CHAPTER III
RESEARCH METHOD

This chapter discusses the methodology applied in this study, encompassing the research design, population and sample, data collection methods, and data analysis procedures. It further explains the process of conducting the study to ensure that the findings are both valid and reliable.

A. Research Design

This study applies a quantitative approach using a quasi-experimental design to determine the effectiveness of video tutorials in teaching speaking, particularly in procedural texts. As explained by John W. Creswell (2014), this type of research design is commonly used in educational settings where it is not possible to randomly assign participants. It enables the researcher to assess the effect of a given treatment by comparing the performance of students in the experimental group with those in the control group.

The selection of a quasi-experimental design is based on the practical conditions of classroom research. In real school settings, students are already grouped into intact classes, making random assignment impractical. Therefore, this design allows the researcher to conduct the study within a natural classroom environment while still maintaining a systematic comparison between groups.

This study adopts a pre-test and post-test control group design. Both the experimental group and the control group are given a pre-test to identify their baseline speaking ability before the treatment. The experimental group is instructed using video tutorials, whereas the control group is taught using picture-based explanation. After the treatment, both groups are administered a post-test to measure their speaking after the intervention.

The difference between the pre-test and post-test scores is used to identify whether a significant difference exists between the two groups. This design allows the researcher to measure the effectiveness of video tutorials in developing students' speaking in procedural text learning. The research design can be illustrated as follows:

Table 3.1 Illustration of Quasi-Experimental Design

Group	Pre-Test	Treatment	Post-Test
Experimental	Speaking Test	Video Tutorials (YouTube videos)	Speaking Test
Control	Speaking Test	Picture-Based Explanation (conventional method)	Speaking Test

B. Variables of the Study

This study focuses on two key variables, namely the independent and dependent variables. The independent variable is video tutorials, which are described as the use of instructional video media to assist students in learning speaking, particularly in the context of procedural texts. In this study, video tutorials provide audio-visual input, including pronunciation, expressions, and step-by-step demonstrations that help students understand and produce spoken language.

The comparison group in this study is taught using Picture-Based Explanation, which refers to a teaching method that uses visual images such as pictures, diagrams, or illustrations to support students' understanding. This method serves as a conventional approach in teaching speaking, where students rely on visual prompts without audio support.

The dependent variable of this study is students' speaking, which is measured through students' oral performance in delivering procedural texts. Students' speaking is assessed based on several components, including fluency, pronunciation, vocabulary, grammar, and coherence. Fluency refers to the smoothness of speech, pronunciation refers to the clarity of sounds and intonation, vocabulary refers to the appropriateness of word choice, grammar refers to the accuracy of sentence structure, and coherence refers to the logical organization of ideas.

By defining these variables, this study aims to examine whether the use of video tutorials results in better students' speaking compared to picture-based explanation.

C. Population and Sample

The population in this study comprises all tenth-grade students at SMK PGRI 1 Kediri. These students are required to achieve English learning objectives, particularly in speaking, including the ability to explain procedural texts clearly and systematically. Therefore, they are considered an appropriate population for this research.

The sample of this study was selected using purposive sampling technique, in which the researcher selected two classes based on certain criteria. The sample consists of two classes of tenth-grade students, namely TKR 4 and TKJ 3, with a total of 72 students (36 students in each class). One class was designated as the experimental group and taught using video tutorials, while the other class was assigned as the control group and received instruction using picture-based explanation.

The selection of these two classes was based on the results of the pre-test. The researcher administered a pre-test to determine students' initial speaking. The two classes selected were those that showed relatively similar mean scores, indicating that both groups had comparable levels of speaking before the treatment. This step was conducted to ensure the validity and fairness of the comparison.

The use of intact classes is consistent with the quasi-experimental design, where random assignment is not applied. This approach allows the researcher to conduct the study in a natural classroom setting without disrupting the existing class structure. Therefore, the selected sample is considered appropriate to examine the effectiveness of video tutorials in teaching speaking.

D. Research Instrument

In this study, a single primary instrument was utilized to gather data on students' speaking, namely a speaking test. This test was developed to assess students' capability to deliver clear, accurate, and well-organized procedural explanations in English. It was conducted in two stages: the pre-test and the post-test. The pre-test was administered prior to the treatment to assess students' initial speaking ability and to ensure that both the experimental and control groups had

relatively comparable levels of proficiency. The post-test was conducted after the treatment to examine whether there was a significant improvement in students' speaking as a result of the instructional intervention.

