

CHAPTER III

METHODOLOGY

Introduction

The previous chapter was concerned with the review of related literature which helped in defining the present study and its methodology. In the present chapter the methodology has been presented under the titles, namely; statement of the problem, definition of terms, objectives of the study, delimitations, sample, tools, data collection, analysis and interpretation of the data. Each of these are discussed in what follows.

Statement of the Problem

The major aim of the present investigation is to critically study the semester system in India. The traditional system characterised by external, annual and centralised system of examination has been replaced by the semester system with associated components. The associated components are internal continuous assessment, course credit, grading and question bank introduced by a large number of universities

in India. The Commissions and Committees of 1964, 1969, 1970, 1971 and 1978 (referred to in chapter I of this report) already have expressed their opinions in favour of the semester system. Still a large number of universities^{are} eagerly waiting for valid and reliable data with regard to the experiment. The present investigation therefore, aims at studying the semester system with all its associated aspects to collect empirical evidences from the critical point of view. So the problem has been formulated for the study under the following title :

'A CRITICAL STUDY OF THE SEMESTER SYSTEM IN
SELECTED UNIVERSITIES IN INDIA'.

The title of the study involves certain terms which would require clear-cut definition to remove any doubt in the meaning of terms used in the study.

Definition of Terms

The important terms used in the study are defined as follows :

Critical :

1. 'Characterised by careful analysis and judgement
(a sound critical estimate of the problem).'

- Webster's New World Dictionary

2. 'Involving skillful judgement as to truth, merit'.

Random House Dictionary.

3. 'An attempt to judge through responses to questions the merits and demerits.

(Operational).

Semester :

1. 'Half of the academic year usually 16 to 18 weeks.'

Dictionary of Education

2. 'A period of term of six months, especially in German Universities and some US colleges, the College half year'.

Shorter Oxford Dictionary

3. 'A six month period; half year'

Webster's New World Dictionary.

4. '(in German Universities) a session, lasting about six months and including periods of recess'.

Random House Dictionary

Taking into consideration the Dictionary connotations for the term 'Semester', the term to meet the demands of the present study as follows :

The term semester would imply the division of the academic year allowing, (a) flexible courses of study, (b) more choice for students, (c) freedom in the framing of the courses, (d) credit courses for the students, (e) inter -

disciplinary courses, (f) adopting of different teaching methods, (g) use of continuous internal assessment, (h) use of grade system, (i) use of question bank.

Keeping in view with the definition of the terms used in the study, the following objectives are set for the present investigation.

Objectives of the Study

The following are the objectives of the study :

1. To study the semester system in selected universities in India with particular reference to :
 - (i) Purposes of introducing the semester system.
 - (ii) Courses of study in terms of : flexibility and freedom in their formulation, provision of choices to the students and provision of credit courses.
 - (iii) Methods of teaching adopted by the teachers on account of the academic freedom provided to the teachers under the semester system.
 - (iv) Evaluation in terms of internal assessment, grade system and question bank.
2. To study :
 - (i) The opinion of the teachers with regard to the academic improvement of the students under the semester system ;
 - (ii) The opinion of the students with regard to their study habits under the semester system.

3. To study the difficulties faced by the teachers and students and their suggestions with regard to the semester system.
4. To study the attitude of the teachers and students towards the semester system.

Delimitations of the Study

1. The study is confined to ten selected universities of India.
2. The study is confined to the universities / faculties / colleges which have introduced the semester system.
3. The study is restricted only to the students of post-graduate and under-graduate classes of the ten universities.
4. The study takes into account the teachers from the ten universities of India, who teach under the semester system.

Sample

The population for the present study comprised of students and teachers from the universities adopting the semester system of education.

The sample selected for the study included a random selection of teachers and students of post-graduate and under-graduate classes from ten selected universities in India having semester system. Out of these ten universities

only six universities have introduced semester system in the under-graduate classes, so the sample for the under-graduate classes was confined only to those six universities. But all the ten universities of the sample have introduced semester system at the post-graduate classes. Hence the post-graduate sample was available from all the ten universities of India. The universities comprises of agricultural, technological, central, deemed and state universities belonging to different states of India. The representation of different types of universities was made so as to accommodate for differences in the implementation of the semester system due to the differences in types of universities. These selected universities include affiliating, unitary and teaching universities. In total 583 students and 363 teachers were considered as sample of the study. The following distribution will give the total picture of the sample with regard to each questionnaire and the attitude scale.

