

CHAPTER III METHODOLOGY

This chapter will present the methodology of the study. This chapter will cover the type of research, participants, data collection method, data collection procedure, and data analysis that will be used in the research.

3.1. Research Design

This study investigates how podcasts as a listening material impact students' comprehension in listening classrooms for EFL students in Indonesia. In order to obtain the data for this study, this research was conducted at a site where the students need to improve their listening comprehension. The research that was conducted was quantitative research and the research approach was a pre-experimental study. Quantitative research is a research procedure that focuses on obtaining data that is objective, controlled, and precise (Leavy, 2017). The quantitative research procedure is selected because by using the quantitative procedure, the score that will represent the impact of the treatment on the students' listening comprehension will be visible and able to be analyzed.

In order to collect the data, the research was conducted using one group pre-test and post-test design. According to Creswell (2009), the one-group pre-test post-test design is a research design where the participants in one group will be given a pre-test before they are given treatment. After the participants have given the treatment, the participants need to take a post-test. In the research that was conducted, the participants were given a listening pre-test before they were given the treatment. The participants then were given the treatment where in each lesson they were given a podcast for them to listen to that is related to the material. After the participants were given the treatment, the participants needed to take a listening post-test. The design of one group pre-test post-test that was proposed by Creswell (2009) is shown in the table below:

Group	Pre-test	Treatment	Post-test
Experiment	01	X	02

Where:

01: Student's listening score from the experimental group from the pre-test.

X: Treatment of using podcasts as listening material for the experimental group.

02: Student's listening score from the experimental group from the post-test.

The data obtained from the pre-test and post-test were compared and analysed to reveal whether the usage of podcasts as listening material will impact the students' listening comprehension in the English language classroom.

Additionally, the participants of the research will need to fill out a questionnaire related to their perspective towards podcasts as listening material in English learning classrooms. Each question in the questionnaire uses the Likert Scale ranging from 1 (very disagree) – 5 (very agree).

3.2. Site and Participants

The participants of this study will be 34 tenth grade students from one high school in Indonesia. All the students who become participants of this study come from the same class in their school. The reason the tenth-grade students from one high school in Indonesia were selected for this research is because the students just moved out from junior high school into senior high school, and because of this advancement they need to be able to absorb information through listening means more effectively than when they are in junior high school as the language that the English teacher will speak and the material in the English learning classroom in the senior high school is more advanced than the teacher language and material that they had in the junior high school. Because the participants come from the same school and the same class, their experience and exposure to English in the classroom are relatively the same.

3.3. Instrument

In conducting this research, pre-test; podcast; and post-test were used as the instruments for this research. Below is the explanation of each instrument.

3.3.1. Pre-test

The pre-test is used to collect the data of the participants' listening comprehension before they are given the treatment of the research. The audio file and the questions for the pre-test are adopted from B1 Listening Test | English Listening Test by English Learning Hub (YouTube).

The questions on the pre-test are chosen because the questions are adopted from B1 English listening test which is appropriate for 10th grade EFL students in Indonesia. The questions were also chosen because the speakers in the audio files is native English speakers, as according to Morley & Lawrence (1972) as cited in Alzana (2022), the listening comprehension test should not only “test” students but listening comprehension test should also “teach” the students. The listening comprehension test that uses English native speakers as the speakers in the audio is chosen for the test as the test will not only test the student's listening comprehension but also will help them to be more familiar with listening and obtaining information from verbal means to native English speakers (Ahmadi, 2016).

3.3.2. Post-test

The purpose of the post-test is to collect the data related to the participants' listening comprehension after they have been given the treatment of the study. Both the audio file and the questions that will be used for the post-test are adopted from B1 Listening Test - Part 2 | English Listening Test by English Learning Hub (YouTube).

The questions on the post-test are chosen because the questions are adopted from B1 English listening test which is appropriate for 10th grade EFL students in Indonesia. The questions were also chosen because the speakers in the audio files is native English speakers, as according to Morley & Lawrence (1972) as cited in Alzana (2022), the listening comprehension test should not only “test” students but listening comprehension test should also “teach” the students. The listening comprehension test that uses English native speakers as the speakers in the audio is chosen for the test as the test will not only test the student's listening comprehension but also will help them to be more familiar with listening and obtaining information from verbal means to native English speakers (Ahmadi, 2016).

