of KD 1 and KD 2 tests of experimental class and conventional class, and also the high initial ability value of experimental and conventional grade, while for affective and psychomotor competence value was done on average observation value for 6 meetings. Normality test is done by using Klomogrov-Smirnov test with the help of SPSS software. Testing criterion is accept H0 if sig value. > real level (α = 0.05). Test results Normalities of experimental class and conventional class can be seen in table 5.

Table 5. Test Results Normality Competence Cognitive Sphere Class Experiment and Class conventional.

Descriptive		Competence learners learners	
Class	Ability	Sig.	Information
Experiment	High	0,200	Normal
	Low	0,083	Normal
	Total	0,189	Normal
Conventional	High	0,115	Normal
	Low	0,120	Normal
	Total	0,103	Normal

Homogeneity test: Homogeneity test was performed on the variants of the two sample groups with the cognitive domain of the learner in the experimental class and the conventional class using the Levene test. The homogeneity test results can be seen in Table 6.

Table 6. Homogeneity Test Competence of the cognitive domain of the experimental class and the conventional class.

Deskriptif		Competence learners learners	
Class	Ability	Sig.	Information
Experiment	High	0,627	Homogen
Conventional			
Experiment	Low	0,627	Homogen
Conventional			
Total		0,289	

Based on Table 6. It can be seen the results of homogeneity testing on both samples shows the sig value. 0.289 Thus, the cognitive domain competence of both samples has homogeneous variance.

Hypothesis Testing

The first hypothesis: This first hypothesis is used to determine the influence of cognitive competence learning competencies.

Table 7. Results of the first Hypothesis calculation

Class	$\bar{X}$	t_{hitung}	t_{tabel}	Information
Experiment	82,54	10,668	1,671	H_1 received
Conventional	62,17			H_0rejected

Based on Table 7. Can be seen in the competence of the cognitive domain of learners to obtain tcount of 10.668, while the ttable is 1.671. From the data obtained thitung> ttabel means hypothesis accepted.

The second hypothesis: This hypothesis is to know the influence of learning competence of cognitive aspect of high learning skill.

Table 8. Results of second hypothesis calculation

Class	Ability	$\bar{X}$	t_{hitung}	t_{tabel}	Information
Experiment	High	87,96	9,931	1,671	H_1 received
Conventional		68,54			H_0rejected

Based on Table 8. It can be seen that the t test competence of the cognitive aspect of students with high initial ability to obtain t count of 9.931 while ttabel is 1.671. From the data obtained t count> t table mean hypothesis accepted.

The third hypothesis: This hypothesis is to know the influence of learning competence of cognitive domain of low initial skilled learners.

Table 9. Results of Third Hypothesis Calculation

Class	Ability	$\bar{X}$	t_{hitung}	t_{tabel}	Information
Experiment	Low	77,13	18,730	1,671	H_1 received
Conventional		55,81			H_0rejected

Based on Table 9. It can be seen that the t test on the competence of the cognitive domain of low-ability early learners obtained t count of 18.730, while the ttable is 1.671. From the data obtained thitung> ttabel means hypothesis accepted.

Fourth hypothesis: This fourth hypothesis is used to determine the effect of learning competence of the affective aspects of learners following the cooperative model of LKPD-assisted Structured Numbered Heads (SNH) equipped with Mind Map.

Table 10. Results Calculation of the fourth hypothesis

Source of Variance	Sum of Square	Degree of freedom	Mean Square	F_{hitung}	Sig.
Line (Initial ability)	9034,892	1	9034,892	639,642	0,000
Column (Learning model)	2011,330	1	2011,330	142,396	0,000
Interaction	8,385	1	8,385	0,594	0,444
Error	790,995	56	14,125		
Total	308141,868	60			
Corrected Total	11845,601	59			

Based on Table 10. It is known that the competence of the affective domain of learners obtained Fhitung of 0,594, while Ftabel is 0,444. From the data obtained Fcount> Ftabel means it can be concluded that there is influence of competence affective field of learners.

The fifth hypothesis: This hypothesis is to know the influence of learning competence of affective aspect of learners that follow cooperative model of Headed Letters (SNH) with LKPD equipped with Mind map better than learning competence of affective learners who follow conventional learning.

