CHAPTER III

A REVIEW OF PREVIOUS STUDIES

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Scientific research in communication is a recent development. Until the 20th century there was little effort to apply scientific methods to the study of the communication process. Even the tools and methods were slow to develop. In the last few decades however there has been dramatic expansion of communication research. But most of them are in the field of mass media, political science and journalism. Studies that are relevant to this study, are discussed below. As Etzioni (1964) has observed "There are very few functional structural

studies of communication, in particular of communication in organization".

3.1 Communication Process:

The pioneering work of early Sociology on communication is that of Tarde (1903). He suggests that the adoption of new ideas follows a normal S-shaped distribution overtime. This means that in the earlier stages only a few individuals are accepting the new ideas; the number then increases and finally the rate of adoption slackens. The main interest of the early sociologists has been in studying the diffusion process of only such innovations that promised to contribute to major social changes. In their studies the sociologists considered a state, a city or a social organization as the unit rather than a single individual.

A sizable amount of work has been done in the area of agriculture by rural sociologists. The remarkable work of Ryan and Gross (1943) in rural sociology on the adoption of hybrid seed corn gave a wealth of data on the process of adoption by the farmers. This study led directly to the investigations of the correlates of

innovativeness, viz., the adopter categories, the social characteristics such as age, status, cosmopoliteness of the early and late adopters, the opinion leaders and their ways of influence, their distinctive roles in the process of adoption predicting innovativeness and information sources at different stages in the adoption process.

Emery and Oeser (1958) viewed adoption of a farm practice as a "consequence of communication". Coughenour (1960) views adoption as a function of dynamic interrelationship of independent elements expressed in terms of variables. Copp, Sill and Brown (1958) state "It is quite natural that the adoption of a technical innovation in agriculture should be regarded as a process. Adoption is an activity of the farmer taking place over a period of time. From the first awareness to regular use, there must be a transformation in the orientations and behaviour of the farm operator. Adoption of a farm practice is a bundle of related events flowing through time not an instantaneous metamorphosis".

Mort (1964) concluded from approximately 200 studies that the time required from the inception to diffusion of an

innovation in educational institutions was about 50 years Barrington (1953) surveying the diffusion of innovation in 161 teacher education institutions and associated laboratory schools found a similar time span in the adoption of an innovation and the same diffusion curve. However in the past few years diffusion has occured at an accelerating pace. Bushell (1957) found that only twenty years were needed to achieve 50% diffusion and more recently Carlson (1964) ascertained that diffusion of modern mathematics was 88% complete in six years.

Lionberger (1963) has studied the change process with respect to the diffusion of farm practice by farmers. His studies are concerned with the influence of the personal characteristics of the acceptor, his social status, the membership in various types of organisations, formal locality, clique groups, group norms relative to the acceptance of change itself, exposure to various types of mass media, sources of farm information, the flow of information through inter-personal communicative net works, situational factors relating to the unit and the role of change agents in the process of adoption.

Stages in adoption:

Rogers (1962) in his study of farm innovations gives five stages of adoption process viz. i. awareness ii. interest iii. evaluation iv. trial and v. adoption. According to him adoption implies continued use of the innovation in the future. Pareek (1962) after reviewing Rogers has suggested that 'need' should be added as the first stage.

Wilkening (1953) used four stages: awarness, obtaining information and conviction, trial and adoption. The sub-committee for the diffusion of farm practices of the North Central Rural Sociology Committee (1955) Iowa State College suggested that adoption process composed of five stages which occured in the following sequence:

1. Awareness
2. Interest - information
3. Evaluation
4. Trial and
5. Adoption

Wilkening (1962) later suggested only 3 stages: awareness, decision making and action. Beal et al (1957) and Copp et al (1958) performed research primarily designed to determine whether the concept of a five stage adoption

process is empirically acceptable. Rahim (1961), Bose and Dasgupta (1962) have broken up the process into fewer or more stages.

