

CHAPTER I

INTRODUCTION

1.1. Background

Education is one embodiment of dynamic human culture and development terms. Therefore, the change or education development is a thing that should happen in step with the change of life culture. Change means a remedial education on every level that should continuously carried out in anticipation of future interest.

The main Problem in learning on formal education (school) is the low absorptive capacity of learners. This is evident from the result of students' learning still low. Achievement is certainly result of learning conditions that are conventional and doesn't make the student aware of participants, actually how to learn it. In other word, the learning process is still dominated by the teacher and not provide access for student to develop independently in the process of thinking (Triantto, 2009).

Learning centere attention on "how to make students learn", and not on "what is the students learn about". That's way educator has to plan for make students interaction. One of them is to design learning model. Learning thorough model in order "Help the student to found their identity in social environment and to solve problem with support groups". With learning through model, students will know the journey of life also the hard work to achieve the success.

The matter of the buffer solution is one of the lessons in senior high school chemistry class XI topic buffer solution includes definition of buffer solution, characteristic of buffer solution, calculate the pH of the buffer solution and its functions. Buffer solution is a concept that adequately represent the abstract of chemistry lesson. So that, chemistry subjects is difficult to be understood by students. This is relevant to the results of research conducted by experts including of Wiseman and Nakhel in Rusyamansyah (2004) shows many stidents easily learn other subjects but had difficulty in understanding the concepts and principles

of chemistry. Rusyamansyah state that “Disinterest of students to chemistry subject either caused to ignorance of students about the usefulness of the material being studied chemistry in daily life. In addition, because of the way teachers teach focuses on books.

Research that supports students in learning about difficulties of the buffer solution is as follow “Analysis of Difficulty Understanding Buffer Solution in Regular Students Class XI and Class XI RSBI Senior High School 1”. Based on analysis of the survey data, the percentage obtained by difficulties in the concept of buffer solution is experienced by 58% of regular students, while the students’ difficulties RSBI of 46.68%. The difficulty of the concept of pH and pOH calculations using principles of chemical equilibrium in the students’ regular classroom difficulties is 39.5% while RSBI graders is 19.99% On the concept of computation buffer solution pH on the addition of a little acid or alkaline regular grade students having difficulty is 55.63%, while RSBI graders is 47.09%. While the concept of the function’s buffer solution in the living body and in everyday life, the difficulty in the regular classroom students 77.5%, while the difficulty RSBI graders 81.7%. The factors that cause students difficulty in understanding the material buffers the readiness of students to receive course materials, important concepts that are prerequisites for studying concepts further, planting material concept of a buffer solution that is less deep, strategy learning by rote and not exhausvie, lack of practice questions and how students solve problems. From these data I can conclude that the teaching and learning needs of suite learning strategies.

The use of student teams can be an especially effective teaching strategy for several reasons. First, it allows the instructor to support students in learning a valuable skill that employers continually rank as critical to workplace success: how to work together and support each other in learning and discovery. Second, becoming effective and productive team members allows students to develop their independent learning skills by working individually on a portion of a group project that makes them accountable not only to the instructor but also to team

members. And finally, integrating teamwork into a course can result in adding structure to out-of-class time and increasing student accountability for their learning. Obviously, team-based learning is not appropriate for all content, but it can usually be adopted in some form in any course.

Collaborative learning and the community building that it supports can greatly enhance the student experience. When community exists in the course, students are more committed to the content and the activities surrounding the content; are more comfortable asking questions; ultimately become more actively involved in their learning; and are more likely to complete the course. Through a variety of collaborative activities, starting early and persisting throughout the course, participants can foster and encourage community, collaboration, and team building among their students.

Looking for a reason the implementation of collaborative learning seems to be a very easy thing. There is more research regarding the methods of learning in small groups than the research of other teaching methods, including lectures (Johnson & Smith, 1991).

In an effort to implement a more effective collaborative learning leading to enhanced student learning activity, it needs to be coupled with the activity of Lesson Study (LS). This is reasonable because the Lesson Study series of emphasis on students' learning activities. Besides that, the things that put forward at this stage of reflection is authentic data from the observation, which is used as the basis for the subsequent improvement in the quality of learning. Although, according to Ueno (2013), that Lesson Study does not give priority to resolving the problems and difficulties but dividing issues, interact, and thinking to tackle the problem together. From the description above, shows the importance of implementing collaborative learning through lesson study activities as an effort to improve students' learning activities

The learning model itself must be supported by media that can increase students' achievement. There are so many media that can support them. Media

Visual, Text, Module, Print media, Audio, Audio-visual, Web, and so many others. The word of "Media" is come from latin in plural form "medium", means middleman or agent. Association for Education and Communication Technology (AECT), defined media as every form and channel that used for information process. National Education Association (NEA) defined media as every object that could be manipulated, seen, listened, read, or be discussed with instrument that used for that event. While Heinich (1982) defined media as "the term refer to anything that carries information between a source and a receiver".

