

PART I

Agricultural Communication

1

Conceptual Framework

HUMAN COMMUNICATION

The word 'communication' has many different meanings for different persons. According to Webster's New World Dictionary, communication means:

- i) transmitting,
- ii) a giving, or giving and receiving, of information, signals, or messages by talk, gestures, writings etc.
- iii) the information, message etc.
- iv) a means of communication; especially
 - a) a system for sending and receiving messages, as by telephone, telegraph, radio etc.
 - b) a system of moving troops and material.
- v) the science or art of communicating as a branch of study.

However, in this publication we will be concerned with this concept only as a science or art of communicating as a branch of study, and that, too, in relation to communication between human beings only.

INTERCOMMUNICATION

Again, as Thayer (1968) pointed out, there are at least four levels of analysis of human communication. These levels are (i) intra-personal, (ii) interpersonal, (iii) intraorganisational and (iv) inter-organisational communication. Keeping in view the role of extension educators, we shall limit our discussion to interpersonal communication. However, we may occasionally refer to the interorganisational level of communication.

CHANGE AGENTS

In any communication event, there has to be a communicator, a source or originator of the message. A communicator may be a person, a group, an organisation, a nation etc. However, in the present discussion, our focus will be on change agents as communicators. The concept of change agents as used here includes all those persons, groups or the like engaged in bringing about behavioural changes in the people on the behalf of an extension education organisation, to improve their welfare.

AGRICULTURAL TECHNOLOGY

All communication takes place around a message. A message is the information a communicator wishes his audience to receive, understand, accept or act upon. So we can define 'message' as the actual physical product of the source-encoder. It is that part of a person's behaviour which is perceived by another as having implications or meaning for himself. The message around which all communication events and systems are described in the present volume relates directly or indirectly to agricultural technology and home science. It is not implied that if the content of the message is changed, the phenomenon of communication will change. However, the communicator being a representative of an organisation, and the message being improved agricultural technology, places some additional implications on the various ingredients involved in the communication process.

EDUCATIONAL APPROACH

Communication may take place by force, by authority, through persuasion and the like. However, keeping in view the objectives of Extension Education, in which means are as important as the ends, all communication processes and procedures described here will imply an educational approach.

SPECIFIC AUDIENCE

The receiver is the most important element in the communication process. All other ingredients in a communication event purportedly revolve around him. This means the communicator's

perception of the audience and its characteristics, intensions, abilities and susceptibilities has a large number of implications for the manner in which the message will be treated and communicated. So, in discussing the communication systems and approaches, the type of public with which Extension Education has to deal will always be kept in view.

All that we have said so far has sought to operationalise the conceptual framework within which we shall operate while describing various aspects of the communication process in the ensuing chapters.

2

Meaning and Nature of Communication

Origin

The word 'communication' comes from the Latin *communis*, meaning common. This implies that when we communicate, we are trying to establish '*commonality*' with someone through a message. Communication, then, is a conscious attempt to establish commonality over some idea, fact, feelings and the like, with others. In essence, it is a process of getting a source and a receiver tuned together for a particular message or a series of messages.

Defining Communication

Definitions of communication are many. No effort will be made to document all of them, but a few selected ones are given:

1. 'Communication is anything that conveys meaning, that carries a message from one person to another'.
— Brooker (1949)
2. 'Communication is the discriminatory response of an organism to stimulus'.
— Stevens (1942)
3. 'Communication is all of the procedures, by which our mind can affect another'.
— Weaver (1966)
4. 'Communication is the mutual interchange of ideas by any effective means'.
— Thayer (1968)

5. 'Communication is the control of behaviour through descriptive and reinforcing stimuli'.
— Hartman (1966)
6. 'Communication is the process of effecting an interchange of understanding between two or more people'.
— Thayer (1968)
7. 'Communication is a purposeful process, which involves sources, messages, channels, and receivers'.
— Andersch et al. (1969)
8. 'Communication may be defined as a process by which an individual—the communicator, transmits (usually verbal symbols) to modify the behaviour of other individuals—communicatees'.
— Hovland (1964)
9. 'Communication has as its central interest those behavioural situations in which a source transmits a message to a receiver(s) with conscious intent to affect the latter's behaviour'.
— Miller (1966)
10. 'Communication is a process by which two or more people exchange ideas, facts, feelings, or impressions in ways that each gains a common understanding of meaning, intent and use of message'.
— Leagans (1961)
11. 'Communication is the arrangement of environmental stimulus to produce certain desired behaviour on the part of the organism'.
— Thayer (1968)
12. 'Communication is any occurrence involving a minimum of four sequential ingredients: (1) a generator of a (2) sign-symbol system which is (3) projected to (4) at least one receiver who assigns meaning'.
— Robert Gcyer (1967)

An analysis of the above definitions reveals no complete agreement between social scientists on a single definition of communication. Thayer (1968) also lists several shortcomings of these definitions. Considering that communication is the most basic and earliest activity of the human organism, this appears rather astonishing. However, there is no cause for concern, as the

lack of uniformity over a definition does not reflect a lack of understanding of the concept, nor does any definition change the laws of communication. In fact, communication is so diverse that any attempt to create a generally accepted definition becomes so profoundly involved that it hinders rather than helps in clarifying and understanding the subject.

Most of these definitions imply involvement of the actors over a message or content, some sort of interaction, by some commonly understood means, and with some effect. Analysis has also shown that several elements are involved in a communication encounter. Because of our interest in technology transfer, we can define communication as a process by which extension workers individually, in a group or through a medium, exchange attitudes and share knowledge and/or skills on behalf of an organisation with farmers/farm women, through such ways that each gains comprehension, understanding and use of the message. This is a very limited view of the process of communication but will serve our purpose.

Communication is usually thought of as taking place by means of verbal symbols but a sociopsychological analysis requires that attention be paid to the full range of symbols that may be used by human beings, including gestures, tone, facial expressions, drumbeats, telegraphic click, flags, smoke signals, colour, size, distance etc.

Nature of Communication

1. *Communication is a process:* A process is any phenomenon which shows a continuous change in time or any continuous operation or treatment. In this context communication is a process wherein the act of communication is constantly changing as the communication proceeds. Further, communication is not an intermittent but a continuous function of human beings. It is not an occasional act in which human beings choose to engage, rather it is an essential continuum in their existence. Berlo (1960) views communication as a dynamic, ongoing, ever-changing, continuous act. He says that the process has no beginning, end, or fixed sequence of events. It is not static, it is dynamic. The ingredients within the process interact, each affecting the other. In

other words, we cannot really freeze communication at any one point but must consider it a by-product of interacting individuals. A message from one individual creates a response from the other, which then becomes the message for the first individual in a continuous process.

2. *Communication employs many means*: Communication takes place by many means, at many levels, for many reasons, with many people, in many ways.

There is research evidence to suggest that certain modes of communication are becoming associated with certain structures, e.g., written communication with authority structure, telephone communication with the task structure, face-to-face communication with the personal touch with a bias towards proximity and convenience.

3. *Communication involves interdependence*: Interdependence may be defined as a reciprocal and mutual dependence. Communication is usually a two-way process, involving stimulus and response amongst organisms, and hence is both reciprocal and alternating. There is a constant reversal of roles in communication. As roles change, each takes on the function of the other. Communication thus involves an interdependent relationship between the participants. However, the levels of interdependence may vary from situation to situation.

Furthermore, at the organisational level of communication some new factors emerge. These include in particular (i) the law of large numbers and (ii) the implications of 'on-behalf-of'. As Thayer (1968) has pointed out, communicating to a large number of people, for example in an organisation, requires a different orientation based upon the properties of that aggregate, which may or may not be discernible *per se* in individuals of that aggregate. Similarly, there is a considerable difference when people communicate personally and when they communicate on behalf of an organisation of which they are members. This is a useful distinction and bodes several implications which will be discussed later.

The flow of communication in an organisation may be described as downward, upward and horizontal. Downward communication takes place from top officials to lower level functionaries wherein policies, procedures, orders, instructions or regulations are conveyed.

The upward flow of communication is that which is conveyed from subordinates to their superior officers and generally relates to statistics, problems, opinions, attitudes, rumours etc. Horizontal communication takes place between two or more functionaries at the same level of hierarchy.

As Rogers and Rogers (1975) have said, an organisational structure can restrict the accessibility of receivers to sources and helps to decrease the problem of information overload. They have further indicated that horizontal communication in an organisation occurs more often than vertical communications, with downward messages predominating over upward.