Leithwood and Russell (1974) have developed an operational model for planned educational change. The authors conceptualize seven temporarily sequenced stages of educational change including (i) agreement to begin (ii) establishment of an organization, (iii) selection of problems and goals, (iv) study of available solutions, (v) pilot trials, (vi) adopt, adapt reject decisions and (vii) field trials.

Sharma (1967) has concluded that a five stage model in farm practice adoption - awareness, interest evaluation, trial and adoption-is empirically valid.

Indian sociologists and specially the rural sociologists have undertaken a large number of studies in the area of diffusion of agricultural innovations amongst the farmers. Studies by Barnabas (1955) Dube (1961) Pandit(1962) Bose (1960, 61, 62, 63, 64) Bakshi (1962) Bose and Basu (1963) Bose and Dasagupta (1962) Singh (1962) Chattopadhyaya (1963) Narayan (1963) Dasguptha (1963, 65) Radhukar(1962,63)

Sinha (1963) Sahoni (1963) Basu (1964) Singh and Jha (1965) deal with such problems as the adoption process related to socio-personal factors, characteristics of farmers, role of factors like age and education, size of the farms, attitudes and beliefs of farmers in relation to adoption of improved farm practices, psychological correlates of adoption, and communication and diffusion process among farmers.

In management science, the early classic statement of Barnard (1938) and Mary Parker Follet (1940) paved the way for behavioural - as opposed to classical - orientations to the functions of organizational administration. Simon's (1947) and Mc. Gregor's (1960) works well illustrate the conceptual departures in the 'behavioural' approach. Both Barnard and Simon emphasized the interdependence of communication and organization. Both writers conceived of organizational communication in terms of the system approach.

Koontz (1958) surveyed the possibilities of a "unified theory" of management. Albers (1961) and Brown (1960) reveal an increasing concern with the operational

aspects of communication in organizations, the kind of concern that has led very recently to several independent observations that the essential management and organization function is communication or information processing.

In medical science the 'two-step' flow of communication is popular among doctors. Evidences indicate for example that doctors accept and use new drugs not primarily on the basis of information which they obtain through professional journals but because other professionals whose work they respect adopt the drugs (Menzel et al 1955).

The spiralling emphasis on information technology since World War II - both hardware and software - has contributed directly to the present conceptual perspectives on the communication - organization interface and has had a salutory impact on theorizing about behaviour in all kinds of social settings. The advent of the computer and other data-processing equipment, has forced a reappraisal of the role of operational communication and information systems in organization. "Systems analysis" and its consequence threw into conceptual jeapardy the old notions of upward - downward, management-employees, formal-informal communication.

The "human relations" approach to "good communication" is rapidly supplemented by concepts of layers of information requirements (Simon 1960) and information decision systems (Johnson and Rosenway, 1963).

In Education about 150 studies have been mentioned by Ross (1958) in the area of innovation and change. A perusal of literature related to change process operating in schools in particular and education in general reveals three major concepts viz. change agents, adoption process and school adaptability or innovativeness. Studies relating to the process of communication of innovations alone are highlighted below.

The importance of the use of selected group processes and communication skills by change agents in personal contact situations, has been demonstrated in the studies of Broadback (1956) and Lewin (1953). These studies indicate the importance of personal involvement, as opposed to telling by an authority, as a key variable in effecting change in human behaviour. Diffusion studies in which social systems having a hierarchy of personnel have been involved, such as those by Brickell (1961) Farusworth (1940) and Griffiths (1963), have found that the single most influential change agent in school systems to be the legally

constituted leader namely, the principal.