Table 11. Fifth Calculation Result

Class	Sig.	α	Information
Experiment	0,000	0,05	H_1 received H_0rejected
Conventional			

Based on Table 11. It can be seen that Sig. <0.05 ie 0,000 means the hypothesis is accepted.

The sixth hypothesis: This hypothesis is to know the influence of learning competence of psycomotor domain of learners who follow cooperative model of headed-aided LKPD structured numbersed heads (SNH) with Mind map better than learning competence of affective learners who follow conventional learning.

Table 12. Result of the sixth calculation

Class	Sig.	α	Information
Experiment	0,000	0,05	H_1 received H_0rejected
Conventional			

Based on Table 12. It can be seen that Sig. <0,05 ie 0,000 in U test on psychomotor domain competence of learner using cooperative assisted LKPD-assisted Structured Numbered Heads (SNH) model with Mind map better than learning affective learners competence competitiveness that follow conventional learning.

Discussion: Based on the results of statistical analysis, the results of the hypothesis test showed that the average of biology learning result obtained by learners with cooperative learning of LKPD-assisted structured assisted learning (SNH) equipped with Mind map had positive impact compared to conventional learning biology learners. This is evidenced from the analysis of experimental class data treated in the form of cooperative learning of LKPD-assisted Structured Numbered Heads (SNH) equipped with Mind map is better than conventional class that is not given treatment. These findings are supported by researchers Haydon, T., Maheady, L. and Hunter, W (2010) indicating that in learners with a diversity of disabilities, the application of SNH type cooperative learning model can improve on-task activities and provide a significant influence on improving learning achievement of learners.

Interaction achievement learning model with early ability learners: The results of the calculation for hypothesis testing conclude that there is interaction between cooperative learning model Structured Numbered Heads (SNH) with students' early ability to biology study competence. That is the learning outcomes of learners using cooperative learning model Structured Numbered Heads (SNH) can be improved by looking at the initial ability of learners first. Interaction is a dependency relationship between a variable with another

variable at a certain level of real. This can be seen from the change of learning outcomes of learners, whether in whole or seen from their respective initial capabilities.

Early ability of learners is the ability that has been possessed by the learner before following the lesson to be given. This initial ability describes the readiness of learners in receiving lessons to be conveyed by the teacher. The initial ability of the learner is important for the teacher to know before he / she starts with the learning, because it can be known whether the learners have knowledge which is a prerequisite to follow the learning to what extent the learners already know what material will be presented. This is in line with the opinion of Shah (2009: 121) that "Early ability is derived from prior learning experience required as a prerequisite for knowing a change".

The initial ability of the learner is determined by giving the initial test, the learner's ability is important for the teacher to be able to provide the correct dose of lesson, not too difficult and not too easy. This is in line with Harjanto's opinion (2006: 128) Initial ability is also useful to take the steps necessary to understand new capabilities. "Initial capacity is lower than new ability in learning, early ability is a prerequisite that must be possessed by learner before entering next higher subject matter lesson". Sudjana (2002: 158) explains that a learner who has a better initial ability will more quickly understand the material than the learner who does not have the initial ability in the learning process

Initial capability can be derived from the value gained before the new material is obtained, the initial ability is a prerequisite that learners must possess before entering the next higher learning material. Slameto (2010: 25) states "How new materials can be studied well, depending on what is known (advanced organizers). The initial skill test in this study is the same as the final test of biological learning outcomes, the goal is to see the difference in the acquisition of the biology learners' outcomes early on before being given the model lesson. From the description, in line with Slameto (2010: 3) as a result of learning, the change in a person takes on a continuous, non-static basis. One change will cause the next change and will be useful for life or learning process.

Achievement of LKPD equipped with mind map: By using LKPD as a learning medium, teachers can check the extent to which the ability and understanding of learners to the concepts that have been studied. LKPD is a learning media tool that contains a sheet of paper in the form of information and questions that must be answered by learners (Teacher Certification Committee, 2011: 144). This is in line with Zamroni's opinion (2004: 55) "LKPD is a sheet that contains the tasks that must be done learners".