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3.3.3. Questionnaire

The purpose of the questionnaire is to measure the student's motivation toward the usage of podcasts as a listening material in the English Language classroom. The questionnaire consists of ten questions that are adapted from the questionnaire that was used for the research that was conducted by Al Qasim & Al Fadda (2013). Each question in the questionnaire uses the Likert Scale ranging from 1 (very disagree) – 5 (very agree). The Likert Scale is selected for this questionnaire because the Likert Scale is widely used to measure the attitude or agreement toward the real or hypothetical situation that is being studied (Joshi *et al.*, 2015).

3.4. Research Procedure

Because this study is quantitative and the research was pre-experimental, the data of this study were collected through the participants' test results (pre-test and post-test). The participants were given treatment after the pre-test and they needed to take a post-test after the treatment period.

3.4.1. Preparing the Lesson Plan

Before the participants are given the test and treatment, a lesson plan that will be used for the experimental group needs to be prepared. The lesson plan that was used covered four meetings. The first meeting was allocated for the pre-test, the second and the third meeting was allocated for the treatment session, and the fourth meeting was allocated for the post-test.

3.4.2. Preparing the Material

The materials that were given to the participants during the treatment were podcasts that were taken from YouTube.

3.4.3. Pre-test

Before the students are given the treatment for the research, the students are given a listening comprehension pre-test. In the pre-test, the students are asked to listen to an audio file and answer ten multiple choice questions related to the audio files. Both the text and questions are available in the audio file. In order to answer the given questions, the students must identify information from the audio files. The questions in the pre-test are related to looking for keywords and specific

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information from verbal text. Both the audio files and the test questions are adopted from B1 Listening Test | English Listening Test by English Learning Hub (YouTube).

The purpose of this test is to obtain the participants' initial listening comprehension before they are given the treatment, which was taken from the participants' score. After the data from the pre-test has been collected, the treatment of the research begins.

3.4.4. Treatment

After the participants had already given the pre-test, the participants were given treatment of the study. In the treatment, the participants had English-listening classrooms that used podcasts as the material for the lessons. The treatment session lasts for four meetings. The description of each meeting will be elaborated below:

In the first meeting, the participants were taught about new vocabularies. In this meeting, the participants were given a podcasts audio file adopted from "Are you a foodie? 6 Minute English" by BBC Learning English (YouTube) where the participants learned new vocabularies from the podcast (*Identification towards sound and phrases*). The second podcast that deployed as the listening material is "Comfort Food - 6 Minute English" by BBC Learning English (YouTube). In the treatment, the participants were asked about their opinion towards the information that they obtained from the podcast (*Identification and selection without retention*). The podcasts that were deployed for this meeting were chosen because the topic in the podcast is not the topic that is usually students encounter in the English learning classroom. According to Shiri (2015), if students are exposed to a topic that they rarely encounter in the classroom, they will become more interested and motivated in listening to the material.

In the second meeting, the participants were taught how to look for specific information from verbal text. In this meeting, the participants were given podcasts audio file adopted from "Street food: Why is it becoming popular? 6 Minute English" by BBC Learning English (YouTube). The participants were given some questions before they listened to the podcast (*identification and guided selection with short-*

time retention). The second podcast that was deployed as listening material is “Food made in space - 6 Minute English” by BBC Learning English (YouTube). In the treatment, the participants listen to the podcast first and after the podcast ends, the lecturer gives some questions to the participants related to the podcast that they just listened to (*identification, selection, and long-term retention*). The podcasts that were deployed for this meeting were chosen because the topic in the podcast is not the topic that is usually students encounter in the English learning classroom. According to Shiri (2015), if students are exposed to a topic that they rarely encounter in the classroom, they will become more interested and motivated in listening to the material.

In the third meeting, the participants were taught about new vocabularies. In this meeting, the participants were given podcasts audio file adopted from “Food and Mood 6 Minute English” by BBC Learning English (YouTube) where the participants learned new vocabularies from the podcast (*Identification towards sound and phrases*). The second podcast that deployed as the listening material was “What Makes You Happy? - 6 Minute English” by BBC Learning English (YouTube). In the treatment, the participants were asked about their opinion towards the information that they obtained from the podcast (*Identification and selection without retention*). The podcasts that were deployed for this meeting were chosen because the topic in the podcast is not the topic that is usually students encounter in the English learning classroom. According to Shiri (2015), if students are exposed to a topic that they rarely encounter in the classroom, they will become more interested and motivated in listening to the material.