A study was made comparing diffusion of innovation in Brazil, Nigeria and India (Roy Prodipto et al 1972). In India the study was done in two phases; a survey of 108 villages in Andra Pradesh, Maharashtra and West Bengal and a study of adoption behaviour among 680 farmers from eight villages in these states. In the villages it was found that adoption was positively related to the presence of supporting institutions (schools, panchayats and Co-operatives) and access to and contact with mass media channels of communications. Leaders receptivity to change affected the whole village. Contact with the outside world; contact with extension agents; visits - to the city; mass media contact; secular orientation and knowledge of political leaders were positively related to agricultural adoption among the formers.

A study of Educational knowledge Diffusion and Utilization was made by Wolf Jr. and Fioriono (1973). Some six hundred educators were studied in depth to determine their experiences with innovation, the influences of recognized diffusion agents upon their adoption of innovations, the characteristics of selected target audiences in relation to the adoption of innovations to personal practice and relationships between five distinguishable stages of innovation adoption described by rural sociologists

and the adoption process described by randomly selected educators. The study revealed that most of the innovative activity was incidental to the operation and financing of the established order. Most of the innovations discussed were drawn from outside the environs of the practitioner and used intact or after modifications. Direct involvement type diffusion strategies (colleague contact, workshops, institutes courses) were more popular with innovative subjects. It was also found that innovators have more information sources, more cosmopolite sources of information, than do non-innovators. The five step pattern of innovation-diffusion commonly seen in agriculture (awareness / interest / evaluation / trial / adoption) was found to be relatively applicable to the field of education.

Bettinghan and Miller (1975) have set forth theoretical and empirical foundation for the development of a formal dissemination model to apply to the introduction of information about educational accountability programme. If a dissemination model is to be effective the fundamental assumptions underlying it must be spelt out explicitly.

Existing communication problems can often be traced to mistaken assumptions about the nature and purpose of the communication process. The success or failure of a formal dissemination model also hinges upon identification of relevant sociological, psychological and communication theories. A useful theory allows transcendence at least to some extent, of the exigencies of a particular communication situation and allows prediction of the probable outcomes of a specific communicative strategy in other similar situations.

The studies so far reviewed agree upon the existence of stages in the process of change and communication of information in most cases is the starting point of the innovation process. Communication continues and passes through other stages also. The resource centres have to communicate through the change agents to the adoptors. The need for two-way communication is also empirically established. These generalisations are shared by the studies in different traditions.

3.2 Communication Source - Change Agents:

Lippilt, Watson and Westley (1958) suggest that

i. the agent's assumptions about the clients problems,

ii. his conception of his role, and

iii. his personal motivation for inducing change facilitate change. Sampson (1971) considered the relationship between the power and the role of the change agent. Most behavioural scientists agree that power is the ability to influence ; so in effect power is an independent variable which influences the dependent variable the role of change agent.

Power can be exerted in five ways :

