

PLAN, METHODOLOGY AND TOOL CONSTRUCTION

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CHAPTER III

PLAN AND METHODOLOGY

3.1 Introduction

In the earlier Chapter important Indian and Foreign literature relating to the Educational Innovations and connected variables have been discussed. The background knowledge has come handy for construction of the tool "Job Satisfaction Inventory" (JSI) and in selecting the personal variables of the teachers for the study. The gap found in the previous researches have also been useful in selection of sample and enlargement of the coverage of the research. Research on innovations in education is a new idea in India and innovative proneness of teachers is a virgin land. The aspect of job satisfaction of teachers is another novelty for the country. The inclusion of Kendriya Vidyalaya in the study opens a new field of research for the investigators. The present chapter is devoted to the plan and procedure of the present research and construction of the tool "The Job Satisfaction Inventory".

3.2 The Problem

The problem under investigation is entitled as under :

A STUDY OF INNOVATIVE PRONENESS AND ITS
CORRELATES IN THE SECONDARY SCHOOLS

The main emphasis of the present study is on the innovative proneness of teachers which is planned to be investigated in relation to the selected correlates. The teachers under study are of the secondary schools and the selected correlates are : the Organizational climate of the school, leadership behaviour of the Principals, and the job satisfaction of the teachers. In addition, some personal variables of teachers have been selected to be related to the components of the correlates under study and their effects on innovative proneness, if any, are to be evaluated.

This is not a study of leadership style or personality traits of the Principal. The Principals have been considered at par with the teachers to study the leadership behaviour and its relationship with innovative proneness of teachers. Similarly, only the Organizational Climate of the schools and its relationship with the innovative proneness of teachers have been considered leaving aside other aspects. The scope of job satisfaction of teachers has also been confined to the points queried through the questionnaire and the effect of satisfaction on their innovative proneness.

3.3 Scope of the Study

The scope of study is limited to the :

- (a) meaning and implications covered in the section entitled "Explanation of Terms",
- (b) Schools imparting secondary level education.
- (c) Teachers employed in the selected secondary schools.
- (d) The tools used in the study

viz. I.P.S., L.B.D.Q., O.C.D.Q. and J.S.I.

(e) Questionnaire method of data collection, and

(f) Techniques and methods of analysis and of interpretation of data employed in this study.

3.4 Explanation of Terms

Some terms used in this study have special connotations, coverage and limitations as compared to their usages. They have been explained in this section for proper understanding. The explanation is different from definition and covers the matter in depth including the background.

Innovation

The Chambers Twentieth Century Dictionary, 1982 gives the meaning of innovation as 'the act of innovating, a thing introduced as novelty, revolution, substitution of one obligation for another, a season's new growth'. The meaning of 'Innovate' has been given as, to renew, to make changes. The Oxford Dictionary gives the meaning of 'Innovation' as 'alteration of what is established by the introduction of new elements of forms'. The Random House Dictionary, 1970 gives the meaning of 'Innovation' as 'introduction of new things or methods'. These meanings have been used by many investigators while defining 'Innovation'.

Rogers (1962) defined innovation as an idea perceived as new by the individual. Barnett (1953) said that any thought, behaviour or thing that is new is quantitatively

different from the existing forms and is innovation. Merkund (1972) also accepted the qualitative criterion. For Bholia (1965) innovation skills, or two or more of these together introduced to an individual or culture that have not functionally incorporated it before. According to Unruh (1970) innovation is the introduction of a novel element, a driving force, a practical advance that deviates from establishment or traditional form.

Miles (1964) has defined 'Innovation' as a deliberate, novel, specific change, which is thought to be more efficacious in accomplishing the goals and objectives of an organisation. For him innovation is a species of the genus change. For Adiseshia (1977) innovation refers to a new product or a new process the process by which an invention or an idea is translated into a programme. According to him innovation refers to a situation where some result of a piece of educational research is turned into an education process.

Asian Programme of Educational Innovation Development (APEID) (1977) holds the view that to be an innovation the idea or the practice need not be totally new. Its potential and efficacy in a new context are the main criteria used for labelling it as an innovation. Netzer et al (1970) relate the meaning of the words 'Change', 'Innovation', and 'Improvement'. For them Change and innovation are the same. Innovation occurs only when improvement is evidenced. Improvement is a proof that change has occurred. Hence, innovation and change are

the same.

Lin and Zalman (1973) hold the view that innovation and invention are synonymous. They also use the term innovation to explain the process whereby an existing innovation becomes a part of an adopters cognitive state and behavioural repertoire. The ideas, practice, or material artifact which has been invented or which is regarded as novel independently of its adoption or non-adoption is also considered as innovation. According to them innovation may refer to any invention, the process of adoption or the material artifact that may not have any reference to diffusion and adoption.

Brosigall (1974) posed the question "What is that constitutes of an innovation?" Practically all innovations begin with an idea. The idea may be originally conceived by one person, picked up by a second, developed by a third, and so on. It does not always happen that the originator sees that entire process, i.e. its general application. He believes that the idea itself is an innovation and that each subsequent stage is also innovation. According to him researchers, experiments, developments, pilot projects and general applications, all of them are stages of innovation. He said that the net has to spread widely within the field.

OECD in the workshop held at St. John's College (1969) defined innovation as those attempts at change in an educational system which are consciously and purposefully directed with the aim of improving the present system.

Innovation is not necessarily something new but it is something better and can be demonstrated as such. Here the emphasis is on betterment. Morton (1971) considers innovation as renewal. To him it means the improvement of the old and the development of the new capabilities of people and their organisations. Innovation is not the 'anarchistic destruction' of the old, but the adaptive change and improvement of the existing system.

Ben Miller (1970) views innovation as Purposeful, planned and profitable change. It represents a conscious and deliberate marshalling of resources specially designed to achieve greater profit. Rogers and Shoemaker (1971) remark that if the idea seems new to the individual, then as far as he is concerned, it is an innovation.

Heiss (1973) also takes innovation to mean that "the change under review is new for a particular institution or individual. The newness aspect of an innovation is subjective and it matters little whether or not an idea is objectively new as measured by the lapse of time since its first use or discovery. Niehoff (1966) defines innovation as "a process that begins with an idea on the part of a change agent and ends in adoption or rejection by the potential recipient. Richland (1965) and Brickell (1961) also followed the process definition.

CERI studies (1973) define innovation as a deliberate attempt to improve practice in relation to certain desired objectives. The new objectives, policies or functions are also covered by the scope of this definition. Deliberate attempt is a planned attempt and implies specific and technocratic planning procedures. Innovation is something better than what it replaces.

Chin and Downey (1973) describe five approaches to the definition of innovation. In the first approach it is something new or something changed in a significant and substantial respect. The second approach is quantitative. Here innovations are ideas, practices or materials not yet adopted by a specified percentage e.g. 10%. The third approach considers innovation as a new total package practices for example, team, teaching, computer-aided instructions etc. The fourth approach defines innovation in terms of the critical factor of the effects on behaviour. The fifth approach conceives innovation as anything 'Perceived' as a new. This is a very wide definition.

Patel (1979) adopted the meaning of Innovation as a significant change in educational objectives i.e. curriculum content, teaching method, pupil grouping, staff development, resource utilisation and the organisation of the activities of the institution.

In all the definitions given at different point of time and for different purposes Innovation has been viewed from different perspectives by researchers. Some have the 'novelty' in view, others have the 'Production' criterion, still others have emphasised upon the 'process' involved. The objective has also been covered by a few. The common theme of all is however 'change'. All have merits as well as shortcomings. For this purpose of study however, innovation refers to new ideas, experiments and practices and devices on different fields of human endeavour. Innovation is, therefore, a comprehensive term covering all kinds of mental constructs, whether they can be given sensible representation or not.

Innovativeness

Innovativeness is a characteristics of an organisation which is generally exhibited by the behaviour of the leader and the followers. Innovativeness of the school is identified with the behaviour of the Principal and of the teachers which for-mulate the tone of the school. This general tone, feel or climate of the school provide the proper soil for the new ideas to grow and flourish. Segar and Haldaway (1968) developed indices of innovativeness to measure the role of Principals for effectiveness in educational innovations. Roger (1962) describes innovativeness as "the degree to which an individual is relatively earlier in adapting new ideas than the other members of his social system".

Miles (1964) writing about the innovativeness of a system says "A healthy system would tend to invent new procedures, move towards new goals, produce new kinds of products, diversify itself and become more rather than less differentiated over time. In a sense, such a system could be said to grow, develop and change rather than remain standard".

