

CHAPTER III

RESEARCH METHOD

This chapter discusses about the research methodology, such as research design, research procedure, sample and population, research variable, scale, operational definition, data collection instrument, and the data analysis.

3.1 Research Design

In conducting this study, the researcher used statistics approach and applied a survey research design. Singarimbun and Effendi (1989, p. 3) stated that survey research is a research that takes sample from population and use questionnaire as the main data collection instrument. The design was chosen because this study particularly aimed to find out the students of English Language Education Program of Universitas Brawijaya's perceptions on watching English movies with English subtitles to learn English in informal setting.

Based on KBBI (n.d), statistics is a knowledge that teaches about collecting, tabulating, categorizing, analyzing and finding meaningful explanation of numerical data. Hasan (2004 cited in Siregar 2015, p. 105) stated that descriptive statistical analysis uses one or more independent variables. Thus, the data analysis is not in the form of correlation or comparison. According to Yusri (2009, p. 2), statistics also has other definition, which is an approach used to assert measurement as a representation of a collection of data about a particular object or problem.

Furthermore, the data analysis technique of statistics research approach is divided into two options; descriptive statistic and inductive statistic (Yusri 2009, p. 8).

Descriptive statistics data analysis derived from Yusri (2009, p. 8) is an approach used to collect, process and analyze numerical data and then present it into the form of a description. Descriptive statistic technique includes data collection, data analysis and data presentation.

Whereas, inductive statistics is a technique used to make decisions and take conclusions which are reasonable and related to the future uncertainty based on the analyzed data. The steps in inductive statistic technique are estimating, predicting, and testing the hypothesis in the form of correlation, differentiation and comparison of two or more variables.

The researcher decided to use descriptive statistics as the data analysis technique of this research. The reason was because there was only one variable in this research. The formulation of the variable would be discussed in chapter three.

3.2 Research Procedure

The researcher made a schema of the research procedure to make the readers easier in understanding what the researcher has to do in conducting this research. The schema can be seen below:

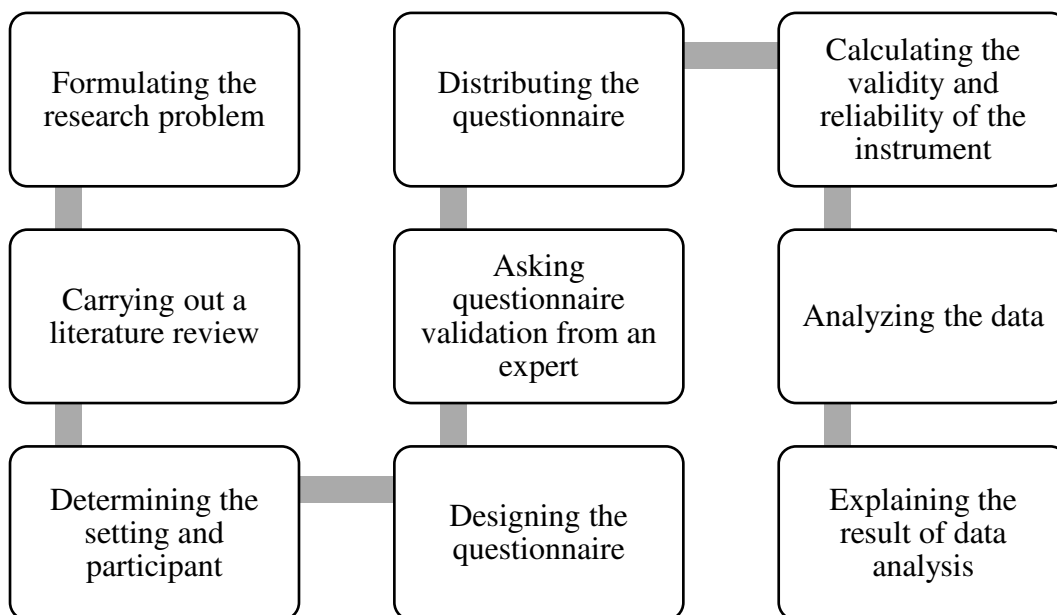


Figure 3.1 Research procedure schema

The first step in this research was formulating a research problem. The researcher observed the recent phenomena that happened around the teaching and learning process of English. After the researcher found a problem, the researcher began to formulate the research problem.

