

CHAPTER



PLAN AND PROCEDURE

'The most successful innovations are those which are accompanied by the most elaborate help to teachers as they begin to provide the new instruction. Whereas initial faculty reaction to the proposed change is not critical in determining its success, the amount of help provided is critical.'

- Brickell Henry M.

'State Organization for Educational Change : A Case Study and a Proposal', In Mathew B.Miles, 'Innovation in Education', New York, Teachers College, Columbia University, 1964, p.505

- 3.1 Introduction
 - 3.2 The Problem, The Scope and the Definition of Terms
 - 3.3 The Objectives of the Study
 - 3.4 The Sample of the Study
 - 3.5 The Research Tools
 - 3.6 The Scheme of Analysis and Interpretation of the Data
 - 3.7 The Organization of the Study
 - 3.8 Conclusion
- References



III

PLAN AND PROCEDURE

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3.1 Introduction

In the last chapter about 115 previous related studies, foreign as well as Indian, are reviewed. Some of them are reviewed very briefly as reviewed by foreign authors in their researches. Other foreign studies are reviewed in detail. Dissertation Abstract International has been a great source for the review of the previous related foreign studies. For Indian studies, the CASE, Faculty of Education and Psychology Library has provided the useful information and research studies. These studies have been immensely useful to the investigator in including certain components in the tool of Innovative Proneness and in selecting certain personal variables of the teachers of Secondary and Higher Secondary Schools of Gujarat, which will be designated by the Government as 'Secondary Schools' wherein class VIII to XII will be the continuous Secondary Education Unit according to the ~~presently~~ pattern of education 7 + 5 + 3. The present chapter is devoted to the Plan and

Procedure of the present study.

3.2 The Problem, Scope and the Definition of the Terms

The problem under investigation runs as follows :

'A Study of Innovative Proneness of Secondary and Higher Secondary Schools Teachers'.

The various terms used in this statement of problem are very briefly and pin-pointedly explained as under :

'Innovation' : For the purpose of the present investigation an 'Innovation' is taken to mean a significant change in educational objectives : curriculum content, teaching method, pupil grouping, staff development, resource utilization and the organization of the activities of the institution.

'Innovativeness' : For the present study, the definition of 'Innovativeness' given by Rogers (1962) which runs as 'The degree to which an individual is relatively earlier in adopting new ideas than the other members of the social system', is accepted.

'Innovative Proneness' : In the present study, it means the attitude towards new ideas and practices a particular focus of interest which is the attitude of

teachers towards innovation in education.

The study is related to one thousand teachers of one hundred Secondary and Higher Secondary schools having classes VIII to XII of the Gujarat State. According to the recent decision taken up by Gujarat Government - they will be secondary schools from the next academic year. The school teachers have an ascribed role of change agents which would bring change into the schools and thereby in the pupils and community. Therefore, the study tries to find out innovative proneness of teachers with the help of the 'InnovativeProneness Scale' devised by the investigator for the purpose. Therefore, the study gives the tool which helps anyone to know the innovative proneness of persons working in a particular educational institution. This tool will help in recruitment, promotions, selection and the development of innovative proneness in teachers.

3.3 The Objectives of the Study

In this study, there is a multi-dimensional approach to the study of innovative proneness.

specific
The objectives of the study were as follows :

1. To design and validate 'Innovative Proneness Scale' (I.P.S.) that will measure 'Innovative Proneness' of teachers of Secondary and Higher Secondary Schools teachers of Gujarat State.
2. To study the 'Innovative Proneness' of the teachers of secondary and higher secondary schools of Gujarat State with respect to (1) Age, (2) Sex, (3) Experience, (4) Academic Qualifications, (5) Professional Qualifications, (6) Mobility, (7) In-service Education, (8) Professional Reading Habit (9) Professional Satisfaction.
3. To develop the instrument seeking to identify and quantify four aspects of innovative proneness of teachers :
 - (i) teachers expressed attitudes towards specific innovations and combination of innovations having regard to the potential cumulative effect of attitudes arising from past experience with innovations ;
 - (ii) teachers general attitudes to change or their change related values ;
 - (iii) teachers preferred behaviours in relations to their perception of attitudes of innovations; and
 - (iv) teachers preferred behaviours in relation to their perception of the setting and circumstances in which innovations are introduced.
4. To study the 'Factor Analysis' of the scale developed by the investigator.