Innovative Proneness

The Chambers Twentieth Century Dictionary describes the meaning of 'Prone' as 'disposed, inclined, naturally tending; willing, ready, eager'. The Webster's New Word Dictionary describes 'Proneness' as natural bend, disposed, inclined to grovelling. Trivedi (1981) says prone to adopt new ideas is innovation proneness.

For the purpose of the present study 'Innovative Proneness' has been taken to mean as the attitude towards new ideas and practices, a particular focus of interest. In short the attitude of teacher towards innovation in education is under consideration. This attitude may be favourable or unfavourable.

Change - proneness

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, innovative-proneness and change proneness are

closely related. It is the personal commitment of an individual towards change manifested by his open mindedness, flexibility, efforts to know of innovations and experimental attitude.

Miller prepared a change-proneness inventory with questions common for teachers, Principals and superintendents followed by additional specific questions-5 for teachers, 7 for Principals and 9 for Superintendents. It was prescribed that by raising series of questions about one's private attitude towards change, it will be possible to measure the general disposition of the individual towards change. Each items of this inventory was judged on a 7 point scale. Miller suggested three components viz. mental flexibility, open mindedness, and curiosity to analyse the personal committment. It was found that a change-prone teacher is open-minded, eager to know, and ready to make extra efforts, review his own actions periodically, communicate ideas to others and has experimental attitude. There was a common feeling that the Principals' change-proneness require special consideration. Besides his personal action, his administrative behaviour should also reflect change proneness.

Complexity

According to Rogers and Shoe Maker (1971) 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 social system, but others are not and will be adopted more slowly. They are complex innovations.

Compatibility

Rogers and Shoemaker (1971) stated that compatibility is the degree to which an innovation is perceived as consistent with the existing values, past experience and the needs of the receivers. An idea 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 makes the new idea more meaningful to him. An innovation may be compatible with (1) social cultural values and beliefs, (2) Previously introduced ideas, and (3) client needs of innovations.

Riskness

Riskness 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 upon his temperament or the personality traits. Everybody will look for his security and safety. This security and safety should not be jeopardised.

Localitiness

Rogers and Sheo Maker (1971) feel that localitiness is the extent to which the adopter of innovation sticks to his local system rather than looking beyond it. It is generalised

that cosmopolite channels are relatively more important for earlier adopters than for later adopters.

Cosmopolitaness

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

Traditionalism

Rogers and Shoemaker (1971) state that the 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.

Progressivism

Progressivism is the characteristic of a person who always looks for his progress. The progressive schools always look for new ideas leading to further progress, to go ahead, rather than retard of 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 innovations. Progressivism is a value for them.

Dogmatism

According to Rogers and Shoemakers (1971) dogmatism 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 have the past in a closed manner.

Venturesomeness

Venturesomeness is the characteristics of the person that lead him towards taking initiative in doing new things, always ready to carve new path. Persons with high venturesomeness are highly innovative. In others 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. Conservatism and innovativeness seem to be inversely related.

Motivation

The term motivation refers to the motivation of teachers for work and innovation, on one side, and of the students towards the school academic motivation as perceived by Frymier (1970), on the other. Frymier has developed a tool

for measuring the motivation of the pupils.

Correlates

'Correlates' refer to the main components of this study viz. leadership behaviour, organisation, climate and job satisfaction which are being studied in relation to the innovative proneness of the teachers.

Variables

'Variables' refers to those aspects which are considered to influence the innovative proneness of teachers. There are different types of variables e.g. Dependent, Independent, communication behaviour, psychology of personality, socio-economic status etc. These broadly classified variable have several sub-variables e.g. age, sex, qualification, experience, medium of instruction, management of the school, classification as per students' sex, Principal's behaviour, climate of the school etc.

Leadership

In the context of the present study leadership of the Principals is important. As a designated head and leader Principal's leadership includes his initiative, consideration, democratic, autocratic and laissez - faire characteristics. The leadership of teacher as a peer - ascribed leader signifies alternate small group as well as academic leadership but this is not under consideration.

Leadership behaviour refers to the behaviour of a secondary School Principal. It is presumed that the Principal

will be leader rather than an administrator. In other words, the Principal will be an innovator with regard to the goals of the school and will not merely concern himself with keeping the school ticking over. As in case of other leaders the Principal is expected to perform two basic functions. Firstly, he must be task-oriented i.e. he must establish and seek to fulfill certain goals. Secondly, he must also be person-oriented, i.e. he must try to meet the personal needs of his staff members.

In the opinion of Getzels and Gupta (1957) the Principal must try to maintain the balance between the 'idiographic' and 'nomothetic' dimensions of the school. Hemphill and Coons (1957) also state that he must strike a balance between the dimensions of 'Initiating Structure' and 'Consideration'.

According to Halpin (1966) 'Initiating Structure' refers to the formal relationship which the Principal has with his staff. The Principal who receives high score on this dimension makes his attitude clear to the staff, criticises poor work, maintains definite standards of performance, persuades staff members to follow standard rules and regulation etc. Halpin relates the 'consideration' to the informal relationship which the Principal has with the staff. The Principal who scores high on this dimension does personal favours for his staff members, finds time to listen to them, puts their suggestions into operations, get their approval on important matters before going ahead etc.

For the purpose of this study leadership behaviour denotes two leadership dimensions of initiating structure and consideration as described by Halpin. The dimension of 'initiating structure' refers to the skills demonstrated by a leader (Principal) in establishing well-defined patterns of Organisation, communication, and ways of getting the job done. The dimension of 'consideration' on the other hand, focuses on the relationship of the leader with the members of the group.

Organizational Climate

Organizational climate refers to a general flow of behaviour and feeling within a group of teachers in a school. Halpin and Croft (1963) are of the opinion that what personality is to the individual, organisational climate is to the organisation. Thus, the organisational climate may be defined as patterns of social interaction which characterise an organisation. The main units of interaction in this concept of climate are individuals, the group as a group, and the leader. The environment that prevails in the organisation is likely to influence the adoption of an innovation and its internationalisation by an individual.

Halpin (1966) in collaboration with Don Croft collected evidence and found that 4 behaviours of teachers and 4 of Principals were especially responsible for creating school climate. They described organisational climate as the product of interplay among the organisational principles and

individual needs which are measured through eight dimensions and presented on a continuum. The dimension according to the teachers perceived behaviour are disengagement, Hindrance, Esprit and Intimacy. The dimensions according to the Principals' perceived behaviour are aloofness, production, emphasis, thrust, and consideration. The climate on a continuum is open, autonomous, controlled, familiar paternal and closed.

Disengagement indicates the indifferent attitude of the members of staff. They behave as if they have nothing to do with the goals of the institution. The teachers seem to be out of gear. They do not work well together and pull out in different directions in respect of any task.

Hindrance gives the feeling of obstructions and nuisance from the Principals to the teachers. Teachers feel that the Principal burdens them with routine duties, committees, demands and other requirements which they construe as unnecessary work.

Esprit refers to morale resulting from working well with other associates in the institution. The teachers feel that their social needs are being satisfied and that they are enjoying a sense of accomplishment in their job.

Intimacy refers to the enjoyment of friendly social relation which need not be associated with task accomplishment.

Aloofness refers to the Principals who try to be away from the staff and try to get the rules and regulations observed

strictly from the teachers regardless of their individual needs. The Principals behaves in a formal and impersonal manner and goes by the book rather than meeting the situation face to face.

Production emphasis indicates the directive behaviour of the Principal who is a strict supervisor. He closely supervises the work of the staff with highly directive and task-oriented attitude. His communication is one way only. He disregards feed-back from the staff.

Thrust is the drive which the Principal demonstrates in 'moving' the school. He becomes a model for others. He motivates the teachers by self examples. His behaviour is highly task-oriented but viewed favourably by the teachers.

Consideration refers to the inclination of the Principal to treat teachers humanely. He tries to do something extra for teachers in human terms.

'Open climate' is regarded to be good by Halpin(1966). It is epitomised by the behaviour of the teachers who work well together. They enjoy friendly relations without having high degree of intimacy. They are very well motivated to work hard. Depending upon the circumstances, the Principal criticises or helps the teachers. He allows the leadership to emerge from the teachers. He always comes out to satisfy the social needs of teachers.

In the 'closed' climate school there is low degree of satisfaction both in the sphere of human relationship and production. The Principal is not effective in looking out for teachers' welfare and in directing their activities. Here the school is high in disengagement, hindrance, aloofness, and production emphasis, average in intimacy; low in esprit, thrust, and consideration.

