# Implementation of "Make a Match" Type of Cooperative Learning Model Assisted With Student Worksheets (Lkpd) to Improve VII Grade Students' Learning Competences in Natural Science Subject in SMPN 5 Padang

Irma Yenni[1], Yuni Ahda[2]

[1]Student of Master Degree Program Biology Education program,
FMIPA State University of Padang

[2]Lecturer of Biology Education of Post-Graduate Program,
FMIPA State University of Padang

**Abstract -** The purpose of the research was to know the improvement of students' cognitive competence in learning IPA by implementing "make a match" type of cooperative learning model assisted by student worksheets (LKPD) in SMPN 5 Padang. This research was a Classroom Action Research. It consisted of two cycles. Each cycle included planning, acting, observing and reflecting stages. The subject of the research was 32 students of grade VII7 in SMPN 5 Padang in academic year 2017/2018. The instruments used were students' test, camera recordings and field notes. The data of the research were analyzed in descriptive qualitative method.

The research finding showed that the implementation of "make a match" type of cooperative learning model assisted by LKPD can improve students' cognitive competences from cycle I to cycle II. The percentage of cognitive competence mastery in cycle I was 78% (good enough). Meanwhile, in cycle II, the percentage of cognitive competence mastery was 94% (very good). So, it can be concluded that through implementing "make a match" type of cooperative learning model assisted by LKPD, it can improve VII7 grade students' cognitive competences in learning IPA in SMPN 5 Padang.

Keywords - Implementation, Make a Match, Student Worksheets (LKPD), Learning Competences.

## I. INTRODUCTION

Learning can be defined as acquiring of new knowledge and changing attitude, which are used by students to develop their own potencies. The knowledge gotten by students is influenced by teacher's roles in doing learning process. In learning process, teacher plays an important role in facilitator, motivator and classroom manager (Sadirman, 2008). Learning process in the classroom is not only to transfer knowledge from teacher to students, but also a process to set students' environment to learn actively.

Teacher is one of educational compenents who determines quality of the education and facilitates the learning objective achievement. S/he should be able to improve students' potencies to make them independent, creative, and competent in learning to support their daily lives. In designing a learning activity effectively and conducive, s/he should be able to understand an appropriate learning strategy, use appropriate learning media, and provide learning materials which make students involve actively in learning process.

Teacher should have ability not only to use the appropriate learning strategy, but also to design learning materials which can support students' success in learning process. According to Prastowo (in Putri, 2017), the learning materials have important role in

learning process in order to make students more skilled, creative and innovative to understand the materials they are learning. One of the learning materials is student worksheets (LKPD). The LKPD is a form of learning materials which contains summaries of learning materials which can lead students to learn more easily and independently and to do exercises in it to strengthen their comprehension about the materials (Majid in Sukmawati, 2015). The use of LKPD can facilitate both teacher and students to do learning process in order to be more focused.

Beside that, it also influences learning activities and outcomes because it can make students learn by themselves and facilitate them to understand the materials scientifically. In this research, it is also used scientific approach LKPD to assist the use of "make a match" learning model in the classroom.

In order to create interactive, enjoyable, comfortable, and effective learning atmosphere, it should be initiated by making detailed learning plans. It should be in line with the explanation in process standard, which states that learning activities are implemented in an educational unit interactively, ingratiatingly, in inspirational and challenging way, able to motivate students to involve actively, and give opportunity for them to develop themselves according to their talent, interest, and physical and psychological developments (Permendikbud, 2016).

In learning process, students are expected to be able to develop their thinking pattern and involve actively. To actualize the effective learning condition, students' participation is demanded in learning process. They are also expected to construct their knowledge by using their thinking ability in memorizing, comprehending, applying, analyzing, evaluating, and creating. To reach students' activeness in learning process, a teacher has to act as a facilitator.

Learning is a series of planned and sustainable activities which involves teacher and students interaction in achieving an established learning objective. Learning Natural Science (IPA) helps students to study their natural environment and gives direct experiences to develop their competences so that

they are able to understand their surrounding through "find out" and "act" and it will help them to get deeper experiences (Mikran, 2012).

