

CHAPTER III

RESEARCH METHOD

This chapter discusses about the research design, research setting, participants, data, the technique of data collection and data analysis.

A. Research Design

In conduction this research, the researcher uses a Mix Method. Mixed method is a research design that guides philosophical assumptions and research methods. Methodologies include the direction of collection and analysis, and the philosophical assumptions that lead to a combination of qualitative and quantitative approaches at many stages of the research process. The method focuses on collecting, analyzing, and blending both quantitative and qualitative data in a single study or a series of studies. The central premise is that the combination of quantitative and qualitative approaches will give a better understanding of the research problem than using either approach alone. (Creswell & Clark, 2007).

In this study, the researcher used the Mix method, which is a combination of quantitative and qualitative. For RQ 1, the researcher used quantitative methods and for RQ 2 the researcher used qualitative methods. According to S. Margono quantitative research is a method which uses data in the form of numbers as a tool to find information about what want us to know.

The resulting data are in the form of words, pictures, and human behavior. According to (Lodico, 2006), p. 264) “qualitative researchers was the research that focuses on the study of social phenomena and on giving voice to the

feelings and perceptions of the participants' understudy, this is based on the belief that knowledge is derived from the social setting and that understanding social knowledge is a legitimate scientific process”.

B. Research Settings

In this study, the researcher takes place in MTsN 3 Banjarmasin, located on Mahligai and Bhakti streets, Banjarmasin, KM 7 as location of the study. The researcher wants to know how the teacher's understanding of TPACK concept. Besides, the researcher also wants to know how English teacher applies the TPACK concept in English language teaching. Researcher chose this school because there are still few English teachers who teach there.

The selection of this research location was based on several considerations, namely:

- a. The research location is easily accessible and the social situation is easy to observe to facilitate the research process.
- b. At this school there has been no research on how to apply the TPACK concept in learning English.

C. Participants/ Subject

The participants in this study were 5 teachers of English at MTSN 3 Banjarmasin. The reason why the researcher chose English teachers as participants in the study was to examine the extent to which the competence of English teachers in applying the TPACK concept, especially in English teaching at MTsN 3 Banjarmasin.

D. Data

Data in a study are all facts and figures obtained by researcher that can be used as a tool for compiling data an information (Suharsimi Arikunto,2006). The source of the data should be original, but if it is difficult to obtain, photocopying or copying is not too much of a problem, as long as strong evidence of its position can be obtained. In general, data in a study is divided into two, namely: 1) primary data and 2) secondary data. Primary data is data obtained directly from the first source, either through observation or interviews with respondents. Secondary data is data that has been studied by outsiders other than the researcher. In other words, secondary data is data obtained from a second source to support the research conducted

This study using primary data sources and secondary data.

1. Primary data sources are data obtained by researchers from the first source. The data in this research will be taken by the English teachers of MTsN 3 Banjarmasin who became the sample of this research.
2. Secondary data sources are data obtained by researchers as support from the first source. In this case, the bias takes the form of documents. In this study, the secondary data sources were articles, journals, and related literature.

E. Technique of Data Collection

To obtain data and information needed in research, researchers determine data collection techniques that are by the problems to be studied. In this study, researchers used several data collection techniques as follows:

1. Observation

Observation is one of the qualitative data collection techniques. Semiawan (2010) observation is collecting data obtained directly from the field. Meanwhile, according to Zainal Arifin in the book Kristanto (2018), observation is a process of collecting data that is preceded by observation and then recording important parts that are systematic, objective, logical and rational.

Observation is very suitable to be used in research related to teaching and learning conditions and interactions, behavior to group interactions. The advantage of this technique is that the data obtained is more reliable because it is carried out on their observations by communicating and interacting. So that the researchers conducted direct observations in the field to find out the conditions that occurred in educational institutions, precisely in the MTsN 3 Banjarmasin environment. This method is used by researchers to observe the natural setting and the implementation of learning activities in the Madrasah.

In this research with observation techniques, the researcher directly to MTsN 3 Banjarmasin to see events or observe objects directly and record things that are needed, as well as take documentation from places or research locations related to the application of the TPACK concept to teacher competence in language learning English.

2. Questionnaire

Questionnaires have a similar function to interviews, only differing in their implementation. If the interview was delivered by the researcher to the respondent orally, then the implementation of the questionnaire was that the respondent filled

out a questionnaire compiled by the researcher. The results of this questionnaire data are not in the form of statements, but in the form of descriptions. There is no more efficient data collection technique than the questionnaire. The instructions for making a list of questions (Sutabri, 2012).