In the School where 'autonomous' climate prevails the Principal is away from the staff though they have high intimacy and esprit. Consideration and thrust are on average level and disengagement, hindrance and production emphasis are at a low level in such a climate.

In the 'controlled' school there is high esprit, hindrance, production emphasis and aloofness. The school stands average in thrust, low in intimacy and consideration. Here the school presses for achievement at the expense of the satisfaction of social needs.

In the School where 'familiar climate' prevails, there is happy family environment. The Principal in the school has friendly relations with the staff as opposed to a drive towards a goal achievement. The school is high in disengagement, intimacy and consideration, average in esprit and thrust, low in hindrance and aloofness.

'Paternal climate' school is high in disengagement and production emphasis, average in consideration and thrust, low

in hindrance, intimacy, esprit and aloofness. This school is marked by the Principal's ineffective attempts to control the teachers while satisfying their social needs.

Incentive

Incentive implies the type of positive, negative or corrective feed back, material or psychological incentives.

Communication

Communication within the school signifies in case of Principal, the one-way or two-way professional communication between the Principal and teachers; and in case of teachers horizontal professional communication among the teacher.

Media of Communication

Three media of communication are covered in this study. Innovations are being communicated through these media. They are : (1) Written i.e. circulars or literature in different forms, (2) Oral i.e. speech, seminars, discussions or courses, and (3) mass media i.e. radio, television, films etc.

School facilities

'School facilities' is a broad term covering several things eg. adequacy of building, laboratory, library, audio-visual equipments, typing and duplicating machines, availability of extra finances etc.

Professional Awareness

'Professional awareness' signifies the awareness about the innovations in education and of their conceptual details.

Administrative Behaviour

'Administrative Behaviour' comprises of the differential use of teacher control, teacher encouragement and teacher involvement in decision making.

Group Process

Group process includes the different types of small groups, temporary groups, group cohesiveness and tendency to form into cliques among the staff members in the school.

Initiative

Initiative indicates the self-initiated efforts towards innovative proneness or innovations adoption at the individual or institution level.

Sense of Job Security and Professional Security

Sense of security refers to the feeling of teachers for the degree of security concerning their job and profession in relation to their teaching competence.

Job Satisfaction

Teachers job satisfaction refers to the contentment they get from the teaching work and from the factors or aspects related or consequential to teaching. The main factors considered in this study are salary, relation with

the Principal, Colleagues, non-teaching staff, students and their parents, physical facilities and work load.

Morale

Morale implies teachers' satisfaction in various aspects of the profession. It has been considered in ten dimensions in the Purdue Teacher Oppiniere (PTO). These dimensions are : teachers rapport with the Principal, satisfaction with teaching, rapport among teachers, teacher salary, teacher load, curriculum issue, teacher status, community support of education, school facilities, and services and community pressures.

Secondary School

For the purpose of this study schools having the classes from VIth to XIIth have been classified as secondary schools. Invariably, all such schools had the Primary classes also viz. class I to V. The concept of middle, Senior and higher secondary classes has been excluded. All these are included in the secondary school; This became necessary due to the inclusion of the K.V. in the study. As per the classification of K.V. Primary Section has classes I-V, middle section VI-VIII, senior secondary IX-X, and Secondary Section XI-XII classes.

Outside K.Vs

For the purpose of this study the Kendriya Vidyalaye situated in the states other than Gujrat State have been termed

as "Outside K.Vs". This is done merely for the ease of presentation of data.

3.5 Objectives of the Study

This study has been undertaken with a multi-dimensional approach to the aspect of innovative proneness for educational innovations. The specific objectives of the study are, however, as follows :

- (1) To study the innovative proneness of secondary school teachers with respect to their personal variables viz. age, sex, experience, academic qualification, professional qualification, mobility, prior professional experience, in-service education, professional reading ~~and~~ habit and professional satisfaction.
- (2) To identify the leadership behaviour pattern of the Principals of the schools.
- (3) To measure and identify the organizational climate of the schools.
- (4) To find out the relationship of innovative proneness of teachers with : (a) leadership behaviour of school Principals, (b) organizational climate of school, (c) job satisfaction of teachers and (d) medium of instruction of the school.
- (5) To find out the significant difference of innovative proneness of school teachers with : (a) medium of

instruction, (b) type of management viz. K.V. and other and (c) type of school viz. boys, girls and mixed (Coeds).

- (6) To design the tool " Job Satisfaction Inventory" to measure the job satisfaction of secondary school teachers.

3.6 Hypotheses of the study

In this section some presumed conclusions are listed as the hypothesis of the study. They have to be tested with the results. These hypotheses guided the planning of the analysis and interpretation of the data collected with the help of the research tools. These 19 hypotheses are as follows :

- (1) Innovative proneness of secondary school teachers with respect to some personal variable have positive relationship.
- (2) Innovative proneness of teachers is significantly related to : (a) the leadership behaviour pattern of the Principal (b) the types of organizational climate of their schools, and (c) their job satisfaction.
- (3) Innovative proneness of teachers is not significantly related to the medium of instruction followed by the school and to the type of school viz. boys, girls and mixed.

- (4) There is no difference in the scores of the K.V. located in Gujrat State and other K.V. in respect of (a) innovative proneness of teachers, (b) leadership behaviour pattern of the Principals and (c) Organizational climate types of schools and (d) job satisfaction of teachers. This is because of one management, procedure, policy, model, pay and allowances, facilities etc.
- (5) Teachers employed in the K.V. are more satisfied from their job than others as they have easy access to better professional literature, in-service training, teaching aids, travel opportunities, pay and promotion etc.
- (6) The organizational climate of the K.V. is more open than other schools.
- (7) The Principals of the K.V. are more job-oriented than others as they have to run the model school in respect of the results also.
- (8) In general the number of effective Principals (HH) is more than the ineffective Principals (LL).
- (9) The K.V. teachers form the highest ratio of highly innovative category.

The scope, objectives and hypotheses of this study required carefully selected sample of the schools and teachers. This aspect is covered in the subsequent section of this Chapter.

3.7 Sample of the Study

In all 90 schools of Secondary level were chosen as a random sample. Actually, the plan was to select 100 schools but the number of schools with Urdu and Marathi medium; of instruction were so less in Gujrat state that only 5 each were chosen instead of 10 each as planned to maintain the ratio at par with other schools. Any number more than 5 might have introduced undesirable bias and the sample would not have remained representative. Gujrati language being the language of the State was more popular hence the ratio of Gujrati medium schools on the sample worked out to be less than the other medium schools. Out of 600 secondary schools in Gujrat, 70 schools of six mediums of instruction were chosen to represent the population proportionately. Remaining 20 schools were chosen from the Kendriya Vidyalaya (K.V.).

The selected number of K.V. in Gujrat was kept at 10 only irrespective of their ratio with total number of K.V. in State to match with the number of other schools in the sample. The other 10 K.V. were picked up from different states. The sample of schools from within Gujrat state was

drawn from different districts to keep the spread as large as possible. Even for the outside K.V., the area of coverage was kept wide and no two schools were selected from the same District.

Seventy schools of Gujrat State# were chosen on random basis from the list of schools available in the office of the State Education Board. An attempt was made to select the schools from different Districts to avoid cluster in a few Districts. These schools were being run by the State Education Department as well as by private organisations with state aid. Ten Kendriya Vidyalaye located in Gujrat states were chosen from the latest list of such schools found in the office of the Assistant Commissioner, Kendriya Vidyalaye Sangathan, Gandhinagar. In this case also efforts were made to select the schools from different district, of Gujrat.

The Kendriya Vidyalaye from outside Gujrat State were chosen from the All India list of Kendriya Vidyalaye circulated by the K.V. Sangathan, New Delhi. In this case efforts were made to pick up the sample from different states and from different Districts in a state. Keeping this aim in view two Vidyalaye were chosen from each of the four states viz. Karnataka, Maharashtra, Uttar Pradesh, and West Bengal. Only one Vidyalaye each was selected from Andhra Pradesh and Rajasthan to keep the sample in equation. The list of selected schools is placed at the Appendix.

Ten teachers were selected from each of these 80 schools located in Gujrat for collection of data. These included the K.V. in Gujrat. The number of teachers from outside K.V. was planned to be 15 from each K.V. but in one of such schools it fell short by two and only 13 teachers were selected. This K.V. had insufficient number of secondary level teachers on its roll.