In 2013 Curriculum Development Guidance, it is mentioned that learning IPA in Junior High School is implemented in integrated-based. It is developed in scientificbased emphasizing on aspect of scientific process. Substantially, IPA can be used as a tool to develop students' affective, cognitive and psychomotor domain competences. The implementation of IPA learning can give learning experiences which develop ability of reasoning, planning and doing scientific experiments, and using knowledge to understand natural phenomena around them.

Lack of students' competences in learning IPA indicates that the learning process does not go effectively. Students' achievements are not appropriate with the demand of assessment done by teacher. One of the causes of the problem is the use of inappropriate learning strategy. Generally, teacher often uses lecturing method in delivering learning materials. In fact, it makes students feel bored and less interested in learning because it is only one-way communication. In this learning model, teacher explains learning materials in front of the classroom and students only listen to the teacher's explanation.

Referring to the problem above, learning process should be changed to be more enjoyable for students. According to Slavin (in Sirait & Putri, 2013), learning process which involves students is an effort to build and develop students' activeness, creativity and interest in learning situation. In this case, it needs the use of an innovative learning model so that students can construct their own knowledge. They should be considered as learning subject that should find out and construct their own knowledge so that the concept understanding is actualized.

Based on the explanation above, teacher needs to choose an appropriate learning model to use in the classroom. There are many types of cooperative learning model which can improve students' learning

activities. However, teacher should adjust it with characteristics of students and learning materials. Therefore, for this research, "make a match" type of cooperative learning model is chosen because it is appropriate with characteristic of students' learning styles. According to Thakur (2017), the appropriate learning model used by teacher can influence students' learning style so that it will improve students' success in learning process. Problems of students' lack of concept understanding and passiveness in learning process will be solved by using this type of cooperative learning model. So, by using this learning model, it is expected that students can enjoy learning process and it can improve their understanding about learning materials they learn (Huda, 2013).

Based on the explanation above, it is interesting to do a research entitled "*Implementation of "make a match" type of cooperative learning model assisted with students worksheets (LKPD) to improve VII grade students' learning competences in natural science subject in SMP N 5 Padang"*.

## II. RESEACH METHOD

The research was a Classroom Action

Research using "make a match" type of cooperative learning model assisted by LKPD. The purpose of Classroom Action Research done by a teacher is to improve his/her performance in teaching which is done in form of cycles so that it can improve students' learning competences (Tampubolon, 2013). This research was done in two cycles. Each cycle consisted of planning, acting, observing and reflecting stages. The subject of the research was 32, consisted of 17 males and 15 females, students of grade VII7 in SMPN 5 Padang in academic year 2017/2018. The learning materials used in this research were earth structures and natural disasters arisen by them. The techniques of data collection were by doing preliminary observation before doing cycle I and giving tests which were used as a guidance to determine learning achievement appropriate with learning indicators after learning processes finish. The instruments used were students' test, camera recordings and field notes.

## III. FINDING AND DISCUSSION

### A. FINDING

Every cycle consisted of 3 meetings. Topic of learning material in cycle I was layers of earth and their characteristics. Meanwhile, in cycle II, topic of learning material was natural disasters and how to reduce their risks and effects. At the end of every cycle, there was a test about the topic of learning material for students. After each cycle finished, there was reflection about learning process in that cycle.

Before conducting a research using "make a match" type of cooperative learning model assisted by LKPD, the research was initiated by pre-cycle using discussion and question-answer method.

### 1. **Pre-cycle**

In the pre-cycle, the result of students' cognitive competence is still low. It is only 69% (not good).

### 2. **Cycle I**

Learning process in cycle I was done in 3 meetings. After the cycle I finished, a test was given to students. Learning process in each cycle consists of some stages, as follow.

a. Planning

Preliminary research in learning activity is not to overcome problems faced in students' learning achievement because students' learning competences are not appropriate with Minimum Criteria of Mastery Learning (KKM) achievement. The followings are scenarios planned in learning process.

