

CHAPTER III

RESEARCH METHODOLOGY

This chapter presents the explanation of the research methodology including a research design, data collection and data analysis. This study aims to answer the following questions: (1) what kinds of citation and reference sources are used by students in their research papers?; (2) how does the use of inappropriate citation and reference contribute to plagiarism?; (3) what types of mistakes are made in citations and references?

3.1 Research Design

This study used a descriptive qualitative method to describe the condition of the undergraduate students' collected citations and references in their research papers in order to examine the types of sources used, the way the inappropriate citation and reference contributes to plagiarism and the types of mistakes in citations and references. Fraenkel and Wallen (2009) see a qualitative research study as a study in which the investigator attempts to examine naturally occurring phenomena in all their complexity based on certain context. The qualitative research study is descriptive in nature which means that the researcher describes his or her findings based on the collected data and relates them to the relevant theories. In addition, Neuman (2007) states that a descriptive method aims to provide a detailed and highly accurate picture of the study. In this study, the collected citations and references were investigated based on the APA manual, in *A Guide to Referencing (6th ed.)* (2010), since all of the students in this research study used this citing and referencing system.

The collected citations and references were calculated based on their occurrences on each classification stated in the research questions. Since this study

used the frequency of each classification as data, it also used descriptive statistics to explain the data. Neuman (2007, p. 364) states that “descriptive statistics is a general type of simple statistics used by researcher to describe basic patterns in the data.” Hence, the statistic formula employed in this study was that of a basic one. After the frequency for each category were calculated, the collected data were examined based on a case study approach in which the use of citations and references, in the 22 undergraduate students’ research papers of 2013 in the Faculty of Mathematics and Natural Sciences Education and Faculty of Engineering and Vocational Education, were thoroughly analyzed. The case study research is a qualitative research approach that focuses on a particular case or set of cases in which a researcher carefully examines a case in more detail ways (Fraenkel & Wallen, 2009; Neuman, 2007; Yin, 2011).

3.2 Data Collection

This study used purposive sampling to gain the citations and references in the students’ research papers. Yin (2011, p. 88) states that “the purposive sampling is a process in which a researcher selects the samples in a deliberate manner based on his or her judgment in order to gather the most relevant and plentiful data, regarding the topic of the study”. In this study, the students’ papers were taken based on the students’ genders (there are 11 males and 11 females). The reason for choosing the students’ research papers based on equal gender (between male and female) is to eliminate the bias. The data were obtained from the students’ research papers soft files (.doc and .pdf) which were stored in Indonesia University of Education library in Bandung. All of the papers were published in 2013. The list of the research papers used in this study can be seen as follows.

Table 3.1 The List of Research papers in the Faculty of Mathematics and Natural Sciences Education

No	Study Program	Gender
1	Biology Education	Female

2	Biology	Male
3	Physics Education	Female
4	Physics	Male
5	Computer Science Education	Female
6	Computer Science	Male

No	Study Program	Gender
7	International Program on Science Education (IPSE)	Male
8	Chemistry Education	Male
9	Chemistry	Female
10	Mathematics Education	Male
11	Mathematics	Female

Table 3.2 The List of Research papers in the Faculty of Engineering and Vocational Education

No	Study Program	Gender
1	Agro-industrial Engineering Education	Female
2	Family Welfare Education	Female
3	Culinary Education	Male
4	Fashion Education	Female
5	Architecture Engineering Education	Male
6	Building Engineering Education	Female
7	Electrical Engineering Education	Female
8	Electrical Engineering	Male
9	Mechanical Engineering Education	Male
10	Civil Engineering Education	Female
11	Civil Engineering	Male

3.3 Data Analysis

Regarding the investigation of the use of the citations and references, there were four steps in analyzing the data. The first step was to classify the citations and references found in the research papers by their sources, currency and source languages. In terms of currency, the sources were categorized based on the year when the sources were published in (1) within the last 5 years, (2) 6 - 10 years, (3) 11 - 15 years, (4) 16 - 20

Fathimah Salma Zahira, 2014

Citation and Reference in Students' Academic Writing:

A Case Study in the Faculty of Mathematics and Natural Sciences Education and Faculty of Engineering and Vocational Education Study Programs in Indonesia University of Education

Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

years and (2) over 21 years. The second step was to analyze the collected data based on the citations and references style. All of the citations and references found in all of the students' research papers were written in the APA style. Therefore, the analysis of the inappropriate citation and reference was based on this style. To discover that problem, the citations and references were classified whether they were correct. In addition, the sources were also clarified if they were simultaneously stated in the in-text citations and references lists.

The third step was to classify the mistakes found in the students' citations and references. There were five criteria of mistakes for each citing and referencing. The mistakes in citation were divided into (1) the mistake in author's name, (2) year published, (3) secondary source, (4) mechanics and (5) other mistakes which are uncommon (e.g. the citation does not follow any citing and referencing guidelines). The classification of the mistakes in reference consists of (1) the mistake in author's name, (2) year published, (3) source title, (4) place and publication house and (5) other additional mistakes which are found in the data examination process. The last step was to discuss the data based on the theoretical frameworks of academic writing, plagiarism and previous related studies in the chapter two.

In this study, some tables were used to examine the frequency of citation and reference sources, the appropriate use of citations and references and the mistakes in citations and references. Moreover, the comparison tables were used to compare each category in the Faculty of Mathematics and Natural Sciences Education and Faculty of Engineering and Vocational Education. In order to make the analysis easy to interpret, the classifications and the frequency were being processed in Microsoft Excel.