The second step was carrying out a literature review. In this stage the researcher did a library study by reading many written references related to the research problem. The reference could be in the form of books, e-books, or articles.

The third step was determining the setting, population and sample. The setting and population were chosen by certain factors such as distance, time and ease of access to the location and the purpose of the research. For example, if the aim of the research was to design a new teaching method, so

the setting of the research should be at a school and the population are the teachers and the students of that particular school. After deciding the setting and population, the researcher determined how many students were chosen as the sample by using Isaac and Michael's sample stipulation table.

The steps after that were designing a questionnaire as the main data collection instrument since this research was a survey research. Then, asking validation of the questionnaire to an expert. After that, the researcher started to distribute the questionnaire to the sample.

The next steps were calculating the validity by using Reproducibility and Scalability formulas and also Kuder-Richardson 20 Coefficient formula to test the reliability of the instrument, followed by analyzing the data obtained from the questionnaire by using Guttman's Scalogram analysis.

Lastly, the researcher explained the result of the calculations descriptively in order to be easier for the readers to understand the result of this research.

3.3 Population and Sample

In the early stage of conducting this research, the researcher had to determine the population and sample of the research.

3.3.1 Population

According to Sugiyono (2013, p. 214) population is a generalization of region consisting of objects or subjects that have certain qualities and characteristics set by researchers to be studied

and then drawn conclusions. The population of this research was students of English Language Education Program at Universitas Brawijaya batch 2016. The total number of students was 120 students. The reason why the researcher chose this population was because the researcher had come upon many students of English Language Education Program at Universitas Brawijaya Malang who enjoyed watching movies in their free times, including English movies equipped with English subtitles. These phenomena had picked on the researcher's curiosity to know whether the majority of the students had positive or negative perceptions toward watching English movies with English subtitle to learn English in informal setting.

3.3.2 Sample

Sample according to Sugiyono (2005, p. 91) is part of the population in a research. The sample of this research was 89 students out of 120 students of English Language Education Program Batch 2016 at Universitas Brawijaya Malang. The students who became the sample were chosen by using random sampling technique.

Sampling technique according to Sugiyono (2013, p. 217) is a technique to determine the sample that used in a research. Random sampling technique was chosen for this research so that the result was objective. Kuntjojo (2009, p. 31) described random sampling or probability sampling technique as a sampling technique which is done by giving a chance or opportunity to all individual in the population to

be a sample so that the sample will be a representative sample. In short, the students were chosen randomly out of 120 students of English Language Education Program Batch 2016.

To determine the number of the sample, the researcher used sample stipulation table by Isaac and Michael (1995) that can be seen on the next page.

Table 3.1 Sample stipulation table by Isaac and Michael

N	Signification			N	Signification		
	1%	5%	10%		1%	5%	10%
10	10	10	10	280	197	155	138
15	15	14	14	290	202	158	140
20	19	19	19	300	207	161	143
25	24	23	23	320	216	167	147
30	29	28	28	340	225	172	151
35	33	32	32	360	234	177	155
40	38	36	36	380	242	182	158
45	42	40	39	400	250	186	162
50	47	44	42	420	257	191	165
55	51	48	46	440	265	195	168
60	55	51	49	460	272	198	171
65	59	55	53	480	279	202	173
70	63	58	56	500	285	205	176
75	67	62	59	550	301	213	182
80	71	65	62	600	315	221	187
85	75	68	65	650	329	227	191
90	79	72	68	700	341	233	195
95	83	75	71	750	352	238	199
100	87	78	73	800	363	243	202
110	94	84	78	850	373	247	205
120	102	89	83	900	382	251	208
130	109	95	88	950	391	255	211
140	116	100	92	1000	399	258	213
150	122	105	97	1100	414	265	217
160	129	110	101	1200	427	270	221
170	135	114	105	1300	440	275	224
180	142	119	108	1400	450	279	227
190	148	123	112	1500	460	283	229
200	154	127	115	1600	469	286	232

Source: Isaac and Michael 1995, p. 24

Note :

N = the number of the population

According to the table above, the number of sample needed to have 5% signification rate for total number of population 120 people is 89 people. Thus, 89 students were taken randomly as the sample. 5% signification rate was chosen because usually, the calculation of validity and reliability failed if the signification rate is 1% or 10% since it means that either the sample is too view or too many. . Thus, the safest choice was to choose the middle one, which was 5%.

