# CHAPTER III
# RESEARCH METHODOLOGY

A. Research Design

To conduct this study, the researcher tried to answer the research questions through the descriptive-analytical method with content analysis type. The descriptive method means "any research that describes a setting or events in numerical terms". Meanwhile, content analysis is a research method used to identify the patterns or the presence of certain words, themes, or concepts in some given communication, for instance, a text. Also, content analysis is "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns". Then, the items will be analyzed through content analysis based on the aspect of HOTS in the English National examination.

B. Data and Sources of Data

To answer the research questions, here the researcher collected the data from test items of English Paper and Pencil based National Examination (UNKP) in 2016/2017 – 2018/2019 year as main data. The primary data of this study are six packages of the English National Exam for Secondary School of 2016/2017 -2018/2019Academic year. It consists of three packages of English National Examination for SMA and three packages of English National Examination for SMK. Even though, in certain areas, the

government has conducted CBT (Computer Based Test ) of National Examination (UNBK) three years ago. But in some other areas, it still uses paper tests because of limited facilities. It is called UNKP ( Ujian Nasional Berbasis Kertas dan Pencil). Instead of the difficult access for the UNBK test, the researcher uses the UNKP test was obtained from school and downloaded from the internet. Every package covered 15 items for listening

comprehension, meanwhile the researcher focus on    35 items for reading comprehension. All questions are multiple-choice items.

C. Instruments

The major instrument in conducting this study is the researcher herself. She developed a research tool called Content Analysis. In conducting content analysis, it systematically collects data from a set of text, then categorizes through the systematic classification or code words, themes, and concepts within the text, and then analyzed the result. Consequently, to achieve the purpose of the study, a content analysis card was used to collect, describe and analyze data regarding the availability of HOTS questions in the English National Examination in SMA and SMK from 2016/2017 -2018/2019 Academic year.

There are six packages of the English National Exam for Senior High School of 2016/2017- 2018/2019  Academic year. Quantitative data were taken to find the percentage of HOTS level from 35   test items of reading comprehension questions of each test package from English National Exam of SMA/MA and  SMK/MAK  of  2016/2017 – 2018/2019 Academic year. There will be 210  questions that will be analyzed. The analysis consists of limited questions, especially in reading comprehension. Because reading is one of the four English skills that should be mastered by the learners. By reading the students can describe the meaning of the word and will get or update their knowledge from the text.

D. Data Collection

In the case of collecting data for the research,  the researcher needs the instruments. In this study, the researcher collected all suitable documents that are available. The qualitative data is obtained by collecting  English National Examination test items for SMA students from 2016/2017   to 2018/2019 Academic year. This data was obtained for English Paper and Pencil based

National Exam (UNKP) items from school and the table of specifications listed in Education National Standard Organization Regulation No.0019/P/BSNP/XI/2012. This document is publicly available on the Internet. It can be accessed in **https://www.sudutbaca.com/download-kumpulan-soal-ujian-nasional-un-sma-2016/2017/(downloaded21-5-2020https://www.sudutbaca.com/download-kumpulan-soal-ujian-nasional-un-sma-2017- 2018/, and https://www.m4th-lab.net/2019/07/downlad-naskah-asli-soal-un-sma-2019.html**. Meanwhile, English National Examination test items for SMK students from 2016/2017 to 2018/2019 Academic year were obtained from SMK English teacher.

E. Data Analysis

      In line with the qualitative method, the researcher analyzed the data descriptively. After getting the data which was gotten from internet sources and English teacher sources, The data analyzed using the revised Bloom's Taxonomy and focused on the classification of questions asked. The questions are identified, analyzed, and categorized using the revised Bloom's Taxonomy The question items are identified and put into several categories within the content analysis card. Sentences and concepts that makeup questions in exam papers are discoverable using the content analysis method. The analysis is between the test items of the English National Examination for Senior High School with the questions" levels of comprehension based on the revised Bloom's Taxonomy and the Model of Higher Order Thinking Skills. To analyze the test items, the researcher used a coding sheet to classify the test items of the English National Examination for Senior High School in the 2016/2017 – 2018/2019 academic year into the questions" levels of comprehension. In the process of developing the coding sheet, the form was drafted by the researcher.

