



CHAPTER III

METHOD AND PROCEDURES

Introduction

Varieties of approaches can be used in the research studies of interaction, according to the type of study. This chapter discusses about the research design, the sample and the instruments used in this study. The procedures of data collection, data analysis and methodological assumptions are also described.

The population

This is a descriptive study, which describes the characteristics of the interaction behavior between teachers and students. The population involved in this study were the class periods and clinical procedure interaction periods from Fundamentals of Nursing and Nursing Care of Adult, in the Nursing Campus Maharajgunj Kathmandu, Nepal.

The Sample

The sample was selected from the whole class periods and clinical procedure periods of the Fundamentals of Nursing and Nursing Care of Adult. Consecutive observations of 30 classes and 30 procedure performance periods out of the whole classes and clinical sessions were carried out. The total samples included in this study were 120 observations for the two courses.

The Instrument

The main instrument used in this study were Flanders Interaction Analysis Category Matrix modified into a frequency checklist to follow the matrix. A checklist was also used to assess the procedure performance. The procedure checklists were designed after moderation of "TIPS" (Center for Learning Resources, University of Kentucky, n.d.) and the procedure manual from the parent organization. Direct observations were used to look at the implementation of instructional objectives. The formative test scores were taken twice from the routine activities in each of the two courses. The instruments used in this study were summarized as follows:

1. The Flanders interaction analysis category with short explanation of actual events.
2. The interaction frequency checklist format for checking the interaction category during the observation period. (in accordance with the category)
3. Procedure performance checklist format for each procedures with performance items step by step. The scoring system used in the checklist is taken from the current organization system.
4. Direct observations were used to check the implementation of instructional objectives against the sample of 15 objectives as defined in the organization curriculum.

All the instruments used in this study are shown in the annex.

1. Flanders Interaction Analysis Category:

The instrument number one is (FIAC) Flanders interaction analysis category, which is used to study the interaction behavior of the teachers and student, in the educational field, specially to check the classroom interactions behavior between teacher and learner. As it was already mentioned above that there are several observational categories developed by many educators. But in this study, the Flanders analysis format was used, for collecting data, on interaction behavior in the clinical and classroom because it has been most widely used by several investigators in the field of education. It is hoped that by using Flanders Analysis Category, we will be able to compare our data with most other studies. The FIAC was composed of mainly three aspects (a) teachers talk (b) students talk and (c) silence or confusion. It is concerned with verbal behavior only. But according to, Edmund Amidon and Ned Flanders (1963: 121) "the verbal behavior of an individual is an adequate sample of total behavior".

The three main items of teacher and student interaction behavior are subdivided in order to make the total pattern of teacher student interaction more meaningful. The two subdivisions for teacher interaction behavior; indirect and direct teacher talk, are further divided into smaller categories. Indirect influence consists of four observation categories: (1) accepting feeling (2) praising or encouraging (3) accepting ideas and (4) asking question. Direct influence is divided into three categories: (5) lecturing (6) giving directions and criticizing,

justifying authority. Student talk is divided into two categories (8) responding to teacher and (9) initiating to talk. The last item, (10) silence or confusing, is not divided into any smaller category. The example of FIAC is attached in the annex.

2. The interaction behavior

frequency checklist format:

According to Flanders interaction analysis the data is collected for study by observation in the classroom or in any field of educational instructions. In this study, the interaction behavior frequency checklist was used with FIAC in the classroom as well as in the clinical practicum period to check the interaction behavior frequencies. The time was fixed for 15 minutes observation during one hour class period. (The format is attached in the annex.) The observation period was 5 minutes for each time. The observer noted the teacher and student behavior according to Flanders category every 3 second. The total time spend for observation was 5 minutes 3 conjugative with 10 minutes interval in between. All total observation time was 15 minutes for one hour class period. The observation started in every time 5 minutes after class started. The same observation pattern was used in the clinical practice. However, in clinical practice session, the checkings of procedure performance were carried out from the beginning till the end. The checklist format was designed conveniently to check all the necessary information.

3. Procedure performance checklists:

There are 15 categories of procedure used in this study. Ten from Fundamentals of Nursing and 5 from the Nursing

Care of Adult. The formats were designed according to "TIPS". The items used were selected from the organizational procedure manual in which the scores were divided for each item according to priority of the steps of the procedure. The checklists were fully furnished with necessary information. The procedure performance checklist was used for every individual students according to their category of procedure performance. During preparation, the procedure checklists were checked by 9 experts from different Faculties of Chulalongkorn University such as the Faculty of Medicine, Faculty of Nursing and the Faculty of Education. The name list of experts is attached in the appendices.

