CHAPTER I

INTRODUCTION

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1.1 Educational System in Thailand

Formerly the educational system in Thailand was quite similar to that of the monastic and cathedral school of Medieval Europe, i.e. it had religious orientation and was held in the temples. This, evidently shows that the system was quite informal and offered only limited content. The primary purpose of the educational system was to provide moral and religious instruction and for all practical purposes, was designed to train only the male members of society. Vocational training was pursued in the family units for both young boys and girls.

According to National Education Scheme of 1977 the school system is of 15-year duration since 1960 which has been broken up into:

4 years for primary school
3 years for upper primary school
3 years for junior secondary school
2 years (for academic stream) for senior secondary school
or 3 years (for vocational stream) for senior secondary school.
The above pattern has been revised and a new pattern of $6 + 3 + 3$ pattern has been instituted in which six years for composite primary school, three years for junior secondary school and three years for senior secondary school, are earmarked for the whole school system.

The above structural adjustment started in 1978 and it has been implemented in the country since 1983. Therefore, from 1983 onwards the school system of primary education will be of composite six grades, namely Grade (Paw Saw) I-VI whereas that of secondary education will consist of two tier pattern of junior secondary school and senior secondary school. The junior secondary school comprises of three grades, namely, Grade (Naw) I-III while the senior secondary school is composed of three grades, namely, Grade (Naw) IV-VI. After secondary school education which is of six years, one can study for 'higher education' at college or university. The educational system in Thailand in the form of diagram is shown in the following Fig. 1.1.
Fig. 1.1

EDUCATIONAL SYSTEM IN THAILAND
(1977)

<table>
<thead>
<tr>
<th>PRIMARY EDUCATION</th>
<th>6-11</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOWER SECONDARY EDUCATION</td>
<td>12-14</td>
</tr>
<tr>
<td>UPPER SECONDARY EDUCATION</td>
<td>15-17</td>
</tr>
<tr>
<td>HIGHER EDUCATION ABOVE BACHELOR'S DEGREE LEVEL</td>
<td></td>
</tr>
<tr>
<td>HIGHER EDUCATION BACHELOR'S DEGREE LEVEL AND BELOW</td>
<td></td>
</tr>
<tr>
<td>NON-FORMAL EDUCATION</td>
<td></td>
</tr>
</tbody>
</table>

PRE-SCHOOL EDUCATION
According to the National Education Scheme 1977, the educational system is divided into four levels as pre-school education, primary education, secondary education and higher education. Pre-primary education is the education for rearing and upbringing the child to compulsory education while primary education aims at providing and maintaining literacy and developing in the individual cognitive ability, numerical manipulation and communication skills, adequate knowledge and abilities to apply to the future occupational roles. Primary education also shall offer the personal development for life in a democratic government under the monarchy. At the secondary education, it provides appropriate academic and vocational knowledge compatible with the learner's age, needs, interest, skills and aptitudes which ultimately will be beneficial to his chosen career and his society. In lower secondary extensive elective subjects in academic and vocational streams are offered, after that the learner is guided to concentrate on an area of specialization for his occupation. The higher education is for the full development of human intellectual abilities to facilitate the advancement in knowledge of technology, high level academic and professional man-power for national development.
For this purpose large number of trained and qualified teachers are needed. In Thailand only those teachers are recruited, who hold either certificate or degree as stated below:

- Certificate in Education
- Higher Certificate in Education
- Bachelor of Education
- Master of Education
- Doctor of Education

1.1.1 Curriculum for the Students of Teachers' Colleges

Since the present study is concerned with students of teachers' colleges, it is worthwhile to describe the curriculum framed for them so as to have some background knowledge about it.

The curriculum of teachers' colleges in Thailand is framed by the Teacher Education Council. The curriculum (Suan Sunandha Teachers' College, 1975) consists of three main areas which are as under:

- Academic general
- Academic specialization
- Professional education.
(i) **Academic General**

This area involves the courses in social science, humanities, languages, mathematics and science so as to enable students to develop the understanding of people, society and the world.

(ii) **Academic Specialization**

This provides students with academic specialization in depth in the subject fields they choose to teach or they are interested in pursuing. In general, students have to select one subject to study as his major subject and the another subject as his minor one.

(iii) **Professional Education**

This covers the study of principles of education, techniques and practice of teaching, school organization and other courses pertinent to the task of teaching and activities of the teacher at the appropriate levels and types of programme.