      To describe more detail in conducting this study, the researcher conducted the following procedure :

1. First, identifying the questions items which include HOTS questions. Then classifying the question items into a particular level of comprehension by

Bloom taxonomy, the researcher later categorizes the items into the appropriate level of thinking skills, especially higher-order thinking skills (HOTS).

2. Making criteria of types of thinking skill in form of the coding scheme through reviewing the literature related to the analysis of comprehension questions under Bloom Taxonomy and HOTS.

3. Codifying all the questions in the 6 package of the English National Examination items SMA/MA and SMK in 2016/2017 –2018/2019 Academic Year by categorizing them based on the level of comprehension.

4. Analyzing the data in the form of frequencies and percentages and organizing it through tables.

5. Comparing the result of analyzing the HOTS questions in English Paper and Pencil based National Examination (UNKP) between SMA and SMK students in 2016/2017-2018/2019 Academic year.

To classify the types of thinking skill, the researcher uses some criteria identified in the Revised Bloom's taxonomy that can be simplified as follows :

| Codifying | Level of Thinking Skill | General Description |
|---|---|---|
| C1 | Remember | memorizing fact or factual information (define, list, repeat, state) |
| C2 | Understand | explaining main ideas or concepts and make meaning by interpreting, classifying, summarizing, inferring, comparing, and explaining ( explain, classify, report, recognize) |
| C3 | Apply | Recognizing or use concepts in the real situation and addressing when, where, or how to employ method and ideas (implement, demonstrate, solve) |
| C4 | Analyze | Breaking a topic or idea into components or examine a subject from a different perspective (compare, relate, distinguish) |
| C5 | Evaluate | Making a judgment about something on criteria and standards (argue, select, critic) |
| C6 | Create | Putting elements together to form a coherent whole, reorganize elements into a new pattern (design, develop, formulate) |

F. Triangulation

The validity of the data in this study use triangulation techniques. triangulation is a technique of checking the data validity collected by the researcher. In data triangulation, the researcher investigates whether the data collected with one procedure or instrument confirm data collected using different procedures or instruments. The researcher wants to find support for the

observation and conclusion in more than one data source. This triangulation can avoid the bias of the researcher that might appear one time

Triangulation is the most common way to increase validity in qualitative research. There are four types of triangulation techniques, (1) data triangulation, (2) methodological triangulation, (3) investigator triangulation, (4) theoretical triangulation.

1. Data triangulation

    In data triangulation, the researcher uses many sources or participants to get the accuracy of data. It means that the researcher comparing and cross-checking the consistency of information derived at different times and by different means within the qualitative method.

2. Methodological triangulation

    Methodological triangulation refers to the researcher uses more than one method in the research. Cohen (2000: 113) explained "Methodological triangulation is using the same method on different occasions or different methods on the same object of study". Thus, methodological triangulation is making different methods to get validity of data.

3. Investigator triangulation

    Investigator triangulation means a technique that uses more than one researcher in collecting and analyzing data. From some researcher's view in interpreting information and collecting the data, the validity of data can be increased. In other words, if several investigators agree to their reporting of the context, it will be more valid and certifiable.

4. Theoretical triangulation

    Theoretical triangulation means the researcher compares the data finding with the perspective theory that is relevant. Here, the researcher is demanded to have the expert judgment to compare the finding of research with a certain theory.

From those types of triangulations, the researcher uses investigator triangulation to get the validity of data. It is more appropriate to be used to investigate the analysis that needs more investigators to measure the analysis's quality. So, the researcher invited two-person, an English teacher who works in SMAN 3 Nganjuk and an expert in HOTS questions. Her name is Dwi Utaminingsih, S.Pd. And Mrs. Dini Sundhari, S. Pd, an English teacher from SMKN 2 Bagor Nganjuk The researcher and the investigator observed the kinds of English National Examination Questions from the 2013-2019 academic year. Then, the researcher compared the reports, discussed them together, and delivered the points to result in complete results.