

## CHAPTER I INTRODUCTION

### 1.1 Background

Learning is the process of the work done every individual to obtain a change in behavior in the form of knowledge, skills, and attitudes and positive value as an experience to get many impressions from the material that has been learned. According to Gagne learning is defined as "a process by which an organism changes its behavior due to experience". Whereas it concluded that "learning is a conscious effort carried out by individuals in behavioral changes through practice and experience involving cognitive, affective, and psychomotor aspects to obtain certain goals". The growing age, then the type and material in learning will experience improvements both in terms of quality and quantity.

Various ways are carried out by the teacher to convey learning material so that it can be accepted by students well, for example by adding lessons at school. This effort has not been able to help because some students have limited ability to concentrate, if forced to accept material for a long time, it can make them not concentrate anymore and the material delivered will be in vain. If this happens continuously, the learning conditions cannot develop, besides it does not contribute much to improving the quality of the process and results of student learning. In learning requires media. Learning media is everything that can be used to channel messages (learning materials) so that it can stimulate attention, interests, thoughts, feelings, attitudes, and beliefs of students in learning activities to achieve learning goals.

The learning process in schools is a planned, integrated and systematically coordinated educational process with clear and explicit evaluation standards and measures. Therefore, everything related to the learning process in school is an integral whole that cannot be separate and random. The existing curriculum must be systematically connected with the learning methodology used, while the learning methodology must also be formulated in detail and detail. Therefore, curriculum development in practice is always related and strongly related to learning methodology.

Most of the problems faced by the education system in Indonesia culminate in these two main problems, namely the curriculum and learning methodology. The curriculum functions as a compass in terms of determining the direction of the learning process that will be used. Meanwhile, the learning methodology is the spearhead. The curriculum is not possible to run properly and correctly if it is not followed by systems and methods of systematic and integrated learning.

Today the method of teaching and learning from the elementary level up to the college is experiencing a bit of boredom if only using classical methods, namely by lecturing and question and answer only. There needs to be a new method to improve the spirit of teaching and learning, both for students and teachers/lecturers. The development of the education system as a manifestation of the learning atmosphere and learning process so that active students develop their potential has been regulated by the government in Law No. 20 of 2003. Efforts to implement the education concept have also been implemented, namely from curriculum development since 2001, KTSP 2006 and 2013 curriculum. However, this development still occurs problems related to learning methods that are still teacher-centered (Nadziroh, 2017).

The use of media does not have to carry packets of new students can adequately monitor a story. From these opinions can be linked that the delivery of subject matter utilizing communication is still felt by the deviation of understanding by students. Non-traditional learning methods using web media given that the web is very much in demand by students is expected to increase student learning interest.

Technology *World Wide Web* (WWW) or web shortness, as if has eliminated space restrictions and time in communicating between various communities in all directions world. With so fast flow internet, the development of web technology even more sophisticated. First introduced and developed by Tim Berners-Lee in 1989, Web version 1.0 is the first step in the internet world. With this technology, the Internet can be described as giant bulletin boards that provide various information from various parts of the world. Here consumers only

given the right to search (*search*) and *read* (search for and reading), while the authority for display and change fixed content held by the website owner fully.

The results of preliminary observations of researchers at Tebing Tinggi State Senior High School, the minimum completeness criteria (KKM) set by schools for chemistry subjects were 75. Based on the average semester odd test scores of 2018/2019, some students cannot obtain values above 75 (KKM ). Many students said that chemical material is very difficult and difficult to understand the strategies used are not varied and seem monotonous, causing students to get bored and bored and get low grades. The existence of computer facilities and wifi in schools is not used as a learning media and a source of information for students to study.

SMA N 1 Tebing Tinggi still applies conventional learning. Conventional learning referred to here is learning in which the delivery of material is described by the teacher with standard learning media, for example, *powerpoint* or without learning media then giving questions (assignments) to students with limited material. Based on the data obtained from several indicators the results of talking with the teacher and classroom observations show that in general students of SMA N 1 Tebing Tinggi is in the low learning interest range which is very influential on learning outcomes. Paying attention to this, the possibility of the system used in learning is not appropriate so that it affects the learning outcomes.