The speaking test required students to orally explain a given procedural topic, such as "How to Turn On a Computer" or "How to Check the Engine Oil." These topics were selected to ensure that the tasks were familiar, practical, and relevant to students' daily experiences. Each student was given approximately 2–5 minutes to perform the task individually, allowing sufficient time to demonstrate their ability to organize ideas, use appropriate vocabulary, and deliver a coherent explanation.

In terms of scoring, students' performance was evaluated based on five criteria: fluency, pronunciation, grammar, vocabulary, and content organization. Fluency refers to the smoothness of speech, pronunciation refers to the clarity and accuracy of sounds, grammar refers to the correctness of sentence structure, vocabulary refers to the appropriateness of word choice, and content organization refers to the logical sequencing of ideas. Each aspect was scored on a scale of 1 to 5, where 1 indicates low performance and 5 indicates high performance, resulting in a total maximum score of 25.

To ensure the validity of the instrument, the speaking test was reviewed by an expert (English teacher/lecturer) to confirm that it appropriately measured students' speaking in procedural texts. In addition, to ensure reliability, the students' speaking performances were assessed by two raters to minimize subjectivity and increase scoring consistency.

This scoring framework ensures that students' speaking is assessed comprehensively, covering both linguistic accuracy and communicative effectiveness. The use of clear and consistent criteria also supports objective evaluation in both pre-test and post-test stages (see Appendix 3).

E. Research Treatment

The treatment in this study was conducted over several meetings, focusing on the use of different instructional media in the experimental and control groups. Both groups were taught the same procedural text materials; however, the method of delivery differed. The experimental group was taught using video tutorials, while the control group was taught using picture-based explanation. This design ensured that the difference in students' speaking was influenced by the type of instructional media used.

The overall treatment process consisted of five meetings. The first meeting was used to administer the pre-test, the next three meetings were devoted to the treatment sessions, and the final meeting was used to conduct the post-test. Each treatment session lasted approximately 90 minutes. During the treatment sessions, both groups followed the same stages of learning: pre-teaching, while-teaching, and post-teaching activities.

The detailed activities for one representative treatment meeting are illustrated in the following table:

Teacher: Dera Ayu Lestari

Material: Procedure Text

Table 3.2 Treatment Procedure

Stage	Experimental Group (Video Demonstration)	Control Group (Picture-Based Explanation)
Pre-Teaching (10 minutes)	- Teacher greets students and checks attendance. - Teacher gives motivation and introduces the topic (*procedural text*). - Brainstorming: students mention examples of procedures they often do in daily life. - Teacher explains learning objectives for the meeting.	- Teacher greets students and checks attendance. - Teacher gives motivation and introduces the topic (*procedural text*). - Brainstorming: students mention examples of procedures they often do in daily life. - Teacher explains learning objectives for the meeting.
While-Teaching (60 minutes)	- Teacher plays a **video demonstration** (e.g., *"How to Install an Application on a Computer"*). - Students watch and take notes on important steps. - Teacher discusses the structure and language features of the procedure shown in the video. - Students practice orally retelling the procedure step by step in pairs or small groups.	- Teacher shows a **procedural infographic** (e.g., *"How to Check the Engine Oil"*). - Students observe and take notes on the important steps. - Teacher discusses the structure and language features of the procedure shown in the infographic. - Students practice orally retelling the procedure step by step in pairs or small groups.

	- Teacher provides guidance and correction on pronunciation, grammar, and vocabulary during practice.	- Teacher provides guidance and correction on pronunciation, grammar, and vocabulary during practice.
Post-Teaching (20 minutes)	- Several students present their oral explanation of the procedure in front of the class. - Teacher and peers give feedback on clarity, fluency, and accuracy. - Teacher summarizes key points about procedural texts and emphasizes effective speaking strategies. - Teacher closes the lesson with reflection and homework: prepare a short oral explanation of another simple procedure.	- Several students present their oral explanation of the procedure in front of the class. - Teacher and peers give feedback on clarity, fluency, and accuracy. - Teacher summarizes key points about procedural texts and emphasizes effective speaking strategies. - Teacher closes the lesson with reflection and homework: prepare a short oral explanation of another simple procedure.

The same instructional structure was consistently applied throughout the three treatment meetings. The only difference between the two groups was the type of media used during the learning process. The experimental group learned through video tutorials, which provided audio-visual input, while the control group learned through picture-based explanation, which relied on visual input only.

The pre-test and post-test were carried out individually to assess students' speaking ability prior to and following the treatment. By applying this systematic procedure, the study ensured that both groups received equal learning opportunities, and the comparison between groups remained valid and reliable.

