

CHAPTER III

RESEARCH METHOD

This chapter discusses the methodology and the procedure in conducting the research. It includes the variables of the research, sample, instruments, and the result of the reliability and validity of the data collection, and data analysis.

3.1 Research Design

This research which is based on non-experimental design or commonly named correlational design is aimed to know how far the changing of one factor correlate with the changing of another factor (Lewin, 1979 cited in Fatimah, 2008). Correlational analysis is used to find and know the relationship degree between investigated variables. Moreover, the degree is presented in form of correlation coefficient. Zechmeister, J. S., *et al* (2003) stated that correlation coefficient statistic calculates two variables or sets of data representing positive correlation (+1) or negative correlation (-1) and symbolized by r .

3.2 Variables of the Research

3.2.1 Self-Efficacy

1. Conceptual definition

“Self-efficacy is beliefs in one's capability to organize and execute the courses of action required to manage prospective situations”
(Bandura, 1977: 2).

2. Operational Definition

Self-efficacy is one's belief in his/ her capability or one's judgment of their capabilities to reach the goals.

3.2.2 Learning Participation

1. Conceptual Definition

Learning participation is students' interaction, respond, involvement in classroom activities (Davis, 1993).

2. Operational Definition

Learning participation is students' presence and contribution during the lesson.

3.3 Sample of the Research

The sample is first-year students of English education program in UPI, whereas the class chosen is B. That education student is chosen because they are prepared to be a teacher. While the second-semester students is seen as representative sample because they have the first Speaking class already, and they are now studying the continued skill of Speaking namely Speaking in Professional Context subject.

For the number of the samples, as Singarimbun (1989) suggested that if the analysis being used is corelational technique, then the minimal sample that should be taken is 30 cases. In line with this, Fraenkel & Wallen (1993: 294) added that "samples larger than 30 is much more likely to provide meaningful result." Thus, all the students is B1 and B2 class are going to be selected. It is about 40 students are the samples.

3.4 Time and Location

The research conducted in UPI located at Setiabudhi street no.229 Bandung. The time of observation is started at the end of March to April, the try-out test is on the second week of April, while the data collection is on May.

3.5 Instruments

In collecting the data, the questionnaire form is used. These questionnaires, which consist of items' statement also the optional answer, hopefully can make the samples choose the right answer in which represents his/ her real condition. Questionnaire method is based on self-report or at least on the one's knowledge or belief.

3.5.1 Self-Efficacy

The first instrument of self-efficacy used in this research is questionnaire that measures students' belief in his/ her ability to speak their mind in English. This instrument is developed from Fatimah (2008) which is based on 3 dimensions; magnitude, strength, and generality. It is presented below:

Table 3.1 Speaking Self-Efficacy

DIMENSION	INDICATOR	ITEM
MAGNITUDE	Considering hard situation is not an obstacle to succeed	1,8,4(-)
	Believe to have ability to handle the obstacles	18,5,6(-)
	Capable to put an challenging target to be accomplished	2,3,10,14(-)
STRENGTH	Having a strong commitment to reach the target	7,9(-),13
	Not easily give up when find difficult situation	12,15,17, 19,
	Improving efforts when meet failure	16,20,21
GENERALITY	Feeling sure that the previous experience can help to face the next task	22,25
	Capable to make the previous experience as a lesson to be successful	11(-),23, 24,26,27,28

The instrument uses Likert Rating Scale which serves some optional choices. The score which is given to each items is in ordinal scale, means that every answer shows different intensity so that it can be ranked. All of the items scoring is divided into positive and negative item. Each items provide 4 types of answer, which are *S* (Agree), *CS* (More to Agree), *KS* (Less Agree), *TS* (Not

Agree). The score of each item is about 1 to 4. The scoring can be seen in the following:

Table 3.2 The Scoring of Item

Positive Item	Score	Negative Item	Score
S	4	S	1
CS	3	CS	2
KS	2	KS	3
TS	1	TS	4

The high or low self-efficacy can be known from the student's total score of all items. The bigger score that one gets, the higher self-efficacy that one has, and vice versa.

The second questionnaire of self-efficacy used in the research is to know which of the sources that is the most influential contributor to students' self-efficacy. The instrument is developed from the 4 sources; past performances, vicarious experiences, verbal persuasions, physiological states. The division is in the following table:

Table 3.3 Sources of Self-Efficacy

DIMENSION	INDICATOR	ITEM
Past Performances	The successful experience in the past make him/ her optimistic	1,2
	The failure experience in the past make him/ her pessimistic	3,4
Vicarious Experiences	Believing that another failure have negative impact on him/ her	5,6
	Believing that another success have positive impact on him/ her	7,8
Verbal Persuasions	Another's saying influences what his/ her doing	10,11,13,16
Physiological States	Having ability to manage his/ her anxiety	9,12,14,15,17

For the second instrument, each items provide 2 choices only; YES and NO. The score is calculated based on every YES answer of a source. The higher score of a source the higher role to the level of students' self-efficacy.