The increase in the number of outside K.V. teachers to 15 was done to off-set the possible inequality arising from the influences of geographical situation and to match the lesser proportion of schools from outside K.V. Any larger number of teachers than 15 was not possible as in most cases it would have meant more than one-third proportion of the total number of secondary teachers available in the school and in that case ad-hoc (temporary) teachers employed for periods of 28 days to 3 months at a time would have also been included in the sample which would not have been proper. This way, the investigator succeeded in collecting the data from only the regular secondary teachers of the staff of all the selected schools. The distribution of selected schools, Principals and teachers is shown in Table 3.1.

As is evident from table No. 3.1, 948 secondary level school teachers and 90 Principals of schools were selected for the study from the 90 schools of different types. Except for Marathi and Urdu medium schools the number of each type

**Table 3.1 : Distribution of sample Schools,
Teachers and Principals**

Type of School	No. of Schools Selected	No. of selected	
		Teachers	Principals
K.V. in *Gujrat	10	100	10
Outside *K.V.	10	148	10
Boy's school	10	100	10
Girl's school	10	100	10
English medium	10	100	10
Gujrati medium	10	100	10
Sindhi medium	10	100	10
Hindi medium	10	100	10
Marathi medium	5	50	5
Urdu medium	5	50	5
Sample Total	90	948	90

of school was 10. Also, except for the outside K.V., the number of teachers from each school was 10. Principals of all the schools were included. Only 5 schools were selected from among the Marathi and Urdu medium schools and 148 teachers were selected from outside K.V. for reasons of parity in representation.

The teachers were selected from the school list of teaching staff taking secondary level classes. In this respect the help of other teachers, Principals and clerical staff of each School was taken. A list of regular teachers was prepared

for each school in order of seniority of service in relation to their date of appointment/posting in the particular school. The temporary teachers were excluded.

Thirty percent of the sampled teacher (i.e. 3 each) were selected from the top as well as the bottom of the list and the remaining forty percent (i.e. 4) were selected from the middle of the list. For this purpose the exact middle or the near middle number (where the exact middle number was not possible) was chosen and equal number (say two) of teachers from above as well as below this number were selected. The middle number itself was not chosen. For example, the exact half of 32 is 16 and of 33 is 16.5. In both the cases the sixteenth teacher was taken to be the middle number teacher and equal numbers from immediately before and after the 16th teacher were selected (say No. 14, 15, 17 & 18). In case of any difficulty in dividing the sample to be taken from the middle of the list the middle number was also included in the sample.

In case of outside K.V. the sample was one-and-half times of other schools (15 & 10) for proper representation. In case of these Vidyalaya 4 teachers were selected from the top and bottom of the lists and 7 from the middle order in the same manner as for other schools. The criterion for selecting the middle number teacher was also the same as for other schools.

In cases where the selected teachers were not found present in the school at the time of distribution of the questionnaire the next teacher below him/her in case of top sample and lower middle sample, and above him/her in case of bottom sample and upper middle sample, were chosen. To avoid any subjectivity of opinion in selection of the sample of teachers the serial number on the list was given emphasis and the name was seen after-wards.

A few terms discussed in this section need elaboration. In view of the peculiarity of sample the 'medium of instruction' 'Kendriya Vidyalaya (K.V.) and 'Uni-sex' schools have been given special connotations which should be understood with their background. These are dealt with in the subsequent portion of this section.

Medium of Instruction

In case of education, the medium of instruction signifies the officially permitted language in which teaching is to be imparted. It is also possible that some instructions are also being given in other medium of instruction for better comprehension by the students. It is also possible that one or more subjects are being taught with a particular medium of instruction and for other subjects another medium of instruction is being followed in the same school. The specific language subjects e.g. English, Urdu, Hindi etc. may also be taught with another medium of instruction. For the purpose

Kendriya Vidyalaye

The Kendriya Vidyalaye are being included in a study like the present one and it will be worthwhile to know their background. K.V. are managed by the Central Govt. through the Kendriya Vidyalaye Sangathan (KVS) which is an autonomous body of the Centre. These Vidyalaye follow the syllabus prescribed by the Central Board of Secondary Education (CBSE) on the lines of model schools. They follow ten plus two system of education. The teachers are recruited in 3 main categories viz. Post Graduate Teacher (PGT), Trained Graduate Teacher (TGT) and Primary Teacher (Pr.T). Other specialists are music teachers, work experience teacher, Drawing teacher, Physical education teacher and Yoga teacher. The Headmasters incharge of the Primary Sections are from the rank of Pr. Ts. The Vidyalaye Principals are being directly appointed as well as selected from among the PGTs working in the K.V.

The pay & allowances of the K.V. employees are regulated as per the scales prescribed by the Central Government. These scales are far better than those of the State Govt. or private school teachers. Their security of service and perks are also better than their counter-parts in states. They however have the liability of all India service. Their transfers are affected on the basis of tenure of service at one place. Ex-India assignments are also given to them on voluntary basis. The service conditions are liable to change like other Govt. servants.

Even though the Pr. Ts. are meant to take Primary Classes, most of them are qualified much higher than the job requirement and are teaching secondary classes. Similarly, the TGTs are meant to teach the secondary classes (i.e. VI to VIII) but quite a few of them in practice are taking higher classes also. For the purpose of this study Pr. Ts., T.G.Ts. and TGTs were selected to represent the K.V. teachers.

The KV are providing better teaching aids, material, stationary, library, facilities, sports ground, excursions, competition level and promotion opportunities for teachers. In-service training, seminars and consultation/discussion are also being regularly provided to the KV Teachers at Govt. cost. Most K.V. teachers use English as well as Hindi medium of instruction depending upon the student's choice. One student however receives instructions with one medium only. In other words, two different classes are arranged according to the medium of instruction being followed. All the K.V. are mixed schools i.e. the boys as well as girls are permitted to be freely admitted.

Uni-sex and Mixed schools

In the sample of this study two more types of schools were included. These are purely boys and purely girls schools. They will be jointly referred as 'Unisex' schools in relation to other schools. The schools having students of both sexes will be referred to as mixed or co-education schools. There

was no official restriction for admission of students of any sex in the mixed or coed schools. The unisex schools were chosen to examine the effect of sex of students on the innovative proneness of teachers. The sex of the teachers has also been examined as a personal variable. It is possible that the students of the same sex in all the classes of a school may encourage or discourage innovative proneness of teachers.

In the unisex schools the students were girls or boys as per the name of schools. A few students of the other sex were also found in different classes of these schools. They were the children of staff of the same school. They were overlooked as their number was negligible and no effect was expected on the results. In all, 20 unisex schools - 10 of each sex were selected for the study from different Districts of Gujrat.

After the discussion of the sample of the study the variables planned to be studied require consideration. Variables form the link of the study and are important for its progress. Identification of Variables is therefore necessary. The selected variables for this study are discussed in the subsequent section of this Chapter.

3.8 Variables for the Study

The present investigation focusses on the innovative proneness of the teachers, leadership behaviour of the

Principals of the schools, Organizational climate of the schools and the job satisfaction of the teachers. For this purpose some independent and dependent variables have been used. These are :

(A) Independent Variables

- (1) Types of School. (I) Kendriya Vidyalaya in Gujrat state and outside, (II) Boys school, (III) Girls schools, (IV) Mixed schools of different medium of instruction viz. English, Gujrati, Hindi, Sindhi, Marathi and Urdu.
- (2) Category of Innovativeness. High, Average & Low.
- (3) Leadership Behaviour Pattern. HH, HL, LH and LL.
- (4) Organizational Climate. Open, Autonomous, Controlled, Familiar, Paternal, and closed.
- (5) Age. Below 35 years and 35 year or more.
- (6) Sex. Male and Female.
- (7) Teaching Experience. Upto 5 years and above it.
- (8) Academic Qualification. Graduates (viz. B.A. B.Com. and B.Sc.) and post-graduates (viz. M.Sc., M.Com. and M.A.).
- (9) Professional Qualification/Training. Diploma in Education, B.T./B.Ed., M.Ed. and Ph.D.
- (10) Mobility. Taught in another institution for at least one year or not.
- (11) Other Experience. Some and None.
- (12) In-service Education. Some and None.
- (13) Contact with Educational Research. Some and None.
- (14) Professional Satisfaction. Very satisfying and not very satisfying.

also dependent?

(B) Dependent Variables.

(I) Innovative Proneness. 21 Components in 3 sections

viz. (I) Section I - Individualisation, Curriculum organisation, Teaching-Learning process, teaching resources, Internal school Organisation, Staff Development and school Community Relationship.