3.4 Research Variable, Operational Definition, and Scale

3.4.1 Research Variable

Research variable is various characteristics or values which are given by the researcher to an object, subject, or activity to be studied and concluded (Sugiyono 2013, p. 38). The variable is divided into two types, namely independent variable (X) and dependent variable (Y).

Based on Widyoko (2015, p. 4) independent variable is a variable that affects or becomes the cause of change on other variable, while the dependent variable is the one being affected. The variable of this research could be formulated as follow:

Variable X : Learners' perceptions on watching English movies
with English subtitles to learn English in informal
setting

Variable Y : -

There was only one variable in this research, which was the independent variable (X). The reason was because there was no value being affected (dependent variable) or variable Y by variable X.

3.4.2 Operational Definition

Suryabrata (2000 cited in Kuntjojo 2009, p. 24) defined operational definition as a definition which is based on the characteristics of the things which are being defined and can be observed. The operational definition in this research can be summarized in the table below:

Table 3.2 Operational definition table of affective aspect.

Variable	Indicator	Sub – indicator	Item	Yes	No
Learners' perceptions on watching English movies with English subtitles to learn English in informal setting	Affective aspect	Emotion	1. I like watching English movies.		
		Belief	2. I believe watching movie can be used as an educational purpose to learn English in informal setting.		
		Feeling	3. I enjoy watching English movies with English subtitle to learn English in informal setting.		

Table 3.3 Operational definition table of cognitive aspect.

Variable	Indicator	Sub – indicator	Item	Yes	No
Learners' attitudes on watching English movies with English subtitles to learn English in informal setting	Cognitive aspect	Experience	1. I realize that my English proficiency improved after watching English movies with English subtitle regularly.		
		Opinion	2. I think watching English movies with English subtitle is very helpful to learn English in informal setting.		
		Knowledge	3. It is easier for me to memorize vocabulary, pronunciation and grammar by watching English movies with English subtitle.		

Table 3.4 Operational definition table of psychomotoric aspect.

Variable	Indicator	Sub - indicator	Item	Yes	No
Learners' attitudes on watching English movies with English subtitles to learn English in informal setting	Psychomotoric aspect	Behavior	1. I watch English movies with English subtitle at least once a week to improve my English proficiency.		

Continuation of table 3.4

Variable	Indicator	Sub - indicator	Item	Yes	No
Learners' attitudes on watching English movies with English subtitles to learn English in informal setting	Psychomotoric	Motivation	2. I become more motivated to learn English by watching English movies with English subtitle.		
		Attitude	3. I support the idea of using English movies with English subtitle as a media to learn English in informal setting.		

The researcher used the theory of perception aspects by Walgito (2004, p. 127) which had been discussed in the previous chapter. The theory then adapted as the indicators of the questionnaire and also as a reference to construct the items. The items were questions that the researcher had designed and validated by an expert, Mrs. Alies Poetri Lintangari, S.S., M.Li., a lecturer at Faculty of Cultute Studies Universitas Brawijaya Malang so that the validity and reliability of the instrument can be guaranteed.

Walgito (2004) suggested three main aspects of perception, which are:

1. Cognitive aspect

Cognitive aspect is related to components such as knowledge, opinion, experience, and knowledge.

2. Affective aspect

Affective aspect is related to components such as beliefs, feelings and emotions of an individual towards a certain object or a situation.

3. Psychomotoric aspect

Psychomotoric aspect is related to components such as motivation, attitude, and behavior of an individual in mutual accord to his/her perception of a certain object or a situation.

3.4.3 Scale

Windiyan (2012, p. 203) described scale as a set o score which is used to measure the characteristics of an object, subject, or the behavior of an entity. In addition, she also stated that scale is usually used to measure attitude, perception, value, and interest of an individual or a group that want to be studied. The result of scale measurement must be in the form of numerical data.

Researchers need the right type of scale in order to measure the data. Related to that, the researcher decided to use Guttman scale to measure the data from the questionnaire.