4. *Communication process comprises a number of distinguishable parts:* In its simplest form, communication involves at least three phases, i.e., expression, interpretation and response. Many variables are involved in each distinguishable part of the communication process and these aspects are analysed in subsequent chapters.

5. *Communication takes place within participants:* Like learning, communication also takes place *within* participants as well as between them. 'Within' communication is determined by an individual's take-into-account abilities and take-into-account susceptibilities. Underlying all communication is the process of organising and converting raw sensory data into functionally consumable or processable units of information.

6. *Communication takes place at many levels:* According to Thayer (1968), there are at least four different levels of analysis or points of focus from which communication may be viewed. These levels are intrapersonal, interpersonal, organisational and inter-organisational communication. When the focus is on the technology of communication, one is concerned with communication media regarding generating, storing, processing, translating, distributing, or displaying data, either for consumption by other pieces of equipment or for ultimate translation into information and consumption by human beings. Furthermore, we should always bear in mind that communication media handle only data. Information, the ultimate element of human communication, is merely a functional product or output of the technological systems, which do not take into account the psychological impact of the data reported.

7. *Fidelity varies from one communication situation to another*: Perfect communication is seldom, if ever, achieved. Communication effectiveness varies from one communication situation to another.

Purpose of Communication

Aristotle defined the study of rhetoric (communication) as the search for all the available means of persuasion. So he clearly implied that the prime goal of communication is persuasion.

In the seventeenth century a school of thought known as faculty psychology was developed. Faculty psychology made a clear distinction between the mind and the soul. The mind-soul dualism was interpreted as a basis for two independent purposes for communication. One purpose was intellectual and the other emotional. By this theory, one purpose of communication was informative, an appeal to the mind. The second purpose was persuasive, an appeal to the soul, the emotions. The third purpose was entertainment and it was argued that we could classify the intentions of the communicator and the supporting material he used within these categories.

Schramm (1964) described the purpose of communication as an immediate reward and a delayed reward. He suggested that individuals are rewarded immediately on receiving or producing some kind of message. Both these are consummatory purposes, e.g., composing music for self-satisfaction. As against this, the purpose of some communication could be instrumental, i.e., the favourable response produced in an audience is instrumental in producing further behaviour on its part. Festinger (1957) described the purpose of communication as consummatory and instrumental.

According to Berlo (1960), the sole purpose of communication is to influence. According to him we communicate to influence; to effect with intent. He says that all communication behaviour has its purpose, its goal, as the production of a response. When we learn to phrase our purpose in terms of specific responses from those attending to our message, we have taken the first step towards efficient and effective communication. Agricultural extension workers often forget that they are trying to affect farmers; they get

too busy giving out information or reporting research. Berlo (1960) builds his thesis on the contention that the description of the purpose of communication should be 'behaviour-centred', i.e., expressed in terms of human behaviour and consistent with the ways in which people do communicate.

However, some authors have made a distinction between the purpose of communication and that of mass communication. Lasswell (1948), Wright (1966) and Klapper (1966) have described the aims and functions of mass communication as surveillance, interpretation and prescription, transmission of culture and entertainment etc.

On the basis of the above descriptions, it can be said that the purpose of communication is to influence—to affect with intent by creating comprehension, understanding and perceived use of the message. The approach used to fulfil this purpose could be informative, persuasive, entertaining or a combination of the same.

Levels of Communication

To best understand the relationship between people and communication, we need to look at that relationship from at least four different points of view, which, as already mentioned, Thayer (1968) referred to as four levels of analysis of human communication. These levels are (i) intrapersonal, (ii) interpersonal, (iii) organisational and (iv) interorganisational communication.

INTRAPERSONAL COMMUNICATION

This refers to communicating with one's self. It refers to organising and converting sensory data into meaningful messages having some relevance or utility for an individual's past, present or future behaviour. Because the psychological system of a human being is constantly engaged in making sense of its environment in the service of that organism's adaptive and goal seeking needs, the question is not whether communication is going to occur, but what communication and with what consequences. Communication is a continuous process and is determined by an individual's take-into-account abilities and take-into-account susceptibilities. However, these take-into-account abilities are a function of the capacity of an individual's conceptual system to ascribe meaning or significance

to certain patterns and sequences of the events going on in his internal and external environment. It has been said that we comprehend nothing of our words which is not a part of us.

Interpersonal communication mostly occurs in face-to-face situations wherein the participants can see, hear, and even touch the other person. Thus it offers an opportunity for immediate feedback. As a result, the participants in a communication encounter have a chance to structure and restructure communication based on the response of the other(s).

Intrapersonal communication is a co-function of the individual and of what is going on in his environment that has immediate relevance for him. All that we perceive and comprehend, must be perceived and comprehended through ourselves.

INTERPERSONAL COMMUNICATION

As Smith (1966) says, living is largely a matter of communicating. Thus it would be difficult to make much sense of people and their behaviour towards one another without taking communication into account. However, as Thayer (1968) points out, it would be difficult to talk about human communication without taking into account something about the nature of people. This implies that interpersonal communication should be understood as we understand interpersonal behaviour. Intercommunication is thus not a different phenomenon, but the same phenomenon viewed from a different level of analysis. The basic functions and processes of communication at the level of intercommunication are not different. The basic phenomena are the same. People are a part of our environment. However, people bring expectations to their interpersonal encounters. And they also bring expectations about the others' expectations. These expectations continuously influence their communication behaviour towards each other and their response to each other. Intercommunication might thus be viewed as a process of mutual regulation and control.

Intercommunication is thus an attempt on the part of at least one of the participants, to establish, maintain, exploit, or alter some relationship vis-à-vis the other, either by adapting himself to the other or by attempting to adapt the other to him in some way. But the immediate and ultimate consequences are determined by the

communication processes which occur within each participant, not by what goes on between them.

ORGANISATIONAL COMMUNICATION

An organisation is a stable system of individuals who work together to achieve through a hierarchy of ranks and a division of labour, common goals and objectives. Like human beings, organisations also establish and maintain themselves through communication with their environments and amongst their parts. So, as Thayer (1968) points out, organisational communication refers to all of those data-flows that subserve the organisation's communication and intercommunication processes in some way.

Organisational communication is a distinct form of communication as it occurs in a highly structured setting. It is supposed to be a two-way communication wherein ideas should travel to-and-from, without distortion of bias. It determines the quality and climate of human relationships in an organisation. Communication needs and functions of organisations are fulfilled through at least three systems.

(i) *The operational communication system*: Through this system, the data about task-related activities and operations are communicated within the organisation from its different sources generating it. Very often intermediate processing is involved for its acquisition and ultimate consumption by the organisation members.

(ii) *The regulatory communication system*: Through this system are conveyed those orders, rules, instructions, as are meant to regulate organisation members' material- and/or information-processing functions. The sources for such regulatory functions initiated by organisational managers may be within or outside the organisation, generally referred to as internal and external dynamics. These regulatory messages are thus the natural consequence of the problem-definition behaviour of the organisation's managers (Thayer 1968).

(iii) *The maintenance and development of communication system*: This refers to providing feedback regarding the conditions of the people or the communication channels upon which the organisation is dependent for the inflow of resources or information from the environment, its internal functioning, and its

relationship with various components in its environment. Such a system is necessary as it is the people in an organisation who ultimately determine the operating effectiveness and efficiency of any human organisation. Such a system ensures preventive maintenance or remedial information of one sort or the other.

INTERORGANISATIONAL COMMUNICATION

This refers to systems developed by each organisation to communicate with another organisation. However, it must be kept in mind that departments or organisations do not intercommunicate as such. Rather, only people do. 'It would be to our advantage to conceive of interorganisational communication as interorganisational data-transportation linkage. Certainly communication does not occur between organisations any more than it occurs between people. Communication, as contrasted with data generation, dissemination, and the acquisition process of intercommunication, always occurs within some individual'.

3

Defining Communication Effectiveness

Man is a strange animal. He not only communicates, but thinks about communication. Whenever we think about this process, our major concern is to increase its effectiveness. In order to increase effectiveness it is necessary that we understand what it is and then be able to manipulate various factors in order to achieve it.