(II) Section II - Administrative support, Staff norms, System norms, Complexity, Compatibility, Riskness, Localiteness, and cosmopolitaness. (III) Section III - Traditionalism, Progressivism, Dogmatism, Venturesomeness, Conservatism, and Change-proneness.

(2) Leadership Behaviour. Two dimensions viz. Initiating structure and consideration.

(3) Organizational Climate. 8 Components viz. Disengagement, Hindrance, Espirit, Intimacy, Aloofness, production emphasis, Thrust and Consideration.

(4) Job Satisfaction. 30 aspects of the teaching job included in the Job Satisfaction Inventory.

3.9 Tools of the Study

The following tools were used to serve the objectives of the study :-

(a) The Innovative Proneness Scale (IPS) as designed and tested by M.B. Patel (1979).

(b) The Leadership Behaviour Description Questionnaire (LBDQ) as given by Halpin and Winer (1952).

(c) The Organizational Climate Description Questionnaire (OCDD) as designed by Halpin and Croft (1963).

✓ (d) § The Job Satisfaction Inventory (JSI) designed by the investigator.

The method of survey through questionnaire was decided for conducting this study after considering the alternatives, resources, at hand, and the merits and demerits of each method. The size of the sample and the distances involved made the case study and interview methods impracticable. The resources of money and time also limited the choice to the questionnaire method of administering the tools. While making a decision in this regard the demerits and difficulties of the questionnaire method were fully appreciated.

The language of the questionnaire and impersonal approach causing the communication gap was well realised. Time required for completion of the questionnaire and reluctance of the people to attend to it were also appreciated. The most important difficulty was the certainty of non-return of all the questionnaires issued. It was, therefore, accepted that if 200 to 250 (20-25%) questionnaires were returned the purpose would be served. The findings of Havelock and Hatt ~~are~~ were found to be useful in this connection and were given weight in deciding the method of study.

Havelock (1973) found that in 53% cases quantitative approach (survey) was adopted and in 7% case the method of case study was used. In India, however, the statistical approach dominates the list. The statistical method in effect amount to a correlation study. The disadvantage of this method lies in structured response situation which may lead to inadequacies. Certain degree of hoaxing and faking creeps in the study. The advantage of this method, on the other hand, lie is the reliability and accurate evaluation of responses. As against the survey method the case study method differs from subjectivity due to non-standardised procedures. Human interpretation are prone to become subjective quickly.

Hatt (1952) opined that "..... the basic danger in its use is the response of the researcher. He comes to feel a false sense of certainty about his conclusions..... The samples of case studies are generally small. They fail to justify exhaustiveness and intensiveness and hence the results cannot be generalised."

After sufficient deliberations the questionnaire survey method was chosen for this study and a questionnaire containing 10 personal variables of the teachers and 274 items of the four tools were printed in English language for distribution to 1000 secondary school teachers and to their 90 Principals. The choice of language of the questionnaire was also finalised after sufficient deliberations.

The I.P.S. covers the four aspects of teachers' innovative proneness in 3 sections of the tool containing 21 questions. These sections are : (I) The Inventory of attitudes to Innovations (I.A.I.) (II) Situational and Innovation characteristics Scale, and (III) Change related value questionnaire.

Section I consists of 7 components which refer to the attitude towards innovation. They indicate the area where the innovations are to be introduced. All these areas refer to the day to-day class-room teaching. The school community relationship 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 society is most desirable. The I A I is a closed form Likert type summated rating scale designed to measure teachers' predisposition to adopt educational innovation. The selection of items for this inventory was based on a detailed survey of educational journals.

The components of I.A.I. are : (1) Individualisation, (2) Curriculum Organisation, (3) Teaching-Learning Process, (4) Teaching Resources, (5) Internal School Organisation, (6) Staff Development, and (7) School Community Relationship.

Section II of the I.P.S. is 'A Situational Characteristics and Innovative Characteristic Scale' (SC & ICS) and consists of 8 components which relate to the process of change in

education. These components are : (1) Administrative Support, (2) Staff norms, (3) System Norms, (4) Complexity, (5) Compatibility, (6) Riskness, (7) Localiteness, and (8) Cosmopoliteness.

The third sections deals with change related values and requires explanation. The process of change is related to the situational characteristics and to the characteristics, of innovation. In other words, the change process depends upon the nature of structure and other characteristics of the schools and upon 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 relationship, teacher-Principal relationship, norms and standards for the professional behaviour and the organizational climate of the school system appeared to be very relevant (Miller 1967). Initial force is the innovative practices itself, and those characteristics of the practice that make it more or less attractive are adoptable by other teachers. These characteristics are complexity, compatibility, riskness, localiteness and cosmopoliteness. These terms have been explained in the section meant for explanation of terms.

Section III of the I.P.S. is the 'Change related Value Questionnaire' (CRVQ) and consists of six components,

namely (1) Traditionalism, (2) Progressivism, (3) Dogmatism, (4) Venturesomeness, (5) Conservatism, and (6) Change Proneness. All these terms have been explained in a separate section of this Chapter.

A schematic presentation of the number of components and items of various sections of the Innovative Proneness Scale is given in the Table No. 3.2. The teachers opinion on Section I and II were to be obtained on six types of responses viz. strongly agree, agree, tend to agree, tend to disagree, disagree and strongly disagree. The opinion on items of section II, was to be obtained on the six responses as A, B, C, D, E and F. The marks assigned for these responses were 5, 4, 3, 2, 1, 0 and for inversely keyed items the assignments of marks was 0, 1, 2, 3, 4, 5. The theoretical range of scores for the three sections were 0-150, 0-300, and 0-300, respectively. The total range of score was 0-750. All scoring was on a closed Likert type summated type rating scale. The total score was to be taken to yield a global measure of predisposition to adopt innovation. The following aspects were examined while analysing the scores of I.P.S. (1) mean score of innovative proneness and its components, (2) innovative proneness of teachers according to different variables, and (3) innovative proneness of K.V. teachers as compared to other teachers.

The Tool - L B D Q

Originally, the LBDQ was designed by the Personnel Research Board at the Ohio State University, USA to measure

Table 3.2 : A Schematic Presentation of the number of components and the number of items in each component of the I P S for teachers

SECTION I The inventory of attitude to innovation. (I.A.I.)		SECTION II A situational Characteristics and The Change related values innovative characteristics scale questionnaire (SC & ICS)		SECTION III The Change related values questionnaire (C R V Q)	
No	Component	Item	No	Component	Item
1.	Individualisation	5	1.	Administrative Support	12
2.	Curriculum Organisation	3	2.	Staff norms	8
3.	Teaching learning process	5	3.	System norms	6
4.	Teaching resources	4	4.	Complexity	6
5.	Internal school organisation	5	5.	Compatibility	6
6.	Staff development	5	6.	Riskness	6
7.	School community Relationship	3	7.	Localiteness	8
			8.	Cosmopoliteness	8
			1.	Traditionalism	10
			2.	Progressivism	10
			3.	Dogmatism	10
			4.	Venturesomeness	10
			5.	Conservatism	10
			6.	Change proneness	10
Total :		30			60

Components - 21
Items - 150

the leadership behaviour of a group leader. It was constructed by Hemphil and Coons (1950) and was later adopted by Halpin and Winer (1952) who identified its two dimensions. The latter version of the L B D Q has been used in this study also. This tool has two dimensions of leadership behaviour viz. Initiating structure and Consideration having 15 items on each dimension. They measure the description how leaders behave ? A combination of both the dimensions determine the leadership behaviour pattern. In the context of the present study the tool measures the leadership behaviour of the Principals, It facilitates to define these leadership behaviour dimensions operationally. The members of the group indicate the frequency with which each form of behaviour is exhibited by checking one of the five adverbs viz. always, often, occasionally, seldom or never. The assigned marks for these responses for scoring were 4, 3, 2, 1 and 0, respectively. The theoretical range of scores on each dimension is 0-60.

The reliability coefficients of the two dimensions of the LBDQ was found to be 0.93 and 0.86, respectively. The LBDQ when used by the group to assess the leader gives "LBDQ - Real Staff" and when used by the leader in modified form for the group to indicate how leader should behave, yields "LBDQ Ideal Staff". Besides education, the LBDQ has been used in aircraft studies also by Halpin and Winer(1952) and has been found to be useable. In India the L B D Q has

been used extensively. Panda (1974) used it in a modified form but Sharma (1973), Shelat (1975), Darji (1975), Mukhopadhyay (1975), Pandya (1975), Mahendra Choksi (1975), Dekhtawala (1976), Tikmani (1976), Satpal Gupta (1976), Purshothmanan (1978), and Trivedi (1981) used the LBDQ as given by Halpin and Winer (1952) and confirmed its validity in Indian conditions also.