1. Two hundred teachers of ten universities including heads of the departments, professors, readers and lecturers, responded to the questionnaire administered on them.
2. The questionnaire for students included two groups of students, namely post-graduate (PG) and under-graduates (UG). Two hundred students from the post-

graduate classes and one hundred twenty students from the under-graduate classes responded to the questionnaires. The following table shows the distribution of the questionnaires.

Table :B: Sample for the Questionnaires

Sl. No.	Names of the Universities	Nature of the Universities	State	Tea- chers	Students	
					UG	PG
1.	Assam Agricultural University	State	Assam	20	20	20
2.	Central Institute of English and Foreign Language	Deemed	Andhra-Pradesh	20	-	20
3.	Gujarat Agricultural University	State	Gujarat	20	20	20
4.	Himachal Pradesh University	State	Himachal Pradesh	20	20	20
5.	Indian Institute of Technology, Delhi	Inst. of National importance	Delhi	20	20	20
6.	Jamia Millia Islamia University	Deemed	Delhi	20	-	20
7.	Jawaharlal Nehru University	Central	Delhi	20	20	20
8.	M.S.University of Baroda	State	Gujarat	20	20	20
9.	Meerut University	State	Uttar Pradesh	20	20	20
10.	North Eastern Hill University	Central	Meghalaya	20	-	20
Total				200	120	200

UG = Under-graduate

PG = Post-graduate

3. The attitude scale was administered to two groups i.e., the teachers and the students. A total of 163 teachers and 263 students of post-graduate and under-graduate classes were responded to the attitude scale. The following table shows the distribution of the attitude scale.

Table :C: Sample for the Attitude Scale

Sl. No.	Name of the Universities	Teachers	Students
1.	Assam Agricultural University	20	35
2.	Central Institute of English and Foreign Language	10	18
3.	Gujarat Agricultural University	20	29
4.	Himachal Pradesh University	22	22
5.	Indian Institute of Technology, Delhi	11	16
6.	Jamia Millia Islamia University	14	14
7.	Jawaharlal Nehru University	11	22
8.	M.S.University of Baroda	20	40
9.	Meerut University	20	45
10.	North Eastern Hill University	15	22
Total		163	263

Tools

The selection of tools for a particular study depends upon various considerations, such as the objectives of the

study, the amount of time at the disposal of the investigator, availability of the suitable tools and the personal competency of the investigator to administer them.

On the basis of these criteria two questionnaires were developed by the investigator, one for the teachers and another for the students. Questionnaires are to meet the demands of the first, second and third objectives which pertain to the collection of information regarding the aspects of the semester system, the difficulties faced in its conduct and the effect on the study habits of the students respectively.

An attitude scale was also developed by the investigator to know the attitude of the teachers and students towards the semester system contributing to the fulfilment of the fourth objective.

Unstructured interviews were also there to substantiate the responses given on the questionnaires as and when it was found convenient.

Details regarding the development of the tools used in the present study are given in the section which follows.

Development of Questionnaires :

Necessary literature pertaining to the semester system were collected from different Indian Universities and from the University Grants Commission (UGC). They were studied in detail to have a thorough knowledge of the functioning of the semester system. In the second step, a survey in the M.S. University of Baroda was conducted wherein, the staff and students of four faculties having semester system, were interviewed and they provided ideas to the investigator to develop the questionnaires. At the time of interviewing, an attempt was made to check whether responses of the interviews were in accordance with the literature from the respective faculties. Thus, the interview schedule as a tool was prepared to aid the authenticity of the information collected. Next step was the construction and organisation of the questionnaires. According to the need of the study several items were constructed in a few dimensions, namely, objectives for the introduction of the semester system and its related aspects - courses, teaching methods, evaluation, improvement of the study habit of the students, problems and difficulties faced by the teachers and students, etc. Before evolving a final form of the questionnaires, the tool was given to experts consisting of the heads of the departments, professors,

readers, lecturers, research scholars and students of the different faculties of the M.S. University of Baroda. On the basis of their suggestions, modifications were made to evolve the final version of the questionnaires. Then the questionnaires were tried out on a small group of teachers and students in the M.S. University of Baroda. The tryout enabled the investigator to discover some deficiencies, omissions, ambiguities and inadequacies in the items. The final form of both the questionnaires contain closed and open type questions. Thus, the two, questionnaires were prepared with a view to fulfil the comprehensive coverage of various dimensions of the system and clear-cut directions ^{the} to respondents to respond the questionnaires. Also, covering letters requesting the respondents to express their reactions were addressed to each respondent. The aspects covered in each questionnaire are mentioned below.