1) Preparing learning syllabus.
2) Making lesson plan for every meetings.
3) Arranging and making exam outlines.
4) Preparing a written test for the end of cycle 1. Before making questions, it should be prepared students' learning competences observation sheets and rubrics.

b. Action

Learning process is begun with initial activities, such as giving apperception and motivation to

students. Then, conveying learning objectives of materials studied. Next, learning the materials by using "make a match" model assisted by LKPD. Last, closing the learning process by drawing conclusions of materials and conveying the next learning material for the next meeting.

c.   Observation

Observation is done during learning process goes on by using students' affective and psychomotor competence observation sheets. While, assessment of students' cognitive competence is done after 3 meetings in the cycle 1.

d.   Reflection

It is done after learning process finished in every meeting. The problems during learning process in cycle 1 are followed up to be improved in the next cycle.

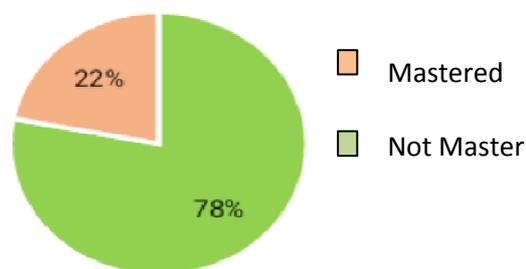3.   **Result of Students' Cognitive Competence**

Students' mastery percentage in cognitive competence can be seen in Table 1 below.

Table 1. Percentage of Students' Mastery in Cognitive Competence in Cycle I

|  | Total | Percentage |
|---|---|---|
| Students who get score above minimum criteria of mastery/ KKM (70) | 25 | 78% |
| Students who get score below minimum criteria of mastery/ KKM (70) | 7 | 22% |

Table 1 shows that the percentage of students' mastery in cognitive competence in cycle I is still low, which is 78% (enough). The result of students'

cognitive competence can also be described in graphic 1 below.



Graphic 1. Students' Mastery Percentage in Cognitive Competence in Cycle I
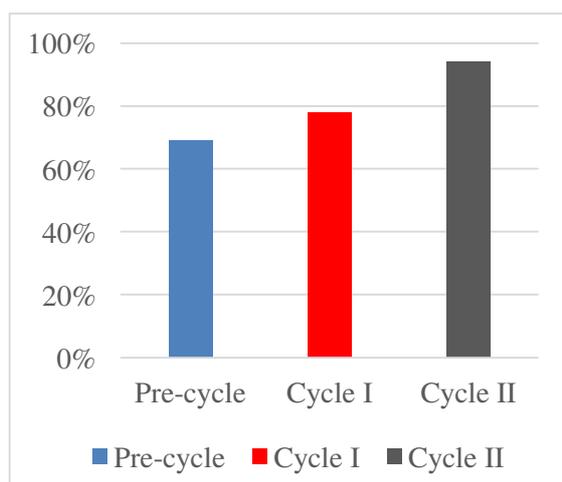
4.   **Result of Students' Cognitive Competence in Pre-cycle,  Cycle I and Cycle II**

Students' cognitive competence increases from pre-cycle, cycle I to cycle II. Therefore, students' mastery percentage in cognitive competence can be seen in Table 2 below.

Table 2. Comparison of Students' Cognitive Competence in pre-cycle, cycle I to cycle II

| Percentage of Students' Mastery | | |
|---|---|---|
| Pre-cycle | Cycle I | Cycle II |
| 69% | 78% | 94% |

To make it clearer, the comparison of percentage of students' mastery in cognitive competence in pre-cycle, cycle I to cycle II is illustrated in graphic 2 below.

Graphic 2. Comparison of Students' Mastery Percentage in Cognitive Competence in pre-cycle, cycle I to cycle II

## B. DISCUSSION

Based on the finding of research above, it is known that students' cognitive competence can be improved by implementing "make a match" model in learning IPA. Students' cognitive competence improves in every cycle. It is in line with Apriliyani (2016), who states that the strength of "make a match" learning model can increase students' cognitive competence in achieving learning objectives.

In the pre-cycle, students' learning competences were still low. The mastery of students' cognitive was 69%. Learning process in pre-cycle still used lecturing and questionanswer methods so that it made students bored. It is obvious from students' activities during learning process, such as they are not serious in learning, they disturb their friends, they talk to their friends, etc. Beside that, students' were difficult in doing the test because of lack of learning material mastery and lack of learning stimulation and motivation given during learning process in the classroom.