3.5.2 Participation

The first instrument of participation used in this research is observation. The idea of observation is to note how the learning participation of education-2007 in speaking class is. The researcher uses 5 criteria adapted from Porto's to asses the students' participation during the lesson, which are significance, relevance, intensity, frequency and collaborative.

The second instrument used is questionnaire which is adapted from Prof. Kathleen Tunney from Dept. of Social Work. The questionnaire is described as follows:

Table 3.4 Learning Participation

POSITIVE ATTRIBUTES	ITEM
Enters the class	1
Follows the discussion/ presentation	2
Gives question/ comment during the discussion	3
Asks/ answers question after teacher finished explaining material/ after the class (inside or outside class)	4
Visits teacher during office hours/ contacts via email/ calls at home to clarify ideas/ materials	5
NEGATIVE ATTRIBUTES	ITEM
Shows up late	6
Sleeps in class	7
Does not pay attention to the lesson (chatting/ disturbs others)	8
Feels lazy/ bored/ sleepy during the class Because...	9

Each of items provides 4 types of answer; *HS* (Almost Always), *SR* (Frequently), *KD* (Occasionally), *JR* (Seldom), *HT* (Almost Never). The score of each item is about 1 to 5. The scoring can be seen in the following:

Table 3.5 The Scoring of Item

Positive Item	Score	Negative Item	Score
HS	5	HS	1
SR	4	SR	2

KD	3	KD	3
JR	2	JR	4
HT	1	HT	5

High or low participation can be known from the student's total score.

The bigger score that one has the higher participation that one shows, and vice versa.

3.6 Classification

Classification is used to help giving a general picture about the investigating variables. The classification used in this research is variable and dimensional classification. To simplify the discussion of findings, the classification will be classified into two; high and low.

3.6.1 Self-Efficacy

Self-efficacy instrument consists of 28 items. High self-efficacy can be defined that the subject has high of confidence to shows needed behavior in order to share his/ her ideas to public in English and vice versa. The classification of self-efficacy is determined by the score position toward the median, the steps are:

1. Calculating the total score of each subject
2. Arranging score in order (highest to lowest or lowest to highest)
3. Determining the median (total score \geq median = high, total score < median = low)

From the calculation above, the classification for self-efficacy variable is as follows:

Table 3.6 Classification of Variable Self-Efficacy

CLASSIFICATION	TOTAL SCORE
High self-efficacy	83 - 109
Low self-efficacy	63 - 82

Whereas the dimensions of self-efficacy are divided into; magnitude = 10 items, strength = 10 items and generality = 8 items. The dimensions' classification is determined by the same steps as above. The result is in the following:

Table 3.7 Classification of Dimensional Self-Efficacy

CLASSIFICATION	HIGH	LOW
Magnitude	≥ 27	≤ 26
Strength	≥ 30	≤ 29
Generality	≥ 26	≤ 25

3.6.2 Participation

Participation instrument consists of 9 items. High participation can be defined that the subject shows high of involvement to class activities, and vice versa. The classification uses the same method as above, here is the result:

Table 3.8 Classification of Participation

CLASSIFICATION	TOTAL SCORE
High participation	≥ 32
Low participation	≤ 31

3.7 The Trying Out Instrument

The purpose of trying out the instrument is to have valid and reliable items. The tried out instrument is tested to 21 respondents in A2 class. The collected data then, is processed using SPSS (Statistical Packages for Social Sciences) version 15.0 for windows.

3.7.1 Reliability Testing

Hatch and Farady (1994: 530) stated that “reliability usually defined as the extent to which a test produces consistent, accurate result when administered under similar conditions.” Therefore, a measurement can be said reliable when it is consistent and stable. In running reliability test, SPSS program for Windows will help to calculate using Alpha-Cronbach formula as follows:

$$\alpha = \left(\frac{N}{N-1} \right) \left(\frac{S^2 - \sum S_i^2}{S^2} \right)$$

Where: N = total items
 S^2 = variance of total score
 S_i^2 = variance on individual score

Brown Thompson criterion is used to see the reliability degree, which are:

$\alpha \geq 0,7$ = the instrument is reliable

$\alpha \leq 0,7$ = the instrument is not reliable

As the result, the item-reliability coefficient (α) is 0,854 which means the instrument is reliable. (See appendix A-2)