In the fourth meeting, the participants were taught how to look for specific information from verbal text. In this meeting, the participants were given podcasts audio file adopted from “Why do young people feel so lonely? 6 Minute English” by BBC Learning English (YouTube). The participants were given some questions before they listened to the podcast (*identification and guided selection with short-time retention*). The second podcast that deployed as listening material is “Mental health in the workplace - 6 Minute English” by BBC Learning English (YouTube). In the treatment, the participants listened to the podcast first and after

the podcast ended, the lecturer gave some questions to the participants related to the podcast that they just listened to (*identification, selection, and long-term retention*). The podcasts that were deployed for this meeting were chosen because the topic in the podcast is not the topic that is usually students encounter in the English learning classroom. According to Shiri (2015), if students are exposed to a topic that they rarely encounter in the classroom, they will become more interested and motivated in listening to the material.

3.4.5. Post-test

After the treatment was finished, the participants were given a listening comprehension post-test. In the post-test, the students are asked to listen to an audio file and answer ten multiple choice questions related to the audio files. Both the text and questions are available in the audio file. In order to answer the given questions, the students must identify information from the audio files. The questions in the post-test are related to looking for keywords and specific information from verbal text. Both the audio files and the test questions are adopted from B1 Listening Test - Part 2 | English Listening Test by English Learning Hub (YouTube).

The purpose of this test is to obtain the participants' listening comprehension after they are given the treatment, which were taken from the participant's scores. After both the data from the pre-test and post-test have been collected, the data from the pre-test and post-test will be analyzed.

3.4.6. Handing Out the Questionnaire

After the participants finished the pre-test; treatment; and post-test, the participants were given a set of questionnaires that they needed to answer based on their experience of having podcasts as listening material in the English Language Classroom. There are eight items in the questionnaire that were handed out to the students. The items in the questionnaire are adapted from the questionnaire that was developed by Al Qasim & Al Fadda (2013). Each item in the questionnaire must be answered using a Likert Scale ranging from 1 (very disagree) – 5 (very agree). The questionnaires were handed to the students in digital form using Google Forms.

The purpose of the questionnaire is to measure the participants experience when using podcast as listening material in the English Language Classroom.

3.5. Data Analysis

After the participants of the research finished both the pre-test and the post-test, the data from the test was collected for the data of the research. Since this research is quantitative research that focuses on the students' listening comprehension before and after treatment, the data that was collected from the test are the score and participant's answer from the pre-test and the score from the post-test. Additionally, a questionnaire was handed out to the participants to explore their perspectives on the treatment that was given to them during the study.

3.5.1. Data Validity and Reliability

In order to find out whether the data is valid and reliable or not. In the validity test, the data were analysed using SPSS for Windows and grouped based on the Coefficient Interval (r) of the item. If the Coefficient Interval (r) is less than 0.00 (<0.00) the item is invalid and therefore will not be used for future analysis. Below is the table for the Coefficient Interval (r) score:

Coefficient Interval (r)	Validity Level
0.800 – 1.000	Excellent
0.600 – 0.799	Good
0.400 – 0.599	Satisfying
0.200 – 0.399	Poor
0.000 – 0.199	Very Poor
<0.00 – 0.000	Invalid

In the reliability test, the data were calculated using SPSS for Windows. The purpose of the reliability test is to find the reliability value of the data, the reliability value can be found in the Alpha Cronbach value from the calculation. According to Hatch & Farhady (1982), data can be categorized as reliable if the Alpha Cronbach value of the data is higher than 0.7 (>0.7).

3.5.2. Data Analysis in Pre-test

In analyzing the data from the pre-test, the descriptive analysis method is used to describe the data from the pre-test. SPSS for Windows was used to identify the mean and standard deviation of the participants' scores in the pre-test. The mean and the standard deviation were analyzed and described using claims and judgment that support the findings. The data from the pre-test are illustrated in visual form using the bar and line graphs to represent the collected data. The data from the pre-test is about the participants' listening comprehension before they were given the treatment.