The Principals leadership behaviour in this study was derived from teacher's perception of their Principal as measured by the L B D Q. The two dimensions of the tool were translated emphasising "Group Maintenance" and goal achievement". These behaviour patterns of various leaders on both the dimensions were expected to differ-some may be high on both the dimensions, some high on one and low on the other, and some low on both. The following symbols are used to denote this fact :-

- HH : High Initiating structure and high consideration
- LL : Low Initiating Structure and low consideration
- HL : High Initiating Structure and low consideration
- LH : Low Initiating Structure and high consideration.

Halpin (1969) has suggested to plot each leaders' score from both the dimensions on the four coordinates mentioned above. For interpretation of results the

following scheme was followed :

INITIATING STRUCTURE	Above Mean	Below Mean	Above Mean
		HL IS + C - (N Principals)	HH IS + C +
	Mean Below Mean	LL IS - C - (N Principals)	LH IS - C +
		Mean	Mean
		CONSIDERATION	

The Tool - O C D Q

The O C D Q was developed by Halpin and Croft (1963) to measure the organizational climate of the Primary Schools of U.S.A. The questionnaire was standardised on 71 elementary schools chosen from six different regions of the United States of America, taking 1151 teachers as the respondents. Halpin reported the reliability of the tool to be 0.87. Andrews (1965) found it to be reliable for measuring the organisational climate of the Secondary School as well.

Andrews (1965) and Pritchard (1966) reported that the O C D Q has been found to be a reliable and objective measure of organisational climate. Andrews also stated that the sub-text of O C D Q provides reasonably valid measure of important aspects of the Principals' leadership in the perspective of interaction with his staff. Flaxton (1965) found a strong relationship between the test scores of OCDQ

and the external criteria e.g. teacher satisfaction, Principals' effectiveness and school effectiveness.

Smith Roservere (1965) in his factor analysis of esprit thrust interview schedule confirmed the validity of the counterparts in the sub-test of OCDQ. Smith (1967) related OCDQ to 23 external characteristics of elementary schools and found significant relationship of those variables with the specific sub-tests and significant difference between the variables in different school climates.

The O C D Q tool has been extensively used in India also. Some of the Indian studies conducted on the basis of this tool as developed by Halpin and Croft (1963) were by Mehra (1968), Butch (1972), Sharma (1973), Pillai (1973), Mukhopadhaya (1975), Shelat (1975), Darji (1975), Sahastrabudhe (1976), Dekhtawala (1976), Panchal (1977), Purushothaman (1978) and Trivedi (1981) in different states viz. Gujrat, Delhi, Tamil Nadu and Rajasthan. These studies proved that the OCDQ is reliable in Indian conditions also. In this study also the Halpin and Croft (1963) OCDQ has been adopted.

The OCDQ comprises of 64 Likart type items which are to be answered on four point scale viz. Rarely occurs, some - times occurs, often occurs and Very frequently occurs. The OCDQ is made up of eight sub-tests which have been termed as 'Dimensions' by Halpin. The first 4 dimensions deal with

the teachers' behaviour and the next 4 deal with the Principal's behaviour. The dimensions for the teacher behaviour and the number of items for each dimension are :

(1) Disengagement 10, (2) Hindrance-6, (3) Esprit-10 and (4) Intimacy-7. The Dimensions for the Principal behaviour are : (1) Aloofness - 9, (2) Production emphasis-7, (3) Thrust-9, and (4) Consideration - 6. All the eight terms have been explained in a separate section of this Chapter.

The purpose of the OCDQ is to secure a description of the different ways in which teachers and Principals behave in the school and also of the conditions under which they must work. The items in the questionnaire describe the typical behaviour of conditions that occur within a school. Keeping in view the environment in the school and the behaviour of staff members with one another, the questionnaire is responded by teachers as they perceive each category of behaviour. The respondent teachers have to be from the school organisation itself which is to be studied for the determination of organizational climate. The categories or scales of responses can be scored for each item by simply assigning to the respective category any four successive integers i.e. 1, 2, 3, and 4. The items to be scored negatively viz. those at serial number 5, 21 and 44 are to be scored as 4, 3, 2 and 1. To find out the raw score for each person, the scores of items for each dimension has to be added and divided by the number of items in the corresponding sub-test. This gives the raw scores of each person on eight dimensions.

For constructing the school profiles the scores of all staff under each dimension is to be added and the mean of each dimension calculated. These raw scores on the 8 dimensions of the OCDQ are to be converted into standardised scores both ways-normatively and ipsatively. For both the standardisation procedures, a standard score system based upon a mean of 50 and a standard deviation of 10 is to be used. These scores will give the profiles of the climate of the particular school. The school profiles are to be compared with the proto-type profiles developed by Halpin and Croft to find out the climate of the schools.

The similarity scores are to be calculated by computing the absolute differences between each dimension score in a school's profile and the corresponding score in the first proto-type profile and then in the second one and so on. This way, the score of each school is to be compared with those of each of the six prototypic profiles constructed by Halpin and Croft. For every school the sum of the absolute difference between the profile scores is to be computed. A low sum will indicate high similarity between the two profiles. On the basis of the lowest difference score, the climate type for each individual school will be decided. The maximum score is 6 for open climate and the minimum is 1 for the closed climate. The prototype profile developed by Halpin (1966)

to find out the climate of a school is shown in the table below :

Table 3.3 : HALPIN'S PROTOTYPIC PROFILE

Climate	Disen- gage- ment	Hind- rence	Esprit	Inti- macy	Alloof- ness	Prod- Emp- hasis	Thru- st	Consi- dera- tion
Open	43	43	63	50	42	43	61	55
Auto-nomous	40	41	55	62	61	39	53	50
Controlled	38	57	54	40	55	63	51	45
Familiar	60	42	50	58	44	37	52	59
Paternal	65	46	45	46	38	55	51	55
Closed	62	53	38	54	55	54	51	44

Source : Andrews W Halpin (1966) P-174

From the 8 identified independent dimensions Halpin and Croft specified a set of six climates which can be arranged along a continuum with 'Open' climate at one end and 'closed' climate at the other. These are : (1) Open (2) Autonomous, (3) Controlled, (4) Familiar, (5) Paternal and (6) Closed. Owens (1970) described these six types of climates on the chart shown in Table No. 3.4.

The Tool - J S I

Job Satisfaction Inventory was to be used for assessing the satisfaction of secondary school teachers from teaching job and thereafter relating it with the innovative proneness of

Table 3.4 : Climate - Dimension Chart of the O.C.D.Q.

A-Open Climate	B-Autonomous Climate	C-Controlled Climate	D-Familiar Climate	E-Paternal Climate	F-Closed Climate
1. High sprit	1. High sprit	1. High sprit	1. High Disen- gagement	1. High production emphasis	1. High disengagement
2. Low disen- gagement	2. High intimacy	2. Low disen- gagement	2. Low hindrance	2. High disengage- ment	2. High hindrance
3. Low hind- rance	3. Low disen- gagement	3. High produc- tion emphasis	3. High intimacy	3. Low hindrance	3. Average Intimacy
4. Average aloofness	4. Low hindrance	4. Low consi- deration	4. Average sprit	4. Low intimacy	4. Low sprit
5. Average intimacy	5. High aloof- ness	5. High thrust	5. High consi- deration	5. Low sprit	5. Low thrust
6. High consideration	6. Low produc- tion emphasis	6. Average aloofness	6. Low aloofness	6. Average thrust	6. High aloofness
7. Low produc- tion emphasis	7. Average con- sideration	7. High hindrance	7. Low production emphasis	7. Low aloofness	7. High production emphasis
8. Average thrust	8. Average thrust	8. Low intimacy	8. Average thrust	8. High consi- deration	8. Low consideration

secondary school teachers for drawing various conclusions as per the objectives and the hypotheses of the study. The tool was prepared by the investigator herself. It contained 30 job aspects. The details are discussed in the next section.

Administration of the Tool

The questionnaire containing the four tools and some inquiries about the personal variables was served personally in most of the K.V. and in the schools in Gujrat State. In schools where personal contact was not possible the representatives were used to deliver the questionnaire to the selected teachers. The representatives were also school teachers working in the particular school or were the research students. In a few cases the research scholars and the former guide, late Dr. D.R.Darji came forward to help distribute the questionnaires. In case of K.Vs. outside Gujrat the in-service training seminars arranged by the KVS for the KV teachers came handy and the colleagues of the investigators provided the necessary help. The completed questionnaires were collected by hand, through the same representatives or received by post. In all, nearly one-third number of questionnaires were received back which were considered reasonable for a study like this.