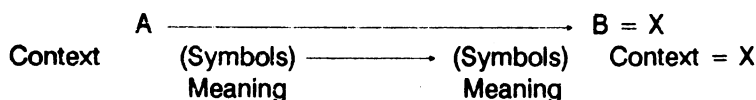
According to the dictionary, 'effective' means (1) having an effect; producing a result, or (2) producing a definite or desired result, efficient. Accordingly, we may say that communication effectiveness means a communication encounter that has produced desired results. However, when we try to operationalise the desired results, we feel greatly handicapped.

Many attempts have been made to operationalise communication effectiveness. Some efforts to measure communication effectiveness have also been made. A review of such efforts show that these efforts can be categorised into two broad approaches, namely:

- (1) Effectiveness of Communication Encounter.
- (2) Effectiveness of Communication Performance.

Effectiveness of Communication Encounter

Effectiveness of communication encounter refers to achieving commonality between the communicator and receiver in terms of comprehension. For achieving proper comprehension, it is necessary that the receiver receives the symbols communicated along with their meaning and in the context desired by the originator of the message.



If the effectiveness of a communication encounter is to be viewed in terms of comprehension, then the question may arise about the extent to which the communicator was conscious and clear of the intended message, and the extent to which he happens to be successful in achieving that purpose by resorting to a particular communication act. Thayer (1968) also says in this regard that 'the originator's interpretation of the message is not necessarily anymore "accurate" than the receiver's. The originator may or may not have clearly in mind what he intends to accomplish. Indeed, the originator may have more reason to "distort" the meaning of his message than the receiver has.'

A similar question may also be raised about the receiver's point of view. When a receiver engages himself in a communication act, he is likely to comprehend the message according to his communication capabilities and in the context in which he happens to receive the communication at any point in time.

Since communication is a dyadic process, effectiveness in terms of comprehension can also be thought of in terms of both the communicator's and the receiver's point of view collectively. Further, if they happen to engage themselves in communication on behalf of an organisation, the objectives of the organisation would also have to be kept in mind while reckoning effectiveness.

Of course it is clear that the cost factor has not as yet been considered in determining effectiveness. It is also assumed that there are different qualities of messages which are also likely to affect the extent to which a communication encounter may be successful. Similarly, situational factors over which the communicator or the receiver have no control are likely to interfere in what is likely to be accomplished in a communication encounter.

Effectiveness of Communication Performance

Under this approach can be broadly included all those attempts which measure the success of any communication in terms of subsequent behaviour on the part of the receiver. In this approach, as Shannon and Weaver (1949) point out, the problems of

influence or effectiveness are concerned with the success with which the meaning conveyed to the receiver leads to the desired conduct on his part.

A $\longrightarrow$ B = X

Desired conduct or desired results on the part of the receiver have been operationalised differently by different authors. It may be appropriate to offer a critical analysis of some of these attempts.

Berlo (1960) identified four factors, namely attitudes, knowledge, communication skills and position in a social-cultural situation, as governing effectiveness of a communicator and a receiver. Similarly, Thayer (1968) has mentioned factors such as communicator-receiver relationship, purpose or intentions, roles and rules, and the organisation on behalf of which they engage themselves, as affecting fidelity of a communication situation.

Thayer (1968) also states the following two variables that govern the success of a communication event.

- i) Value or utility of the resources each participant brings to the encounter: intellectual, attitudinal, communicational etc. for the other participant.
- ii) The relative commitment to the co-operative enterprise each participant makes, with no specific objectives vis-à-vis the other.

Jha (1968), while measuring the effectiveness of a communication situation, operationalised it in terms of attitude changed, knowledge gained and knowledge retained over a period of time, and practices adopted on the part of the receivers.

Viewed critically, the following points emerge from these approaches:

- i) Variables such as attitude formed, knowledge gained, or practices adopted can be termed as effects of communication and not effectiveness of the communication situation.
- ii) Certain personal characteristics that the communicator or the receiver may possess are likely to affect their communication behaviour, which cannot be said to be the result of the communicator's act.
- iii) Situational or contextual factors under which the source and the receiver operate are also likely to affect the way

each will interpret the message. Hence they are important albeit they remain extraneous variables.

- iv) There are differences in the characteristics of message and communication performances which do contribute to the effectiveness of an encounter. But these qualities lie in the positive or negative contribution they make to the overall success of the encounter (Thayer, 1968).
- v) As is known, subsequent behaviour not only depends on comprehension of the message, but also on the receiver's ability and willingness to do what the communicator wants of him. It is quite possible and probable for a receiver to have a complete understanding of the message but still refuses to do that which the communicator wants done.

From the above considerations, one may tentatively conclude, as Thayer (1968) does, that communication effectiveness in terms of subsequent behaviour on the part of the receiver may require the establishment and manipulation of conditions prior to, during and subsequent to, any act of communication.

Hence measuring communication effectiveness from the effects it has produced on the part of the receiver may meet limitations of this kind.

Effectiveness: Comprehension, Validity and Utility

To overcome some of the limitations and difficulties, it may be appropriate to operationalise communication effectiveness in terms of comprehension, perceived validity and utility that a communication encounter may establish on the part of the receiver. Thayer (1968) has also discussed these qualities in the context of message treatment.

Communication

Effectiveness = Comprehension (clearness)

+ Validity (consonance, credibility and congruity)

+ Utility (relevance)

Comprehension: This refers to the extent the message conveyed by the source has been clear to the receiver.

Validity: A message may be comprehended by the receiver properly and yet may not affect him as intended by the

communicator. Those of us involved in the study of human communication know fully well that if the source's message is not perceived as valid by the receiver, then its impact on him may be reduced or contrary to the one expected. As Thayer (1968) argues, a message must be comprehended before it can be validated. But its comprehensibility does not ensure its validity for a particular receiver in a particular situation.

There are three processes of validation that may have to be taken into account. The first is consonance validation. What is perceived as legitimate may also be perceived as consonant. The second may be credibility validation. This refers to the trustworthiness that a receiver may accord to a source at any particular time. Research studies indicate ample evidence to suggest that the perceived credibility of the source influences his success as a communicator.

The third process is congruity validation. A receiver will usually test a particular message against what Thayer (1968) calls, 'our psychological system and his intensions and expectations.'

Utility: Utility may be defined as a measure of the perceived relevance and consumerability of a message from the receiver's point of view at any given time. The more relevant a message is to our needs, purposes and resources, the more utility it is likely to have.

Communication effectiveness then, can be measured in terms of comprehension, validity and utility on the part of the receiver. Subsequent behaviour of the receiver may still be considered independent of the communication effectiveness.

CONCLUSION

A review of the current approaches to operationalise communication effectiveness can be categorised into two broad approaches, namely effectiveness of communication encounter and effectiveness of communication performance.

Keeping in view the limitations of these approaches, another approach to operationalise communication effectiveness in terms of comprehension, perceived validity and utility on the part of the receiver has been suggested. This approach would not only include establishing commonality in terms of meaning, but also in terms of perceived consonance, credibility, congruity and relevance.

4

Communication Theories and Models

Introduction

Models are symbolic representations of structures, objects or operations. They are useful theoretical constructs that are frequently used in social sciences for explanatory purposes. They may be used to show the size, shape or relationship of various parts or components of an object or process. A model may also be useful in explicating the working of a system.

Deutsch (1952) says that models perform an organising function in explaining the relationship of one part to another and in giving us an idea of the whole system. He also says that a model performs an explanatory function by pointing out in a somewhat simplified fashion how a system operates. The emphasis here is clearly on the nature of the process. Models also perform a predictive function as they enable us to predict the outcome of actions and events. At the same time, several authors, viz. Broadbeck (1959), Bross (1965), state that models have a somewhat ambiguous standing in the philosophy of science. Others view models as a broad concept from visualised ignorance to totally well-formulated scientific theories.

In the social sciences we can broadly classify models into two groups—structural and process-oriented. On the other hand, a scientific theory may be viewed as a set of statements, including some law-like generalisations. In view of this, the present-day models of communication can be viewed as a first step towards a communications theory.

In scanning the literature on communication, we find several authors have attempted to present models or theories in order to give us a better understanding of the various elements in the communication process and their relationship. Most of these theories or models of communication have sprung up from a variety of intellectuals with varying backgrounds in psychology, sociology, anthropology, philosophy, political science, psychiatry, education, and even electronic engineering, mathematics; as well as from professional communication areas such as speech, journalism, broadcasting etc. As a result, we see the communication theory growing into what may be termed an interdisciplinary subject, often in constant ferment with mixtures never seen before.

