**3.1 Research Design**

**CHAPTER III METHOD OF RESEARCH**

This research conducted by used Quantitative research method, especially with the experimental design. According to Sugiyono (2017), quantitative research is research carried out by collecting data that can be measured numerically, either through filling out questionnaires, observation, or secondary data processing. The data that has been collected and then analyzed using statistical methods to obtain objective and reliable conclusions. The researcher use test to collect data. The research include two categories: control and experimental. The researcher employ identical materials and tasks for both the control and experimental classes, but treat them differently. In the experiment class, the researcher employ auditory podcast to teach listening. During the control class, the researcher did not use podcast as media.

The assessment performed before and after the treatment (pre- and post- test). The results of these two exams will be analysed to determine the effect of the "Learn English" podcast on students' listening abilities. To collected main data, the researcher used a multiple-choice test and a fill-in-the-blank with a pre- test and post-test format. The data in this research analyzed by the researcher applied the SPSS. In quantitative study, raw data is typically present as a big table with hundreds of variables and thousands of instances. Quantitative statistical approaches can consolidate collection information into tables, graphs, and

numerical data to resolve research questions effectively. so this approach design

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can provide more accurate and complete data to accomplish research aims and solve problems.

**Table 3.1 Research Design**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Pre-test | Treatment | Post-test |
| Experimental Group | √ | Using Podcast  Media | √ |
| Control Group | √ | Conventional  Method | √ |

This research conducted in Madrasah Aliyah swasta Al-Washliyah Gedung Johor. This study aims to determine the effect of podcast technology media to develop students’ listening skill in Madrasah Aliyah swasta Al-Washliyah Gedung Johor 2024/2025 Academic Year. It located at JL. Karya Jaya No.267, Gedung Johor, Kecamatan Medan Johor, Kota Medan, Sumatera Utara.

**3.2 Population and Sample**

In this research, the population and sample are critical. population encompasses the entire field of research. A population refers to the full group from whom conclusions can be draw. sample was particular population groupings selected by researchers to collect evidence from. a sample was a subset of the population. The sample size is always smaller than the population size. The population of this research is the tenth grade students in Madrasah Aliyah swasta Al-Washliyah Gedung Johor.

Sugiyono (2013) stated that the sample is any part of a population of individual’ s information was obtained. Sample was a part of the population. The researcher selected 86 students in Madrasah Aliyah swasta Al-Washliyah Gedung

Johor in the school year 2023/2024 from the total number, 43 students from X B

and 43 students from class X C to become a sample in this research.

**3.3 Instrument of The Research**

This research employed a test as its instrument and also observation and documentation as a compliment. A listening test used as the research instrument.

OBSERVATION TEST DOCUMENTATION

• **Observation**

According to Creswell (2012) in journal Mahendra (2023), observation involves acquiring firsthand information about people and surroundings at a research site.. Observation was the systematic and objective observation and recording of activities, actions, or occurrences. It is a key strategy used in study, scientific research, and daily life to develop a knowledge of our surroundings.

• **Test**

A test is a tool or technique for assessing one or more features, constructions, or attributes by elicited responses to a series of control stimuli, tasks, or questions. It is a structured method of collecting information about a specific feature of an individual or group, such as understanding, abilities, skills, capacities, identities, or habits. Tests can take many forms, including multiple-choice questions, essay prompts, performance assignments, simulations, and standardized evaluations. They

are commonly employed in domains such as education (achievement tests, aptitude tests), psychology (personality tests, IQ tests), jobs (job knowledge exams, skill assessments), and research (data gathering tools).

In the test there is a treatment need to find out the results of a research. However, treatment is use only for the experimental class. Meanwhile, for the control group, the group only use conventional methods or do not use treatment. The goal is to be able to find and compare the results of the two classes.

• **Documentation**

In research, documentation was the process of meticulously recording and summarizing numerous parts of the research study in a methodical and detailed fashion. It entails establishing written records, notes, and materials that provide a thorough overview of the research project's techniques, data, and findings. Documentation allows researchers to maintain a record of their data, techniques, and analyses in an orderly and logical manner, making them easier to retrieve and references.

Documentation that was accurated and critical for preserving research integrity, facilitating peer review, and contributing to the broader advancement of knowledge in a given sector. It creates a clear audit trail and assures that the research process is transparent, reproducible, and meets the requirements of professionalism and ethics.

**3.4 Technique of Collecting Data**

In this case, the technique that researcher used in collecting data was test technique, which were pre-test and post-test. Because this technique was very easy and effective for getting accurate results to what extent the podcast effect is successful or not in developing students' listening skills.

• **Test**

The researcher test students' listening skills. The researcher instructed participants to selected the best answer from a listening skills test with 5 multiple-choice and essay questions. Students must note the statement or tale before answering the question.

This test will test in another class and found to be clear and easy to understand for students. They can be done well. It is pre-sume that the instructions will clear and do not require revision. The essential requirement of the test is valid. This is two kinds of test: Pre-test and post- test. it would be completed utilizing a podcast video through English Podcast. The researcher applies a listening test for both pre-test and post- test purposes.

• **Pre-test**

In pre-test, the researcher gave same question for both class, which are control group, and experimental group. The researcher gave audio about listening and ask the students to answering the questions

based on the paper who they get from researcher. After that, researcher collected and checked the result of pre-test.

• **Post-test**

In post-test, Same as pre-test, which is the researcher gave same question for both class and researcher only give a treatment about podcast only for experimental group. And for control group only Conventional Method, which were same as pre-test. After that, researcher collect and check the result of post-test.

The test was multiple-choice and fill the blank.

1. **Multiple choice**

In the multiple choice consist of 5 question in each pre-test and post-test. The test based on vdeo visual that researcher show in the infocus with speaker.

**2. Fill the blank**

In the multiple choice consist of 5 question in each pretest and post-test. The test based on video visual that researcher show in the infocus, or maybe based on smartphone.

with 5 questions in each part, and it was same as a pr-etest and post-test with same material. Students were given 10 minutes to complete the pre-test and post-test. Both the pre-test and post-test include same video or audio visual content. The video visual aids files were sourced from YouTube.

**Table 3.2 Criteria of Students’ Test Score**

|  |  |
| --- | --- |
| **Criteria** | **Score** |
| Exellent | 5 (90-100) |
| Great | 4 (76-89) |
| Good | 3 (66-75) |
| Enough | 2 (40-65) |
| Poor | 1 (00-39) |

**3.5 Tecnique of Analyzing Data**

In quantitative analysis the researcher take the steps as follows:

This section describes the data analysis processes used to answer research questions. Data analysis involve processing test result.

**1. Test of Descriptive**

In SPSS, the Descriptives process calculates a subset of fundamental descriptive statistics for one or more continuous numeric variables. Overall, it can produce the following statistics:

• N valid responses

• Mean

• Standard deviation

• Median

• Minimum

• Maximum

• Mode

**2. Test of Normality**

Normality tests are used in statistics to examine whether a data set is well- modeled by a normal distribution and to calculate the probability that the random variable underlying the data set had a normal distribution. A normality test is used to assess whether sample data came from a regularly distributed population (within a certain tolerance). Several statistical tests, including the Student's t-test and one- and two-way ANOVA, need a regularly generated population of samples.

**3. T-Test (independent)**

The independent samples t test (also known as the unpaired samples t test) is the most popular type of T test. It allows you to compare the means of two datasets. For example, you could conduct a t test to examine if the average test scores of boys and girls differ.