While filling up the questionnaire the teachers and Principals were requested to answer the questions under

natural conditions at their convenience in one go for in more than one sittings as they chose. The questionnaires were to be returned by hand or by post as they wanted. For postal returns a self-addressed envelop with postage stamp sufficient for Registered mail post was also enclosed with the questionnaire. VPP system was used for bulk despatch of questionnaire from distant placed.

The completed questionnaires started arriving after 10 days of service and continued till two years after distribution. In quite a few cases reminders had to be sent to the respondents for returning the questionnaires which in most cases were not replied. In a few cases apologies were tendered for the loss of the questionnaire. A stage came when further reminders were not considered to be worth. In any case, forced responses and incorrect opinions were to be avoided for reasonable results of the study. The efforts were called off when nearly 300 questionnaires were received back. With subsequent arrivals the total reached to 332 (32%) which was considered sufficient for the study. The details of questionnaires distribution and returned are shown in Table No. 3.5.

In addition to the questionnaires of the teacher's 90 questionnaires were distributed separately to the Principals all of which were received back. They were included for analysis alongwith the teachers' responses.

Table 3.5 - Details of the Questionnaires Distributed and Received Back

Type of school	Number of Schools	No. of Questionnaires Distributed		Received back	
		Teachers	Principals	Total No.	%
K.Vs in Gujrat	10	100	10	30	27.3
Outside K.Vs	10	148	10	60	38.0
Boys	10	100	10	50	45.4
Girls	10	100	10	32	29.1
English Medium	10	100	10	35	31.8
Gujrati Medium	10	100	10	40	36.4
Sindhi Medium	10	100	10	29	26.4
Hindi Medium	10	100	10	31	28.2
Marathi medium	5	50	5	15	27.3
Urdu medium	5	50	5	10	45.4
Total	90	948	90	332	32.0

These 90 questionnaires are also included in the 332 returned questionnaires shown in Table 3.5.

3.10 Scheme of Analysis of Data

The following procedure of analysis and interpretation of data was planned :-

- (1) The responses were to be hand scored on the basis of a predecided scheme which for the tools of I.P.S., L.B.D.Q. and O.C.D.Q. were suggested by their authors and for the

J.S.I. to be constructed by the investigator as were to be found best.

- (2) Univariate frequency distribution of all the variables involved viz. (a) School-wise variables - K.Vs., Unisex and medium, (b) Teacher-wise variables - the 10 personal variables, (c) continuous variables - components of the IPS.
- (3) Leadership behaviour pattern of the school Principals was to be worked out according to the four patterns.
- (4) On the basis of means of components of the OCDQ the six climate types were to be worked out.
- (5) The 't-test' (Significance of difference between means) was to be worked out on the basis of variables.
- (6) Inter-correlation, means and standard deviations were to be worked out.

Processing of data was to be done through mechanical means and if possible, on the computer.

3.11 Organisation of Chapters

The research report will be organised as per the following scheme of Chapters :-

Chapter I	: The Problem and Perspective
Chapter II	: Review of Related Literature
Chapter III	: Plan, Procedure and Tool Construction
Chapter IV	: Analysis and Interpretation of Data
Chapter V	: Review, Findings and Conclusion

BIBLIOGRAPHY

APPENDICES

3.12 Construction of the Tool

The main objective of the present study is to measure the innovative proneness of the secondary school teachers in relation to the job satisfaction among other aspects but so far no investigator had selected a sample like the present one nor had designed any tool to suit the purpose of such studies. This made it necessary for the investigator to construct a suitable tool. The job involved was however not easy. Apart from designing the tool, it had to be tested for reliability and validity before inclusion in the questionnaire. The section covers the complete account of the procedure of construction and standardisation of the present tool named as the "Job Satisfaction Inventory". The aspect of analysis of data collected on the basis of this tool has been dealt with in the subsequent chapter along with the data yielded by other tools.

Anjanuyulu (1968) had based his study on a questionnaire constructed crudely after trial in the Nellore District of Andhra Pradesh. The purpose of his study was different and the items listed were on the basis of oral consultations only. The finalised questionnaire had 17 questions and rest provided other information relating to personal and professional aspects. In case of a negative answer to question number X the

respondents were to indicate the reasons of dissatisfaction from among the 24 causes listed therein or to indicate other items for which space was also provided therein. A portion of the respondents were to be interviewed also on another tool. This tool was not found useable in this study. The present study required a tool in the form of a running list which could be answered by the respondents. No other foreigner Indian tool used on industrial workers or teachers was found useable for the present study. The construction of a suitable tool, therefore, became necessary.

The items for a tool are collected in two ways. Firstly, the questionnaire standardised in foreign country can be translated. Secondly, an independent questionnaire is constructed for a specific area or for general use. The translated items suffer from 3 main drawbacks : (1) Environment of the country of origin differs from the country of use, (2) Customs, taboos etc. make some materials of one country unsuitable for the other, and (3) Idioms and proverbs of one country cannot be properly translated for use in another country with different roots. In this case the choice was limited to the second alternative only and for which several stages had to be gone through.

Stages of Construction

The following stages were involved in construction of the tool :-

- (1) Initially 80 items of job satisfaction and

dis-satisfaction were collected on the basis of previous research studies and the available literature.

(2) These items were scrutinised by four experts and ambiguous ones eliminated.

(3) A list of 40 selected items was prepared and tried on 190 persons.

(4) Response on each item was calculated and items receiving less than 70 percent positive response were eliminated.

(5) The reviewed list was again tested on a second group of 50 teachers in real situation.

(6) The validity and reliability of items of the final test was found out.

(7) The final form of Inventory was administered to the entire sample of the study alongwith other tools.

Principles Followed

The following general principles were followed in wording the items comprising the tool :-

(1) Statements referring to the past were avoided.

(2) Factual statements were avoided.

(3) Statements capable of giving more than one interpretation were avoided.

(4) Irrelevant and ambiguous statements were excluded.

- (5) Statements likely to be endorsed by almost every one or by none were avoided.
- (6) The language of the statements was kept to be simple, clear, direct and easy for grasp.
- (7) Short statements between 3 and 15 words were prepared.
- (8) Each statement contained only one complete thought.
- (9) Statements were in the form of simple sentences. Compound and complex sentences were avoided.
- (10) Use of double negative in the statement was avoided.

List of Job Aspects

The initial list included 80 items relating both to personal and professional aspects of the job. These items covered the areas of : (I) Economic conditions, (II) School administration, (III) School discipline, (IV) Social Status, (V) Teaching facilities, (VI) Job Security, (VII) Professional growth, (VIII) Teacher Organisations, (IX) Staff discipline, and (X) Working Condition. These items were long statements which were to be pruned for making the tool simple, compact and short.

These items were scrutinised and reviewed with the help of four experts alongwith the investigator. These experts were Dr. D.R.Darji, Dr. M.C. Moksi, Dr. A.S.Patel, Dr. M.B.Patel, all had specialised in the field of education and were

occupying eminent positions and had sufficient experience. The copies of the list was independently distributed and their opinions solicited. All items agreed by all the four or by three of them were separated. In case of a few items agreed only by two of them, casting vote was given by the investigator after independent application of mind. The remaining items were excluded. This way 40 items were included in the second list for processing at the subsequent stage. This was done keeping in view the suggestions made by Lindquist (1955) that "Test items should be reviewed before try out on any sizeable number of subjects from three points of view : (1) the accuracy and appropriateness of their subject matter contents, (2) their technical merits apart from contents, and (3) their editorial quality.

The Second List

The second list of 40 items were again reviewed and arranged in a proper order for field-testing on a trial basis. The items were written in English, language for reasons discussed earlier. The views of Lindquist came handy at this stage also. He stated "Once the individual items have been constructed, the problem remains of selecting from among those that survived the review process and try out those which are to constitute the test, and of arranging the selected items into an appropriate order and avoiding undesirable overlapping among the items".

The list of 40 items was circulated to 10 research scholars from among those enrolled for undertaking educational research, 10 M.Ed. students and to 170 B.Ed. students enrolled in the faculty of Education of the M.S.University of Baroda in 1979 for the first try out assessment. They were all either serving teachers or potential teachers. This was done to find out : (1) Gross deficiencies as to correct answer, ambiguity etc. (2) the difficulties of the respondents in the items, (3) the time limit for the tool, and (4) to select the items for analysis.