On examining the evolution of communication model building, several phases become evident in which the emphasis starts with linear, one-way, manipulative communication, then begins to shift to organic, circular, two-way contextual communication. Later it shifts to interactional communication that is viewed in specific socio-cultural contexts through shared meanings. This aspect of the communication models will be elaborated later.

As Dissanayake (1984) says, models can be best used for explanatory purposes only when we are alive to their limitations, as they are by no means a simulacrum of reality, but only a simplified image of it.

Greek Theory of Communication

We have said that communication is a process in which two or more people exchange ideas, facts, feelings or impressions in ways that each gains a common understanding of the meaning, intent and use of the message. Now let us examine the nature of this process a little further. As stated earlier, we shall confine our description to human communication.

People have always held strange beliefs about the manner in which human communication takes place. The Greeks accounted for the phenomenon very simply. Their wing-footed god Mercury would pluck the appropriate idea from the speaker's brain, plunge it on the tip of his spear and plunge it into the brain of the listener (Fig. 1). But this would not be a satisfactory explanation today. Although we have made quite significant progress in



Fig. 1: God Mercury communicating ideas.

understanding this concept scientifically, still we know much less about human communication than we do about, for example, animal husbandry.

Aristotle's Model of Communication

In the *Rhetoric*, Aristotle (384–322 B.C.) provides the first basic persuasive communication model. He said that we have to look at three communication ingredients: namely, the speaker, the subject and the audience. He meant that each of these elements is necessary to communicate and that we can organise our study of communication process under the three headings:

- i) the person who speaks,
- ii) the speech that he produces, and
- iii) the person who listens.

Traditionally the creation of significant things to say by the source has been treated as '*rhetoric* invention'. In classical antiquity a speaker was taught that five processes were involved in the study of communication, namely invention, organisation, language, memory and delivery. Message preparation, according to Aristotle, involved invention (finding material to be included in the message), arrangement (organising the material in some persuasive manner), language or style (to fit the speaker and the audience), memory and delivery (the practice of actual presentation). Invention was the most important to many *rhetoricians*, since the discovery of ideas was central to the whole process and all other elements seemed to emanate from it. Indeed, Aristotle uses 'discovery of the available means of persuasion' as his

definition of the whole art of persuasive communication. Another implication of Aristotle's conception of *rhetoric* is that persuasion is contingent upon the impression that a speaker creates or maintains. By and large Aristotle and later rhetorical theorists were interested in the ability to communicate effectively.

Many of our earlier communication models bear the imprint of Aristotle's model (Fig. 2) although several new key concepts have been added. One of the greatest faults in Aristotle's theory was his view of persuasion as a one-way process flowing from the communicator to the receiver. He did not include in his writings the role that feedback can play in influencing the speaker.

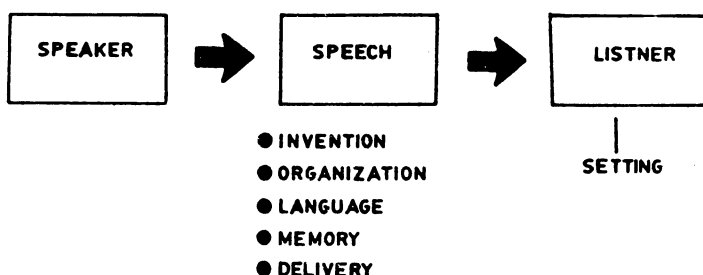


Fig. 2: Aristotle's view of communication.

Lasswell's Communication Sequence

Lasswell (1948) was one of the earliest social scientists to come up with a rudimentary model of communication, when he said that the following sequence would help in understanding the act of communication clearly:

- i) Who says (or does not say)
- ii) What
- iii) In which channel
- iv) To whom
- v) Under what circumstances, and
- vi) With what effects.

A close look at these questions provides a simple, linear, one-way model of communication. Here the communicator and his message are all-important. Although the concept of feedback does not appear in the model, still this model exercised a profound influence on the thinking of scholars in communication. This model

helped Lasswell's probes into political communication, propaganda and political symbolism, which were some of the earliest communication researches in social sciences.

Stimulus-Response Model of Communication

Let us view a most basic model of human communication based on the S-R theory, sometimes also called interpersonal communication (Fig. 3) Person A Communicates something to person B with X effect/result.

A —————→ B = X

However, according to Newcomb (1958), the expression A communicates something to B embodies a number of sub-categories, such as when, how, in what medium, under what circumstances etc. This traditional implicit model of communication is inadequate on a number of counts.

- (i) The Stimulus-Response ($A \rightarrow B$) model of communication does not fit into the facts. A may say something to B, but what B hears or how he interprets what he hears, is ultimately a product of B and not of A. Further A's saying something may be a necessary condition of B's subsequent behaviour, but the sufficient condition is always the manner in which B processes A's statement(s).
- (ii) We have also to realise that A's utterance does not fall upon even a temporarily inactive mind. On the contrary, A's statement can in fact be meaningful to B, only to the extent, (a) B's mind is active and (b) B has developed over time the required 'mental wherewithal' to apprehend and comprehend A's statement in the context in which it occurs.
- (iii) It should be obvious that who is doing the communication has a considerable influence upon how the other interprets the statement. What person A brings to an encounter with B is (a) A's conception of self; let us call that concept A_1 ; and (b) A's conception of the other person, which we can refer to as B_1 . Similarly person B, in turn, brings to the encounter (a) his conception of himself, B_2 and (b) his conception of the other person, A_2 . What therefore interacts is not A and B as such, but

what is for A his subsystem, $A_1 \leftrightarrow B_2$, and what is for B his subsystem, $A_2 \leftrightarrow B_1$. When these subsystems interact, a new functional relationship, $S_{1,2}$, is formed, which has emergent properties of its own determined by neither $A_1 \leftrightarrow B_1$ nor $A_2 \leftrightarrow B_2$ but by both. It is these emergent properties of the higher order interaction system which now become the loci of certain kinds and degrees of control and regulation of the participants' behaviour with regards to each other.

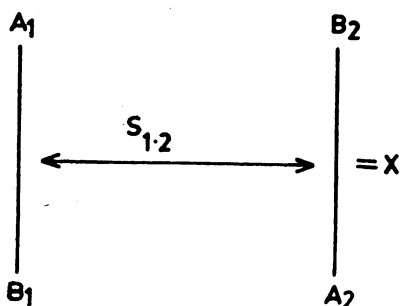


Fig. 3: Stimulus-Response model of communication.

- (iv) It is further obvious that neither A nor B , nor even X in this model is independent of any of the condition of, when, how, in what medium, and under what circumstances etc. So it may not be possible to describe communication in linear terms. What we are confronting is a complex system of elements, each of which influences and interacts with each of the other elements, giving rise to new dynamic functional relationships and interactions.

Schramm's Model of Communication

Schramm (1964) viewed the communication event as given in Fig. 4.

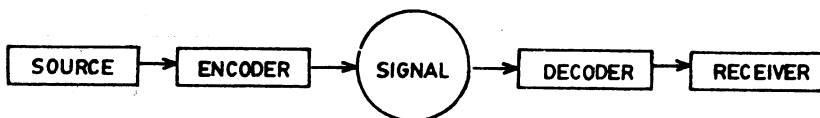


Fig. 4: Schramm's model of communication.

According to him, there must be a source, the source must encode a signal, and a receiver, who must decode a signal. The most important fact in any communication process is that the

sender and receiver must be tuned together. This is a very complicated act in human communication. According to the author, accumulated field experience of both the source-encoder and the decoder-receiver must be common for achieving maximum output (Fig. 5).

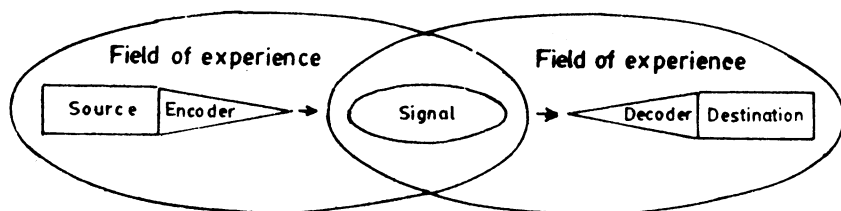


Fig. 5: Role of field of experience in Schramm's model of communication.