The map of thought is the expression of radiant thinking which is a natural function of the human mind. This mind map is an expression of the unlimited unlimited potential of the human brain, applied in various aspects of life and training learners in thinking (Arnyana, 2007: 680). In parallel, the mind map is a creative recording method that allows us to recall much of DePorter's information (2005: 175-176) in Choiriasari (2012).

When the Mind map is organized in a structured manner, a more general and more inclusive concept should be on the map and more specific. The structure of the Mind map also makes learning meaningful and easier as a new concept, with the meaning of the concept being entered and wider. This is in line with Buzan's opinion (2008: 4) in Ningsih (2010) "Mind map is a creative, effective, and literal way of recording that will map thoughts". Chei-Chang Chiou (2008: 4) states that the Mind map is usually regarded as a network structure, with the aim of helping learning and understanding, the part of a given Mind map can be considered a tree-like structure, the image being the approach adopted in writing.

Learning that apply LKPD equipped with Mind Map has more significant effect on cognitive learning outcomes than lecture and question and answer method in conventional group. Make a mind map like playing while learning because while noting learners also doodle their white paper with markers and crayons of various colors. Bobbi De Porter and Mike Hernacki (2003: 173) reveal the mind map improves understanding and fun because it combines unlimited creativity and imagination. Learning to apply the mind map also increases the participation of learners to actively take note compared with ordinary learning.

In the experimental class applying LKPD equipped with Mind Map, learners are invited to understand ecosystem material and environmental pollution in a more pleasant way. Tony Buzan (2007: 4) states that the mind map is an easy way to extract information from within and outside the learner's brain. Teachers with learners dig material from experiments, discussions, LKPD, source book, and delivery from the teacher itself. The result of mind map in the form of color, line, picture, is an interpretation of the work of the right brain of learners in the form of imagination, color, and dimension (Tony Buzan, 2008: 6). This shows that learners are able to create their own mind maps based on the material they receive from various sources.

Learning by using LKPD equipped with Mind Map to make students more focused and eager in learning, they also claim to better understand the subject matter with learning like this. Before applied with the use of LKPD equipped with Mind Map, learners are still difficulty in understanding the material given by the teacher. Learners listen to the explanation given by the teacher, take notes and do the exercises given. Meanwhile, during the implementation of learning with the use of LKPD equipped Mind Map, learners who find themselves in accordance with the concepts given and solve problems in the form of questions given. In accordance with the opinion of Azlina (2010: 5) learning model of LKPD-assisted Structured Numbered Heads (SNH) equipped with Mind map can improve the oral communication of learners, because learners have plenty of time to discuss and reflect on their ideas with other learners.

Achievement of learning competence in the cognitive sphere: The results showed that the cognitive domain learning competence can be improved by using cooperative learning model LKPD-assisted LKPD-assisted LKPD cooperative type with positive impact. This can be seen from the acquisition of the average value of experimental class learning outcomes

higher than the students in the conventional class given, which obtained the average learning outcomes of 82.54 experimental class and 62.17 conventional class, the average of these learners it is seen that the values of the two sample classes differ.

Based on the data analysis, experimental class given treatment using LKPD-assisted LCPD supported learning model with Mind map has higher learning outcomes compared to conventional class. This is because SNH type cooperative learning model that applies the principle of cooperation and individual responsibility to the experimental class. (Lie, 2010: 60). Jannah, et al. (2013) states that the model of cooperative learning type SNH is a model of learning that makes learners not only depend on group friends in completing the task. When learners become learning centers, the participation of learners will increase and thinking activity also increases which will eventually increase and thinking activity also increases which will ultimately be able to improve cognitive learning outcomes (Supiandi and Julung, 2016: 63).

In the learning of LKPD-assisted Structured Numbered Heads (SNH) equipped with Mind maps, learners will be trained to think critically in solving problems, and formulate personal ideas and share ideas with other learners. In addition, the LKPD-assisted Structured Numbered Heads (SNH) supported by Mind map provides opportunities for learners to hold opinions and listen to the opinions of other learners. The cognitive competence of learners can also be improved when they have been motivated to learn and tend to seek out various sources of information to improve their understanding (Adnan, 2011: 8). The process of information retrieval and processing done to increase the understanding of learners directly will also affect the skills.

