CHAPTER I
INTRODUCTION

1.1 Background

Education is an important aspect in the life of the nation (Wasonowati, at al., 2014). Education in the era of globalization aims to develop skills and attitudes that influenced attitudes changing values and attitudes which values need to be maintained. Student passive attitude during the learning process is also one of the factors causing low student learning outcomes. In the process of learning every student has the same opportunity to develop themselves optimally. However, the reality shows that every student has a different result, not all students are diligent and not all were able to make adjustments with their learning situation. There are students who are keen to learn, there are students pretend to learn, and there are also students who are not willing to learn. This is in line with the stated (Dewi, 2013) "The test results daily or summative test students for chemistry lesson is still low. One reason is the attitudes of the students are passive during the learning process takes place ". One of the alternatives that can be used to overcome various problems in chemistry teaching is to apply the learning model Problem Based Learning (PBL). According Suprihatiningrum in Handoyono (2016) states that PBL is a method of learning, in which learners from the beginning faced with a problem followed by information search process that is student centered. Problem Based Learning (PBL) is also a learning model that uses real-world problems as a context for students to learn about the ways of problem solving and critical thinking skills, as well as to acquire knowledge and essential concept of the course material or subject matter (Mustofa, at al., (2016).

The learning process will not be successful if it is done without any real concept as assigning students to memorize words - words, facts and formulas. The proper way to concretize the material is through practical activities. According to the outline Rustaman practicum is often associated with several objectives: 1) To motivate the students because practicum in general interest to students so that they are more motivated to learn science; 2) To teach the basic skills of scientific; 3)

To improve the understanding of the concept; 4) To understand and use the scientific method; and 5) To develop scientific attitudes (Riza, et al., 2013).

In chemistry learning, laboratory use as a learning tool perceived less as a variety of factors, including:

1. General principals and teachers how to keep students focused efforts can continue on to university. Targets that are expected are as many students can pass the national selection of state universities. While the selection system for College admissions only emphasizes cognitive, psychomotor for very less.
2. Limited facilities and infrastructure to support the learning of chemistry, such as lack of books - handbook laboratory experiments.

In addition to the complete lack of tools and materials laboratory practicum in school, lack of availability chemistry lab handbook that meets the requirements is one of the factors hamper the practical implementation in schools and the learning process does not lead to optimal. Likewise, researchers experience when implementing the Integrated Field Experience Program that chemistry lab has not been implemented to the fullest. Students do not have a practical handbook itself so that teachers of chemistry to be overwhelmed to make a detailed return instructions appropriate lab chemicals experiment topic.

Efforts should be made to these problems one of which is to integrate the teaching materials with a learning model that can train students' thinking skills in acquiring knowledge and the concept of a material are studied independently without chemical losing the meaning of chemistry as a process. One model that can be applied is problem based learning which is further implemented in the form of teaching materials in the form of practical guidance based on problem-based learning (Rusman, 2012).

Results Seftiana study (2015) showed that the use of chemical module PBL based on colloidal system materials as a source of independent study students "effective" is used in learning. This is shown in the cognitive aspects of learning outcome of students with N-gain of 0.69 with the criteria of a modest increase. While the research results Khairani (2016) based on the results of the

trial showed a practical implementation guidance that has been developed provides a very high understanding of student results on experiments in chemical equilibrium with the value of 42.83 while for the pretest posttest at 85.66. It shows that the practical guidance that has been developed well and fit for use for teaching chemistry SMA / MA.

Therefore, practical guide is a guideline in carrying out practical work and also as an evaluation tool in learning activities, practical guidance necessary in such a way that an interesting design to fit the students' needs, easy to implement and not too much need for tools and materials. Therefore, the practical handbook that was developed in this study was that contain Chemistry lab procedures SMA / MA lab with materials and tools are easily available in everyday environments. With a comprehensive practical guide designed / structured attractive and efficient both in terms of availability of equipment and materials as well as work procedures simple and easy to implement, but according to the needs of students and teachers the practical implementation will run optimally.

Based on the description of the above problems, the researchers tried to develop practical guidance in learning Chemistry and will validate this practical guide to some chemistry professor, chemistry teachers and students of SMA / MA. To support the success in practical activities, the researchers are interested in doing research entitled **"The Development of Practical Guides with Problem Based Learning (PBL) To Improve Students Chemistry Learning Achievement on Acid and Base Topic".**

1.2 Problem Identification

Based on the background issues that have been described, it can be identified the following issues:

1. Learning acids and bases in schools are still using conventional methods.

2. Laboratory facilities and infrastructure in an inadequate includes tools and materials lab.
3. Incompatibility practical guides based on PBL used in SMA / MA with students' needs and the existence of laboratories in schools.
4. Unavailability practical guides based on PBL used in SMA / MA decent and difficulties in providing the teacher guides for each experiment so that they use the guidance contained in textbooks.

1.3 Problem Formulation

To provide guidance that can be used as a reference in the study, then made the formulation of the problem as follows:

1. Is the practical guides in class XI SMA on acid and base materials used in schools has been qualified BSNP?
2. Does the practical guides based on PBL used in class XI SMA on acid and base material after development has been qualified BSNP?
3. How can the effectiveness of student learning achievement using practical guides based on PBL in class XI SMA which have been developed?

1.4 Problem Limitations

In order for this research provide the right direction then the problem needs to be limited as follows:

1. Formulate and develop practical guides based on PBL in class XI SMA on acid and base material which refers to the criteria BSNP.
2. Trial practical guides based on PBL conducted in SMA Negeri 1 Perbaungan
3. Seeing the effectiveness of using practical guides based on PBL after development.

1.5 Objective

In accordance with the problems that have been formulated, the objectives of this research are:

1. To obtain data on the feasibility of practical guides based PBL used in class XI SMA on acid and base materials based BSNP.
2. To obtain practical guides based on PBL in class XI SMA on acid and base materials has been qualified the standards BSNP.
3. To know the effectiveness of practical guides based on PBL in class XI SMA on acid and base materials that have been developed.

1.6 Benefits Research

The expected benefits of this research are:

1. To enhance knowledge and experience of researchers to develop practical guides based on PBL in class XI SMA on acid and base material.
2. To obtain practical guides based on PBL viable and attractive, easy to implement and can help students learn the material in acid and base especially doing practical work.
3. Contribute ideas for the high school level chemistry teachers in developing practical guides based on PBL.
4. Provides guidelines for teachers to carry out chemistry lab at the school.

1.7 Operational Definition

To avoid misinterpretation, the need for restrictions on the scope of the study and explanation of some of the terms as follows.

1. **Research and Development**

Research and development is the research methods used to produce a particular product, and test the efficacy of such products (Sugiyono., 2006).

2. **Practical Guidance**

Practicum is an activity-oriented group activity that requires a lot of time, so it needs special arrangements so that activities can be run well. One effort

that can be made in the timing of the learning process is the selection of the learning model effectively and efficiently so as to create an active learning (Umah, at al., 2014).

3. **Problem Based Learning**

PBL is essence presenting a variety of problematic situations authentic and meaningful to the students, which can serve as a springboard for investigation and inquiry (Arends, 2007).

4. **Learning outcomes**

Of learning outcomes is the acquisition of the learning process of students in accordance with the purpose of teaching (purwanto, 2011)