It is obvious that each person in the communication process is both an encoder and a decoder. He receives and he transmits. However, a person will decode a message, interpret it in accordance with his own experience, and then encode a response accordingly. The same is true of both the receiver and the source. Hence, as Schramm (1964) points out, each is constantly communicating back to the other. This return process is called feedback (Fig. 6) and plays an important part in communication, because it

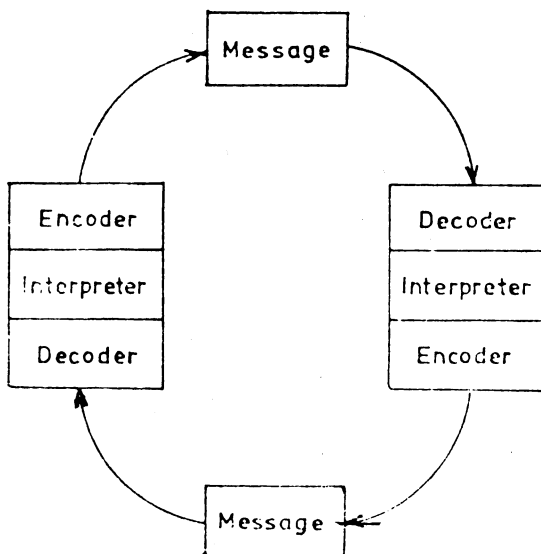


Fig. 6: Influence of feedback in Schramm's model of communication

tells both the source and the receiver how their messages are being interpreted. In this model, emphasis is clearly on the organic nature of communication as opposed to the mechanical transfer of information. According to Schramm (1964), it is misleading to think of the communication process as starting somewhere and ending somewhere. Rather, it is continuous.

Shannon and Weaver's Mathematical Theory of Communication

In the 1940s, Shannon developed an 'information theory' concerned with the accurate communication of information. He saw three levels of problems in the communication of information, namely technical, semantic and influential. Technical problems relate to the accuracy of transference of information from the sender to the receiver, through signals, symbols etc. Semantic problems relate to the interpretation of meaning by the receiver as compared to the intended meaning of the sender. The problems of influence or effectiveness are concerned with the success with which the meaning conveyed to the receiver leads to the desired behaviour on his part. Shannon used the concept of information in a particular way and developed a way to measure information by introducing several concepts like coding, channel capacity and design of the communication systems.

Shannon and Weaver (1949) in their book, *The Mathematical Theory of Communication*, provided a visual model of Shannon's communication system in relation to electronic media. This model has come to be known as the Shannon and Weaver Model of Communication (Fig. 7). It is also referred to as the 'Mathematical

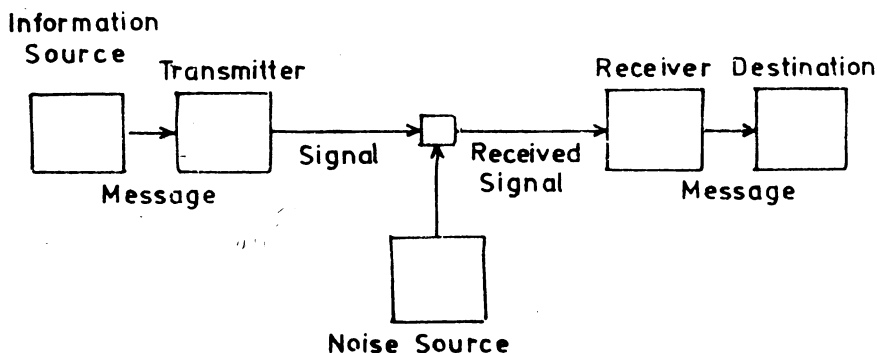


Fig. 7: Shannon and Weaver's model of communication.

Theory of Communication. This model or theory has five key components: (i) an information source which produces a desired message out of a set of possible messages, written or spoken words, pictures, music etc.; (ii) a transmitter, which changes this message into signals suitable for transmission; (iii) a channel, which carries signals from the transmitter to the receiver; (iv) a receiver, a sort of inverse transmitter which transfers the transmitted signals back into a message, and (v) a destination, the final consumer of the message.

In the process of transmitting signals, some unwanted disturbances such as sound in the case of radio, telephone, or distortions of shape (picture) in the case of television etc., called 'noise', are also likely to be added. Hence there is need to pay attention to noise. A key problem in this model is how to overcome noise and how much redundancy is necessary so that the receiver can successfully reconstruct a message from signals decimated by noise.

In oral speech, the information source is the brain, the transmitter is the voice mechanism, producing the varying sound pressures (signals), which are transmitted through the air (channel) (Fig. 8).

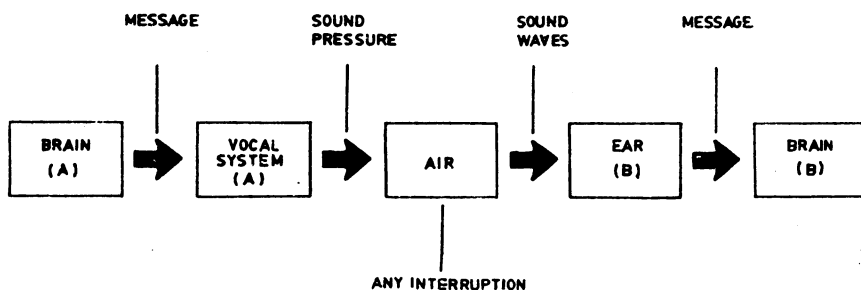


Fig. 8: Shannon and Weaver's model as related to oral communication.

When A talks to B, the brain of A is the information source, his vocal system is the transmitter, air is the channel and the ear of B is the receiver while the brain of B is the destination.

Some of the important concepts introduced by the authors in their model or theory are explained below.

Information: According to this theory, the word information relates to what could be said and not what is said. Here we are not concerned with the meaning of information per se but rather information as a measure of one's freedom of choice when one selects a message.

Let us consider an example in which there are only two choices, yes or no. Now the transmitter may code the two messages as: zero, the signal for no, or one, the signal for yes. This can be done by two positions, closed and opened, of a simple relay that corresponds to the two messages.

The amount of information is measured in terms of $\log_2$ (logarithm to the base two). The unit of information is called a BIT, which is an acronym for binary digit.

When numbers are expressed in a binary system there are only two digits, 0 and 1. These numbers may be taken symbolically to represent any two choices. For example, in that situation in which one has 16 alternative messages to choose from, the amount of information will be $\log_2 = 4$ (as $16 = 2^4$). Similarly, if there are 64 alternative messages which one is free to choose, the information will be equal to $\log_2 = 6$ (as $64 = 2^6$). This means that such a situation is characterised by 6 bits of information. From this we can say that information is defined as the logarithm of the number of choices.

Entropy: The information can be measured by entropy, which is a measure of the degree of randomness or choices or one's degree of freedom of choice to select a message. The ratio of the actual to the maximum entropy is called relative entropy.

Redundancy: This refers to the amount of information that could be omitted or added in a noiseless channel, so that the message would still retain information or meaning. The English language has been proven to be approximately 50 per cent redundant.

This also helps in transmission and understanding. For example, if *q* (in the English language) occurs followed by two obvious errors, the operator at the receiving end can be quite sure that the *q* is followed by *u* and that the next letter will be another vowel.

Channel capacity: This refers to the amount of information that can be transmitted per unit of time. All channels — human, electronic or mechanical — have an upper and an optimum limit to carry different messages. Overloading the channel increases the probability of more errors.

According to Shannon and Weaver (1949), to transmit a given quantity of information, a definite product of (band width $\times$ time) is required.

The maximum error-free capacity of a noise-free channel for the transmission of discrete and continuous symbols is as follows:

$$C = W \log_2 \frac{P + N}{N} \text{ bits/sec}$$

where C is the maximum channel capacity, in cycles per second;

W is the band width;

P is the average signal power;

N is the average noise power.

Noise: This refers to any sound, distortion etc. that may be added into the channel which are not intended by the communicator. All communication signals are subjected to noise, which is usually beyond the control of the transmitter or receiver.

Due to noise, the received message will contain certain distortions/errors leading to an increased uncertainty. Thus, we can maximise the efficiency of a communication system by reducing the noise, or by increasing the band width or by increasing the signal power.

Coding process: In producing or receiving a message, we require the use of codes. The best transmitter is one which codes the message in such a way that the signal has just those optimum statistical characteristics which are best suited to the channel to be used. In other words, efficient coding is that which matches the statistical characteristics of the information source and the channel.

