CHAPTER-III

METHOD

AND

PROCEDURE
The present study was designed to examine the “Effect of Simultaneous and Successive Second Language Learning on Academic Achievement of Primary School Children in Relation to their Personal and Environmental Factors”. Achievement was measured in respect of language groups of the learners, in respect of the type of schools, in respect of intelligence and motivation and in respect of socio-economic status and parental support.

This chapter presents the design of the study, field of investigation, sample, tools used and techniques of data analysis.

Design of the Study

The present study was essentially a descriptive study. According to Best and Kahn (1963), descriptive research is concerned with formulation of hypotheses and testing, analysis of relationship between non manipulative variables and the development of generalizations. In descriptive research the variables that exist or have already occurred are selected and observed. This process is described as ex-post facto explanatory, observational, or causal comparative research.

Further the study was descriptive as it aimed to describe the nature and present status of the phenomena. According to Best and Kahn (1986), a descriptive study describes and interprets “What is”. It is concerned with conditions of relationship that exists, opinions that are held, processes that are going on, effects that are evident and trends that are developing. It is primarily concerned with present although it often considers past events and influences as they relate to current conditions.

It was exploratory because it aimed to explore the existing status of personal and environmental factors proven to academic achievement of students.

The study involved quantitative and qualitative approaches. According to Stecher & Borko (2002) quantitative studies make it possible to measure the reaction of many people to a limited set of question, thus facilitating comparison and statistical aggregation of the data. They further added that combining quantitative and qualitative research method can enable the researcher to gain a full picture of the phenomenon being studied.
The study was quantitative in nature in the sense that academic achievement, intelligence, motivation and other data under study were quantified for the statistical analysis.

The study was qualitative in the sense, it involved case study method for an in-depth view of the ground realities to substantiate the results. According to Patton (1990), case study is a qualitative approach which explores phenomena in its natural setting and uses multi-methods to interpret, understand, explain and bring meaning to that which is being investigated. It consists of multiple sources of data collection techniques: (1) interviews, (2) observations, and (3) document study and artifacts.

The purpose of taking case studies was to have an in-depth view of ground realities to substantiate the conclusions of the research.

Field of Investigation

The study was conducted in eight primary schools of four districts in the southern plains and Hilly areas of Nepal. Selection of the field followed multi-stage stratification in respect of Hill and the Terai region, the languages spoken and in respect of the public and community primary schools and in respect simultaneous (SL1) and successive second language learners (SL2). For the purpose of study, two districts of each region were taken. Banke and Bardiya from the Terai and Tanahun and Kaski districts from the Hill region. Location of the field area is given (vide Appendix i).

Sample of the Study

The sample of the study comprised students, teachers along with Head Master and parents of students in public and community primary schools.

Sampling Technique

The sampling technique used in the study was purposive and incidental in nature with respect to schools and background of children. It was purposive in the sense only those schools in the districts of Nepal in which the students from selected languages were taken. The sample was incidental in nature, because only those schools that extended cooperation were taken.
**Sampling Procedure**

The procedure involved stratification of regions, districts, schools and students. Fig. 3.1 represents the sampling procedure.

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**Figure 3.1**

**Sampling Procedure**

- **NEPAL**
  - **(Region)**
  - **HILLY REGION**
    - **(Districts)**
      - TANAHUN
      - KASKI
  - **TERAI REGION**
    - **(Districts)**
      - BANKE
      - BARDIYA

- **(Languages Spoken)**
  - MAGAR
  - GURUNG
  - AWADHI
  - THARU

- **(Schools)**
  - Public Community
  - SL1
  - SL2

**Note:**
- SL1 = Simultaneous Second Language Learners
- SL2 = Successive Second Language Learners
Selection of Districts

For the purpose of sampling two districts, Tanahun and Kaski were selected from the Hill region where majority of the people in a particular pocket area speak Magar and Gurung languages respectively. Banke and Bardiya districts were selected from the Terai region where majority of the people speak Awadhi and Tharu languages respectively.

The purpose of selecting these languages and districts was that these languages were spoken by majority of the people and they had different spoken and written traditions.

Selection of Schools

In each district, one public and one community primary school was selected for the study. Following table (3.1) presents the sample of schools.

