# RESEARCH METHODOLOGY

This chapter will concern the methodology and the procedure to develop the study. It contains the research design, research site, participant, research instrument, and data analysis.

## Research Design

This study used a qualitative approach because it focused on the critical thinking process in argumentative essays produced by the students. To examine the critical thinking process, in-depth research is needed. Therefore, the qualitative approach is appropriate to use since its purpose is to get a holistic picture and a deeper understanding (Ary et al., 2010).

The design used in this study is content analysis and the content for this study is text. As explained by Ary et al. (2010) content analysis focuses on analyzing and interpreting recorded material to understand human behavior. Public records, textbooks, letters, diaries, reports, and other materials can be used. In this study, the content contains representations of students' critical thinking.

In conclusion, this study used a qualitative approach and the content analysis method to get a detailed explanation and examination of the student's critical thinking in their writing of the argumentative essay to find the category of their critical thinking skill in their written work.

## Data and Data Source

### **Data**

The data for this research were students’ argumentative texts. In the argumentative text, the writer presents his or her thoughts while keeping both writing and thinking skills in mind. As a result, well-structured argumentation aids the development of critical thinking abilities (Beniche et al., 2021). For this reason, the primary data of this study is argumentative text.

### **Data Source**

The data sources in this study were eight students in the fourth semester of the English Department of Education at one university in Garut. They had completed the writing subject (writing I-III) and are now studying writing IV (argumentative writing). They were found to be capable of providing sufficient data. Participants were selected randomly as Cresswell (2012) said that “in random sampling, the individual has an equal probability of being selected from the population”. However, the population has standards that suit the needs of this study.

Furthermore, eight students were chosen as participants based on the theory from Gay and Diehl (1992) as cited in Wiyadi (2009) that the acceptable size of descriptive research is 10% of the total population. In this case, the total population is 74 students who are divided into 3 classes. It can be concluded, that 10% of 74 equals 7,4. Thus, the results were rounded to 8. Thus, 8 students served as the sample size for this study.

## Research Instrument

The instrument used to collect the data was documentation. Critical thinking is the important information that can be found through documentation to determine students' critical thinking categories. This is in line with Cresswell (2012), who states that documentation can be a useful source of information in qualitative research for helping the researcher in understanding the center of the phenomenon. The documents were argumentative texts that were analyzed by a rubric called the Holistic Critical Thinking Scoring Rubric was used to assess the students’ final written work or the students’ argumentative essays to find out their critical thinking categories.

## Data Collection

In the process of collecting data, participants were approached and asked for their willingness to be participants in this study. They were also informed about the study's objectives and that this research follows research rhetoric so that information about participants will be kept confidential. Next, they were given an argumentative text format that had been carefully selected and deemed appropriate for this study. Then they were asked to write a text using the same format as given with the selected topic.

 The argumentative text is not an easy text to make. For that reason, participants were given the convenience to do it at home within one week through google form. Finally, the data were collected.

## Data Analysis

In analyzing the data, first of all, all of the data were given codes, also called the coding step. Codes are labels or tags used to offer the meaning to descriptive or inferential data collected during a study (Miles & Huberman, 1994). It was done to make it easier to distinguish the data of one participant from another. The codes are S#1, S#2, S#3, S#4, S#5, S#6, S#7, and S#8. The letter “S” stands for “Student”. The numbers are for numbering all eight participants. The coding also being given to the text. ST stands for “Statement”, EV stands for “Evidance”, PR stands for “Pro”, and CO stands for “Contra”. There is a number to mark in this code, just like there is in the coding for participation. For instance: The first statement in the text is designated as ST#1, the first piece of evidence is designated as EV#1, and so on.

After coding, the next step is analyzing the data using a rubric from Peter A. Facione and Noreen Facione which is the Holistic Critical Thinking Scoring Rubric. The rubric was used to expose the category of students’ critical thinking through their argumentative texts. It consists of four categories of critical thinking, there are Strong (4); Acceptable (3); Unacceptable (2); and Significantly weak (1). See **table 3.1** below.

**Holistic Critical Thinking Scoring Rubric**

|  |  |  |
| --- | --- | --- |
| **SCORE** | **CATEGORY** | **CRITERIA** |
| 4 | Strong | 1. Accurately interprets evidence, statements, graphics, questions, etc.
2. Identifies the salient arguments (reasons and claims) pro and con.
3. Thoughtfully analyzes and evaluates major alternative points of view.
4. Draws warranted, judicious, non-fallacious conclusions.
5. Justifies key results and procedures, and explains assumptions and reasons.
6. Fair-mindedly follows where evidence and reasons lead.
 |
| 3 | Acceptable | * 1. Accurately interprets evidence, statements, graphics, questions, etc.
	2. Identifies relevant arguments (reasons and claims) pro and con.
	3. Offers analyses and evaluations of obvious alternative points of view.
	4. Draws warranted, non-fallacious conclusions.
	5. Justifies some results or procedures, and explains reasons.
	6. Fair-mindedly follows where evidence and reasons lead.
 |
| 2 | Unacceptable | 1. Misinterprets evidence, statements, graphics, questions,etc.
2. Fails to identify strong, relevant counter-arguments.
3. Ignores or superficially evaluates obvious alternative points of view.
4. Draws unwarranted or fallacious conclusions.
5. Justifies few results or procedures, seldom explains reasons. Regardless of the evidence or reasons, maintains or defends views based on self-interest or preconceptions.
 |
| 1 | Significantly Weak | 1. Offers biased interpretations of evidence, statements, graphics, questions, information, or the points of view of others.
2. Fails to identify or hastily dismiss strong, relevant counter-arguments.
3. Ignores or superficially evaluates obvious alternative points of view.
4. Argues using fallacious or irrelevant reasons, and unwarranted claims.
5. Does not justify results or procedures, nor explain reasons.
6. Regardless of the evidence or reasons, maintains or defends views based on self-interest or preconceptions.
7. Exhibits close-mindedness or hostility to reason.
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Table 3.1 The Holistic Critical Thinking Scoring Rubric (Facione, 2016)

Finally, the data analyzed were described by relating it to the related theories to finally be given categories according to the rubric. The final result of the analysis process is the categories that will be assigned to each participant's argumentative text.

## Research Procedure

A series of the research procedures utilized in this study are described in detail, such as:

Preparing the research procedures.

Finding the research problem.

Finding out the literature review based on the topic of the research.

Determining the research method and research design that are suitable for this research. This research used a qualitative descriptive design.

Determining the research instrument. This research used documentation as an instrument.

Proposing the permission to the institution where the research conducted. This research conducted in one university in Garut.

Conducting briefing to the population. The population of this research is all of the students at fourth semester of English Department of one university in Garut.

Selecting the participants. The participants were eight students at fourth semester of English Department of one university in Garut.

Collecting the data through Google Form.

Coding the data.

Integrating the findings into a brief information.

Drawing conclusion.