Coupling: Any system that couples two other systems is called a 'gate-keeper'. There are certain important gate-keepers in communication. For example, an editor of a newspaper screens the

information received, selects and modifies it, before he putting it in the newspaper.

Conclusion: Shannon and Weaver's Model or their Mathematical Theory of Communication, is so general that it considers all kinds of symbols. It has developed an idea which is very closely related to the problems of the logical design of a machine. It deals only with problems at the technical, semantics and effectiveness levels. It suggests that the capacity of the channel to encode and that of the receiver to decode must be kept in view in the transmission of messages. It helps in reducing the uncertainty and the effects of noise in the transmission.

Once again, this is a linear, one-way communication model as it has a beginning, an end and a source and a destination; there is very little scope for feedback.

The concept of information developed in this theory is disappointing as it has nothing to do with the meaning. It deals with not a single message, but with the statistical character of a whole assembly of messages. In this theory, as Smith (1966) points out, the concepts of information and uncertainty find partners.

Berlo's Model of Communication

Berlo (1960) model (Fig. 9) is one of the most widely used and is based on an impressive background of behavioural theory and research. As a result, it has exercised a far-reaching influence on communication research in the social sciences. According to this model, all human communication has some source. Given a source with ideas, needs, intentions, information, and a purpose for communicating, a second ingredient is necessary for communicating. The purpose of the source has to be expressed in the form of a message. This requires a third ingredient, an encoder. The communication encoder is responsible for taking the ideas of the source and putting them into a code, expressing the source's purpose in the form of a message.

The fourth ingredient needed in a communication act is a channel. A channel is a medium, a carrier of a message. It is

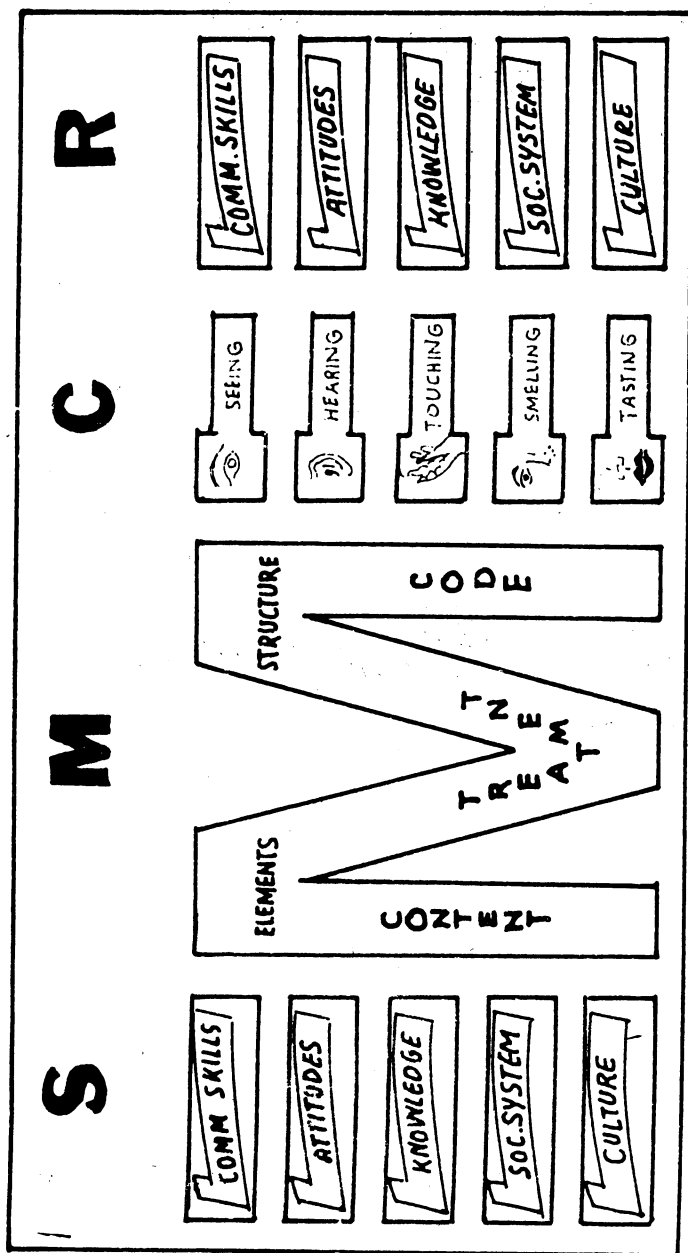


Fig. 9: Berlo's model of communication.

correct to say that message can exist only in some channel. However, the choice of a channel is an important factor in the effectiveness of communication. When we talk, somebody must listen; when we write somebody must read. The person(s) at the other end can be called the communication receiver(s), the target of communication. Just as a source needs an encoder to translate his purpose into a message, to express purpose in a code, the receiver needs a decoder to retranslate, to decode the message and to put into a form that the receiver can use. So, according to Berlo (1960), the ingredients in a communication process include:

- the communication source
- the encoder
- the message
- the channel
- the decoder
- the communication receiver

In this model, communication is seen as a continuous process in which noise is reduced by a process called feedback. As stated earlier, this model includes four elements—source, message, channel and receiver. It is fairly explicit about the elements involved in each. In sources, we find that the source's communication skills, attitudes, knowledge and social and cultural systems are the important variables. The receiver has the same variables. Channels include seeing, hearing, touching, smelling and tasting, and messages are varied in their structure, elements, content, code, and treatment. Berlo emphasises that this model is far from static and needs feedback between source and receiver, when the source actually becomes a receiver and the receiver becomes a source. Once again, this is a linear model of communication with emphasis on the communicator. As stated earlier, this model has had a far-reaching influence on communication literature.

Leagans' Model of Communication

Leagans (1961) defined communication as a process by which two or more people exchange ideas, facts, feelings, impressions, in ways that each gains a clear understanding of the meaning, intent and use of the message.

According to him, successful communication in extension education requires a skilled communicator sending a useful message through a proper channel, effectively treated to an appropriate audience, that responds as desired. This the key elements involved in his model are:

- (i) Communicator
- (ii) Message or content
- (iii) Channels of communication
- (iv) Treatment of message
- (v) The audience
- (vi) Audience response

Leagans' emphasis on treatment of message and audience response comes from his background in extension education. According to him, the extension educator derives from his knowledge of technology and extension processes, the principles and content from which he synthesises a system of communication to achieve educational objectives; he should continue to communicate, repeat, motivate, persuade, until the desired response occurs on the part of the receiver(s).

Hovland Persuasion Model

Following Aristotle, Hovland (1964) designed a persuasion model of communication, which is receiver-listener-oriented. In this model (Fig. 10) both the communicator and the message are seen as observable communication stimuli. It highlights variables needed to predict effects in human communication.

Hovland was primarily interested in predicting attitudinal change, although this included opinion, perception, effect and action change. He observed that individuals might differ in their predispositional factors, such as prior opinion, attitudes, values and beliefs etc., resulting from past experience. These factors influence the reception and the role as to how the stimuli will be given attention, comprehension and acceptance. These internal mediating processes will, in turn, lead to the observable communication effects.

Westley and MacLean Mass Media Model

Westley and MacLean (1957) developed a four-stage model from an earlier model by Newcomb (1953). This model elaborates the