For practice teaching, there are four phases of the student teaching, viz., orientation, preparation familiarization with the pupils and classroom routine, teaching as a classroom teacher and the last in final seminar. The
duration of practice teaching, generally is of one whole school term or about twelve weeks in selected primary or secondary schools. In some programmes students who have prior experience in student teaching are provided with special training on campus to improve their skills in carrying out specific teaching strategy instead of performing regular student teaching.

1.1.2 Educational Psychology

One of the courses in professional education for the students of Higher Certificate in Education as well as B.Ed. students (4-year course) is Educ. 122—Educational Psychology. Generally this subject is taught in the first year. Every student in both levels has to study Educational Psychology since it is a compulsory course involved in professional education. It is a compulsory course because it is concerned with the design of educational settings and techniques and with the training of teachers. Therefore Educational Psychology is considered to be the most important subject.

The credits are distributed in the four areas at different levels are given in table 1.1.
### Table 1.1

<table>
<thead>
<tr>
<th>Level</th>
<th>Academic</th>
<th>Professional</th>
<th>Major</th>
<th>Selective</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Certificate in Education</td>
<td>24</td>
<td>24</td>
<td>22</td>
<td></td>
<td>70</td>
</tr>
<tr>
<td>2-Year Degree Course</td>
<td>14</td>
<td>18</td>
<td>27</td>
<td>6</td>
<td>63</td>
</tr>
<tr>
<td>4-Year Degree Course</td>
<td>38</td>
<td>42</td>
<td>49</td>
<td>6</td>
<td>135</td>
</tr>
</tbody>
</table>

In order to get Higher Certificate in Education students have to study the course of 70 credits in all. It is 2-year course after Std. XII. For the B.Ed. degree students have to study the course of 135 credits at minimum. This means that out of 135 credits students have to study the course of 36 credits (25.9%) for academic general, 42 credits (26.7%) for professional education, 49 credits (36.3%) for major and minor subjects (academic specialization) and 6 credits (11.1%) for selective subjects.

It should be noted that there are two ways to get B.Ed., i.e., to take 2-year course after Higher Certificate in Education or to take 4-year course after Std. XII. If
the credit of the subjects to be studied at the level of Higher Certificate in Education and that of 2 year degree course are added up together the total number of credits become 155 which is equal to that of 4-year degree course. Furthermore the credits of the subjects in each area are also equal in number, i.e., 36 credits of academic general, 42 credits of professional education, 49 credits of major and minor subjects and 6 credits of selective subjects.

Having discussed the curriculum for the training institution in Thailand, the question of major importance remains to be stated: Which area of the curriculum and which subject of the area and which topic of the subject have crucial impact on the training of the teachers and thus pave the way for being successful teachers?

The investigator conducted surveys on the above issues before deciding his problem of research.

1.2  Pilot Survey

A survey was conducted by the investigator to get the opinions regarding the usefulness of the three main areas viz., academic general, academic specialisation and professional education. The question was asked to ascertain which was the most important area in curriculum for B.Ed. students (Appendix B). This question was put to 100
B.Ed. students, 30 educators and 50 teachers in Northeast region of Thailand. Their responses are shown in the following table.

Table 1.2

THE DISTRIBUTION OF THE OPINIONS OF B.Ed. STUDENTS, EDUCATORS AND TEACHERS TEACHING IN SCHOOLS RELATING TO THE IMPORTANCE OF THE AREAS OF CURRICULUM FOR B.Ed. STUDENTS

<table>
<thead>
<tr>
<th>Opinion of curriculum</th>
<th>B.Ed. students</th>
<th>Educators teaching in school</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic general</td>
<td>9 (9.00%)</td>
<td>4 (13.33%)</td>
<td>21 (11.66%)</td>
</tr>
<tr>
<td>Academic specialization</td>
<td>17 (17.00%)</td>
<td>6 (20.00%)</td>
<td>36 (20.00%)</td>
</tr>
<tr>
<td>Professional education</td>
<td>74 (74.00%)</td>
<td>20 (66.67%)</td>
<td>123 (68.33%)</td>
</tr>
</tbody>
</table>

