

CHAPTER I

INTRODUCTION

1.1 Research Background

Education is one way that can be used to achieve a civilized and dignified country. The quality of a nation education is a reflection of the nation. If the education was qualified, then surely the nation is a great nation and appreciates education. One measure that became the civility of the nation is the quality of education that sterling. Indonesia as one of the developing countries the level of education is still relatively low when compared with other countries.

In addition the teachers rarely modify their teaching. The teacher was a single player or in another sense Teacher Centered Learning (TCL) in class and the students just listening, writing, and remembering what has been mentioned by the teacher, as a result of learning is boring and static. It also can lead to a sense of teamwork and a sense of social pupil becomes lower with each other, in the absence of variation which can involve learning among students one to another. The difficulties in learning are caused by the abstract and complex concept in chemistry subject. Chemistry is a difficult, a subject that is not quite attractive for student among the natural science subjects. Then, the teacher should be able to design and to applicative many alternatives of learning strategy to motivate students in learning process. The good learning outcomes of student will be gotten if students are able to invest reviews their knowledge based on direct observations and experiences (Sinita, 2014).

Great teacher is a teacher who is able to manage his students achievement reach all parts of learning outcomes (cognitive, psychomotor, and affective) and it depends on the teaching method. The implementation of the method of teaching which was chosen by the teachers involves learning purpose aspects, materials relevance an ability to use the materials relevancy and teaching situation.

In the learning process, a teacher must be able to learning objectives successfully. The success involves the comparison understanding in the short term or long term about what the comparison had learned, and also resulted a good graduate student.

One of alternatives answers for this problem is teacher choose learning method that can improve student learning outcomes and students activities roommates. According to the materials will be taught, teaching and learning way are being important factors and most impact to reach the learning outcomes. So that, performance in teaching such as developing teaching methods, skills roommates can improve learning motivation. One effort to improve student learning outcomes and students activities is implementing the problem based learning models.

According to Trianto (2009) PBL is a approach to learning where students work on authentic problems with a view to construct their own knowledge, develop inquiry, higher order thinking skills, develop independence and confidence. This PBL also can improve students' learning outcomes and students' activeness. It is proved by the research of Pratama, et all (2014) PBL can be implemented in a reduction-oxidation reaction material class X SMA 5 Surakarta academic years 2013/2014. It is seen from the achievement of learning targets, namely; implementation of problem-based learning syntax; 86.29% of learners have good attitudes to learning competencies directly.

According to Wasonowati,(2014) based on the results of their study indicate that the learning process in terms of student activities (visual, oral, writing, listening. Mental, and emotional) with PBL models equipped with LKS in curriculum implementation in 2013 categorized well with the average of 82.71 and a percentage of 81.25% achievement. The results of student learning in the realm of knowledge, attitudes, and skills of students with PBL model equipped with LKS in the application curriculum in 2013 categorized both by the average value of a row is 81, 83, and 79. The results of student learning in the realm of

knowledge, attitudes, and skills of students with PBL models equipped with LKS categorized well with the percentage of students who achieve a core competency curriculum in 2013 are respectively 78%, 81.24%, and 78.13%. So it will be the reason why the author believe that PBL is the right model to improve the achievement and character of student.

According to Ilmi, (2014) based on the result of she's research that the effectivity of interactive learning module with macromedia flash by using PBL is 12.16%, the average percentage of student's creativity in experiment class is 89.42% and in control class is 85.17%. it means suitable applied in teaching and learning process in chemistry lesson, especially in topic Colloidal System because it can improve student's achievement and foster student's creativity.

Other fact about the quality of PBL is research do by Alkinoglu and Tandogan (2007) in the fact of the data collected and evaluations made in the research, it was determined that the implementation of problem-based active learning model had positively affected student's academic achievement and their attitudes towards the science course. It was also found that the application of problem-based active learning model affects student's conceptual development positively and keeps their misconceptions at the lowest level.

One of the learning models, which is student oriented active learning is PBL models. Through PBL, students will learn how to use an interactive process of evaluating what they know, identify what they need to know, gather information, and collaborate in evaluating a hypothesis based on the data is collected. While teachers act more as tutors and facilitators to help students explore and find the hypothesis, and draw conclusions. PBL is an innovative models that involves student to solve problems through scientific steps so that students are able to learn the knowledge which are related to the problem posed and also have the skills to solve the problems.

