CHAPTER VI

ANALYSIS

This chapter will deal with summarization of data and planning of statistical strategies in order to provide answers to the research questions addressed earlier. Process of reporting data will also be stated for enhancing unambiguous understanding.

Summarization of Data

1. Independent Variables

Since most of the student characteristic factors are measured in interval scale, they can be summarized as mean and standard deviation (S.D.). Except for sex and occupation of parents which are measured in nominal scale, and summarized as frequency and percentage. For the instruction factors, they also can be summarized as mean and standard deviation (S.D.). All of the independent variables are shown in the table 6.1, 6.2, 6.3, and 6.4.

2. Dependent Variables

All of the clinical practicum grades are measured in interval scale therefore they can be summarized as mean and standard deviation (S.D.) and shown in the table 6.5

Table 6.1 Data Summary of Independent Variables (nominal scale)

		f	%
SEX	MALE		
	FEMALE		
OCCUPATION OF FATHER	OFFICER		
	COMMERCIAL		
OCCUPATION OF MOTHER	OFFICER		
	COMMERCIAL		
	NONE		

Table 6.2 Data Summary of Independent Variables (interval scale)

	X	S.D
Expense		
Education of Father		
Education of Mother		
Past Academic Grade		

Table 6.3 Data Summary of Study Habits and Attitudes

STUDY HABITS AND ATTITUDES	X	S.D.
Delay Avoidance		
Working Method		
Teacher Approval		
Educational Acceptance		

Table 6.4 Data Summary of Opinion on Instruction

	Content		Activities		Evaluation		Teacher		Facilities	
	X	S.D.	X	S.D.	X	S.D.	X	S.D.	X	S.D.
Surg										
Pedo										
Diag										
Ortho										
Perio										
Resto										
Prost										
Occlu										
All Clinic										

Table 6.5 Data Summary of Dependent Variables

	6th		Cum 6th	
	X	S.D.	X	S.D
Surg				
Pedo				
Diag				
Ortho				
Perio				
Resto				
Prost				
Occlu				
All Clinic				

Statistical Test for Association

The outcome of this study are measured in term of magnitude of association between the student characteristic factors, the instruction factors, and the clinical practicum achievement. There are more than one independent variables to be considered. Thus, the multivariate analysis will be used. Multiple regression analysis is a statistical method for studying the relationship between a dependent variable and two or more indepentent variables. There are many types of multiple regression can be applicable such as standard, stepwise, hierarchiacal. The stepwise is used when the best correlational model or prediction equation which include only the statistical significant independent variables are

needed. The objective of this study is to find the best equation of the relationship among variables, therefore the stepwise method will be used.

The basic idea underlying multiple regression is the same as that for simple linear regression. In simple regression, one variable, Y, is predicted from a second variable, X. In multiple regression, the dependent variable (Y) is predicted from a set of independent variables, X_1, X_2,...,X_i. We can write a linear equation for predicting a dependent variable from i independent variables as the following. (Kerlinger and Pedhazur, 1973).

$$Y = a + b_1 x_1 + b_2 x_2 + \ldots . b_i x_i \quad \text{(Raw score)}$$

a = constant

b = Regression coefficient

or $$Z = B_1 x_1 + B_2 x_2 + \ldots . B_i x_i \quad \text{(Standardized score)}$$

B_1 = Standardized coefficient

In addition to obtaining information from the prediction equation (the predicted score and the estimates of a and the b's or B's), we can estimate the magnitude of the relationship between the dependent variable and the best linear combination of independent variables. This estimate is called the multiple correlation coefficient, and it is denoted by R. Like the simple correlation coefficient r, the multiple coefficient R is a product - moment correlation.

But unlike r, R ranges in value from 0 to 1.00. More formally, we define R as the correlation between the dependent variable Y and the predicted values on the dependent variable.

Moreover, the square of the multiple correlation coefficient, R^2, has roughly the same intepretation as the square of the simple correlation coefficient r^2: R^2 provides a measure of the proportion of variation in Y accounted for by the set of independent variables (X's).

Statistical test of significance multiple regression follows the F distribution. And we can use the t test to determine which of the independent variables, controlling for all others, are statistically related to the dependent variables.