F. Data Collection

The data for this study were collected through speaking tests administered in two stages: the pre-test and the post-test. The pre-test was carried out in the first meeting (Week 1), while the post-test was conducted after the treatment sessions (Week 5). Both tests were carried out at SMK PGRI 1 Kediri, involving tenth-grade students as the participants.

In the pre-test, students were asked to orally explain a procedural topic such as "How to Install an Application on a Computer" or "How to Check the Engine Oil." In the post-test, students were assigned different but similar-level topics, such as "How to Install an Antivirus Program" or "How to Replace a Car Battery." This was done to avoid memorization while maintaining the same level of difficulty.

Each student was given approximately 2–3 minutes to perform their oral explanation. The students' performances were assessed using a speaking rubric (see Appendix 3), which evaluates five aspects: fluency, pronunciation, grammar, vocabulary, and content organization. To ensure the reliability of the data, two raters independently scored each student's performance. The use of two raters was intended to minimize subjectivity and to ensure consistency in scoring. The scores obtained from both the pre-test and post-test were used as the primary data of this study.

G. Validity and Reliability

In order to obtain accurate and consistent findings, it is important to examine both the validity and reliability of the instrument. Validity indicates whether the test measures the intended construct, whereas reliability relates to the consistency of the results over time.

1. Validity

To ensure the validity of the research instrument, the speaking test and scoring rubric were examined in terms of content validity and construct validity. Content validity refers to the extent to which the test represents the speaking ability being measured, particularly in explaining procedural texts. The topics used in the speaking test, such as "How to Install an Antivirus Program," were relevant to students' field and learning context. Construct validity was ensured by aligning the speaking test with the components of speaking, including fluency, pronunciation, grammar, vocabulary, and content organization. In addition, the scoring rubric was reviewed by an expert (English teacher or lecturer) to ensure that it appropriately measured students' speaking.

2. Reliability

To ensure the reliability of the instrument, inter-rater reliability was applied. Two raters independently assessed students' speaking performances using the same scoring rubric. This approach was used to minimize subjectivity and to ensure consistency in scoring. The reliability of the scores was analyzed using Pearson Product-Moment Correlation to measure the degree of agreement between the two raters. A high correlation coefficient indicates that the scoring results are consistent and reliable.

H. Data Analysis

The data in this study were processed and analyzed using the Statistical Package for the Social Sciences (SPSS). The analysis aimed to examine whether a statistically significant difference existed in students' speaking performance between those who were instructed through video tutorials and those who received picture-based explanation. The data were derived from the pre-test and post-test scores of both the experimental and control groups. This analytical procedure is essential for addressing the research problem and fulfilling the objective of the study.

First, descriptive statistics were calculate to provide an overview of students' performance. These included the mean, minimum score, maximum score, and standard deviation. These measures were used to describe the general distribution of the data. Through descriptive analysis, the researcher was able to observe initial differences and patterns in students' performance before conducting further statistical testing.

Subsequently, assumption testing was carried out, including tests of normality and homogeneity. The normality of the data distribution was examined using the Kolmogorov–Smirnov test, while homogeneity of variance between the two groups was assessed through Levene's Test. These preliminary analyses were necessary to ensure that an appropriate statistical procedure was employed for hypothesis testing. Furthermore, conducting these tests helps to enhance the validity and accuracy of the statistical conclusions drawn from the data.

Given that the results of the normality test revealed a non-normal distribution, a non-parametric approach was adopted. Accordingly, the Mann–Whitney U test was utilized to determine the difference between the experimental and control groups. This test was deemed suitable as it does not require the assumption of normality and is appropriate for comparing two independent samples. In addition, this method provides a reliable alternative for analyzing data that do not meet parametric assumptions.

Finally, the decision in hypothesis testing was determined based on the significance value (Asymp. Sig. 2-tailed) with a significance level of 0.05. If the obtained significance value was less than 0.05 ($p < 0.05$), the alternative hypothesis (H_1) was accepted and the null hypothesis (H_0) was rejected, indicating the presence of a significant difference between the two groups. Conversely, if the significance value exceeded 0.05 ($p > 0.05$), the null hypothesis (H_0) was accepted and the alternative hypothesis (H_1) was rejected. This decision-making procedure ensures that the study's conclusions are grounded in objective statistical evidence. Moreover, it provides a clear and systematic basis for interpreting the results of the analysis. Additionally, it strengthens the credibility of the findings by minimizing subjective bias in the interpretation process.