1. Coercive power or the ability of A to reward or / and punish B

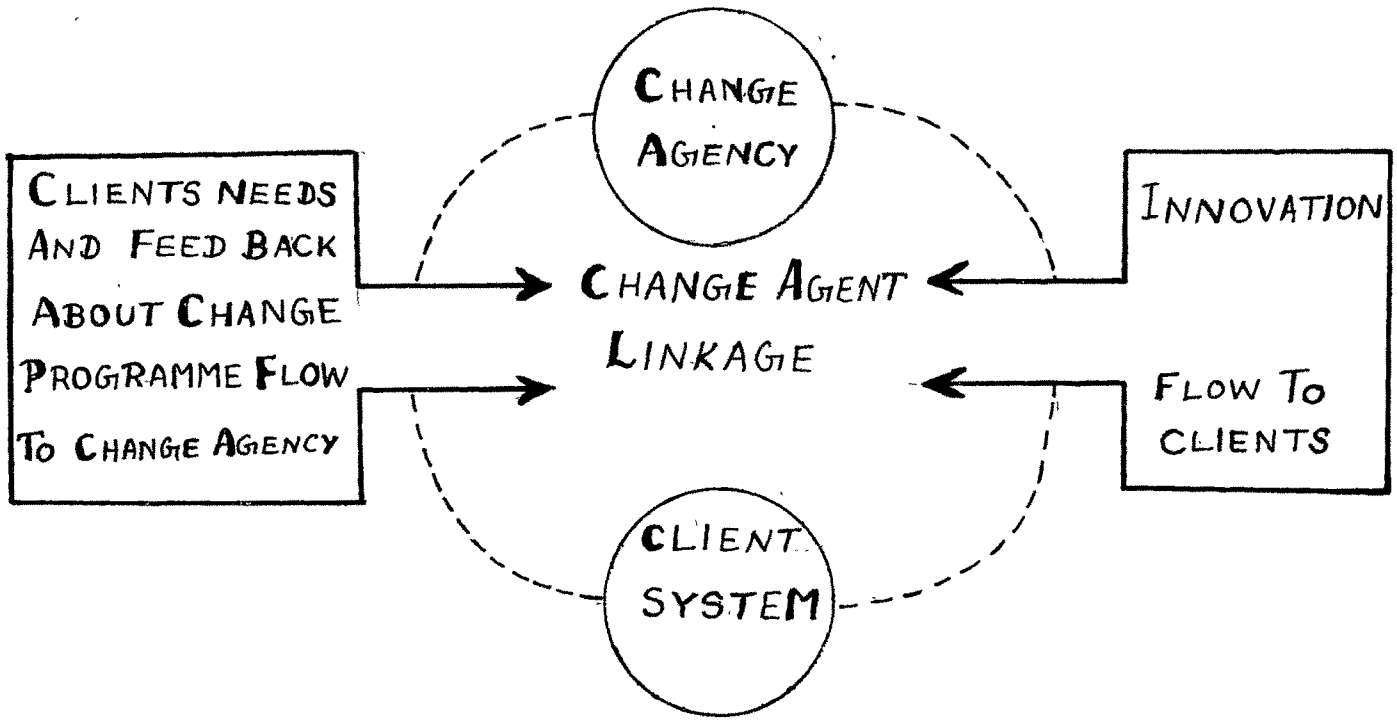
2. Referent or identification power or the influence which accures to A because he (or the group) is attractive - in short a role model.

3. Expert power or the power that is associated with science and truth.

4. Legitimate or traditional power or power which stems from institutional norms and practices and from historical - legal traditions

FIGURE-X

FUNCTIONS OF CHANGE AGENT



5. Value power or influence which is gained on the basis of attraction to the values of A.

According to Rogers and Shoemaker (1971), a change agent is a professional who influences innovation - decisions in a direction deemed desirable by a change agency. He functions as a communication link between two or more social systems.

The role performance of a change agent involves different functions arranged in a sequence as follows:

1. Develop need for change,
2. Establish a change relationship,
3. Diagnose the problem,
4. Create interest to change in the client,
5. Translate intent to action,
6. Stabilize change and prevents discontinuances and
7. Achieve a terminal relationship.

According to Singh and Jha (1971) the successful function of a change agent will depend on:

i) Communication skill

ii) Language compatability of the source with the receiver

iii) Communicator's degree of contact with receiver

iv) Socio-economic status of the receiver

v) Receiver's level of education

vi) Receiver's past experience with communicator's message

andvii) Frequency of the use of channel.

Burton (1973) has evaluated the influence of change agent teams on the order of change processes of school systems comparing school systems using change agent teams as a vehicle for educational improvement with other school systems without such teams. Findings revealed little evidence that the presence of change agent teams made any difference in perception, emphasis, responsibility or influence in relation to the improvement process in a school system.

Joseph (1973) describes a model of educational

leadership which defines leadership as the capability to introduce and maintain a process of organizational renewal. The model is composed of six elements which are perceived as the phases or stages of planned organizational renewal :

i. assessment of educational needs

ii. assessment of the current state of the organization

iii. translation of needs into new and revised programmes

iv. implementation of new and revised programmes

v. management of new and revised programmes and

vi. programme monitoring and evaluation

Effective communication results when the source possesses power, status, language compatibility and skill of communication. These factors are considered when the source variables are decided for the communication model for the study.