5. To find out intercorrelations among the components of 'Innovative Proneness Scale' devised by the investigator.

3.4 The Sample of the Study

Out of six hundred secondary and higher secondary schools one hundred secondary and higher secondary schools of Gujarat State were selected for the present investigation. In all 1000 teachers responded to the I.P. Scale, the list of all the Secondary and Higher Secondary Schools of Gujarat State selected for the study ~~which~~ is given in the Appendix

In the table that follows are given the total number of schools in each district, number of schools selected from each district and the total number of respondent teachers. In the table only the schools having classes VIII to XII are given in each district.

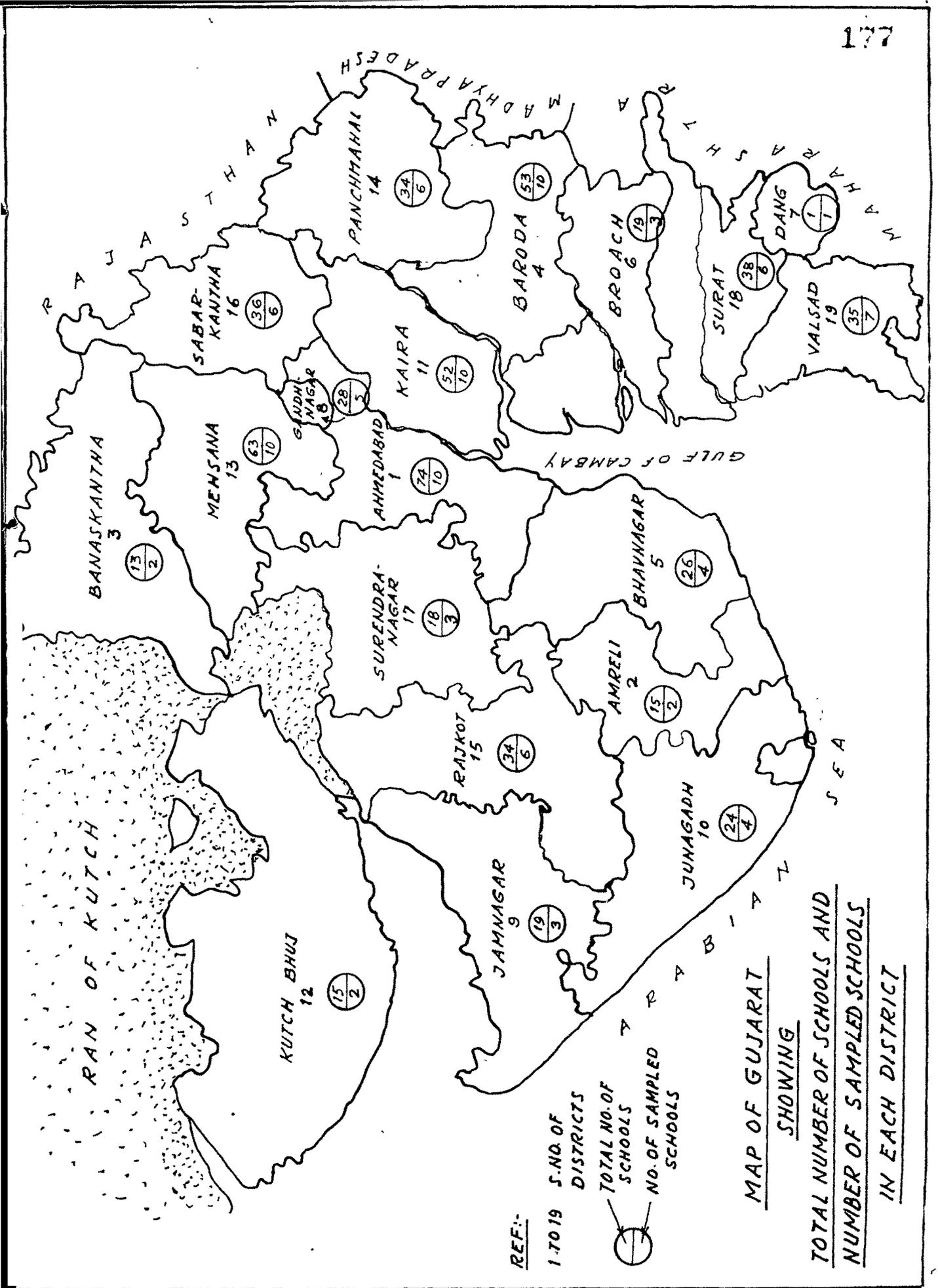
3.5 The Research Tools

Innovative Proneness Scale (I.P.S.) was used for assessing innovative proneness of teachers of Secondary and Higher Secondary Schools under study. The tool is prepared by the investigator himself.