Kemp & Dauton (1985) classified media into 8 kinds, those are (1) print media (2) figure media (3) overhead transparencies (4) audiotape recorder (5) slides and filmstrip (6) multi-image presentation (7) video and life film (8) computer.

Media is really helpful in learning chemistry. It support students' to understand chemistry more far. Media is medium between Subject Matter, Teacher and Students' itself.

Worksheet is one of the learning resources that can be developed by the teacher as a facilitator in the learning activities. Worksheet drawn can be designed and developed in accordance with the conditions and situations of learning activities that will be faced. Worksheet is also a medium of learning because it can be used in conjunction with other learning or other learning media. Worksheet is a source of learning and medium of learning depends on the learning activities designed.

Index card match is an educational media that can be used in the learning process, in the form of a rectangular shaped card with a size that can be customized, containing words such as questions about the material being studied and other card contains the answer. Media education in the form of matching cards will make the lot of being away from the tension that will facilitate the students receive lessons and students are expected to be easier to learn and understand the contents of the material.

The reason the researcher choose Collaborative learning model with comparison of two media based on lesson study are Collaborative believes can

increase the students achievement through students' team , students' skill, collaboration in group work, and the researcher use two different medias in order to know which one of the media can increase the students' learning outcome optimally on teaching buffer solution, lesson study can improve teachers' professionalism, by using lesson study teacher can fix the sortage in the learning process.

Based on the background, researcher interests in conduction research with the title:

“The Comparison of Worksheet and Index Card Match As A Media on Collaborative Learning Model on Student's Learning Outcome in Learning of Buffer Solution Based on Lesson Study”

1.2. Problem Identification

Based on the description of the background, some of the problems that can be identified are as follows:

1. In learning process, teacher still use a teacher-centered learning
2. The chemistry topic of buffer solution is catagories as a difficult subject matter because many student don't understand that cause the students' learning outcome still low.
3. The students need learning model that can make an interaction to another students through team work.
4. Too little of using media in learning procoess.

1.3. Problem Limitation

Based on the background above, the limitation of problem can be identified as below:

1. The research is conducted in SMA Panca Budi Medan on grade XI Science 2015/2016.
2. The model that we used in this research is Collaborative Learning based on Lesson Study.

3. The comparison of worksheet media and index card match media will be used in learning process.
4. The subject of material is Buffer Solution.

1.4. Problem Formulation

To provide guidance that can be used as reference in the research, the researcher makes the problem formulation as follows:

1. Is there a significant difference in student learning outcomes in learning of Buffer Solution between students taught by collaborative learning model based on lesson study using worksheets media and index card match media?

1.5. Research Objectives

The point of this research objectives is :

1. To find a significant difference in student learning outcomes in learning of Buffer Solution between students taught by collaborative learning model based on lesson study using worksheets media and index card match media.

1.6. Research Significances

The expected benefits of this research is

1. Students: to train students to be more active, creative, and be able to collaborate in study team to solve chemical problems; especially buffer solution
2. Teacher: can be used as input and consideration in choosing a model of effective and innovative learning in the learning process.

3. Schools: can help create learning model guide and make differences for a good instructional media with others media.
4. The other researcher: provide information about the comparison collaborative learning model based on lesson study using worksheets media and collaborative learning model based on lesson study using index card match to increase students' learning outcome in subject Buffer Solution.

1.7. Operational Definition

The operational definition in this study are:

1. Collaborative learning model is an instructional method in which students team together on an assignment. In this method, students can produce the individual parts of a larger assignment individually and then "assemble" the final work together, as a team.
2. Lesson study is a process in which a teacher constantly tries to improve teaching techniques by working together with other teachers to verify and criticize different teaching techniques.
3. Learning media can be interpreted as a tool in the learning process and used to stimulate thought, feelings, abilities or skills of students so that the motivation in the learning process.
4. Buffer solution is the material that covers the concept, calculation and application in life. The buffer solution is a reaction between a strong acid with a weak base, a strong base with a weak acid and a strong acid and a strong base.
5. Worksheet is a student worksheet in the form of print media / is kind of handout is meant for students to learn in a focused and unbiased jobs done by students in the form of questions and activities to be carried learners.
6. Index card match media is paired in a media card that is applied in the form of games were held to test the student's ability. Wherein, the card consists of two parts, namely the question cards and answer cards. The

card contains matter in accordance with the content with the answers that have been randomized to be answered with a match by the students in the game.



THE
Character Building
UNIVERSITY