3.3 Communication - Message

One can distinguish three phases of the process of communicating any message, and each is subject to considerable variation. The nature of the message itself comprises both its content and the manner in which it is presented. The medium or channel of communication by which it is presented is the second phase. The capacity of the recipient both to perceive the signals conveying the message through one or more senses and to record a faithful image of the message is the third phase. (Trenaman, 1967).

According to Sampson (1971) the message factors include the content of what is said, its structure (e.g. its order of presentational) the kind of appeal that is used (e.g. soft sell versus hard sell, fear arousing or neutral) whether a conclusion is drawn and so forth.

Floyd and Ashley (1967) mention the characteristics of the dialogue as ennunciated by Pope Paul VI as follows: 1. clearness above all 2. its meekness and 3. pedagogical prudence.

In the dialogue conducted in this manner the union of truth and charity, of understanding and love is achieved.

Message factors according to Singh and Jha (1971) are as follows:

1. Profitability of message
2. Compatibility of message with the need of the receiver
3. Communicability of the message

Eric (1972) reviews some recent researches on the relationship of group processes and cultural milieux to choice of linguistic form and its implications for problem solving in small groups. Basic to the discussion is the concept that language usage conveys important social information and is therefore not a matter of choice but must be role-governed. The initial section differentiates linguistic competence (ability to produce grammatically correct sentences) from communicative competence (ability to select appropriate forms from the totality of grammatically correct appressions available) Techniques for eliciting communicative competence are then discussed and compared. Communicative competence is dependent on linquistic

competence as well as on the depth of knowledge relating to the content of the message.

McCarmack (1975) discusses the aspects of any communication. One is the content of the information intended. This is the area of competence in communication. The other involves the attitude of the supervisor toward the person to whom the information is directed. This aspect is always communicated-intentionally or un-intentionally, knowingly or unknowingly. The highly compelling supervisor can be almost a total failure for lack of compassionate communication. There are skills of compassion which can be taught and learned just as the skills of competence. The compassion skills include, being open to one's own feelings, being constructively honest with other people as well as to yourself about what your feelings are; being open to and communicating positive feelings, and of being able to manage one's own thoughts and feelings so as to truly listen to another person. Competence and compassion together produce the greatest satisfaction for all concerned.

"Verbal communication patterns of selected public relations practitioners", has been analyzed by James Fenlon Lloyd (1972). Three instruments were used to measure communication behaviour, perceptions of communication effectiveness and the perceptions of satisfaction received from engaging in these behaviours.

Communication dimensions measured consisted of sixteen behaviours within three major dimensions of direction (external, upward, downward) type (oral, written) and activity (sending, receiving) thirty four subjects were interviewed and asked to respond to the quantitative instruments and open-ended discussion questions.

No significant evidence was found to support the training of future practitioners in one area of communication over another. There does appear to be a shift from the behavioural emphasis of written forms to more personal or oral forms and the utilization of improved communication technology.

There is found to be an agreement among the various studies presented above on 'message' relating to the content, kind of appeal and structure. The profitability of the message as perceived by the receiver, will raise the acceptance rate and thereby the adoption rate also. The kind of appeal is related to the status enjoyed by the source system. The message needs structuring so as to be compatible with the receiver's need and easily communicable through the media chosen.

3.4 Communication - Channels

Rogers (1971) has drawn a comparative statement of interpersonal channels and mass media channels as follows:

TABLE NO. 3

TABLE COMPARING INTERPERSONAL AND MASS MEDIA CHANNELS

Characteristics	Interpersonal	Mass media
Message flow	Tends to be two-way	Tends to be one way
Communication content	face to face	interposed
Amount of feedback readily available	High	low
Ability to overcome selective process (primarily selective exposure)	High	low
Speed to large audiences	relatively slow	relatively rapid
Possible effect	attitude formation and change	knowledge change.