On the other hand, facilities and infrastructure owned by schools such as internet networks are less optimized. This can be seen in the lack of use of the internet as a source of learning. The school already has several computer devices along with its internet network but has not been used optimally by subject teachers, especially chemistry. With the existence of a learning media *Website*, this is expected to make the learning process more conducive, increase student interest, and can enhance student learning in learning which in turn is expected to enhance the learning outcomes achieved. This is due to the learning media of the *Website* requires students to be able to interact with the internet, such as accessing extensive information, giving rise to student activity caused by challenges, and the availability of interesting material for learning.

Chemistry is recognized as one of the difficult subjects to learn by, this is because of the chemistry that is based on assigning meaning to the unseen and the intangible. It contains many concepts that are difficult to understand as students relate to chemical reactions, the calculation (stoichiometry) and some abstract concepts. Mostly chemistry learning is held through boring and passive way with a lack of students motivation and interest. In this case, students feel forced to learn about this subject and their achievement. So that teachers should make efforts to make a lot more interesting and effective learning. One of the chemistry materials that are assumed as interesting topics for students is reactions but it will be difficult to understand the teachers cannot find the appropriate learning model and media to teach that topic. Redox Reactions contains many concepts and calculation.

Based on previous research on website-based learning media Zulhelmi (2017) suggests that learning by using information technology can improve students' thinking skills towards academic abilities and environmental abilities and web-based simulation learning can improve students' critical thinking and add that the use of interactive media in learning can improve mastery of concepts and student KBK. The results of data analysis using interactive learning media on thermochemical material have increased students' critical thinking skills. The highest increase occurred in focusing indicator questions with N-Gain of 74.583% and there were differences in critical thinking skills between the experimental class and the control class with an average value of experimental class learning outcomes of 76.75, and a control class of 70.5. From the average percentage of the results of the trial results, it can be said that based on chemistry learning media we are declared valid and do not need to be revised.

According to Rober B. Taylor (2001), Scramble is one of the learning methods that can improve concentration and speed of thinking of students. This method requires students to combine the right brain and the left brain. In this method, they are not only asked to answer questions but also guess quickly the answers to questions that are already available but still in random conditions and learning conditions become active.

Based on the background of the problem described above, the authors are interested in researching with the title: "**Implementation of Website Based Learning Media Using a Scramble Type Cooperative Learning Model To Increase Students' Achievement on Redox Reaction**".

### **1.2 Problem Identification**

Based on the background explained above, the problem identification in this research includes:

1. Students find difficulties in chemistry as an understanding of chemistry based on assignment meaning to the unseen and the intangible.
2. Teachers find difficulties in providing attractive and interest learning models in chemistry learning.
3. Students have less willing to using school facilities like personal computers and internet access in learning processes.
4. The students' achievement in the chemistry subject is still low.

### **1.3 Problem Limitation**

For this study to be more focused and focused, the limitations of the problem are carried out, namely:

1. The learning media used are website-based media.
2. The material used is a redox reaction.
3. This research was only conducted on class X students of science, the second semester of SMA N 1 Tebing Tinggi.
4. Student learning outcomes measured are student cognitive learning outcomes through tests in the form of pretest and post-test.

### **1.4 Problem Formulation**

The problem formulation in this research includes does the website based learning media using scramble type cooperative learning model gives a higher significant difference compared to the website based learning media using

scramble type cooperative learning model to increase students' achievement on the teaching of redox?

### **1.5 Research Objectives**

The research objectives include investigating whether or not website-based learning media using a scramble type cooperative learning model gives a higher significant difference compared to scramble type cooperative learning model without using website-based learning media for students' achievement on of redox reaction.

### **1.6 Research Benefit**

This research will bring to:

1. Those who are directly involved in learning processes (teachers and students), so they can build a more interesting and effective way to teach and learn by using web-based learning media.
2. Students who are studying redox to make students more active and collaborative in doing the website media.
3. The researcher will get new experience, knowledge, and capability of applying the website learning media.
4. The next researchers are interested in doing the same research in the future.

### 1.7 Operational Definition

1. Scramble type is a learning model that invites students to find answers and solve existing problems by sharing question sheets and answer sheets accompanied by alternative answers available.
2. Web-based learning media is a distance learning system that is based on information and technology through web pages.
3. Student achievement is a learning process that is an interaction of teaching and learning activities.
4. Redox is a reduction and oxidation reaction that involves the release and binding of oxygen. The oxidation reaction is a reaction of oxygen binding by a substance. The reduction reaction is the reaction of oxygen release by a substance.

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