Guttman scale was developed by Louis Guttman in the 1940s (Singh 2007, p. 75). It is used to obtain distinct and consistent answers such as yes – no, positive – negative, good – bad, and so on (Khorip,

2011). Guttman scale is usually used in education and psychology for measuring attitude, opinion, and perception of an individual or a group about social phenomena (Allen 2017, p. 91).

Singh (2007, p. 76) also explained that the data analysis of Guttman Scaling is based on how closely the response score follows the interval length score or by seeing which side scored higher than the other one.

Table 3.5 Response score of Guttman Scale

No.	Criteria	Score
1.	No	0
2.	Yes	1

Source: Jogyanto and Effendi, 2008

In Guttman scale, the score for the negative response (no) for each item is zero (0), while the score for the positive response (yes) is one (1).

3.5 Data

Data according to Yusri (2009, p. 9) are all facts in the form of numbers or categories. Data in the form of numbers is called as quantitative data, while in the form of categories it is called as qualitative data. Yusri also explains further that data considered from their sources and their uses are categorized into two, namely:

1. Internal data

Data collected by a particular group from and for its own use, for example a department store always make a record of how many products sold in a month to know their profit.

2. External data

Data which are not available in the intern activities of a group. Extern data are divided into two; primary and secondary (Yusri 2009, p. 11).

3.5.1 Data Source

3.5.1.1 Primary Data

Primary data is data collected by a group from outside for the group's purposes, for example Central Bureau of Statistics collects the data about citizens before publishing it. This type of data usually is used as the main data in a research. Primary data in this research was the information obtained from distributing the questionnaire to the sample that had been determined. The other primary data was in the form of list of the names and the schedules of students of English Language Education Program batch 2016 at Faculty of Cultural Studies, Universitas Brawijaya.

3.5.1.2 Secondary Data

Secondary data is data from other party as a supporting information. The secondary data is obtained by researchers

from various sources by doing a literature study. The secondary data in this study were obtained from books, journals, scientific articles, and the results of other people's researches whose contents were related to the problems being studied.

3.6 Data Collection Instruments

Based on Arikunto (2002 cited in Kuntjojo 2009, p.33), data collection is a process or procedure which is conducted to acquire information about the problem of interest in a research. Gulo (2000,p. 28) states that data collection process is needed to get valid information. The researcher uses questionnaire as the instrument of data collection. There are some instruments to help collecting the data.

3.6.1 Questionnaire

Questionnaire is a tool to collect data using a list of questions which are constructed through good planning. Questionnaire is divided into two types, the first is structured questionnaire and the second is unstructured questionnaire. Structured questionnaire is usually made in the form multiple choice questions. On the contrary, to answer an unstructured questionnaire participants are expected to parse their answers as detail as possible (Kirkendal et al 1980 cited in Ya'kub 2011, p. 35).

In this research, the researcher used structured questionnaire which was given to the participants who were students of English

Language Education Program batch 2016 at Universitas Brawijaya Malang, because the answers of the questionnaire were converted into a numeric data and then calculated statistically. Other than that, structural questionnaire in the form multiple choice questions could make the participants easier in answering distinctly.

Table 3.6 Model of the questionnaire to measure learners' perception

No.	Questions	Answers	
		Yes	No
<i>Affective aspect</i>			
1.	I like watching English movies.		
2.	I believe English movies with English subtitle can be used as an educational purpose to learn English in informal setting.		
3.	I enjoy watching English movies with English subtitle to learn English in informal setting.		
<i>Cognitive aspect</i>			
4.	I realize that my English proficiency improved after watching English movies with English subtitle regularly.		
5.	I think watching English movies with English subtitle is very helpful to learn English in informal setting.		
6.	It is easier for me to memorize vocabulary, pronunciation and grammar by watching English movies with English subtitle.		
<i>Psychomotoric aspect</i>			
7.	I watch English movies with English subtitle at least once a week to improve my English proficiency.		
8.	I become more motivated to learn English by watching English movies with English subtitle.		
9.	I support the idea of using English movies with English subtitle as a media to learn English in informal setting.		

