

CHAPTER I

INTRODUCTION

1.1. Background of Research

Natural science has relationship with the way to find out about natural phenomena systematically, so natural science is not only a mastery of knowledge in the form of a collection of facts, concepts, or principles, but also in the process of discovery. Science education is expected to become a facility for students to learn about themselves, their environment, and also as a prospect for further development in applying it in the daily life. Its learning process emphasizes on the providing direct experience to develop competencies to make learners able to explore and understand about the scientific nature. Science education is directed to finding out and doing, so it can help learners to gain a deeper understanding about the natural surroundings (Tim Pendidikan Kimia, 2010).

The fact looks in the field about the science learning especially in chemistry, there are still taught with using learning model in one direction in which the role of teacher is still dominant. This is cause a lack of student interest and score that is achieved by students are less than what is expected. There is also find many learning model in chemistry that still using verbal learning. In the learning process, students are passive and just accept the knowledge from their teacher. This is has an impact on the weakness of students understanding in the basic concepts of chemistry.

The concept of solubility and solubility product is one topic in the chemistry which is quite difficult for students, so it is require depth understanding in order to master this material completely. One alternative way that can be done to help students to understand about the concept of solubility and solubility product, the researcher interest to apply guided inquiry learning method with Macromedia Flash media.

Inquiry learning method is a series of learning activities that emphasize on the process of thinking critically and analytically to seek and find their own

answer from a problem that is asked (Sanjaya, 2006). This method is expected can make students remember concepts longer since they have learn it because the concept is gained from the process of thinking critically and analytically to seek and find their own answer from a problem that will be solved .

Macromedia Flash is a combination learning concept with using audiovisual technology that can produce new features that can be used in educational sector. Teaching based on multimedia can present teaching material more interesting, not monotone and make easier to communicate it. Students can learn material individually with using computer that is has multimedia program. (Sarwiko, 2011)

The previous research that is relevant with this research had done by Aruan (2009) about the influence of the application of visual media on inquiry technique at solubility and solubility product constant (K_{sp}) to increase the student's learning outcomes with the average of normalized gain in medium category with value of average gain for experiment class and control class is 0, 42 and 0, 35. From the different of normalized gain for both of classes, we can conclude that the application of visual media on inquiry technique give significant influence to increase student's achievement. In the previous research that had done by Aruan, there is known the influence of visual media on inquiry technique, while for this research will be known the influence of guided inquiry learning method with using Macromedia Flash. This research different with previous research because in this research the inquiry that is used is focused on guided inquiry learning method and the learning media is Macromedia flash categorized as audio visual media.

The research about inquiry method also done by Saragih (2009) about the implementation of inquiry method to increase student's achievement in the topic of unsure, compound, and the mixture in Junior high school and got the result study of students that is taught using inquiry method is higher that the result study of students that is taught using conventional method with the average score for experiment class is 63,841 while for control class is 56,629. The other research about guided inquiry learning also had done by Jongdee et al (2009) in Journal of

Natural Resources and Life Sciences Education about Guided inquiry learning unit on aquatic ecosystem for seventh grade students that this research using guided inquiry learning is aimed at helping students understand basic ecological principles involved in relationships among physical, chemical, and biological components in aquatic ecosystems. It involved asking guiding questions to direct students' investigations and experimental designs, providing experimental data for analysis and interpretation, and facilitating students' construction of explanations. The students' achievements are assessed through a questionnaire, written documents, interviews, and classroom observation. In this study, students are encouraged to ask questions throughout the learning sequence, in which they ask more intelligent questions, generate fruitful ideas, and finally develop their own understanding. Students gradually accumulate conceptual understanding through the designed learning activities, and both students and teachers have a positive attitude toward the learning unit. The minimum and maximum value of the students' perceptions on the learning unit is found to be 4.14 and 4.65 (on a 5-point scale). The mean and standard deviation of the 15 items on perception are 4.41 and 0.41, indicating a moderate level of approval. One advantage of this learning unit is in its low cost for implementation while producing effective learning activities, especially in schools with budgetary and time constraints. This study should inspire teachers to adapt and adopt the proposed activities to enhance students' understanding of the ecosystems.