The procedure for collecting data

As mentioned above the subjects and sample were selected from the nursing campus, Maharajgunj, Kathmandu. The collection of the data for this study was performed according to accepted ideas from the proposal. Thirty classes and 30 clinical practicum were observed to collect data from the interaction behavior between teacher and students according to Flanders from each courses.

The data were collected from the Nursing Campus, Maharajgunj Kathmandu, Nepal in the period of 3 months, starting from the second week of March till the end of June. However, due to reasons identified in the introduction chapter, the actual data collection covered a period of only fifty eight days during the time period.

In the first week of March, several meetings were held with campus chief and coordinators from two courses concerned

with the study: (1) the coordinator from the Fundamentals of Nursing and (2) the coordinator from the Nursing Care of Adult. Those two coordinators, who were supposed to help in data collection, were trained for the observation study according to Flanders interaction analysis category. The two coordinators were trained for 6 hours to reduce bias from data collection. Upon completion of training sessions, the two coordinators were tested for their knowledge with the questionnaire related to Flanders interaction analysis category. The questionnaire used is attached to the annex. During the same time the checklists and other data collection instruments were also prepared for observational study. All the concerning subject teachers and students were initially informed about the objectives of the study. From the twelfth of March the observation study was started both in the classroom and clinical field. However, due to unexpected problems, the observers trained were not used for the observation study. The only person who observed all 120 interaction behavior in both fields as well as procedure performance was the researcher. Classrooms data were collected only on Friday and Sunday, because within a week there were only two class days: Sunday for the fundamentals of nursing course and Friday for adult nursing. All data about clinical education were collected at any day. The subject coordinators cooperated by trying to schedule the classes and clinical sessions according to the above time table so that observations could be carried out as planned. There were 79 and 59 students in Fundamentals of Nursing and the Adult Nursing classes respectively. Some observation studies were done in the morning and most of the time in the afternoon.

1. Classroom interaction behavior observation:-

During the collection of data in the classroom for interaction behavior, the observer usually sat at the side of the class from where she could see and hear both the teachers and students well. After five minutes of starting the class, the observer started to record the categories of verbal behavior of the teacher as well as the students. There were three five minutes period of observations interrupted with a no-observation interval of 10 minutes. In other words, the observer recorded fifteen minutes of interaction behaviours in an hour class. The categories of verbal interaction between teachers and students were noted according to FIAC matrix with frequency recording format.

2. The clinical interaction behavior observation:-

The clinical practicum interaction behavior was observed in the teaching hospital of Nepal. The study was performed in the medical & surgical wards, during the procedure performance period and only on the selected procedures. The researcher observed the selected procedures according to the routine timetable. The observation was performed according to FIAC as in the classroom with the combination of procedure checklist. And the observation of interaction behavior was studied at the same time with procedure checklist.

The implementation of educational objectives were measured both during class and clinical periods by checklists developed from the curriculum. Only 15 of the main objective items were selected. The objectives contained elements of recall, interpretation and problem solving.

Formative test scores from two tests taken in two different times from both subjects were also included. This was to assess the achievement of objectives. The first set of scores were drawn from the class tests performed in the week of 22-24. The 2nd set of test scores were obtained in the week of 34-36th weeks of fundamentals of nursing and nursing care of adult. Those tests were performed by the class teachers during their routine students' assessment. The questions were also set by these teachers. The questions were prepared in the form of subjective (essay type) and objective (e.g. multiple choice, true false). The questions were about 50% objective and 50% subjective. Examples of objective questions were Multiple choices, 25%, True and false 15% and fill up the gaps 10%. Examples of subjective questions were the essay 25%, short answers 15% and other things about 10%. Some variations of the proportions of the types of questions were observed depending on the different teachers.

The Statistical Analysis of Data

1. Data Summary: The data will be summarized as follows:

a. Flanders Interaction Behaviour: The interaction behaviours were summarized using frequencies of teachers' talk, students' talk and percentage of silence. Standard error and 95% confidence intervals were given.

b. Procedure Performance In The Clinical Field:

The data were summarizes in mean score of different procedure performance involved in the study.

c. The Implementation of Educational Objectives by Faculties: The data were summarized as a percentages of the intended objectives implemented.

d. Formative Test Scores Means and standard deviations were used to summarized the test scores obtained from the two points of time during the course.

2. Data Analysis: The following analysis were used to test the hypothesis:

a. Interaction Behaviours: The differences between the different types of interaction behaviours between the two courses will be tested by Chi-square for both class and clinical performances.

b. Implementation of Educational Objectives: The difference in the percentage of intended objectives being implemented were tested using Chi-square.

c. Change in Formative Test Scores: The formative test scores obtained at two points during the class sessions were tested by paired t test. The correlation between the two test scores was also obtained using regression analysis. The result with tables were presented in chapter IV.