

CHAPTER I INTRODUCTION

1.1. Background

The quality of education in Indonesia is still low. This is evident from the result of an international study which stated that the ability of Indonesian students below international average score of 500. Among these, TIMSS (Trends in Mathematics and Science Study) is the largest and the most comprehensive comparative international study of education ever undertaken. Indonesia has participated in TIMSS since 1999, 2003, 2007 and 2011. Achievement of students in Indonesia during the TIMSS is below average. Last, in 2011 ranked 40 of 42 countries with an average value of 406 (Martin, 2012).

The low ability of Indonesian students in science is also reflected in the Programme for International Student Assessment (PISA). PISA is the study of international student assessment program organized conducted one over 3 years and ongoing since 2000, aims to assess the extent to which the student is sitting at the end of primary education or students aged 15 years and has mastered the essential knowledge. Achievement of Indonesia in 2012 was ranked 64 of 65 countries. In this case, Indonesian student learning outcome is low (OECD, 2012).

From data above clearly defined that student learning outcome on science still dissatisfied. Efforts of teachers in teaching process is a very important part in achieving the success of the learning objectives that have been designed. Generally, the purpose of teaching is the learning materials are delivered fully mastered by all students. This mastery can be addressed as a result of learning or student outcome. Whether or not a goal of learning is strongly influenced by the strategies, methods and models applied learning by teachers.

Based on interview of Biology teacher in SMA Swasta AL-ULUM, Biology teaching methods employed are often the lecture method, this method makes the teacher dominates the classroom teaching and learning activities so that students become passive. Some students are listening and taking notes. The learning model that used less attractive and make students become saturated. Some students are talking to each other and do not pay attention seriously to the

teacher explanation. Teachers serve as the only one source of information so that learning activities take place in one direction only, and impact on student learning outcomes, which is still about 45 % of the students who achieved the KKM while 55 % below the minimum completeness criteria (KKM) which is 75.

Additionally, the excretory system include in difficult material with percentage 22,6 %. The difficulties about filtration through kidney because to understanding this concept they must have prerequisites about osmosis and diffusion. In such materials include concrete and abstract concepts (Tekkaya, 2001). Students perceive systems as the most difficult topic. These topics were also mentioned by the teachers that students perceive as most difficult. They thought that inclusion of much information made systems difficult to understand (Ozcan, 2003). From the results of the study (Koksal, 2008), showed that kidney among the organs prospective biology teachers indicated were determined as the most important and difficult. They are main functional organs of important systems to maintain homeostasis by regulating blod content, speed and water, mineral level in tissues.

Based on the above issues teacher needs to choose learning model that can improve student achievement and activity. Make a match model is one of the cooperative learning model that introduced by Curran in Eliya (2009). Make a match is an learning model to find pairs of cards that is the answer to question before the time is out. Students are able to match the card will be given points and who do not succesfully match the card will be punished in accordance with the agreement. Teachers act more as facilitators and classroom also needs to be organized to support cooperative learning. By using Make a match model, students develop their thinking ability actively and also provides the opportunity for students to ask questions, give opinions and interact with other students which creates active learning and enjoyable in the classroom as model for facilitate the students understand the excretory system material. If learning process can be enjoyed and accepted, then the student can achieve success in the learning objectives and indicators that have been targeted.

According to Lie (2010) syntax of Make a match model is as follow: (1) Teachers prepare some cards containing multiple concepts or topics that are

suitable for review sessions, one part about the card and other parts of the answer card. (2) Each student gets a card about question/answers. (3) Each student thought of answers/questions from cards held. (4) Each student seeking matching pairs of cards with the card. (5) Any student who can match his cards before the deadline given points. (6) If students are not able to match the card with his card (can not find the card or cards answer questions) will get a penalty, which has been agreed. (7) After one round, the cards shuffled again so that each student gets a different card than before, and so on. (8) Students can also join with 2 or 3 other students who hold a suitable card. (9) Teachers together with the students to make conclusions on the subject matter.

Word Square learning model is a development of enriched lecture method. It can be identified through the clustering method enriched lecture-oriented to student activity in learning as mentioned by Mujiman (2007). Word Square is a model of learning model that combines the ability to answer questions with matching answers foresight in the answer boxes. Teachers can program a number of selected questions that can stimulate students to think effectively. This model also as reinforcement to the material presented. The teacher is facilitator of learning. Through this learning model, students not only invited to learn, but slipped the play that makes the students do not easy to get bored in studies. The meaning of this play is to provide distraction to students when learning takes place, but not out of subjects content covered to the satisfactory and enjoyment of the students to not quickly get bored and tired (Kompasiana, 2010).