Table :3.1: List of Secondary and Higher Secondary Schools of Gujarat State.

Sr.No.	Name of the District	Total No.of Sec.&Higher Sec.Schools in the District	No. of Selected Sampled Schools	No. of Respondent Teachers
1.	Ahmedabad	74	10	100
2.	Amreli	15	2	20
3.	Banaskantha	13	2	20
4.	Baroda	53	10	100
5.	Bhavnagar	26	4	40
6.	Broach	19	3	30
7.	Dang	1	1	10
8.	Gandhinagar	28	5	50
9.	Jamnagar	19	3	30
10.	Junagadh	24	4	40
11.	Kaira	52	10	100
12.	Kutch-Bhuj	15	2	20
13.	Mehsana	63	10	100
14.	Panchmahal	34	6	60
15.	Rajkot	34	6	60
16.	Sabarkantha	36	6	60
17.	Surendranagar	18	3	30
18.	Surat	38	6	60
19.	Valsad	35	7	70
Total		597	100	1000

Source : Gujarat Secondary Education Board, Gandhinagar. List of Schools. (List of Higher Secondary Schools Eligible to present candidates for the H.S.C Examination, 1978).



REF:-

- 1-1019 S.NO. OF DISTRICTS
- TOTAL NO. OF SCHOOLS
- NO. OF SAMPLED SCHOOLS



MAP OF GUJARAT
SHOWING
TOTAL NUMBER OF SCHOOLS AND
NUMBER OF SAMPLED SCHOOLS
IN EACH DISTRICT

The instruments developed by the investigator seek to identify and quantify four aspects of teacher innovativeness :

- (i) Teachers' expressed attitudes towards specific innovations, having regard to the potential cumulative effect of attitudes arising from past experience with innovations.
- (ii) Teachers' general attitudes to change or their change-related values.
- (iii) Teachers' preferred behaviour in relation to their perception of their attitudes to innovations.
- (iv) Teachers' preferred behaviours in relation to their perception of the setting and circumstances in which innovations are introduced.

distinction
 The distinction between attitude towards innovation defined as a relatively enduring organization of an individual beliefs about an object or an idea which predisposes him to action and his actual behaviour required exploration. There is little evidence that expressed attitude and overt behaviour are necessarily consistent. Festinger (1964) found that a change in attitude towards an innovation did not always lead to behavioural change. In the school context attitude-behaviour could carry important implications. The overt behaviour of individuals in formal organizational setting may be highly divergent

from their attitudes and centrally held values. Attitude behaviour discrepancy may result in a form of cognitive dissonance which has been termed 'innovation dissonance'. Viewed in terms of dissonance theory (Festinger, 1957) or balance theory (Heider, 1955) it may be hypothesized that the resultant strains and tensions induced in the individual will be resolved by various dissonance-reducing mechanisms, depending upon the individual's latitude of tension tolerance. The consequences of undue stress and dysfunctional adaptation require further exploration. Various modes of accommodation are suggested in Kalman's (1960) compliance theory. In order to predict behavioural outcomes attitudes towards both the innovation and the need to be considered (Rokench, 1967, 1968).

In this tool, there are 150 items - 30 items in section I, 60 items in section II, and 60 items in section III, covering the opinions and feelings of teachers on innovative practices and related education issues in the Secondary and Higher Secondary Schools of Gujarat State. The schematic presentation of the number of components and the number of items in each component of the Innovative proneness scale for teacher is given below in Table 3.2.