The indicators of the questionnaire; affective, cognitive and psychomotoric were adapted from the theory of perception aspects by Walgito (2004, p. 127). The questions were designed by the researcher and then validated by an expert, Mrs. Alies Poetri Lintangari, S.S., M.Li., a lecturer at Faculty of Cultural Studies Universitas Brawijaya Malang. The participants were given 9 questions with 2 optional answers; yes and no (see table 3.6).

Questions 1 to 3 were used to measure the data of students' perceptions on watching English movies with English subtitle to learn English in informal setting from affective aspect. Questions 4-6 were used to measure the data of students' perceptions on watching English movies with English subtitle to learn English in informal setting from cognitive aspect. Questions 7-9 were used to measure the data of students' perceptions on watching English movies with English subtitle to learn English in informal setting from affective aspect.

3.6.2 Literature Study

Literature study is a data collection process by reading and reviewing written references. The researcher did a literature study by reading data sources which were in the form of books, journals, and articles in trusted websites related to what the researcher was examining.

3.6.3 Documentation

Documentation is way to collect data in the form of notes, video, and photos of research setting by using equipments such as camera, voice recorder, paper and pen to take a note. The documentation equipments used in this research were:

- 1) Camera to take pictures and record a video if needed.
- 2) Book and pen to take a note of information.

3.7 Validity and Reliability

Calculating the validity and reliability are important to know the level of appropriateness of the questions used in the questionnaire in order to measure what they have been design to measure.

3.7.1 Validity

As cited from Dempsey (2002 cited in Kuntjojo 2009, p. 36), validity refers to the capability of a data collection instrument to measure what is to be measured to get relevant data.

The technique to test the validity in Guttman scale was by using Coefficient of Reproducibility (CR) and Coefficient of Scalability (CS) formulas. Coefficient of Reproducibility with the score of $CR \geq 0.90$ is categorized as good (Singarimbun and Effendi 1989, p. 118). Whereas, Coefficient of Scalability is categorized as good if the score of $CS > 0.60$ (Nazir 2003, P. 343). The Coefficient of Reproducibility and Coefficient of Scalability formulas were as followed:

$$CR = 1 - (e|n)$$

Note:

CR = coefficient of reproducibility

e = total number of errors

n = total number of possible errors (total number items multiplied by total number of sample)

$$CS = 1 - (e|p)$$

Note:

CS = coefficient of scalability

e = total number of errors

p = n – total score

So, before calculating the CR, the total number of errors (N) and the total number of possible errors (K) must be determined first.

Errors are differences between each observed item response for an individual and the perfect scale type with the same summed score.

They are used to arrange the highest score to the lowest. For example:

Table 3.7 Example of the Questionnaire

Statements	Yes	No
I like watching English movies		
Watching English movies is very interesting		
I enjoy learning English by watching English movies		
Learning English by watching English movies is fun		
I will watch English movies at least once a week to learn English		

Table 3.8 Example of item response data

Respondents	Items					Score
	Q1	Q2	Q3	Q4	Q5	
R1	1	0	1	1	1	4
R2	0	0	0	1	1	2
R3	0	1	0	1	1	3
SUM	1	1	1	3	3	7

The data are arranged in a table of one (1) which stands for the answer “yes” and zero (0) which stands for the answer “no”, and the rows and columns are summed. The next step is to determine the cumulative scale table by re-arranging the first table (table 3.7) by ordering from the highest score to the lowest score of the summed rows and columns.

Table 3.9 Example cumulative scale table

Respondents	Items					Score	Errors
	Q5	Q4	Q3	Q3	Q1		
R1	1	1	1	0	1	4	2
R3	1	1	0	1	0	3	2
R2	1	1	0	0	0	2	0
SUM	3	3	1	1	1	7	4

The errors are calculated by subtracting each respondent’s perfect scale score pattern with the re-arranged real response pattern with the same summed score. For example:

Respondent no.1 (R1) answered “yes” to four items which means the R1 summed row score is 4 and the highest score among the

other respondents which will be put on the first row of the re-arranged table. The perfect scale score pattern for the score 4 is; 1 1 1 1 0. But, the re-arranged real response pattern of R1 is 1 1 1 0 1.