The survey revealed that 74 per cent of B.Ed. students, 66.66 per cent of educators and 53 per cent of the professional teachers i.e. 66.33 per cent of all the subjects opined that professional education was the most crucial subject for B.Ed. trainees needed for successful teacher. Their opinions obtained from the survey are shown graphically in the following Fig. 1.2.
Fig. 1.2

Graph representing the distribution of the opinions of B.Ed. students, educators and teachers teaching in schools pertaining to the importance of the areas of curriculum for B.Ed. students.
The second opinionnaire was given to know which course of professional education would be the most useful for becoming effective teachers. A check list of courses in professional education (Appendix E) was given to 100 B.Ed. students, 30 educators and 50 teachers in North-East region of Thailand.
### Table 1.3

The distribution of the opinions of B.Ed. students, educators, and teachers teaching in schools pertaining to the importance of the courses involved in professional education for B.Ed. students.

<table>
<thead>
<tr>
<th>Courses in professional education</th>
<th>Opinion of B.Ed. students (in percentages)</th>
<th>Teachers teaching in school</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=100</td>
<td>N=30</td>
<td>N=50</td>
</tr>
<tr>
<td>- Foundations of Education</td>
<td>2.00</td>
<td>0.00</td>
<td>2.00</td>
</tr>
<tr>
<td>- Developmental Psychology</td>
<td>3.00</td>
<td>6.66</td>
<td>4.00</td>
</tr>
<tr>
<td>- Educational Psychology</td>
<td>56.00</td>
<td>56.66</td>
<td>70.00</td>
</tr>
<tr>
<td>- Principle of Teaching &amp; Preparation for professional experience</td>
<td>4.00</td>
<td>3.33</td>
<td>4.00</td>
</tr>
<tr>
<td>- Health Project in Schools</td>
<td>0.00</td>
<td>3.33</td>
<td>4.00</td>
</tr>
<tr>
<td>- Methods of Teaching Enrichment Subjects</td>
<td>2.00</td>
<td>0.00</td>
<td>2.00</td>
</tr>
<tr>
<td>- Methods of Teaching Major Subject</td>
<td>6.66</td>
<td>2.00</td>
<td>2.22</td>
</tr>
<tr>
<td>- Evaluation and construction of Tests</td>
<td>4.00</td>
<td>3.33</td>
<td>4.00</td>
</tr>
<tr>
<td>- Psychology of Guidance</td>
<td>5.00</td>
<td>10.00</td>
<td>2.00</td>
</tr>
<tr>
<td>- Social Psychology</td>
<td>1.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>- Group Dynamics</td>
<td>2.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>- Technology &amp; Innovation in Education</td>
<td>3.00</td>
<td>3.33</td>
<td>0.00</td>
</tr>
<tr>
<td>- Methods of Teaching Minor Subject</td>
<td>17.00</td>
<td>6.66</td>
<td>6.00</td>
</tr>
<tr>
<td>- Methods of teaching Minor Subject</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>
The summary reveals that 56 per cent of B.Ed. students, 56.66 per cent of educators and 70 per cent of the professional teachers in school i.e., 60 per cent of all the subjects were opinion that educational psychology was the most essential course in professional education needed for successful teachers. Their opinions obtained from the survey are shown graphically in the following Fig. 1.3.
Fig. 1.3

Histogram representing the distribution of opinions of B.Ed. students, educators, teachers teaching in schools pertaining to the importance of courses involved in professional education for B.Ed. students

Legend:

1. Foundations of Education
2. Developmental Psychology
3. Educational Psychology
4. Principles of Teaching and Preparation for Profession Experience
5. Health Project in School
6. Methods of Teaching Skill Subjects
7. Methods of Teaching Enrichment Subjects
8. Evolution and Construction of Tests
9. Psychology of Guidance
10. Social Psychology
11. Group Dynamics
12. Technology and Innovation in Education
13. Methods of Teaching Major Subject
14. Methods of Teaching Minor Subject
The third opinionnaire was given to know which topic of professional education would be the most useful for becoming the effective teacher. A check list of topics in educational psychology (Appendix E) was given to 100 B.Ed. students, 30 educators and 50 teachers in North-East region of Thailand.
### Table 1.4