<table>
<thead>
<tr>
<th>S.N.</th>
<th>District</th>
<th>Type of Schools</th>
<th>Name of the Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Banke</td>
<td>Public</td>
<td>Jamuniya Prathamik</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Community</td>
<td>Mahendra Prathamik</td>
</tr>
<tr>
<td>3</td>
<td>Bardiya</td>
<td>Public</td>
<td>Rastriya Prathamik</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Community</td>
<td>Belavari Prathamik</td>
</tr>
<tr>
<td>5</td>
<td>Tanahun</td>
<td>Public</td>
<td>Bhorlee Prathamik</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Community</td>
<td>Nabin Prathamik</td>
</tr>
<tr>
<td>7</td>
<td>Kaski</td>
<td>Public</td>
<td>Bhanubhakta Prathamik</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Community</td>
<td>Nalku Prathamik</td>
</tr>
</tbody>
</table>
Selection of Students and Classes

Students of class I, III and V of four public and four community schools formed the sample. The total sample of the study comprised 320 simultaneous second language learners (SL1) and 409 successive second language learners (SL2). Altogether 729 students of primary schools of Nepal formed the sample taken from the class I, III and V of various schools. The total class strength was included in the sample. Table 3.2 records the sample of students.

<table>
<thead>
<tr>
<th>S.N</th>
<th>Class</th>
<th>SL1</th>
<th>SL2</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>117</td>
<td>153</td>
<td>270</td>
</tr>
<tr>
<td>2</td>
<td>III</td>
<td>109</td>
<td>130</td>
<td>239</td>
</tr>
<tr>
<td>3</td>
<td>V</td>
<td>94</td>
<td>126</td>
<td>220</td>
</tr>
<tr>
<td>4</td>
<td>Total</td>
<td>320</td>
<td>409</td>
<td>729</td>
</tr>
</tbody>
</table>

Note: SL1 = Simultaneous Second Language Learners
SL2 = Successive Second Language Learners

Selection of Teachers and Head Masters

All the teachers who taught the students in the selected primary classes and Head Masters were taken in the sample. Altogether 5 teachers along with Head Master of each school were taken because only five core subjects and one optional subject are taught in primary schools. In all 40 teachers were taken for the study represented by 8 female and 32 male teachers.

Selection of Parents

In each school five male and five female parents were selected. Altogether 80 parents were selected for the study, i.e. 40 parents were selected from simultaneous second language group and 40 were selected from
successive second language group. The following table presents the parents' sample.

Table 3.3

Parents by Type of Schools, Language Group and Gender

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Type of Schools</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Public</td>
<td>20</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>2.</td>
<td>Community</td>
<td>20</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>80</td>
</tr>
</tbody>
</table>

Procedure Followed to Conduct the Study

As per the requirement, the study was carried out in a systematic manner as explained below.

Phase I: Preparation, Collection and Validation of Tools and Sampling

In this phase of the study, sampling of students, teachers and Head Master, Parents and schools along with the construction, validation and collection of tools to be used for data collection was done.

Preparation and Validation of Rating Scale on Motivation

A 3 point rating scale on motivation having High, Average and Low categories was prepared as a measure of motivation of the subject. Before the actual data collection, it was given to the six experts for content validation.

It was given for the teachers who were teaching to the sampled students to mark on High, Average and Low motivation of the students. For detailed description refer to (Appendix II).

Preparation and Validation of Interview Schedule for the Teachers along with Head Master

Interview schedule for the teachers were prepared. Before the finalization of the interview schedule, a short meeting was organized with the
six experts to seek their judgment on the items to be finalized in the schedules. Initially, 30 items were given to the experts to seek their views. The content validity of interview schedule was established through their judgment and finally, only 9 items were finalized for interview schedule. For detailed description refer to (Appendix III).

**Preparation and Validation of Interview Schedule for Parents**

Interview schedule for the parents were prepared for assessing how they rendered support in their children’s learning. It was validated by the expert judgment. In the beginning, it contained 20 items. After experts’ judgment only 10 items were retained. Interview schedule is given vide (Appendix IV(a)) with socio-economic status scale.

**Collection of Tools:** Following tools were collected for the present study.

**Raven’s Progressive Colored Matrices (1956)**

Raven’s Progressive Matrices (1956) was collected as a measure of intelligence of the students of primary school. It contained three sets having 12 questions in each sets. In all there were 36 questions.

**Socio- Economic Status Scale for Parents**

Socio-economic status scale was collected from Central Research Division, Tribhuvan University, Kirtipur. It has four parts: Educational qualification, occupational status, monthly Income and family resources. Socio-economic status scale is given vide (Appendix IV(b)).

**Classroom Observation Form**

Nepali version of classroom observation form was collected from the Department of Education, School Supervision Section, Ministry of Education, Nepal.

It contained 7 parameters with 2 point scale: Good and Satisfactory. Classroom observation form is given vide (Appendix V).
Phase II: Data Collection for Major study

This phase involved data collection for major study. The following activities were carried out in the 2nd phase.

Collection Data from Students

Raven’s Progressive Coloured Matrices were administered to the sample as a measure of intelligence.