The list of items was circulated to 190 teachers and research scholars who were requested to complete the replies in one sitting at their convenience and return it to the investigator within a week or so on completion of work. All copies of the list was received back by the end of the fourth week though maximum returns were received within the first 12 days or so. The respondents were requested to answer only those items which appeared to be absolutely clear and unambiguous to them and put a big cross mark (X) against those items for which they had even the slightest doubt. The result of analysis is shown in Table No. 3.6.

The Final List

The items positively responded by 70% or more group members were retained on the final list and remaining items were dropped. This way, 30 items (75% of the second list) found place on the final list and 10(25%) items were dropped.

Table 3.6 : First Try-out Score

Items of the first List		Total	No. of Responses				Total %
Total No.	Percentage		Positive		Negative		
			No.	%	No.	%	
16	40	190	171	90	19	10	100
8	20	190	152	80	38	20	100
4	10	190	143	75	47	25	100
2	5	190	133	70	57	30	100
2	5	190	95	50	95	50	100
8	20	190	0	0	190	100	100
<u>40</u>	<u>100</u>						

The items were arranged according to their score in the first try out. This inventory was again tried on 50 teachers of 10 selected schools of different types in Baroda for confirmation. Five teachers were chosen from each school from the current list of staff members. Details of these schools are shown in the Table 3.7. In this connection Lindquist stated "Once the gross deficiencies in the try out forms have been eliminated, perhaps on the basis of a pre-try out, it becomes necessary to obtain accurate information concerning the performance of each item in a sample of teachers similar to those with whom the final form of the test is to be used".

The first try-out studied as to how the tool worked. The aim of the second try-out was to make the tool more efficient, reliable and valid which is necessary for

Table 3.7 : Details of Baroda Schools selected for Second Try outs.

Sl. No.	Address of School	Type	No. of Teachers Selected
1.	Kendriya Vidyalaya, Harni	KV	5
2.	Rosery High School, Fatehganj	English	5
3.	Baroda High School, Baghi Khana	English	5
4.	Gujrat Vidut Board Vidyalaya Vidut Nagar	Gujrati	5
5.	M.K. High School, Alkapuri	Gujrati	5
6.	Shri Ladha Ram Sindhi High School Nazar Bagh	Sindhi	5
7.	Muslim Education Society School, Mughalwadi	Urdu	5
8.	Jalshri Model High School, Dandia Bazar	Marathi	5
9.	Sanskar Vidyalaya, Pipriya, Baghodia	Boys	5
10.	New Era Girls High School Bhutdi Zampa	Girls	5

Standardisation of any tool. The objectives at this stage were : (I) to identify weak and defective items, (II) to find out the validity and reliability of the tool, and (III) to establish the norms.

The sample for the second try out was selected to resemble the sample of the population. From the score of this try-out the investigator worked out the validity and reliability of the tool.

Validity

The validity has been studied in three different ways viz. (a) content validity, (b) Rating of teachers with the ratings of the Principals or Headmaster, and (c) Item analysis by phi-coefficient formula.

The content validity of each of the 30 items put on the inventory has been assessed from the opinions of the four experts and 10 research scholars expressed for them, on one hand, and on the definition of 'Job Satisfaction' provided by the other experts, on the other.

The validity of the tool was further tested by correlating the scores of teachers with Principals rating of their job satisfaction on the five point scale viz.

- | | | | |
|----|----|---|-----------|
| 1. | VH | : | Very High |
| 2. | H | : | High |
| 3. | A | : | Average |
| 4. | L | : | Low |
| 5. | VL | : | Very Low |

For testing the validity of the questionnaire the investigator discussed with the Principals of these ten schools and requested them to name 3 teachers each in the categories of high, average, and low job satisfied in their schools. They had to do this from their own judgement. These teachers were deliberately included in the sample of 5. After receiving back the list from these teachers, the

respective Principals were again requested to give their opinion for each teacher relating to his job satisfaction. The scoring was done on the five point scale of 0,1,2,3, and 4. The total value score of each teacher were correlated with the Principal's scores. The product moment coefficient correlation between the two sets of scores was 0.80 meaning a fairly good coefficient of correlation. The tool agreed with the Principals' estimates and hence was finally accepted.

Item validation was also done through phi-coefficient formula for establishing the relationship of items with each other. The results were so obvious that no need was left for cross validation. This proved that the questionnaire was valid. The item analysis of the tool was done as per the examples given by Kelly and confirmed by Micheels (1950). According to them most accurate determination of item validation or internal consistency can be obtained by comparing approximately the upper and lower 27 percent of the total group. The investigator selected the top and bottom groups on the basis of total scores on the items. For each item a frequency distribution was obtained for these two groups. Thereafter, the response categories for all items were dichotomised. The entire procedure is summarised in table no. 3.8.

Table 3.8 : Schematic Presentation of the
Dichotomising Response Categories

Response Categories	Groups		Total
	High	Low	
27% High Group (Top)	A	B	(A + B)
27% Low Group (Bottom)	C	D	(C + D)
Total	(A+C)	(B+D)	

The phi-coefficient values were calculated on the basis of the following formula :

$$r_{\phi} = \frac{AD - BC}{\sqrt{(A+B)(C+D)(B+D)(A+C)}}$$

The phi values of the top and bottom groups were between 0.83 and 0.17. The investigator selected the items with highest phi-values from 0.50 to 0.83, and finalised the tool by re-arranging the items on the inventory.

Finalisation of the Tool

After confirming the validity and reliability of the third (final) list of 30 items the tool was finalised for use in this study. It was named, "The Job Satisfaction Inventory". Thus, the initial list of 80 items was systematically reduced to 30 items and the long statements were curtailed to the minimum essentials, consisting of a few words for making the 'Inventory' Compact. This made the tool representative and effective for the purpose of survey. The JSI is placed at the Appendix. The 30 aspects of the job

retained on the inventory are : (1) salary, (2) relations with colleagues, (3) interest in work shown by Department head, (4) job security, (5) relation with the Dept. head, (6) working conditions, (7) nature of the job, (8) Achievement in job, (9) use of talents, (10) responsibility in job, (11) autonomy in job, (12) technical/professional competence of the Dept. head, (13) level of promotion reached, (14) prestige of job, (15) fairness of authority in job, (16) freedom of expression in job, (17) recognition of work, (18) challenge in job, (19) Fringe benefits, (20) possibility of advancement, (21) involvement in job, (22) help from administration in job, (23) status in job, (24) leadership avenues, (25) participation in decision making, (26) procedural formalities, (27) sense of belonging, (28) respect from colleagues, (29) technical facilities, and (30) work load.

The process of elimination of items is shown in the Table No . 3.9.

Table 3.9 : Process of Elimination of Items

Activity	No. of Job Aspects
Initial Rough List	80
After Review by experts	40
Removed after the First try-out	10
List used for second try-out	30
Rearrangement and tool-making	30

Scoring of the Responses

The method adopted for scoring the responses of J.S.I. was to assign zero to the undecided reply viz. Neither satisfied nor dis-satisfied (NSD), +1 to somewhat satisfied (SS), +2 to very satisfied (VS), -1 was to somewhat dissatisfied (SD) and -2 to very dissatisfied. This way, the maximum possible score could range from 0 to +60 or -60 for each teacher.

3.13 Conclusion

The aim of the present research is to investigate the innovative proneness and its correlates of the secondary teachers for the purpose of which a large and versatile sample was chosen from among the Kendriya Vidyalaya managed by the K.V. on the model lines and situated all over the country, on one hand, and from the other schools in Gujrat state on the other. The Schools in the State included six different medium, of instruction, schools and boys and girls schools which were carefully chosen.

The correlates selected for the study are the leadership behaviour of school Principals, organizational climate of the schools and the job satisfaction of teachers as perceived by the teachers. Keeping in view the ten-plus two system of education all teachers taking classes from VI to XII have been considered as the secondary teachers.

The classification followed by the K.V. and the state schools were merged for this study.

In all 90 schools their Principals and 948 teachers were included in the study and the questionnaire survey method was decided for collection of data. Three standard and tested tools were included for clear understanding. The tool of Job Satisfaction Inventory was constructed, tested and systematically validated by the investigator. The techniques used for analysis of data was decided to be simple and common for keeping the results comparable.

This is a unique study and is being undertaken for the first time in India. Its peculiarities lie in the type of sample and school variables, particularly the media of instruction, selected for study. A much needed tool to identify the job satisfaction of teacher has also been constructed. The next Chapter presents the analysis and evaluation of data.