With a view to close the communication gap between validated information and the decision making processes related to school administration and instruction Oregon's Pilot State Dissemination Program was established in July 1970 (Katagiri 1972). By December this was in full operation. The use of services increased from 13 requests in october to 159 in November. The programme expanded to include districts throughout the state. Feedback indicates that increasing number of administrators and teachers are relying on more validated information to make decisions. It can be concluded that the dissemination of validated information is valuable for systematic improvement in education. It is also evident that effective information retrievel dissemination is a complex process which requires special skills and careful development.

The problem - "What makes the demostration an effective technique for promoting the use of innovation?" was examined by Willis (1972) in a pilot study of a sample of 30 projects funded by the National Institute of mental health. The projects were spread over the states of Illinois, Ohio, Michigan, Winconsin and Indiana. Responses were obtained

by direct interview at project sites. Evidences of adoption by target organizations, aware of the demonstration, was indicative of diffusion. Based on the findings it was concluded that widely divergent approaches to demonstration can result in diffusion of innovation and that the amount of diffusion for each approach depended on how free, project personnel were to perform their tasks.

A systematic enquiry to assess the extent to which consultant teams have contributed to principals acceptance of innovation was taken up by Sanders and Borich (1973) Data were based on the Institutional Change. Participants of the study were principals of 12 elementary schools. Six schools contained consultant teams while for control purposes the remaining six did not.A Two-part empirically validated questionnaire was individually administered to each of the 12 participants. Each of the participant was visited twice by the investigator. The results of the inquiry indicated that at the school level there was greater change in the predicted direction among the schools using the model than among those not using it. The use of consultants contributed to the successful implementation of the change.

The Concern - Based Adoption Model (C - BAM) a

representation of the process by which an educational institution adopts an innovation, views adoption as a developmental process involving complex interaction between a user system and a resource system (Gene 1975). The resource system is usually a formal organization whose expert knowledge of innovation is available to the user system. This interaction called collaborative linkage is ideally characterised by open communication which allows the resource system to assess the individual user's needs and concerns and to select personalized intervention strategies based on this assessment. It is hypothesised that there are different identifiable stages of concern, about the levels of use of an innovation. The user system's advancement to higher levels of use and concern is a developmental process. The intervention strategies of the resource system are aimed at answering the user's concerns arousing higher concerns and hereby advancing the level of use of the innovation.

In India Muthian (1970) studied the "Relative effectiveness of selected extension methods in the use of plant protection practices for rice crop by the farmers of Thondamuthur Block" (CBE. Dt.) Of the main extension methods considered only five extension methods viz. Individual contact, Group meeting, Indirect influence, Radio and

literature contributed to the awareness of all the three plant protection practices. The other four methods like, demostration, visual aids, exhibitions and film shows did not create any awareness of plant protection practices for rice crops. At the adoption stage the the four extension methods - Individual contact, Indirect influence, radio and literature contributed in respect of all the three practices. Of these four extension methods individual contact and indirect influence ranked higher than the other two methods.

Radhakrishna menon (1970) studied the small farmers with regard to their participation in extension methods and utilization of assistances in Sarkarsamakulam Block (CBE Dt.) The small farmers had poor contacts with the extension agency and it was more or less undirectional, the farmer having to go to the agent to avail the concessions or seek information. Radio, exhibition and film shows were the extension methods more familiar to the small farmers. Neighbours and relatives, radio, exhibition and film shows served as excellent media for the diffusion of improved practices of plant protection while meetings and training helped farmers in knowing improved practices.