Research about macromedia flash media had done by some researcher such as: the research that is done by Miswanda (2010) about the effectiveness of learning chemistry with using computer based media with macromedia flash in the topic of unsure, compound, and mixture toward plot of classroom research with the increasing of average student's score is 85,43. The other research also done by Antoniate (2010) about the influence using learning media of macromedia flash toward student's achievement in the sub topic of electrolyte and non-electrolyte solution with the increasing of student's achievement for experiment class is 50% while for control class is 34 %, and the contribution using macromedia flash media is 90% .

Based on the description above, the writer interest in doing research about "**The Influence of Guided Inquiry Learning Method With Macromedia Flash Media toward Student's Achievement in the Solubility and Solubility Product Topic**".

1.2. Identification of Problem

Based on the background from the above problems, the writer identifies the problems as follows:

1. Learning method in chemistry is less varied or are still using conventional learning method (the teacher's role is more dominant), so it will make the lack of student interest in chemistry.
2. Low of student's achievement in the solubility and solubility product topic.
3. The concept of solubility and solubility product is difficult for students.
4. Commonly using teacher center paradigm in teaching of chemistry.

1.3. Scope of Research

Based on the description above, the problem identification that are existing from those problems limit only on the implementation of guided inquiry learning method with macromedia flash media to improve students achievement in the solubility and solubility product topic in RSBI State Senior High School 2 Kisaran grade XI in science program in the academic year 2011/2012.

1.4. Problem Statements

The problem statements of this research are:

1. Is the student's achievement in the solubility and solubility product topic using guided inquiry learning method with macromedia flash media higher than student's achievement using conventional learning method?
2. Which is cognitive aspect will be improved by implementation guided inquiry learning method with macromedia flash media in the solubility and solubility product topic?

1.5. Objectives of Research

The objectives of research are

1. To know how the influence of guided inquiry learning method in the solubility and solubility product topic to get the higher of student's achievement.
2. To know which the cognitive aspect that will be improved by implementation guided inquiry learning method with macromedia flash media in the solubility and solubility product topic.

1.6. Significance of the Research

The significance of this research is:

1. As improvement and motivation for educators (teachers, headmasters and governments) especially chemistry teachers to choose and develop innovation in the teaching and learning process to get the effective learning method in learning chemistry to increase student's achievement in senior high school.
2. Students can understand their achievement and increase it optimally.
3. As improvement and income for the next researcher in learning chemistry for senior high school.

1.7. Operational Definition

1. Inquiry learning method is a series of learning activities that emphasize on the process of thinking critically and analytically to seek and find their own answer from a problem that is asked (Sanjaya, 2006). The syntax or steps in the inquiry learning method consist of: orientation, formulating problem, formulating hypothesis, collecting data, hypothesis testing, and drawing conclusion.
2. According to Gerlach and Ely (1980) in (Sanjaya, 2006) states: "A medium, conceived is any person, material condition or event establishes which enable the learner to acquire knowledge, skills, and attitude". According to Gerlach the media generally include people, materials,

equipment, or activities that create the conditions that enable students to acquire knowledge, skills, and attitudes. So, in this sense the media is not just an intermediary device such as TV, radio, slides, printed materials, but include people or humans as a source of learning and also include activities such as discussions, seminars, field trips, simulations, etc are all conditioned to increase knowledge and insight, change the attitudes of students, or to increase skills.

3. Macromedia Flash is a combination learning concept with using audiovisual technology that can produce new features that can be used in educational sector. Teaching based on multimedia can present teaching material more interesting, not monotone and make easier to communicate it. Students can learn material individually with using computer that is has multimedia program. (Sarwiko, 2011)
4. Conventional learning method and media is a learning method and media that is usually done by teacher in the school. It is depend on the teacher and condition of each school.