When discussing with group members, learners make adjustments to the understanding of the material. In other words, through the efforts made by a learner on a topic, one learner examines or matches the compatibility of his / her partner's explanations with the insights he / she has. If the information is not appropriate, then learners try to resolve the conflict that occurred in his mind. If misconceptions are straightened out in this way, learners gain insight into matter and retention of matter lasts longer in thought. In line with Nurhadi (2004: 120) Learning SNH has several advantages such as in the development of potential learners in social integration, mutually motivate friends, and sharing because learning from peers will have a positive effect on success in learning. Similarly for learners who can share with friends in need, because success in learning is higher because we can learn from what we have said.

Initial ability of learners on the learning process gives influence to the cognitive competence of the students. To realize the quality of learning in the classroom one effort that can be done by the teacher according to Harjanto (2006: 20) by classifying learners based on the ability so that teachers can know the early ability of learners before the learning takes place. Highly skilled learners have an effect by using cooperative learning models compared to learners using conventional learning.

Achievement of learning competence in affective sphere: The result of the observation of the competence of the students' affective aspect conducted by the observer, obtained the competence affective field data of the students in the experimental class is significantly better than the affective competence of the conventional class learner. Competence of the affective sphere of learners in the experimental class as a whole obtains a good criterion.

Learners in the experimental class in the participating learning process because in this learning model requires learners to contribute opinions with their partners, and learners must also be able to respond to friends who argue without mutually dropping friends. This is in accordance with what is stated in Majid (2014: 251) that in the learning process students need to have a positive attitude, with a positive attitude in the students will grow and develop the intention of learning, will be more easily given the motivation, teaching lessons.

Curiosity is a product of cognitive development (Santoso, 2011). The curiosity of learners will improve the critical thinking skills of learners. This is in line with the research of Ardiyanto (2013) that curiosity makes learners become active thinkers who will then motivate learners to learn something in depth.At the time of the process of the students answer the questions given by the teacher in the form of Student Discussion Sheet (LKPD), during the process of learning takes place visible learners eager answer questions and answers focused on the given learning materials. Learners also look responsible and serious in solving problems, and socializing each other in the discussion. This is as expressed by Lie (2002: 65) that cooperative learning can encourage learners to cooperate maximally in accordance with the state of the group.

In conventional class using conventional learning model learners are still less active in the learning process. Learners are still less cooperative, responsible for discussion because the concept of understanding of the material is low. So that causes learners less confident in asking, responding, and responding to questions asked by teachers and when discussing. Curiosity makmbuat man can solve every problem and thinking that exist in his mind (Santoso, 2011).

Achievement of learning competence in psychomotor area: The result of observation of psychomotor domain competency of learners conducted by observer, obtained the psychomotor competence data of experiment class learners is better than conventional class. Competence of the psychomotor domain of learners in the experimental class as a whole obtains good criteria.

The high acquisition of competence in the experimental class also gives a positive influence of learning using LKPD-assisted Structured Numbered Heads (SNH) model that is equipped with Mind map where learners are required to be more skilled in communicating and actively participating in presenting the results of the discussion in front of the class, skilled in writing the results of the discussion with neat, clean, and legible. This is what Lord

(2001: 31) discusses that group discussions make learners talk more often, ask questions, and engage directly in learning, than teacher-centered learning.

According to the theory of constructivism, one builds knowledge based on experience gained in a meaningful way. This theory states that learning is a process that requires physical (psychomotor) and intellectual involvement. The process of making products in the form of Mind Map makes learners more active in the learning process and they can apply what has been learned into everyday life. The process of making Mind Map also increases the learner's chance to think and build his knowledge. Mind Map creation refers to the process and performance resulting from the ideas that the learners have. Needed coordination between cognitive aspects including psychomotor ability, and affective in creating idea to make this Mind Map product.

CONCLUSIONS

Information in this study, learning competence of learners by using cooperative learning type LCPD-assisted Structured Numbered Heads (SNH) with Mind map has significant effect on learning competency of Class X SMAN 2 Siak Hulu students. The advantage of this learning model is that every learner becomes ready for all, can conduct the discussion seriously, can train the independence and responsibility of learners become more active as a whole in the learning process as well as learners who are good at teaching students who are less clever so influential increased competence of the cognitive, affective and psychomotor domains.

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