3.7.2 Validity Testing

Validity according to Hughes (1989: 22) refers to “what it is intended to measure.” In addition Hatch and Farady (1982: 250-251) said that validity means “the result of the test not to the test itself.” To validate items Spearman-Brown formula is used in this research with the help of SPSS program. The formula is enclosed below:

$$r_s = 1 - \left(\frac{6\sum D_i^2}{N^3 - N} \right)$$

Where:
 D_i = the difference between X rank and Y rank
 N = the number of samples

Guildford criterion (1973) is used to see the degree of validity, which are:

0,00 – 0,20 = very low correlation/ no correlation

0,21 – 0,40 = low correlation

0,41 – 0,70 = moderate correlation

0,71 – 0,90 = high correlation

0,91 – 1,00 = very high correlation/ perfect correlation

Based on the criteria above, when a dimension has correlation $> 0,4$ then the instrument is valid and can be used, while the correlation coefficient is about $0,2 - 0,4$ means that the instrument is less valid, but if the correlation coefficient is $< 0,2$, the instrument cannot be used because it is not valid. The result of item-validity coefficient is as follows:

Table 3.9 Validity Result
(See Appendix A-2)

DIMENSION	COEF. VALIDITY	CORRELATION
MAGNITUDE	0,753	high correlation
STRENGTH	0,780	high correlation
GENERALITY	0,674	moderate correlation

3.7.3 Item Analysis

Item analysis is used to identify which items that can be used, need to be revised, or should be deleted. The item analysis is processed by using the corrected item-total correlation on SPSS. The criteria is based on Guilford criterion (1973) as follows:

$< 0,2$ = the correlation is very low, item cannot be used

$0,2 - 0,299$ = the correlation is good enough, but needs to be revised

$> 0,3$ = the correlation is good, item can be used

Table 3.10 The Result of Trying Out Item
(See Appendix A-2)

Self-Efficacy Variable						
<i>Dimension</i>	<i>Item</i>	<i>Deleted Items</i>	Σ	<i>Revised Item</i>	Σ	Σ <i>Item can be used</i>
MAGNITUDE	1-27	2,4,9,10,13, 17-19,22*,24	10	8,14,20,21	4	13
STRENGTH	28-55	33,37*,41-42, 44-47,49- 53*,54,55*	15	30,36	2	11
GENERALITY	56-69	59,61 63,64,67,68*	5	57,60,66,69	4	5

* items have not been experienced

3.8 Data Analysis

To know the relationship between investigated variables in this research, the analysis of statistical method is used. The collected data of the two variables is in ordinal scale, as mentioned by Sugiyono (2001) and Siegel (1997) the *Rank Spearman* statistic is used to analyze the correlation between X (students' academic self-efficacy) variable and Y (students' learning participation) variable. The statistical test of Spearman is helped by computerization SPSS program to be operated, the formula is below:

$$r_s = 1 - \left(\frac{6\sum D_i^2}{N^3 - N} \right)$$

Where:
 D_i = the difference between X rank and Y rank
 N = the number of samples

To determine which a strong or weak correlation result, Champion (1981) criterion is used:

- 0,00 – 0,25 = no association/ low association
- 0,26 – 0,50 = moderately association
- 0,51 – 0,75 = moderately high association
- 0,76 – 1, 00 = high association up to perfect association

Furthermore, to know how big contribution X variable to Y variable, coefficient determination Siegel (1986) is employed with the formula:

$$d = r_s^2 \times 100\% \quad \text{where: } d = \text{determination}$$

r_s = correlation coefficient Spearman

3.9 The Research Procedure

3.9.1 The Preparation Stages

1. Determine the research topic and browse the relevant information about the issues (April - June 2007)
2. Compose research proposal (August - November 2007)
3. Follow pre-writing test (December 2007 – January 2008)
4. Have proposal revised with advisors (January – February 2008)
5. Construct the instrument and discuss with advisor (February – March 2008)
6. Try out the instrument to the non-sample (April 2008)
7. Process the tried out data and revise items (April – May 2008)

3.9.2 The Performance stages

1. Ask permission to the lecturer of observed class and discuss the criteria that wants to be assessed (March 2008)
2. Join the class and do observation (March – April 2008)
3. Administer the questionnaires to the sample (May 2008)

3.9.3 The Final Stages

1. Do scoring and make classification from the collected data (May 2008)

2. Perform statistical calculation to obtain the correlation coefficient
(May 2008)
3. Analyze and give interpretation to the statistical result (May – June
2008)
4. Compose the report, formulate the conclusions, and give suggestions
(June – July 2008)