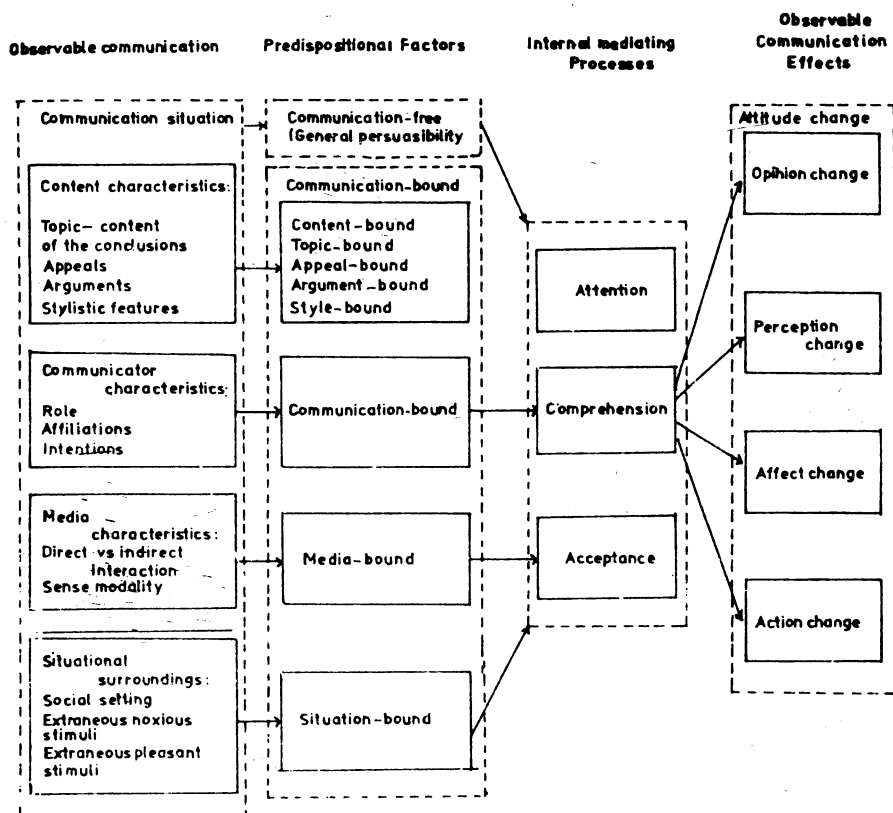
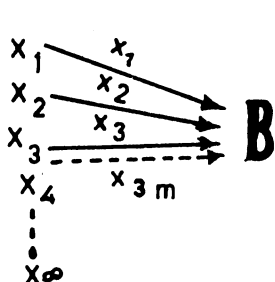


Fig. 10: Hovland's model of communication and attitude change.

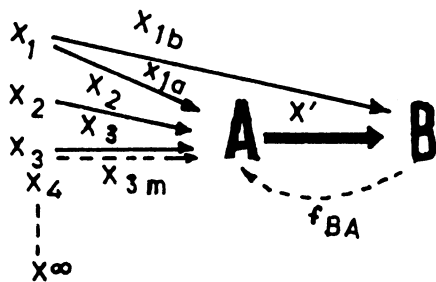
role that communicators of mass media play in moulding the message (Fig. 11).

At stage I, receiver *B* selects stimuli (X_1) in his sensory field and in line with his needs and problems. At stage II, communicator *A* selects and abstracts stimuli X_s , transmitting them as messages to *B* in order to influence him. The objects of orientations may or may not be in *B*'s direct sensory field. Finally, *B* provides feedback to communicator *A*, who may or may not modify his future behaviour.

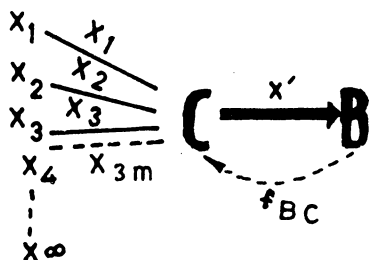
At stage III, the authors introduce an alternative type of communicator, named *C*, who selects and conveys stimuli as messages to *B* that are not in the normal sensory field of *B*. Further, communicator *C* extends *B*'s environment but does not



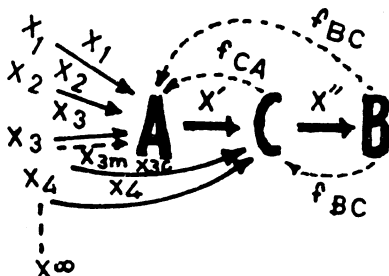
Stage I: Receiver B selects from objects of orientation.



Stage II: Communicator A selects and abstracts from receiver B



Stage III: Non-purposive communicator C extends receiver B's environment.



Stage IV: Receiver B, as in the classroom or mass media audience

Fig. 11: Westley and MacLean's model of communication.

intend to influence him, since he is seen as a non-purposive communicator. The selections C makes for B are based in part on the feedback from B.

At stage IV the model deals with a situation that may be found in a mass media or a classroom. Receiver B gets messages X from communicator C who, in turn, gets information from three sources. Thus C has messages X from the purposive communicator A; he may have additional information direct and may incorporate information on topics not transmitted by A. Receiver B provides feedback to C and A. Similarly, C provides feedback to A.

Riley and Riley Model

Most of the earlier models paid little attention to the social context in which communication took place. The purpose of the Riley and Riley model (1969) (Fig. 12) was to gain recognition for the fact that mass communication is one social system among many in society.

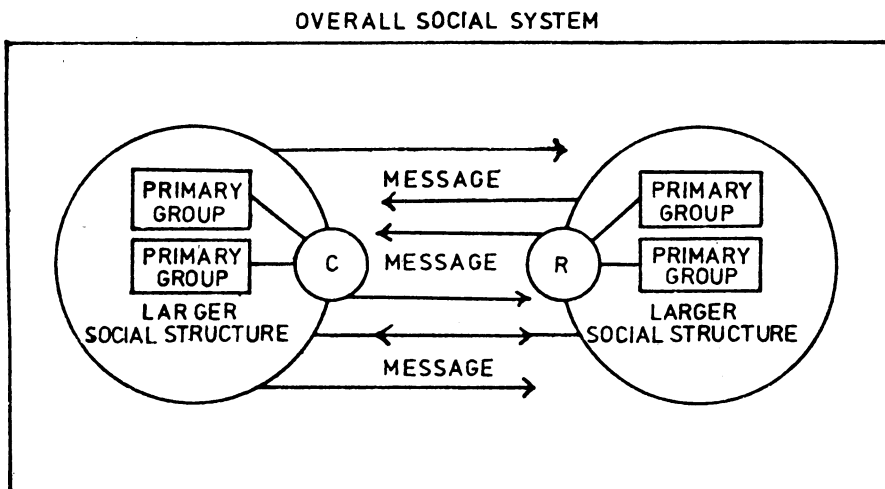


Fig. 12: Communication model by Riley and Riley.

This model, according to the authors, seeks to fit together the many messages and the manifold individual reactions to them, within an integrated social structure and processes.

Gerbner's Model

Gerbner's (1960) model (Fig. 13) is primarily concerned with perception and production of messages. The essence of this model can be represented in verbal form as follows.

'Someone perceives an event and reacts, in a situation through some means, to make available materials, in some form and context, conveying content, with some consequence'.

McQuail and Windahl (1981) viewed this model as subjective, selective, variable and unpredictable. According to this model, the human communication systems are open systems.

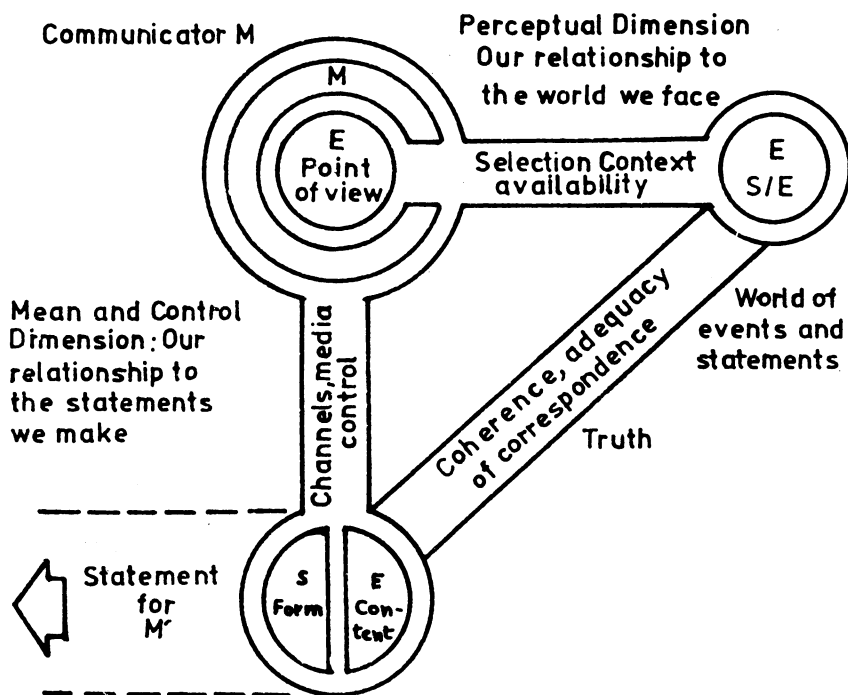


Fig. 13: Gerbner's model of communication.

Gerbner's first interest lay in the perceptual dimension, the communicator's viewpoint, his relationship between himself and the statements he makes. The statements, once made, become an event in the perceptual field of another communicator.