Burke (1976) spelt out the purposes of multimedia programmes and the functions of communications. The purposes of multimedia programmes are educational, promotional recreational and expressive. The functions of communication are information, instruction, persuasion, entertainment and enrichment. In communication immediate value as related to specific audience is emphasized. Books and films are channels of communication. A programme is to be judged on specific functions related to specific receivers. It is not the lasting social value of the message that matters; it is rather its usefulness. Considerations should be supported by the literature of that discipline. Functional examination leads to analyses of the producers intentions, the structure and style of the programme and the anticipated effect on the audience. Experimental examination emphasizes the reactions of the receivers and the influence of the environment in the communication process. Communication process includes intent of the sender (producer) formation of the message, use of the channel, response of the receiver, feedback between sender and receiver, affective influence of the actual presentation environment and total influence of the larger social environment.

Frank (1972) has surveyed the literature and information sources on telecommunication technology in education. This report describes both hardware and software aspects of these trends. Hardware trends include, microminiaturization, increased message transmission capacity, interactive information flow, more complex and complete information grids, faster and longer long distance communications and multi-media use of technologies; while self- paced instruction, the inter-disciplinary approach, greater student involvement, increased stress on relevance, team teaching and time flexibility are included in soft-ware trends.

Alamgeer (1970) found out that 63 per cent of farmers were listening to radio and of them 90 per cent were listening to farm broadcast programmes. Among the farm broadcast listeners 90 percent had learnt the farm practices while 49 percent had adopted the practices learnt. The personal factors like education, ownership of radio, frequency of listening had positively influenced the listening of radio in general and farm broadcast in particular. Irrigated land farmers were more interested in radio listening as compared to rain-fed farmers. Regular listening had led to a higher percentage of adoption. Timeliness, coverage

of subject matter, communication of message and clarity of language were found to be highly satisfying to farmers. Among the several techniques adopted by the all India Radio, Tiruchirapally in farm broadcast programmes, only six techniques namely 1. dialogue 2. interview with progrssive farmers 3. announcements and fore-casts 4. questions and answers 5. farm news and 6. success stories narrated by farmers had been preferred by a majority of farmers.

The popular channel of communication with farmers is the mass media, particularly the radio. Inter-personal and inter-institutional communications have been responsible for diffusing innovations in education. Utilising both channels will yield better results. Through mass media the information reaches the recipient and inter personal contacts help conviction and decision-making regarding the adoption of innovations.

3.5 Communication - Recipient:

Until recently the process of reception was largely neglected. Communicators appear to take receptivity for granted Communication programmes emphasized transmission

channels and structures. Reception has now become a matter of common concern. The attitudes of the recipient, his interests and his listening sensitivity play an important role in making communication a success (Dale, 1975)

Two factors are pertinent to the client system, the clients' motivation for changes and the clients' resistance to change. Relating to motivation, Lippitt and colleagues suggest several issues to be examined. The client system may be disturbed in its present situation and want relief. A person for example may feel wrapped up in anxiety and seek relief through a therapist; or a community may be suffering from a crime wave and seek aid. The client may detect a discrepancy between his present state and what he imagines or hopes he might be, and he may seek change. The client system may be under outside pressure to upto-date his procedures.

A significant factor providing the initial impetus to change is an innate drive towards growth. Lippit recognizes what Maslow (1954) and Rogers (1951) have suggested, that persons have an internal and natural drive toward health. This drive state induces growth and change.

Several factors either prevent or inhibit change. Some of these originate in the interdependence of the several parts of the client system; others result from what Lippitt calls interference rather than resistance per se.

A change in one part necessitates changes in the other parts of the system and threatens to upset the system's balance. This threat could be sufficient to set up resistance to change.

Resistance could also arise out of fear and ignorance of clients concerning change. It may arise also from the dogged adherence of a system to its present satisfaction; the system hauls these satisfactions out whenever the subject of change is broached. It may also arise from the kind of relationship that grows between the change agent and the client.

3.6. On Barriers to change and communication:

Ronald (1966) speaking about barriers to the flow of new knowledge to an organization says that it could stem from weakness in channels of communication and weakness in

the procedure for disseminating new educational ideas.

