

## **Chapter Three**

### **Methodology**

This section conveys the methodology of research that is employed by the researcher. It consists of four parts: research design, population and sample, data collection method, and the data analysis method. In the research design, the researcher explains the design and the reason of deciding the design. Next, in the population and sample, the researcher elaborates the populations and the number of the sample and the sampling techniques utilized in this study. In the data collection method, the researcher explores the way the data is collected. In the end, in the data analysis, the researcher amplifies the procedures in investigating the data.

#### **Research Design**

The nature of this research is quantitative approach. The quantitative approach for a research is commonly depicted by the foremost uses of numerical data than words or pictures data instead (Creswell, 2003, p. 19) which mandated the researcher to “identify a research problem based on trends in the field or on the need to explain why something occurs” (Creswell, 2012, p. 13). Furthermore, this research took correlational design. It demanded the researcher to “measure the degree of association (or relation) between two or more variables using the statistical procedure of correlational analysis” (Creswell, 2012, p. 21). Explicitly, referring to Creswell (2012), this research applied a prediction research design which it is “to identify variables that will predict an outcome or criterion.” The researcher identified one or more predictor (or outcome forecast) variable and a criterion (or outcome) variable. (p. 341). Thus, this research attempted to discover the relationship between students’

procrastination and their achievement in which one variable can correlate to another variable. In spite of the existing similar researches that had been conducted before, this research was distinct since such a study had never been administered in the period and site where this study took place.

### **Research Population and Sampling**

In order to collect the data, the researcher needed to decide the population that is being observed and the sampling technique that is used to select the respondent. Referring to Creswell (2012), “population is group of individuals who have the same characteristic” (p. 142). The population in this research was students of English Education Department Universitas Muhammadiyah Yogyakarta at year 2015/2016 with the total number 531 students (batch 2015 is excluded). The researcher tended to use convenience sampling. It is when the researcher chooses participants because they are ready and accessible to be studied (Creswell, 2012). Convenience sampling is included in non-probability sampling which the participants are selected because they are available, convenient, and represent some characteristic that the researcher wants to study (Creswell, 2012). For that reason, the researcher opted to only batch 2012, 2013, and 2014 because they fulfilled all the characteristics that were needed by the researcher. Those characteristics were having Cumulated Grade Point Average (CGPA), engaged in university environment more than one year, and accessible to gain the data. Batch 2015 was not suitable because the students had no CGPA which its role was important here as the dependent variable. Also, they were lack of experience to live in university environment which might affect the characteristics

that the researcher looked for, that was university students. In addition, students of 2011 and 2010 were hard to access because most of them had graduated.

### **Data Collection Method**

The data collection methods in this research used questionnaire and Cumulated Grade Point Average (CGPA) as the instrument. The questionnaire was employed to gather the data of procrastination whereas CGPA was utilized to obtain the data of students' achievement. The researcher distributed the questionnaire to EED UMY students batch 2012, 2013, and 2014 who were available, accessible and willing to be taken their data. The questionnaire distribution was held at the classroom after permission from the lecturer who taught was given. Before the respondents started to answer the questionnaire, the researcher asked permission from them by giving inform consent that they had to put their sign on it. The inform consent consisted student's approval for giving their data including their CGPA to be submitted and then analyzed by the researcher for research purpose. In addition, the researcher also asked permission from Dean of Language Education Faculty and Head of English Education Department regarding to obtain institution's archive that is students' CGPA.

**Research Setting.** The place where this research was conducted was in English Education Department at Universitas Muhammadiyah Yogyakarta. The first reason why the researcher opted to that place is because the students who studied there were prospective teachers and lecturers who should, later, concern about their students' achievement. Meanwhile, some of them were suspected to be

procrastinators. The second reason is because the researcher studied there too. It made the researcher feasible to conduct research there because the researcher knew the condition of the site where the research would be conducted.

Besides, the data collection was conducted between March – April 2016. It took around 6 weeks for the researcher to attain the data entirely. The researcher distributed questionnaire to the 336 students of EED batch 2012, 2013, and 2014. The distribution of questionnaire was 82 for batch 2012, 122 for batch 2013, and 131 for batch 2014. That was based on the students who were available, willing, and accessible. The researcher claimed that the proportion for each batch was exact and feasible to be collected and might represent the total population.

**Research Instrument.** The questionnaire as the instrument of this research was adopted from Tuckman Procrastination Scale (TPS) (Tuckman, 1990) and Procrastination Assessment Scale for Students (PASS) (Solomon & Rothblum, 1994). TPS was used for measuring daily life routine procrastination and PASS was used to measure academic procrastination. In order to make the questionnaire more contextualized within the current research site and condition, the researcher adjusted some items. The adjustments were only on the terms like “meeting with professor” became “meeting with lecturer” and “registering classes” became “*key – in.*” Consequently, the researcher chose PASS items only on the prevalence of academic procrastination in six academic areas and did not include the reason for academic procrastination items and the interest in changing procrastination. The questionnaire was made in both Indonesian and English to facilitate the respondents to understand the questionnaire since English was the original language of the questionnaire and

Indonesia was the first language of the respondents. The other reason of preparing the questionnaire in Indonesian was because there were some difficult statements to understand. That was a way to avoid misunderstood and misinterpret which led to invalid or bias data and result. The researcher used contextual translation technique in translating the items on the questionnaire. Afterwards, the researcher handed in the questionnaire to two lecturers who were experts in this matter for checking the suitability and correspondence each translated item with the original one. The questionnaire consists of 8 items of TPS and 7 items of PASS. The researcher decided to use 5 points of Likert scale for each item. Every item possessed some options: N (Never), AN (Almost Never), S (Sometimes), NA (Nearly Always), A (Always). The score criteria of questionnaire items are as follow:

**Table 2. Favorable Items Scoring**

| Options            | Value |
|--------------------|-------|
| Never (N)          | 1     |
| Almost Never (AN)  | 2     |
| Sometimes (S)      | 3     |
| Nearly Always (NA) | 4     |
| Always (A)         | 5     |

So as to obtain the students' achievement data, the researcher used CGPA document that was taken from academic information system in EED office with the permission from Dean of Faculty and Head of Department and the students that was attached in

the informed consent in the questionnaire. For the need of data analysis, the researcher categorizes the students' CGPA into three levels to distinguish the category of achievement. Then, both questionnaire and CGPA were being analyzed.

**Instrument Validity.** In order to avoid bias and/or wrong data, the instrument that was used to measure should be valid. Creswell defined that, "validity is the degree to which all of the evidence points to the intended interpretation of test scores for the proposed purpose" (p. 159). Therefore, the instrument should be able to measure what the researcher intended to measure in order to meet the validity. In this research, the instrument was demanded to be able to measure procrastination. The validity of the item was good concurrent validity, because it had already been used by Tuckman, Solomon and Rothblum which was definitely checked by them using several tests. Tuckman (1990) explained that TPS passed two times of test. The first test from 72 items yielded two factors from 35 items. Then, a subsequent test resulted to only a single-factor structure and a condensed scale of 16 items. Meanwhile, Solomon and Rothblum (1994) claimed that PASS had very good concurrent validity. It was proven by significant correlation with the Beck Depression Inventory, Ellis Scale of Irrational Cognitions, Rosenberg Self-Esteem Scale, and the Delay Avoidance Scale. Moreover, the construct validity of the questionnaire was checked by expert judgment from two lecturers who mastered this substance. The items, which were taken from both TPS and PASS, were modified in order to make it applicable in the current site.

However, after being tested in the current site, it showed that KMO score was 0.750 indicating that the data can be analyzed using factor analysis to identify

whether the items measured the factors that were supposed to be measured. Table 3 depicts the results of the analyses.

**Table 3. The Validity of The Questionnaire Using KMO and Bartlett's Test<sup>a</sup>**

|  |                    |          |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |                    | .750     |
| Bartlett's Test of Sphericity                    | Approx. Chi-Square | 1814.496 |
|  | Df                 | 105      |
|  | Sig.               | .000     |

a. Based on correlations

After having factor analysis, the researcher eliminated the invalid items. It turned out that from 28 items, 15 items were valid and 13 were not.

**Instrument Reliability.** The instrument that was used in this research should be reliable and trusted in every site and condition where the research was conducted. Creswell (2012) stated that, “reliability means that scores from an instrument are stable and consistent” (p. 159). Sekaran (2000) specified reliability indicator into three levels:

1. 0.8 - 1.0 = Good
2. 0.6 - 0.799 = Moderate
3. < 0.6 = Not Good

Tuckman (2010) emphasized that the computed reliability (Cronbach's alpha) for his 16-item scale was 0.86, whereas Solomon and Rothblum (1994) revealed that PASS

reliability was 0.74. The instrument's reliability in this research was good and appraised as reliable and trusted worthy instrument.

However, the modified instrument had slight different reliability value. The researcher applied Cronbach's alpha in SPSS to measure the reliability of the instrument. The result confirmed that the reliability value of the instrument was 0.843 based on standardized items. It means that the instrument had good reliability to measure. The table of Cronbach's alpha is illustrated below.

**Table 4. Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .842             | .843   | 15         |

### **Data Analysis Method**

This research utilized descriptive statistics and inferential statistics as the method to analyze the data. Descriptive statistics displayed the score of procrastination and GPA whilst inferential statistics portrayed the relation between procrastination as the independent variable and GPA as the dependent variable. The researcher operated Statistical Package for the Social Science (SPSS) version 22 for Windows and Microsoft Excel in order to ease analyzing the data.

To measure procrastination, the researcher developed questionnaire which was adopted from Tuckman (1990) and Solomon and Rothblum (1994). The researcher adjusted some items in order to make it relevant with the current research period and site. In addition, there are three level of procrastination (Akinsola, Tella, & Tella, 2007; Lakshminarayan, Potdar, & Reddy, 2013) and the table is exposed below:

**Table 5. Procrastination Level**

| Value       | Level    |
|-------------|----------|
| 1.00 – 2.33 | Low      |
| 2.33 – 2.80 | Moderate |
| 2.80 – 5.00 | High     |

The values were obtained by dividing the average score of procrastination into three. The scores were based on 5 Likert scales that were used by the researcher. Each scale had different score and it can be seen in Table 2.

Besides, this research activated Pearson Product Moment correlation via SPSS version 22 to correlate between two variables which were procrastination as the independent variable and student's achievement as the dependent variable. This research applied Pearson Product Moment because the data was normal based on normality test in SPSS. There is standard guideline to measure the strength of association between two variables as showed below (Cohen & Manion, 1994; Creswell, 2012).

**Table 6. Correlational Score Table**

| Value       | Description |
|-------------|-------------|
| $< -0.20$   | Very Low    |
| 0.21 – 0.35 | Low         |
| 0.36 – 0.65 | Moderate    |
| 0.66 – 0.85 | Strong      |
| 0.86 – $>$  | Very Strong |