To fix the conditions, it needs variation of learning models implemented by teacher. One of them is "make a match" learning model in which students can learn the materials more enjoyably. At the end, it is expected that students' learning competences can improve. It is in line with Lie (2007), who stated that one of advantages of "make a match" model is students can find the matching cards while learning to improve learning concept comprehension in comfortable and enjoyable situation.

In cycle I, students' average score was 77.12 (less good) and its percentage of mastery was 78%. It means that it has not reached the expected mastery, which is 90%. It is caused by the implementation of "make a match" learning model has not been optimal yet. Students were not accustomed to use this learning model. Furthermore, they do not understand the learning materials well because of lack of reading the materials so that they mismatch the question cards and answer cards or they do not find the appropriate matching cards. Beside that, the learning material in the cycle I is difficult. It needs comprehension, not memorization. To minimize the weaknesses in cycle I, teacher reminds them to read learning materials in every meeting and motivate them to study more so that they can understand learning materials and concepts to increase their cognitive competence.

In cycle II, students' average score was 80.15 (good) and its percentage of mastery was 94%. It means that the percentage of mastery in cycle II has been over the expected mastery, which is 90%. It is caused by learning by using "make a match" model has gone optimally. Beside that, students have understood the concepts and learning materials given. Based on the explanation above, implementing "make a match" type of cooperative learning model assisted by LKPD can improve students' cognitive competences. It is in line with Iwan (2015) who states that implementing "make a match" type of cooperative learning model can optimize learning process so that it can increase students' learning outcomes.

Based on the finding of classroom action research conducted from cycle I to cycle II, it can be concluded that through implementing "make a match" type of cooperative learning model assisted by LKPD, it can improve students' cognitive competences in learning IPA.

## IV. CONCLUSION

1. The implementation of "make a match" type of cooperative learning model assisted by LKPD can improve VII7 grade students' cognitive competence in learning IPA in SMPN 5 Padang. It can be seen from the increasing of the average mastery percentage from pre-cycle, cycle I and cycle II. In the pre-cycle, the average mastery percentage was 69%. While, the average mastery percentage in cycle I was 78%, and in cycle II, the average mastery percentage was 94%.

2. The increasing of the average mastery percentage of students' cognitive competence from cycle I to cycle II was 16% and it is in "very good" category.

## REFERENCES

[1] Apriliyani. 2016. "Pengaruh Model Cooperative Learning Tipe Make A Match dalam Pembelajaran IPA Terhadap Keterampilan Sosial dan Hasil Belajar Kognitif Siswa SMP". Jurnal, 5 (9) : 1-7.

[2] Huda, M. 2013. Model-model Pengajaran dan Pembelajaran. Pustaka Pelajar.

[3] Irwan and Lestari, N.P.P. 2015. Penerapan Model Kooperatif Tipe Make A Mtach Untuk Meningkatkan Motivasi dan Hasil Belajar Biologi pada Materi Ekosistem. Jurnal, 3 (2): 247-248.

[4] Lie, A. 2007. *Cooperative Learning Mempraktekkan Cooperative Learning di Ruang-ruang Kelas.* Jakarta : PT. GramediaWidiasarana Indonesia.

[5] Putri. 2017. Pengembangan LKS IPA Terpdu Kontekstual Bermuatan Literasi Tema Pemanfaatan Tekanan dalam Kehidupan untuk Pembelajaran Siswa SMP Kelas VIII. Pilar of Physics Education, Vol. 10. Pp 89-94.

[6] Permendikbud Nomor 21 Tahun 2016. Standar Isi Pendidikan Dasar dan Menengah. Jakarta: BSNP.

[7] Sardiman. A.M. 2008. Interaksi & Motivasi Belajar Mengajar. Jakarta: PT Raja Grafindo Persada.

[8] Sirait, M. and Putri A.N. 2013. Pengaruh Model Pembelajaran Kooperatif Tipe Make A Match Terhadap Hasil Belajar Siswa. Jurnal 1 (3).

[9] Sukmawati. 2015. Pengembangan Lembar Siswa Berbasis Inkuiri Terbimbing untuk Kelas VII SMP Muhammadiyah. Jurnal 3 (2): 548-556.

[10] Tampubolon, S. 2014. Penelitian Tindakan Kelas Sebagai Pengembangan Profesi Pendidik dan Keilmuan. Jakarta: Erlangga.