Collection of Data from Teachers

Ratings on students’ motivation were collected from the teachers as a measure of motivation.

Conducting Classroom Observation

Class room observations of the teachers were conducted to assess class room practices followed by teachers.

Collection of Data from Parents

The data were collected from parents pertaining to their socio-economic status scale along with the interview schedules to asses their support in children’s studies.

Collection of Data from School Record

The test scores on academic achievement of the final examination of simultaneous (SL1) and successive second language learners (SL2) were collected from the school records for the academic year 2007/2008.

Phase III: Conducting Case Studies

During the third phase of the study case studies were conducted selecting one community school and one public school from the Terai and Hill region. The focus of the case studies was to assess:

- School environment
- Quality of teachers
- Students’ motivation to learn and succeed
• Teaching learning environment

• School leadership

School environment included school structure, class size, funding, access to resources and over all infrastructures and functioning of school.

Quality of teachers included educational qualification, commitment to their profession and concern for the learning of students.

Teaching learning environment included methods of teaching in teaching languages and other subjects in the classroom and academic activities performed by the teachers.

Students' motivation to learn and succeed included conditions of learning in school as well as at home.

School leadership included the functioning of the Head Master, his dedication and commitment towards his job and position.

Procedure of Conducting Case Studies

There are six types of information to conduct the case studies: documents, archival records, interviews, direct observation, participant observation and physical artifacts. Through data collection a detailed description of a case emerges in which the investigator details such aspect as history of the case, and event or day by day rendering of activities. Following activities were carried out to conduct case studies.

The case study approach was combined with the descriptive survey method for the purpose of triangulation of data collected for the major study to authenticate the results.

Observation on the Setting of the Schools

The investigator observed general setting and other classroom teaching of the selected cases to find out the answer of the main issues. For this, the investigator maintained daily diary notes on the themes of the cases and these notes were used later for analysis.
Conducting Interviews

The interviews involved face to face interaction with different stakeholders, although some questions were repeated for a comparison of responses. Each interview was recorded by the investigator with an audio tape recorder. Full transcripts of the interview tapes were made and these were used for the analysis.

Document Study

School records for teachers’ attendance, minutes of School Management Committee and Staff meetings were studied for deeper analysis of the school management.

Tools Used in the Study

In order to collect data for the study the following tools were used:

Raven’s Progressive Coloured Matrices (1956)

Raven’s Progressive Coloured Matrices was used to measure the intelligence of primary school children.

Rating Scale on Motivation

A 3 point rating scale on motivation was used to measure motivation of the subject.

Interview Schedule for Teachers

Interview schedules for the teachers were prepared for the purpose of knowing how they were teaching, what difficulties they were facing to teach simultaneous (SL1) and successive second learners (SL2) and obtaining their views how to improve learning of students.

Interview Schedule for Parents cum Socio-Economic Status Scale

Socio-economic status scale was used for assessing socio-economic background of the parents of the sampled students and interview schedule for the parents were used for assessing how they rendered support in their children’s learning.
Classroom Observation Form

Classroom observation form was used for the purpose of assessing how different subjects were being taught and how students were evaluated by the teachers.

Achievement Data

Achievement data were collected from school records of the annual examination results of class I, III and V of the sampled students.

Techniques Used to Analyze Quantitative and Qualitative Data

In accordance with the objectives of the study, the following quantitative and qualitative techniques of data analysis were used.

Descriptive Statistics

Means, Standard deviations, Standard error of Means, Skewness, and Kurtosis were computed to study the nature and distribution of the variables of achievement, intelligence and motivation, socio-economic status and parental support of the students.

Bivariate Coefficient of Correlation

Bivariate Product-Moment Coefficients of Correlation were worked out to find the strength and magnitude of relationship among variables under study i.e. relationship between intelligence and achievement.

Coefficients of Contingency "C"

Coefficients of Contingency "C" was used to show the association between the variables of motivation and achievement, and intelligence and motivation since the motivation data were on three point nominal scale.

Differential Statistics: t test

t-ratios were worked out to make the comparisons on achievement, intelligence and motivation and socio-economic status and parental support data of the sample.
**Analysis of Variance (ANOVA)**

Two Way Analysis of Variance (ANOVA) was employed using 3x3 and 2x2 factorial design with the purpose:

i) to analyze the effect of personal factors: intelligence and motivation on academic achievement.

ii) to analyze the effect of environmental factor: socio-economic status and parental support on academic achievement.

**Qualitative Analysis**

Case studies were conducted for in-depth understanding of the phenomenon. Qualitative data analysis procedure involved data collection, data reduction, data display and drawing conclusions. The data were displayed in tables and description of data was done on the basis of interviews, observations and field visits.