This questionnaire is intended to answer research question number 1, namely: *How's the English teachers' understanding of the TPACK concept at Junior High School?* The questionnaire was given to the English teacher at MTsN 3 Banjarmasin. This questionnaire was adapted from the journal Muhaimin, M., Habibi, A., Mukminin, A., Saudagar, F., Pratama, R., Wahyuni, S. et al. (2019). A sequential explanatory investigation of tpack: Indonesian science teachers' survey and perspective. *Journal of Technology and Science Education*, 9(3), 269-281. The questionnaire adapted from Likert scale consisted of satisfaction levels, namely strongly disagree, disagree, uncertainly, agree, and strongly disagree. In this study, all participants were asked to give their respective satisfactions in twenty sub-competencies regarding the teacher's understanding of the *TPACK* concept. This process helped researchers find out the extent of the teacher's understanding of the *TPACK* concept. So, the questionnaire can help researchers obtain data to answer the first question in this study

3. Interview

Yusuf (2016, p.33) stated “interview is a data collection technique through the process of interaction between the interviewer (Interview) and information sources (interviewer) through direct communication”. The conversation was carried out by two parties, namely the interviewer who asked the question and the

interviewer who answered the question. Meanwhile, this interview is intended to answer research question number 2, namely: *How is the implementation of the TPACK concept on English teacher competence in English teaching at junior high school.?* The researcher plays an active role in asking and provoking the conversation towards a particular problem to the informant, to obtain answers to the existing problems, so that research data is obtained. The use of this interview method is intended to obtain information face to face, which means directly dealing with informants. It is also intended to find the completeness of the data obtained. In this study the researchers used 11 questions regarding their implementing TPACK concept in English teaching.

The researcher conducts interviews freely towards the focus of the research as well as notes statements or opinions that are important and by the research focus. The results of the interviews were then arranged systematically in the form of data summaries for the purposes of data analysis. Interviews were conducted with teachers related to the focus of the research extracted from the title " The Implementation of Technological Pedagogical Content Knowledge (TPACK) Concept of The Teacher's Competence in English Teaching at Junior High School".

F. Data Analysis

The first analysis, for research question 1, the researcher uses quantitative analysis as follows:

After the researcher got the results from each questionnaire, the next step was to accumulate each answer that the respondents chose, whether it was strongly agree, agree, unsure, disagree and strongly disagree. The formula used to accumulate the percentage of each respondent's answer is as follows:

$$p = f/n \times 100\%$$

Information:

p=percentage

f=frequency of each questionnaire answer

n=ideal score

The results obtained by each questionnaire will be explained using a Likert scale with the following interval formula: Interval (I): 100/ score Likert (5)

0-20%	= Low/very weak
21-40%	= Weak
41-60%	= Average
61-80%	= Good
81-100%	= Excellent (Hamid, 2011).

Before the researcher in the last stage, interpreting the data, must first know in advance the highest score and lowest score of each questionnaire by using the following formula:

Y : Questionnaires x Likert high score x respondents

X : Questionnaires x Likert Low score x respondents

Then the researcher uses the index formula that calculates, as follows:

Index formula%: Total score / Y x 100 (Hamid, 2011)

For, the second question, the data collected in this study by qualitative data. The analysis technique is by that proposed by Miles and Huberman cited by Sugiono (2011), which is carried out interactively, which can be explained using the following steps:

1. Data Collection

Exploring information and data from various sources or respondents. namely by interviewing, observing, and questionnaire.

2. Data Reduction

Data reduction is summarizing, sorting out the main things, focusing on the important things, looking for themes and patterns. Thus, the data that has been reduced will provide a clearer picture, and make it easier for researchers to conduct further data collection, and look for it when needed. Data reduction in this study focused on teacher's understanding in applying the TPACK concept at MTsN 3 Banjarmasin and also implementation TPACK concept in English teaching.

- a. For observation, the researchers used observation techniques to see directly the teaching and learning process in the classroom. Then, the researcher sorts the data that is not related to the research and collects the data obtained in accordance with this research.
- b. For interview, the researchers used data collection techniques, namely interviews to obtain data directly from English teachers regarding the

application of the TPACK concept in English teaching. The researcher gave 11 questions related to this research.

- c. For questionnaire, the researcher gave questionnaires to English teachers with 20 statements related to Technological Pedagogical Content Knowledge. Then, the result of getting answers from English teachers calculated by using a formula and making the frequency of each answer to the questionnaire.

3. Data Display

After data reduction, the next stage is data display. Data display is a process of organizing data so that it is easy to analyze and conclude. The presentation of this data is the result of data reduction that has been done previously so that it becomes systematic and can be interpreted, because usually, the data collected is not systematic. The presentation of data in this study is in the form of narrative descriptions and can be interspersed with pictures, schemes, matrices, tables, formulas, and others.

- a. For observation, the researchers display the results obtained in the field based on what the researchers have found directly and make the data in descriptive form so that it will be easily understood and significantly identified.
- b. For interview, the researchers also display the data obtained by describing the results of interviews that have been obtained by researcher from English teachers.

c. For questionnaire, the researcher displays the results of each answer that has been filled in by the English teacher regarding Technological Pedagogical Content Knowledge based on the formula used in the Likert scale.

4. Drawing conclusion/verification

Miles and Huberman (1994) the third step in analyzing qualitative data is drawing conclusions and verification. The initial conclusions put forward are still temporary and will change if no strong evidence is found to support the next stage of data collection.

In short, the stages of analysis in this study are: The researcher collect data through interviews, observations and questionnaire. Then, the researcher chose by referring to the formulation of the research problem in the study. After collecting and reducing the data, the researcher presented the transcript of the data in narrative form. Finally, at this step, the researcher can get the results and conclusions of the study in the form of a description of the subject matter of this lesson.

In this study, the researcher obtained findings in answering research problems, among others, the teacher's understanding of the TPACK concept to teacher competence and its effect on learning English