According to Mohammad (2011) syntax learning model word square is as follows. 1) prepare teachers material according to competence, 2) the teacher provide motivation to students, 3) teacher distribute appropriate activity sheets, 4) Students were told to answer the questions then shading the letters in the box appropriate answer, 4) give points on each answer in the box.

The results of research conducted by Rahayu (2011) stated that there is significant difference between make a match and snowball throwing class in class XI SMA Negeri 8 Medan. The average of post test in Make a match class is higher (75,25) than snowball throwing class (67). Class action research carried out

by Humairoh (2012) showed that implementation of Make a match can increase student learning outcome and activity.

Other research carried out by Yenni (2010) about word square model showed that there are significant differences between the learning outcomes of students taught using Resiprocal Teaching with Word Square model, the average student learning outcomes are taught by Teaching Resiprocal models of 79.15 with SD 7.40 while the average student learning outcomes that are taught by the model Word Square of 87.05 with SD 5.55. The learning outcome that be taught by word square model is better than teaching reciprocal model. More research is also conducted by Nainggolan (2010), with the implementation of *word square* model to improve student learning activities in class X-2 SMA Negeri 1 Sei Rampah can improve activities students much as 87.5%.

It is important to find out the comparison of student learning outcome and activity between the model of Make a match and the model of Word Square. By applying these model is expected to help students achieve goals and can create student interaction.

1.2. Problem Identification

Based on the above background of the study, the problems in this study are:

1. Learning process still dominated by teacher so the students become passive.
2. Mainly teaching method is lecturing.
3. Activities of student in learning process is still low.
4. Learning model that uses less attractive and make students become saturated
5. Excretory sytem is difficult material.
6. The score on Human Excretory System (Kidney) sub topic in academic year 2012/2013 is still low , that is more than 50% student get a score under the minimum score (KKM), while the minimum score (KKM) is 75.

1.3. Problem Scope

This research focuses on Comparison of Student Learning Outcome and Student Learning Activity between Make a Match and Word Square Model on The Sub topic of Human Excretory System (Kidney) in Grade XI IPA SMA Swasta Al-Ulum Academic Year 2013/2014.

1.4. Research Question

Based on the background and research scope, research question can be formulated as follow:

1. Is there any difference of learning outcome between students who taught by using *Make a match* and those who taught by using *word square* model on Human Excretory System (Kidney) sub topic in SMA AL-ULUM Academic year 2013/2014?
2. Is there any difference of learning activity between student who taught by using *Make a match* and those who taught by using *word square* model on Human Excretory System (Kidney) sub topic in SMA AL-ULUM Academic year 2013/2014?
3. Which one do better are used between *Make a match* model and *word square* model to know student learning outcome and student learning activity on Human Excretory System (Kidney) sub topic in SMA AL-ULUM Academic year 2013/2014?

1.5 Research Objective

Based on the research question above, the research objectives are :

1. To know the difference of students learning outcome between is taught by using *Make a match* and those who is taught by using *Word square* model on Human Excretory System (Kidney) sub topic in SMA AL-ULUM Academic year 2013/2014.
2. To know the difference of student learning activity between is taught by using *Make a match* and those who is taught by using *Word square* model on Human Excretory System (Kidney) sub topic in SMA AL-ULUM Academic year 2013/2014.

3. To know which one do better are used between *Make a match* and *word square* model to know student learning outcome and student learning activity on Human Excretory System (Kidney) sub topic in SMA AL-ULUM Academic year 2013/2014.