Havelock (1969) suggests that local pride may also be an obstacle. The idea that the organization is unique or special in some positive way, leads to the belief that alterations would dissipate this uniqueness. So a deaf ear is turned to new knowledge. This has been demonstrated in studies of scientists in organizations and in a study of administrators in business firms.

Rice (1963) considers, status discrepancy between potential recipients and potential donors as a barrier to the flow of new knowledge to the organisation.

Czepiel (1972) is also of the same view. The higher the status of the potential organization relative to the recipient organization the less likely information will flow between them. The rationale behind this is that seeking information becomes an admission of inferiority. The same author adds that there must also be a felt need for new information or knowledge along with the economic

ability to utilize or act upon the new knowledge. If either of these is missing, new knowledge is unlikely to be admitted into the organization. He also discusses the need for stability after, or at the initiation stage of innovation. New knowledge can disrupt the equilibrium and tend to be blocked by various mechanisms. One mechanism is the coding scheme barrier whereby innovations expressed in a jargon, to the members, are rejected. Having its own vocabulary, makes it difficult for an organization to communicate with external sources of information.

Mukhopadhyay and Buch (1975) have arrived at the following conclussion: Role unawareness and source credibility are the major barriers. With regard to non-innovative schools, poor linkage with resources system, indifferent and interfering management, low initiative of principals and staff with low professional awareness are the barriers.

Incidentally the following points have been highlighted

1. Communication between the resource system and innovative schools is two-way. Generally follow up programme is absent

leading to much distortion.

2. Comparing the 2 media it has been found out that innovations introduced through written media though implemented are in much a distorted form than those which were communicated through oral media.

3. The D.E.O's success in transmission can be best accounted to his authority figure whereas the extension services of training colleges and other resources organization do not have the authority over the school.

Buch and Buch (1973) study also supports this conclusion that the authority factor is a significant correlate of innovation diffusion.

3.7 Methodological studies

No survey of the literature relevant to the communication organization interface however cursory would be complete without some recognition of the state of the research methodology. Again immediately relevant studies

are either scarce or non existent. But there are a number of tributaries that are conceptually pertinent.

A might be expected, the earliest and the still prominent research procedures are directly or indirectly related to variants of matrix methods in sociometric analysis or variants of schemes such as Bales interaction process analysis (1950). Some of the more recent and more sophisticated methods are represented in Criswell et al (1962) Flood (1954) the sections on the methodology of organizational studies in Etzioni (1961) and Leavitt (1965) Chapple's "Quantitative Analysis" (1962), the background papers of Rashevsky (1960) and Kaplan (1960) Flaments (1963 application of graph theory to group structure and Mc Farland's (1965) flow graph representation of Motivational systems and current emphasis on structure.

Model building in communication has been popular with workers in the field since Shannon and weaver (1949). The later survey conducted at Purdue's communication Research. Center (1962) provides a description of 15 general models ofcommunication. Given the ultimate refinement of a general

model for social communication, similar procedures are currently available for their dynamic evaluation. Literature on 12 models were available. Based on these a model has been evolved for the present study, details of which are given in Chapter IV.

3.8. Conclusion

Communication has been studied from different perspectives by different researchers. Change scientists in agriculture rural sociology, management, medicine and education have studied communication as a mean of influencing the target population in bringing about the desired changes in them. The source variables, the message attributes and the client characteristics and the association among these variables are studied in detail. However the process of communication in Education has received only very little attention from the researchers.

In the communication model the process variables are as much important as the presage and product variables. In evolving a communication model to be used in the study, the various factors, that contribute to effective

communication have been abstracted from the studies, reviewed and made use of. While deciding upon the process variables, as there are not many empirical studies, the theoretical models have also been considered.

The communication model evolved for the study and the tools prepared to study the communication pattern on the basis of this model, are explained in Chapter IV.