Questionnaire for Teachers :

1. Purposes of introducing the semester system covers the objectives of the universities which show why they implemented the semester system.
2. Courses of study included in terms of flexibility and the freedom enjoyed by the teachers in the formulation of the course content and the existence of the credit system for the courses.

3. Methods of teaching in terms of different alternative methods which can be used under the semester system.
4. Evaluation - covers the internal assessment in terms of continuous, grading and question bank.
5. Academic improvement of the students as a result of the semester system from the teachers' point of view.
6. Teachers problems and their suggestions for the efficient functioning of the semester system.

Questionnaire for Students :

1. Suitability of the semester system.
2. Courses of study in terms of flexibility and freedom in choices.
3. Methods of teaching in terms of different alternative methods which can be used under the semester system.
4. Evaluation with its internal assessment (continuous), grading and question bank.
5. Improvement of the study habits among students.
6. Student agitation / dissatisfaction.
7. Suggestions for the improvement of the semester system.

Development of the Attitude Scale :

As mentioned earlier the fourth objective of the study was to study the attitudes of the teachers and students towards the semester system. For this purpose a scale was

devised as no standardised tool was available to study the attitude of the teachers towards the semester system. A summated rating scale (Likert) was developed by the investigator. In the summated rating scale comparison of attitude score of two or more groups can be done.

The investigator developed the attitude scale according to the following steps which are usually taken to construct a Likert type of scale.

1. Collection of a large number of positive and negative statements regarding the attitude towards the psychological subject under consideration.
2. Selection of approximately equal numbers of positive and negative statements.
3. Administration of these items to a number of individuals, asking them to indicate their opinions regarding each statement by determining whether, they strongly agree, agree, undecided, disagree and strongly disagree.
4. Computation of the scores of each individual using the scoring procedure.
5. Carrying out an item analysis to select items that yield the best discrimination. Through item-analysis one finds the correlation between the subjects' total scores and their responses to each item. The investigator collected various statements representing the different reactions about the semester system from discussions, dissertations, books, journals and newspapers. The

statements were sorted out with the help of the experienced teachers and students and 80 statements were considered to be relevant to measure the attitudes towards semester system. While choosing and formulating the statements, due importance was given to the technique of scale construction and few areas pertaining to the semester system, for example, courses of study, teaching methods, evaluation, study habit, advantages and disadvantages. Advantages covers statements like 'Semester System helps in the reduction of failures in higher education' and 'Due to the semester system there is no student unrest in the institutions' etc. were included. Statements expressing the disadvantages of the system are, for example, 'This system does not suit Indian conditions', 'Semester system is not liked by the students' etc. The statements were worded carefully by taking necessary precautions about the clarity, brevity, simplicity of language, and the equal number of positive and negative statements. The statements were administered on a small group of teachers and students of the M.S. University of Baroda. On the basis of their reactions and opinions, the statements were found to be highly discriminative. Care was also taken to avoid the ambiguity in the statements and to keep the procedure of criteria of internal consistency.

Each of the selected items was arranged on a five point scale such as strongly agree, agree, undecided, disagree, and strongly disagree. Finally 41 statements were selected for the scale. The selected 41 statements contain approximately an equal number of positive and negative statements. The validity of the tool was established on the basis of the experts' opinion. The split half reliability of the instrument was 0.96, which was established on a small group of teachers and students at the M.S. University of Baroda.

Data Collection

The investigator went personally to each of the ten universities for the collection of data. In each university the tools were administered according to the organizational facilities extended by the departments. Simultaneously, personal unstructured interviews with teachers and students were also conducted.

Data was collected between the months of October 1978 to March 1979.

Analysis and Interpretation of the Data

Keeping in view the main objectives of the study, the data collected was classified and tabulated. Measures were taken to present the data through qualitative and

quantitative analysis. For quantitative analysis attempts were made to use simple appropriate statistics.

The total data is classified into three parts :

1. Responses to the (i) questionnaire for teachers
2. Responses to the (ii) questionnaire for students
3. Responses to the (iii) attitude of the teachers and students towards semester system.

Analysis and Interpretation of the Questionnaires :

The questionnaires both for teachers and students were analysed questionwise according to the different aspects of the semester system.