Because there are ten multiple-choice questions in the pre-test, each question in the pre-test will have 10 points. Below is how the pre-test score will be calculated.

Pre-test score
Correct Answer x 10 = Pre-test score

3.5.3. Data Analysis in Post-test

In analyzing the data from the post-test, the descriptive analysis method is used to describe the data from the post-test. SPSS for Windows was used to identify the mean and standard deviation of the participants' scores in the post-test. In describing the data from the post-test, the post-test results are compared with the results from the pre-test to identify the participants' listening comprehension before and after the treatment. The data is described using claims and judgment that support the findings. The data from the post-test will be illustrated in visual form using the bar and line graphs to represent the collected data.

Because there are ten multiple-choice questions in the post-test, each question in the post-test will have 10 points. Below is how the pre-test score will be calculated.

Post-test score
Correct Answer x 10 = Post-test score

3.5.4. Normality Test of the Pre-test and Post-test

The normality test is conducted to find out whether the data from the pre-test and post-test were normally distributed or not. The normality test was also conducted as the prerequisite for conducting the paired T-test. The calculation of the normality test was conducted using the Shapiro-Wilk Test in SPSS for Windows. The steps that were taken to conduct the normality test are the following four steps bellow:

1. Setting the hypothesis, H_0 = the score is normally distributed, H_1 = the score is not normally distributed.
2. Setting the level of significance (p) at 0.05.
3. Calculating the normality test using the Shapiro-Wilk Test in SPSS for Windows.
4. Comparing the score that obtained from the normality test with the level of significant value. If the $\text{sig} > 0.05$, the H_0 is taken and H_1 is rejected. If the $\text{sig} < 0.05$, the H_0 is rejected and the H_1 is taken (Hatch & Farhady, 1982).

3.5.5. Paired-Sample T-test

The paired sample T-test is conducted to find out whether there are differences in the participants' pre-test results before they were given the treatment of the study and the participant's post-test results after they were given the treatment of the study. SPSS for Windows was deployed to conduct the calculation of the paired-sample T-test. The steps that were taken to calculate the Paired-sample T-test are explained below:

1. Setting the hypothesis, H_0 = there is no significant difference between the participant's pre-test result and post-test result, H_1 = there is a significant difference between the participant's pre-test result and post-test result.
2. Setting the level of significance (α) at 0.05.
3. Calculating the Paired-Sample T-test using SPSS for Windows.
4. Comparing the score that obtained from the normality test with the level of significant value. If the $T\text{-obtained} > T\text{-table Score}$, the H_0 is rejected

and H_1 is taken. If the T-obtained $<$ T-table Score, the H_0 is taken and the H_1 is rejected (Hatch & Farhady, 1982).

3.5.6. Effect Size

The effect size is calculated to find the level of the effect from the treatment after the participants received the treatment of the study. The effect size is calculated using an online calculator with the formula from G*power. The formula is:

$$d = \frac{m_1 - m_2}{\sqrt{s_1^2 + s_2^2 - 2rs_1s_2}}$$

d: Effect size/Cohen's d

m: Mean

s: std. deviation

r: Corelation

Below is the table that interpret the effect size value scale of the effect size:

Effect Size Level	Cohen's d
Small	> 0.2
Medium	> 0.5
Large	> 0.8

3.5.7. Data Analysis in Questionnaire

In analyzing the data from the post-test, the descriptive analysis method was used to describe the data from the post-test. SPSS for Windows was used to identify the mean and standard deviation of the participants' answers related to the items in the questionnaire. In describing the data from the questionnaire, each item in the questionnaire was explained based on the mean and standard deviation that identify whether the participants agreed or disagreed with the questions or statements. The data from the questionnaire are presented using a table that shows each item of the questionnaire, the mean, and the standard deviation of each item.

The questionnaire contains eight questions related to the participants' opinions towards podcasts as listening material in English Language Classroom. The 5-point Likert scale is used to measure the questions in the questionnaire. The maximum and minimum points for each item are:

1. Means from (1.00 – 1.80) mean strongly disagree.
2. Means from (1.80 – 2.60) mean disagree.
3. Means from (2.60 – 3.40) mean neutral.
4. Means from (3.40 – 4.20) mean agree.
5. Means from (4.20 – 5.00) mean strongly agree.