Beside that Team Games Tournament (TGT) is one type of cooperative learning which emphasizes the teamwork between members of the group to

achieve the learning objectives. There are four stages in the TGT is teaching, learning groups, tournaments/competitions, and awards group. The interesting thing from the TGT which distinguishes it from other types of cooperative learning is the tournament. In the tournament, the same academic ability of students who will compete to get the highest score in the tournament table. So students of high academic ability will compete with students of high academic ability and low academic ability of students will compete with low academic ability of students as well. Therefore, every student has the same opportunity to be the best in the tournament table. This will certainly motivate the students to learn that also affect student achievement.

According to Nopiyanita, et all (2013) from the results of research and analysis that has been done shows: The application of cooperative learning model TGT in a Reduction-oxidation reaction material can enhance student's creativity. In the first cycle the percentage of students with high creativity 51.51% in the second cycle increased to 81.82%. The application of cooperative learning model TGT may improve cognitive learning achievement in material Reduction-oxidation reactions. The percentage of students passing grade increased from 42.42% in the first cycle to 81.82% in second cycle. For affective learning achievement showed an increase in the average achievement indicator of 72.31% in the first cycle to 79.01% in the second cycle. Through PBL model and TGT brings innovative concept understanding, and emphasize student activeness is expected to improve student learning outcomes.

PBL as the learning models have many advantages which are can be made to improve student's achievement, namely: Challenging student's abilities and give satisfaction to discover new knowledge, increasing student motivation and learning activities. Assist students in transferring knowledge to understand the real-world problems. PBL may encourage students to evaluate themselves well to the results and the process of learning and develop student's ability to think critically and develop their ability to adjust to new knowledge. Not only PBL but also TGT have many advantages to use as the variation of learning approach,

namely the involvement of students in higher learning and enthusiastic. The knowledge gained students not solely from the teacher but also through its own construction by students. It can foster positive attitudes in students, such as teamwork, tolerance, responsibility, and can accept other people's opinions. Train students express or convey an idea or ideas.

Based on explanation previous paragraph, the author is proposed to do research with the title” **The Implementation of Problem Based Learning (PBL) Model Integrated with Team Games Tournament (TGT) to Increase Students Achievement and Creativity in Learning Colloidal System**”.

1.2 Problem Identification

1. Why is the quality of education in Indonesia still low?
2. Why is the student's achievement in learning chemistry still low?
3. How to increase student's achievement in learning chemistry?
4. How to measure the character of students, especially creativity character?
5. Why is the teacher useless variation of learning models?
6. Why is the learning process still dominated by the teacher?

1.3 Problem Limitation

Based on identification problem above, there is a wide scope of issues so this research is limited to know the following:

1. This research will be conducted at the Senior High School (SHS) at
2. The subject material that will be taught is Colloidal System.
3. Teaching model that will be applied in this research is problem based learning model (PBL) integrated with team games tournament (TGT).
4. The characters that will be measured in this research is creativity.
5. Student's achievement that will be measured using the cognitive aspect of C1,C2,C3 and C4 level.

6. Student's achievement will be measured using instrument test and student's character will be measured using observation sheet.

1.4 Problem Formulation

As for formulation of the problems in this research are:

1. Is student's achievement who learn using PBL model integrated with TGT higher than student's achievement who learn by TGT?
2. Is student's creativity who learn using PBL model integrated with TGT higher than student's achievement who learn by TGT?
3. Is there positive significant correlation between student's creativity characters with student's achievement?

1.5 Research Objective

1. To get information about the results comparison of student's achievement who is learn using PBL model integrated with TGT with using TGT.
2. To know the average percentage of student's creativity that developed by applying problem based learning model integrated with team games tournament.
3. To know the positive significant correlation between student's creativity character with student's achievement.

1.6 Research Benefit

This research is expected can usage as follows:

1. To provide guidelines for teachers of science, especially chemistry teachers to use problem based learning integrated with team games tournament in learning process that can improve student's achievement.
2. To change student's paradigm that chemistry is not a difficult subject, so it can improve their motivation to learn and also the understanding about colloidal system.
3. To provide inputs for next researchers to do similar research in the future.

1.7 Operational Definition

1. Problem Based Learning (PBL) is problem-based learning is a learning approach where students work on authentic problems with a view to construct their own knowledge, develop inquiry and higher-level thinking skills, develop independence and confidence.
2. Team Games Tournament (TGT) is one type of cooperative learning that puts students in study groups which is consisting of 5 to 6 students who have different ability, gender, ethnicity or race which is have special stages namely games tournament.
3. Student's Achievement is a measure of the teacher success in teaching to improve learning achievement, to know the success rate of student in understanding the subject matter which express in the form of score, and also as a evaluation may show high or low student achievement.
4. Student Characters are aspects or qualities of individual students consisting of interests, attitudes, learning motivation, learning styles, thinking ability, and the initial ability of the one.