Table 3.2: A Schematic Presentation of the Number of Components and the Number of Items in each Component of the Innovative Proneness Scale for Teacher

No.	Section I		Section II		Section III			
	The Inventory of Attitude to Innovation	Item	A Situational Characteristic and Innovative Characteristic Scale	Items	The Change Related Values Questionnaire	Item		
No.	Components	Item	No.	Components	No.	Components		
1.	Individualization	5	1.	Administrative Support	12	1.	Traditionalism	10
2.	Curriculum Organization	3	2.	Staff Norms	8	2.	Progressivism	10
3.	Teaching-Learning Process	5	3.	System Norms	6	3.	Dogmatism	10
4.	Teaching Resources	4	4.	Complexity	6	4.	Venturesomeness	10
5.	Internal School Organization	5	5.	Compatibility	6	5.	Conservatism	10
6.	Staff Development	5	6.	Riskness	6	6.	Change Proneness	10
7.	School Community Relationships	3	7.	Localitiness	8			
			8.	Cosmopolitiness	8			
Total		30	Total		60	Total		60

Grand Total : Components = 21
 Items = 150

From the Schematic Representation of the various components which comprise the three sections of Innovative Proneness Scale devised by the investigator; it seems that in all there are twenty one (21) components in this scale.

Section I :

It consists of seven components which refer to the attitudes towards innovation. These components are : individualization, curriculum organization, teaching-learning process, teaching resources, Internal school organization, Staff Development and School community relationship. These components indicate the areas where the innovations are to be introduced. All these areas refer to the day-to-day classroom teaching. The school community relationships are to be strengthened so that the teaching-learning process in the classroom is strengthened. Development of staff according to the needs of the school and the society is most desirable.

Section II :

It is related to the process of change in education which is related to the situational characteristics and the characteristics of the Innovation, this means the process of change depends on the nature of the structure and other characteristics of the schools and the nature of innovation

to be introduced under circumstances - favourable and unfavourable to it. The situational characteristics depend on administrative support staff norms and system norms. This means that there are a number of facilitating and hindering forces. Within the social structure of the school, such forces as nature of the peer social relationships, teacher-principal~~ship~~ relationship, norms and standards for the professional behaviour and the organizational climate of the school system appeared to be very relevant (Millar, 1967). Initial force is the innovative practice itself, and those characteristics of the practice that make it more or less attractive or adoptable by other teachers. These characteristics are complexity, compatibility, Riskness, Localiteness, Cosmopoliteness. These terms, need further explanation.

Complexity :

Complexity is the degree to which an innovation is perceived as difficult to understand and use. Some innovations are readily understood by most members of a social system, others are not and will be adopted more slowly (Rogers and Shoe-maker, 1971).

Compatibility :

Compatibility is the degree to which an innovation is

perceived as a consistent with the existing values, past experience, and the needs of the receivers. An idea is not compatible with the salient characteristics of a social system will not be adopted so rapidly as an idea that is compatible. Compatibility ensures greater security and less risk to the receiver and make the new idea more meaningful to him. An innovation may be compatible : (1) With Socia-cultural Values and beliefs, (2) With previously introduced ideas, and (3) With client needs of innovations (Rogers and Shoe-maker, 1971).

Riskness :

It refers to the risk that the adopter has to undergo while adopting innovative practice. Adopter may be ready to adopt the innovation inspite of the risk involved or may not be ready to do so depending on his temperament or the personality traits. Everybody will look for his security and safety. This security and safety should not be jeopardized.

Localiteness :

It is the extent to which the adopter of innovation sticks to his local system rather than looking beyond it. It is generalized that cosmopolite channels/for earlier adopters are relatively more important than for latter adopters (Rogers and Shoemaker, 1971).

Cosmopolitaness :

It is considered to be degree to which an individual's orientation is external to a particular social system. Pedagogically innovative teacher turns out to have worked in several different school systems. (Miles, 1964; Rogers and Shoemaker, 1971). It has been found repeatedly that greater personal innovativeness is associated with cosmopolitaness, which is the result of experience in more than one social system (Miles, 1962). Cosmopolites, more than localites are champions of change.

Section III :

It is change-related values questionnaire which is constructed of six components namely, Traditionalism, Progressivism, Dogmatism, Venturesomeness, Conservatism, and Change Proneness.

Traditionalism :

Traditionalism of the system refers to the extent of having traditional norms and modern norms. A School Social System with the modern norm is more change oriented, technologically developed, Scientific, rational, cosmopolite and emphatic. A Traditional system embodies the opposite characteristics (Rogers and Shoemakers, 1971).