Error calculation of the highest score (R1)

$$\begin{array}{r}
 \text{Perfect scale score pattern of the score 4} \\
 \text{Re-arranged real response score pattern of the score 4} \\
 \text{Difference}
 \end{array}
 \begin{array}{r}
 = 1\ 1\ 1\ 1\ 0 \\
 = \underline{1\ 1\ 1\ 0\ 1} - \\
 = \quad\quad 1\ -1
 \end{array}$$

The sum of the absolute value of each scale is the error. In this case $1 + (-1) = 2$ errors.

Error calculation of the highest score (R3)

$$\begin{array}{r}
 \text{Perfect scale score pattern of the score 3} \\
 \text{Re-arranged real response score pattern of the score 3} \\
 \text{Difference}
 \end{array}
 \begin{array}{r}
 = 1\ 1\ 1\ 0\ 0 \\
 = \underline{1\ 1\ 0\ 1\ 0} - \\
 = \quad\quad 1\ -1
 \end{array}$$

The sum of the absolute value of each scale is the error. In this case $1 + (-1) = 2$ errors.

Error calculation of the lowest score (R2)

$$\begin{array}{r}
 \text{Perfect scale score pattern of the score 2} \\
 \text{Real response score pattern of the score 2} \\
 \text{Difference}
 \end{array}
 \begin{array}{r}
 = 1\ 1\ 0\ 0\ 0 \\
 = \underline{1\ 1\ 0\ 0\ 0} - \\
 = \quad\quad -
 \end{array}$$

The sum of the absolute value of each scale is the error. In this case is 0 errors.

After determining the total number of errors (N), the researcher calculated the total number of possible errors (K) by using the following formula:

$$K = \text{The number of respondent} \times \text{the number of item}$$

This calculation method is called Goodenough procedure which is specialized for scaling Guttman Scale (cited in Hays and Ellickson 1990, p. 3).

3.7.2 Reliability

Based on Husaini and Akbar (2003, p. 287) reliability test is used to know the consistency of measurement result of an instrument. An instrument is clarified as reliable enough to be used as a data collection tool if the instrument has passed the reliability test. Kuder-Richardson Coefficient 20 (Husaini and Akbar 2003, p. 290) was used to calculate the reliability of the instrument in this research. The score ranged from 0 to 1. If the coefficient of reliability score is > 0.60 it means that the instrument is reliable enough. The closer the score to 1, it indicates high reliability (Singarimbun and Effendi 1989, p. 118). The formula can be seen as follow:

$$r_{KR_{20}} = \frac{k}{k-1} \left[1 - \frac{\sum pq}{\sigma^2} \right]$$

Note:

$r_{KR_{20}}$	=	coefficient of reliability
k	=	the number of item in the questionnaire
p	=	the proportion of positive response
q	=	the proportion of positive response
σ^2	=	total variant of the total scores of all the people taking the test.

3.8 Data Analysis

Data analysis is a process after the data from the participant and other references have been collected, and also to answer the research problems. This research used descriptive statistical technique as the data analysis technique. Utami and Sari (2017, p.226) described descriptive statistical technique as a data analysis technique by describing the collected data characteristic without proposing a hypothesis. Thus, hypothesis testing was not needed in descriptive statistical research.

3.8.1 Analyzing the data

In researches that use Guttman scale, there were only two answer choices given in the questionnaire. The answer choices were “yes and no”. The positive response (yes) will be given the score 1, while the negative response (no) will be given the score 0. Then, the respondents’ scores for each response criteria (positive and negative)

will be summed up to calculate the interval length of each criterion and convert them into percentage by using the formula below:

1. Percentage of Positive Response

$$= \frac{\sum PR}{R} \times 100\%$$

Note:

PR = yes response score

R = the total number of respondents' responses

2. Percentage of Negative Response

$$= \frac{\sum NR}{R} \times 100\%$$

Note:

NR = yes response score

n = the total number of respondents' responses

3.8.2 Concluding the Data Analysis Result

The results of positive criteria percentage calculation and the negative were compared to draw the conclusion of the research. For example, if the result of positive criteria percentage calculation is 63% and the negative positive criteria percentage calculation is 41%, then it can be concluded that the majority of students of English Education Program Batch 2016 have positive perception towards the activity of

watching English movies with English subtitle to learn English in informal setting.