<table>
<thead>
<tr>
<th>Opinion of Topics (in percentages)</th>
<th>Training Educators</th>
<th>Teachers teaching in school</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=100</td>
<td>N=30</td>
<td>N=50</td>
</tr>
<tr>
<td>Meaning of educational psychology</td>
<td>1.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Historical background</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Scope and implication of educational psychology</td>
<td>0.00</td>
<td>0.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Schools of psychology</td>
<td>2.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Organisms effecting behaviour and perception</td>
<td>3.00</td>
<td>3.33</td>
<td>6.00</td>
</tr>
<tr>
<td>Motivation</td>
<td>8.00</td>
<td>16.66</td>
<td>8.00</td>
</tr>
<tr>
<td>Learning</td>
<td>63.00</td>
<td>46.66</td>
<td>54.00</td>
</tr>
<tr>
<td>Intelligence</td>
<td>5.00</td>
<td>3.33</td>
<td>2.00</td>
</tr>
<tr>
<td>Emotion</td>
<td>2.00</td>
<td>0.00</td>
<td>2.00</td>
</tr>
<tr>
<td>Attitude</td>
<td>1.00</td>
<td>6.66</td>
<td>4.00</td>
</tr>
<tr>
<td>Interest</td>
<td>2.00</td>
<td>3.33</td>
<td>4.00</td>
</tr>
<tr>
<td>Remembering and forgetting</td>
<td>3.00</td>
<td>0.00</td>
<td>2.00</td>
</tr>
<tr>
<td>Teaching of concepts and skills</td>
<td>5.00</td>
<td>6.66</td>
<td>2.00</td>
</tr>
<tr>
<td>Adjustment</td>
<td>1.00</td>
<td>6.66</td>
<td>4.00</td>
</tr>
<tr>
<td>Mental health</td>
<td>3.00</td>
<td>6.66</td>
<td>6.00</td>
</tr>
<tr>
<td>Introduction to guidance</td>
<td>1.00</td>
<td>0.00</td>
<td>2.00</td>
</tr>
</tbody>
</table>
The summary revealed that 63 per cent of the B.Ed. students, 46.66 per cent of the educators and 54 per cent of the professional teachers i.e. 57.57 per cent of all the subjects were of the opinion that 'Learning' was prime topic of interest, the mastery of which would strengthen teaching. Their opinions obtained from the survey are shown graphically in the following Fig. 1.4.
Fig. 1.4

Histogram representing the distribution of opinions of B.Ed. students, educators, teachers teaching in schools pertaining to the importance of topics involved in Educational Psychology.

Legends:
The fourth opinionnaire was given in order to know how the syllabus of B.Ed. being taught to B.Ed. trainees and whether that method of teaching is effective. The questions (Appendix B) were put to 120 trainees of five different teachers' colleges in North-East region of Thailand.

Table 1.5

THE DISTRIBUTION OF THE OPINIONS OF THE B.ED. STUDENTS, PERTAINING TO THE METHODS OF TEACHING USED BY THEIR TEACHERS AND ITS EFFECTIVENESS

<table>
<thead>
<tr>
<th>Methods of Teaching</th>
<th>Percentage of trainees</th>
<th>Whether the method used is effective (in percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=120</td>
<td>Effec-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>tive</td>
</tr>
<tr>
<td>Lecture method</td>
<td>100</td>
<td>22.5</td>
</tr>
<tr>
<td>Textbook method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussion method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question-answer method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programmed learning method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is found from the survey that 100 per cent of the B.Ed. students were generally taught through lecture method which is traditional method. And 77.5 per cent of them said that this method of teaching was ineffective.
As it is revealed from the survey that 'Learning' is the prime topic of interest because it is directly connected with the teaching process and also it is the base of the other topic in educational psychology.

Many psychologists have defined learning as a relatively permanent change in behaviour as a result of experience or practice. Because so much of human behaviour is learned and because of this simple fact has a number of implications—learning has long been the corner stone of educational psychology. (Zick, Rubin and Elton B. McNeil, 1981).

In spite of novel curriculum introduced in the teacher education programme, the effectiveness of the teachers and achievement of the students are not to the expected standard of development. It may be the reason that innovativeness has not entered into the teaching methods. The teaching methods are generally traditional as it is seen from the surveys mentioned before and they are also lacking in technology. With the advancement of knowledge in education, education itself has become a technology, which is resulted in innovative modern techniques of teaching.