Progressivism :

It is the characteristic of a person who always looks for his progress. The progressive school always looks for new ideas leading to further progress, to go ahead rather than retard or retreat. The progressive teachers always look for the personal professional progress and the progress of the school. For this desire to be fulfilled, they always try to adopt innovation. Progressivism is a value for them.

Dogmatism :

It is a variable representing a relatively closed belief system, a set of beliefs that are strongly held. The highly dogmatic persons would not welcome new ideas ; they prefer to hew to the past in a closed manner (Rogers and Shoemaker, 1971).

Venturesomeness :

It is the characteristic of the persons that lead him towards taking initiative in doing new things, always ready to create (carve) new path. Persons with high venturesomeness are highly innovative. In other words venturesomeness and innovativeness go hand in hand.

Conservatism :

Conservative people are not prone to change. They stick to already established norms. Conservatives are found to be pessimist, while radicals are found to be optimist. High degree of conservatism meet obstacles for innovativeness. Conservativeness and innovativeness seem to be inversely related.

Lastly, change proneness refers to the attitude of the person towards the change. It is generally found that the persons who are prone to change are prone to innovation also. Innovativeness and change proneness are closely related.

The components of the last section of the scale seem to be mutually inclusive ; they are mutually inclusive in innovativeness.

Administration of the Tool

The investigator administered the tool personally so as to get reliable data in time. The work of data collection was facilitated to a great extent by advance intimation given to the schools concerned. The scale was administered under natural condition. On the whole, data of 1000 teachers

were collected from 100 Secondary and Higher Secondary teachers of Gujarat State by personal visits.

Teachers were asked to express their attitude towards the adoption of each Innovation on a 6 (Six) point scale ranging from strongly agree, agree, tend to agree, tend to disagree, disagree, strongly disagree, which were scored 5, 4, 3, 2, 1, 0 respectively. Inversely keyed items were scored 0, 1, 2, 3, 4, 5. Items scores for each respondent were summed to provide a globe score ranging from 0, to 150 in Section I, and from 0 to 300 in Section II, and third respectively. The total score was thus, taken to yield a global measure of predisposition to adopt innovations.

3.6 The Scheme of Analysis and Interpretation of the Data

The following statistical techniques were employed to analyse the data collected :

1. Univariate frequency distribution of all the 36 variables coded as well as continuous. These variables are as follows :
 - (a) Coded Variables school wise : School, District, Type, Stream, Area.
 - (b) Coded Variables Teacherwise : (Category of the Teachers (Based on their scores on Innovative Proneness Scale as a Whole) : Age, Sex, Experience Teaching Experience, Academic Qualifications, Professional Qualification, Mobility, Inservice Education, Professional Reading Habits, and Professional Satisfaction.

Chapter I	:	The Problem
Chapter II	:	Review of Related Literature
Chapter III	:	Plan and Procedure
Chapter IV	:	Construction and Standardization of the Tool
Chapter V	:	A Study of Innovative Proneness of Teachers of Secondary and Higher Secondary Schools (of Gujarat State)
Chapter VI	:	Review, Major Findings and Suggestions

3.8 Conclusion

It would be seen that the research design of the present study is developed with a view to preparing tool for measuring the Innovative Proneness of the teachers of Secondary and Higher Secondary Schools of Gujarat. The Higher Secondary schools are randomly selected from all the districts of Gujarat. It should again be noted that only the Higher Secondary schools i.e. the schools having classes VIII to XII were selected from each district proportionately. Now these schools, according to the recent pattern of 7 + 5 + 3 will be secondary schools, i.e. the schools having classes VIII, IX, X, XI and XII ^{be} will now be secondary schools. From these 100 schools 1000 teachers (10 teachers from each school) were given I.P.S.

to study their Innovative Proneness in the context of their age, sex, teaching experience, professional qualifications, academic qualifications, reading habits, mobility, professional satisfaction, their participation in in-service education programme. The burden of the study is instrumentation and it is the first of its kind so far as measurement of 'Innovative Proneness' of Secondary School teachers are concerned. The sophisticated statistics are used for analysing and interpretation of the data yielded by the teachers respondents.

The next chapter is devoted to the construction and standardization of the tool I.P.S. (Innovative Proneness Scale).

CHAPTER III
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