The teachers' questionnaire was analysed as a single category titled teachers', irrespective of whether they were heads of the departments, professors, readers or lecturers. The questionnaire was analysed first in terms of frequencies and then converted into percentages for which qualitative analysis has been made. To many questions, respondents were asked to check more than one choice, therefore, in those cases percentages were counted accordingly. There were some questions which consisted of two parts. The part one was of Yes / No type of question, of the second part was either an open ended question or

at times even a closed question. While analysing the second part of the question, the responses to the first part was taken as the basis. With regard to a few questions the ranks have been awarded on the basis of the frequencies.

The students' questionnaire was analysed in terms of two categories viz. the responses of post-graduate and the responses of under-graduate students. So that the data regarding various aspects of the semester system may be differentiated for the two groups. The questions were analysed questionwise according to the different aspects of the semester system. The frequencies were converted into percentages. In many questions, students were asked to check more than one choice, therefore, in those questions percentages were counted accordingly. There were some questions which consisted of two parts. The part one was of Yes / No types of questions, of the second part was either an open-ended or a closed question. While analysing the second part of the question, the responses to the first part was taken as the basis. In question No. 14 (a) a different technique of analysis was applied because students were asked to give priority for their choices. There were eight choices and each choice got 1, 2, 3, etc.

priorities for each student of each group (under-graduate and post-graduate). All the responses of priorities were added for each choice. Then they were valued according to the priority number like 1 X 8, 2 X 7, 3 X 6, 4 X 5, 5 X 4, 4 X 3, 3 X 2, 2 X 1 (1 X 8 means total responses of choice No. 1 and priority 1 and then multiplied by 8), 8 is the highest value. Thus, for each choice total scores were arrived at and then ranking was done according to the scores of both the groups. As there were two groups of the sample (under-graduate and post-graduate), to give the ranks for the priorities ρ (rho) correlation was applied to measure the significance. For a few questions, 6(a), 6(b), 8, 10, 16(a), 22(a), 24(a) and 24(b) the 't' technique has been applied. The technique has been used to show the significance of difference between the two groups percentages. In question no. 12(b), 13(b), 15(b) and 18 the correlation from the ranks that is ρ (rho) was calculated. Question no. 12(b) has three alternatives (always, sometimes and never) for each item. Each item has been given scores 3, 2 and 1 and the responses were multiplied by the given scores. Thus, the scores were found for each item of the under-graduate and post-graduate classes. Scores of each item were ranked accordingly. After finding out the ranks the rank-difference ρ (rho) correlation formula was applied. The correlation shows the

relationship between the under-graduate and post-graduate classes responses.

Thus, both the questionnaires were analysed and interpreted according to the need of the first, second and third objectives.

Analysis and Interpretation of the Attitude Scale :

On the basis of the demand of the fourth objective of the study the total data for attitude scale were analysed and interpreted. The total data covers both the teachers and the students group. To find out the significant difference of means of different groups among the teachers and the students, the 't' technique was applied.

The attitude scale was composed of 41 positive and negative statements regarding the semester system. In responding to the items on this scale, the subjects indicate whether they strongly agree, agree, undecided, disagree and strongly disagree with each statement. The numerical value assigned to each response depends on the degree of agreement or disagreement with individual statements. Here the scoring of a respondent is determined by means of summing up the values assigned to individual response. Each attitude score is itself a scale value on the

psychological continuum on which the statements has been scaled. In scaling the statements one end of the continuum has been defined as unfavourable and the other is favourable, With the middle category as 'neutral'. For example, if a subject obtains 41 marks on a 41 items - summated rating scale, this score could be interpreted as unfavourable attitude whereas 205 will be favourable because, the attitude represents a strong agreement to positive statements. The neutral point would be 123 as it is the mid-point of the possible range of scores. In the present study, the scoring procedure was done in accordance with Likert's method by assigning weights of 5, 4, 3, 2 and 1 for the positive statements and 1, 2, 3, 4 and 5 reversed scoring procedure for the negative statements. Therefore, measurement on the present attitude scale was :

$$\begin{array}{rclcl}
 41 & \times & 5 & = & 205 \text{ favourable} \\
 41 & \times & 3 & = & 123 \text{ neutral} \\
 41 & \times & 1 & = & 41 \text{ unfavourable}
 \end{array}$$

Analysis has been done for the data under the following headings :

1. Attitude of teachers and students towards semester system.
2. Difference in attitude toward semester system among teachers of different universities.
3. Difference in attitude towards semester system among

students of different universities.

4. Difference in attitude towards semester system among teachers and students within the university.
 5. Attitude of teachers and students of different universities on the different aspects of the semester system.
 6. Difference in attitude towards semester system in total among the teachers and students.
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