Methods of teaching and the standards of excellence in education are mutually related. In fact, in order to accelerate the standards of trainees, the teaching should be revolutionized
by resorting to innovation of ideas and technology. The old tools of yesterday cannot be employed to achieve the new objectives of tomorrow. Hence a new method of teaching is a paramount need of today and tomorrow. There are many methods for considering their claim as innovation, but programmed learning material because of its merits draws attention. The demerits of conventional method of teaching and the merits of programmed learning material would be considered in the following paragraphs:

1.3 Demerits of Traditional Method of Teaching

The teachers in Thailand are conventional in teaching. Due to the traditional method of teaching, a number of problems have taken place, which may be listed as under:

i. Students feel bored of the lessons because there is no immediate feedback.

ii. The slow learners cannot follow the lecture.

iii. The fast learners cannot advance at their own speed since they have to wait for the whole class.

iv. Students often find the lessons too difficult because the subject matter is not broken up into small steps.

v. Students do not have sufficient drill or practice in the subjects since there are about 40-50 students in one class.
vi. Students have no chance to participate actively in teaching-learning process; they generally, just sit and listen to their teacher without interaction.

1.4 Merits of Programmed Learning

When programmed learning is taken into consideration by the investigator, it is now universally considered one of the most important innovations in the field of education especially in classroom instruction and has been experimentally proved more effective method (Krumboltz and Weisman, 1962) as compared to the above traditional method. Shah and Dewal (1970) also state that programmed learning has the advantages over conventional teaching which are as under:

i. With the programmed learning material students learn at their own speed. In conventional teaching all students are forced to move at a uniform speed.

ii. All programmed learning material requires a student to focus his attention on a small amount of material at a time. In conventional teaching most of the teachers put before the students big chunks of learning material which often become incomprehensible to the students.

iii. Programmed learning material requires each student to respond to each segment material. In conventional teaching, most of the students remain uninvolved for most of the time and sit as passive listeners only.
iv. Programmed learning material gives immediate knowledge of results. This works as a feedback and helps students to evaluate themselves. The programmed learning technique make evaluation an integral part of instruction.

v. For the first time in the history of instruction we can now control the quality of instruction. Programmed learning can ensure quality education.

Furthermore, a number of programmed learning materials have been developed and utilized in advanced countries of the world. However, for the developing country like Thailand, very few teachers have heard about programmed learning. This is because seeds of programmed learning have been sown in Thailand just for the past few years. For Thailand, thus, there is not only a lack of qualified teachers but also a lack of new techniques of teaching or suitable books or literature like programmed learning material.

Considering the importance of the problem mentioned above and it is realized that the teacher cannot and ought not to be left alone to depend upon his own resources and talents but he must be helped to acquire skills in utilizing the new techniques of learning and he should be provided with reliable instructional material based upon the dependable findings of
educational technology, the investigator has decided to conduct the research on programmed learning so that it would be useful for his country since there is a great demand for it. It is expected that the present study would be effective in creating a climate for programmed learning in Thailand.

1.5 Statement of the Problem

The problem undertaken is stated as:

"DEVELOPMENT AND TRYOUT OF PROGRAMMED LEARNING MATERIAL IN THE SUBJECT OF EDUCATIONAL PSYCHOLOGY FOR B.ED. STUDENTS OF TEACHERS' COLLEGES IN NORTH-EAST REGION OF THAILAND".

1.6 Definitions of the Terms

It is essential for the investigator to define certain key words, i.e., the terms involved in the working of the problem. Therefore, an attempt is made here to define or explain a few terms involved in the problem of the investigation. They are:

i. Development
ii. Tryout
iii. Programmed Learning material
iv. Educational Psychology
v. B. Ed. students
vi. North-East Region of Thailand.
i. "Development" means a gradual growth or advancement through progressive changes. (Franklin J. Neinas, 1959, p. 204).

Development is a process of trying out of the different selected components of programmed learning material for assessing their empirical evidences and modifying them in the light of the empirical evidences so that the maximum level of effectiveness is arrived at.

ii. "Tryout" means a trial or test made to determine the fitness of a person or thing for a particular purpose. (New Webster's Dictionary of the English Language, 1981, p. 1061).

iii. "Programmed learning material" is the instructional written material developed on the principle of programmed learning.