1.6 Research Significances

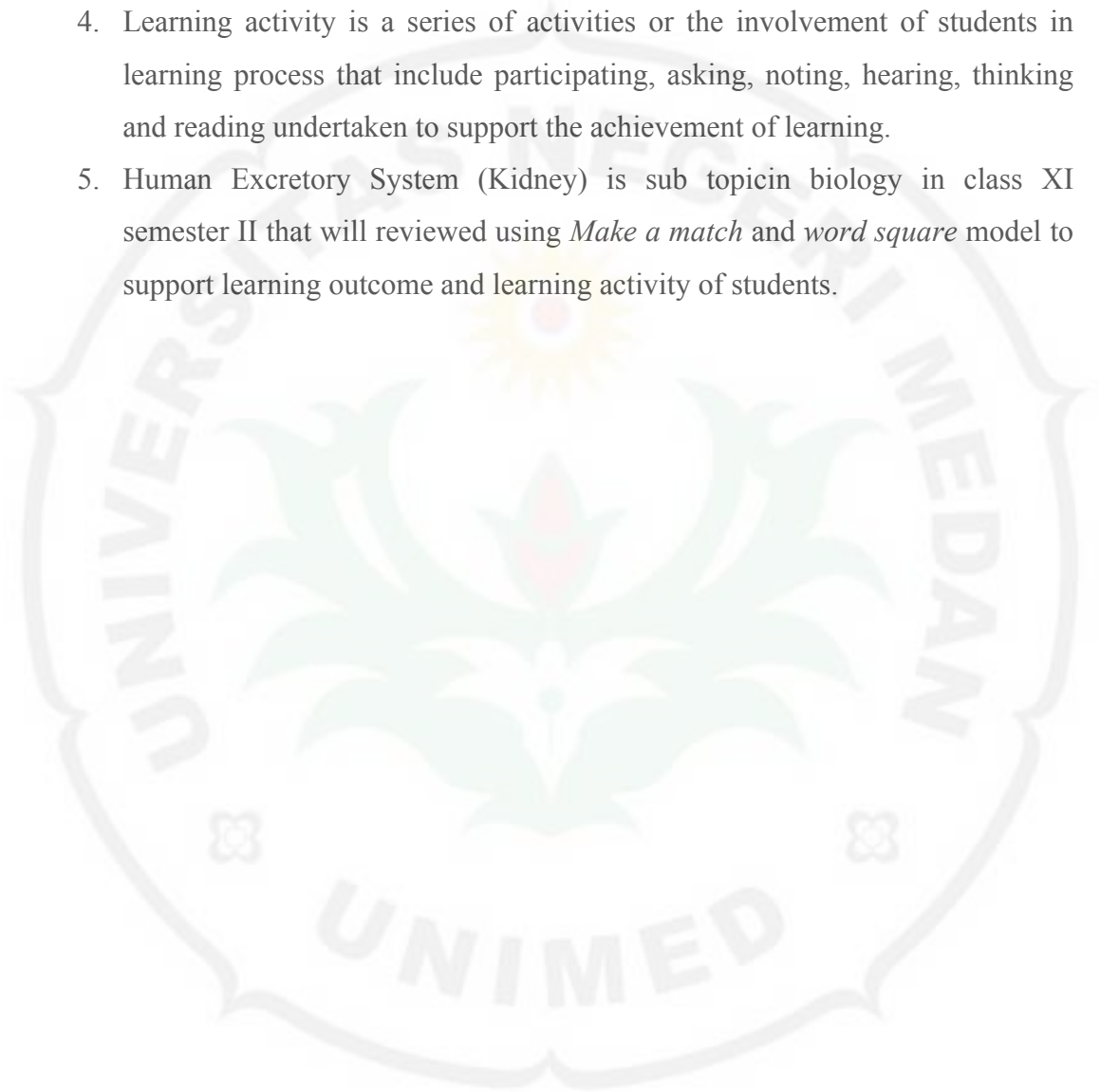
This research is expected to provide benefits as follows:

1. For educational institution, as suggestion to develop the appropriate learning model in order to improve the quality of processes, quality of student learning achievement.
2. For teacher, as an alternative learning model.
3. For students, as an innovative learning model who can overcome saturated for students, improve learning outcomes better and help student can remember biology terms easily.
4. For other researcher, as the scientific references and input for the next research to improve the teaching and learning process.

1.7 Operational Definition

1. *Make a match* is learning model where students try to find pairs of cards that is answer to the question. This learning model begins with the teacher divided the students into two groups, then the teacher prepares cards. First group given cards containing questions while the second groups given card contains the answer to that question. Students are asked to find pairs of cards between questions with the right answers. Students who can match the card will get point and could not match the card will be punished in accordance with the agreement.
2. *Word Square* is learning model where students find and arranges letters in boxes until forming a word, that is answer of question. The answer has been already in that boxes but disguised by adding an additional box with random letters.
3. Learning outcome is cognitive result obtained by students after learning process on biology subject that can shown by score of test.

4. Learning activity is a series of activities or the involvement of students in learning process that include participating, asking, noting, hearing, thinking and reading undertaken to support the achievement of learning.
5. Human Excretory System (Kidney) is sub topic in biology in class XI semester II that will be reviewed using *Make a match* and *word square* model to support learning outcome and learning activity of students.



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