Programmed learning is a process of constructing sequence of instructional material in a way that maximizes the rate and depth of learning, fosters understanding and the ability to transfer knowledge to new situations, facilitates retention, and enhances the motivation of the student. It is an explicit process, it is what an effective teacher does intuitively. (Taber, Glaser and Schaefer, 1965, p. 2).
iv. "Educational Psychology" is an application of psychological facts, theories, and methods to a study of such topics as learning, motivation, individual differences, memory, intelligence, guidance, appraisal, and the like, as they relate to educational procedures. (Philip L. Harriman, 1947, p. 116).

v. "B.Ed. Students" refer to the students who are reading in the B.Ed. class of teachers' colleges. The students have to go through the entrance examination after passing the secondary education (Std. XII) to enter teachers' colleges. Degree of B.Ed. will be awarded to those who have successfully gone through the 4-year study course.

vi. "North-East Region of Thailand" is one of the four regions of Thailand, situated in the North-East Sector of Thailand as shown in the map in Fig. 1.5.
Map of Thailand representing the four geographical regions

Fig. 1.5
1.7 **Objectives of the Study**

The objectives of the present study are as follows:

1. To develop and validate the programmed learning material in the topic of 'Learning' for B.Ed. students.

2. To find out the error rate of the constructed programme.

3. To find out the achievement of the students learning through programmed learning material in relation to sex.

4. To find out the achievement of the students learning through programmed learning material in relation to socio-economic status (SES).

5. To find out the achievement of the students learning through programmed learning material in relation to their academic achievement which is determined by grade point average (GPA).

6. To study the various interactive effects of the independent variables on learning through programmed learning material.

7. To compare the achievement of experimental group who learnt by programmed learning material with the control
group of students who were taught by traditional method of teaching.

1.8 Scope and Limitations

1.8.1 Scope

In Thailand, a few attempts have been made to develop programmed learning material and that too, only in school subjects. But no attempt has been made to develop programmed learning material for college students including B.Ed. students. Even in India very few attempts have been made to develop programmed learning material for B.Ed. students.

It has been observed from the existing programmed learning material for B.Ed. students that there is a need for the programmed learning material having a few of the following characteristics.

1. For smooth administration, the programmed learning material with very few sub-terminal test is preferred.

2. For smooth learning, exercises should be provided after each sub-topic.

3. For economy of time and money which is one of the biggest constraint in education, programmed learning material could be linear and not strictly Skinnerian or Crowderian type.
4. For mastery learning, programmed learning material should be low in error rate and density.

Keeping in view the scope, the investigator developed, validated and tried out the programmed learning material one of the segments of educational psychology for B. Ed. students of teachers' colleges in Thailand.

1.3.2 Limitations

The study has the following limitations:

1. The topic under development for programmed learning material in the subject of educational psychology is confined only to 'Learning' which is according to the syllabus of Teachers' colleges in Thailand.

2. The programmed learning material is developed following the linear type of programming.

3. Only 160 B. Ed. students from teachers' college in North-East region of Thailand participated in the study. The programmes prepared by the investigator was tried out and validated on 160 B. Ed. students.

4. The pre-test and the post-test used in the research were constructed by the investigator.
5. The dependent variable taken by the investigator was criterion scores obtained by students after learning through programmed learning material. The independent variables taken by the investigator were sex, socio-economic status (SES) and grade point average (GPA).

6. The Analysis of Covariance was based on 2x2x2 factorial design from which control group was excluded. Afterwards to know the overall effect of programmed learning the 8 groups of factorial design were compared with a separate control group which consisted of 10 B.Ed. students as suggested by Winer (1962).

1.9 Scheme of Chapterization

The entire report of present study is divided into seven chapters.

The first chapter deals with the introduction wherein the need of problem is raised at appropriate place. It also states the objectives the scope and limitations of the study.

The second chapter presents the theoretical background of programmed learning. In this chapter the concepts, definitions, characteristics and types of programmed learning have been discussed. Moreover, psychology and sociology of programmed learning have also been discussed.
The third chapter deals with the review of the related literature in programmed learning. The main purpose of reviewing is to have an insight into the problem.

The fourth chapter describes the development and validation of programmed learning material. The investigator has developed the programmed learning material on 'Learning', and validated it passing through the whole standardized procedure of programme formation.

The fifth chapter deals with the experimental design. The methodology of the study has been discussed in details.

The sixth chapter incorporates the analysis and interpretation of the data collected by the investigator.

The seventh chapter which is the last one deals with the summary and conclusions of the study. An attempt is also made to give suggestions for further study in the field of programmed learning.

1.10 References