Linguistic Theory of Communication

The primary subject matter of linguistics is the spoken language. The linguistic theory of communication therefore deals with a description of language systems. Man gradually created language in order to express his meanings to himself and to others. As such, orientation of the linguistic theory tends to be social rather than individual. Although there are many theories about the origin of language, we know now that a language consists of a set of significant symbols (vocabulary) plus meaningful methods of their combination (syntax). The symbols of a language were chosen by

chance. It looks as though man constructed his language under the same principle of interpretation, response and reward that governs all learning.

Words are basically linear. They are one-dimensional when printed. They pick up additional dimensions when spoken, with facial expressions, gestures and body movements. They even assume different connotations, denotations etc. in different contexts.

Thus meanings are in people, not in words. We learn meaning as we learn other things. Meaning is not transmittable. All we can do is to transmit a message.

In communication, as Berlo (1960) says, we should remember that our words and sentence arrangement choices affect meaning in at least three ways. Syntax has utility in that it communicates structural relationship among words. Many of our words denote certain objects for the reader. When we emphasise denotative meanings and careful structure, we can be more accurate. When we emphasise connotative meanings, fidelity decreases but readability and interest increases.

Although the linguistic theory encompasses a variety of profound implications regarding language behaviour, it is not directly a theory of behaviour.

According to Williams (1975), a message has to pass through the following steps (Fig. 14):

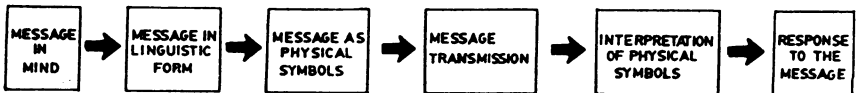


Fig. 14: Linguistic view of communication.

This theory provides us with a theory of man's system for symbolisation in communication. According to this theory:

- (i) A message starts a meaning in the mind of the source;
- (ii) The message is encoded into linguistic form;
- (iii) Linguistic forms are coded into physical signals;
- (iv) Signals are transmitted through channels as physical signals;
- (v) The receiver transforms the physical signals into linguistic form;

- (vi) Linguistic forms are decoded into messages;
- (vii) Messages are interpreted, screened and acted upon.

Williams (1975) mentioned two dimensions of this theory:

PSYCHOLINGUISTIC THEORY

This dimension of the theory focusses attention on the behaviour of an individual in the use of language. Psycholinguistics provides us with ideas about the nature of coding behaviour whereas linguistics helps our thinking about codes. In the 1970s the trend moved towards the cognitive psycholinguistic approach, which assumes that man's brain comes biologically endowed to develop language-like behaviour, and his experiences with a particular language lead him to competence in life skills.

SOCIOLINGUISTIC THEORY

No communication takes place independently of factors of personal and social context. The relationship between variations in language usage and the personal and contextual circumstances of usage comes within the realm of sociolinguistics. Sociolinguistics pays relatively less heed to theoretical codes and moves on to what Hymes (1972) called communication competence. Hymes believed that any theory or language user must account for not only his knowledge of language competence, but also the pragmatic use of language in relation to varying characteristics of communication situations within cultural contexts.

Another sociolinguistic concept that is important for understanding the relationship of language and communication is that of modes of speech. Variations in language across different people and situations are not individual features but whole patterns of features. Thus this dimension of the linguistic theory explains patterns of variation in language across different people, stimuli, relationships, context and competence. So, given that an individual has a code and that he is able to use it, a great variety of additional considerations are necessary in order to remain sensitive to social demands on patterns of communication.

Theories of Mass Media Effects

Human exposure to mass media is ever expanding. So sociologists have also started studying the social consequences of exposure to mass media. They have come up with a series of theoretical frameworks to explain the tremendous diversity of effects of mass media. DeFleur (1966) reviewed most of these in his book *The Theories of Mass Communication*.

THEORY OF INDIVIDUAL DIFFERENCES

According to DeFleur (1966), it is obvious that the audience of a given medium is not a monolithic collectivity that attends uniformly to whatever content is directed towards it. The principle of selective attention and perception can be used to explain the varying communication behaviour of a mass media audience. Response to a mass media message is said to occur in line with the psychological make-up of the individuals. Hence it is concluded that the effects of mass media may now be seen as varying from person to person because of individual differences in psychological structure.

PSYCHODYNAMIC MODEL OF PERSUASION PROCESS

Based on the assumption that one possible effect of mass media is persuasion, it has been said that the key to persuasion lies in modifying the internal psychological structure of the individual so that the psychodynamic relationship between internal processes and manifest overt behaviour will lead to acts intended by the persuader.

According to DeFleur (1966), this psychodynamic model of the persuasion process would be as follows (Fig. 15).

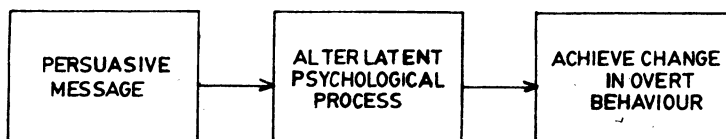


Fig. 15: Psychodynamic model of persuasion process.

However, there are many kinds of 'effect' other than overt adoption of some actions intended by the persuasive message.

Human beings learn many ideas and practices unrelated to the message — sometimes just the opposite to the intended effect. While the theory of individual differences may partially explain this variation in human behaviour, it would be wrong to assume that we have a grip over the role of such factors.

THEORY OF SOCIAL CATEGORIES

In spite of individual differences, there are broad social categories of people whose behaviour in the face of a given stimulus is more or less uniform. The basic assumption of the social categories theory is that, in spite of the heterogeneity of modern society, people who have a number of similar characteristics are likely to have a similar orientation and behaviour, resulting in a fairly uniform response to mass media.

Thus both the individual differences and social categories theories represent modifications of the original S-R, theory, substituting on the one hand latent psychological processes and on the other, normative patterns within social categories as intervening variables between communication stimulus and response.

THEORY OF SOCIAL RELATIONSHIPS

The role of group relationship in the mass communication process seems to have been discovered serendipitously during the presidential election of Roosevelt. Analysis of the communication behaviour began to suggest that, first, the information moved from the media to relatively well-informed individuals who attended to mass communication first hand. It then moved from those persons through interpersonal channels to individuals who had less direct exposure to the media. This kind of communication process was termed the two-step flow of communication.

Those individuals who were more in contact with the media were called opinion leaders. They were not only passing on information, but were also adding their own interpretations of the communication content to which they have been exposed. A rich literature later accumulated, indicating that informal social relationships operate as important intervening variables between the stimulus and the response in the mass communication process.

SOCIOCULTURAL MODEL OF PERSUASION PROCESS

As stated by DeFleur (1966), a sociocultural model of the persuasion process (Fig. 16) follows from the idea that media effects in general are influenced by the social interactions a group member has with his fellows. Such social and cultural variables are increasingly being recognised as important determinants of the way in which people adopt new ideas and things.

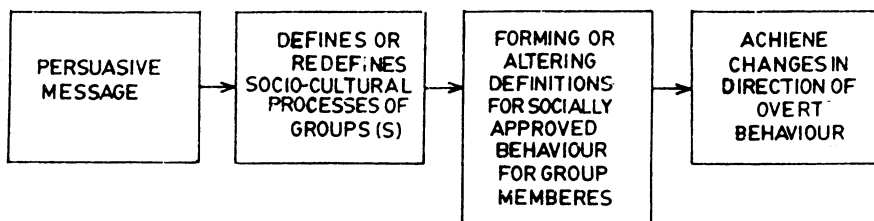


Fig. 16: Socio-cultural model of the effects of mass communication.

Several research studies have shown that the influence of group norms plays a powerful role in guiding, defining and modifying the behaviour of the individual somewhat independent of the psychological state of mind. Thus it can be assumed that new definitions can be given to sociocultural processes in groups with the use of mass media. If individuals to be persuaded are members of a group, it may be possible to give new directions to their overt actions somewhat independent of their psychological predisposition.

The Medium is the Message

McLuhan (1964) introduced the concept that the medium is the message. According to him, the contents of a message are relatively less important than the way they are received. He gives an example: the radio permitted Hitler to take command of his troops.

McLuhan sees technological developments as extensions of man. Clothing extends his skin, an auto his legs, a telephone his voice and hearing, writing his memory and so forth. However, he feels that printed media encourage man to think in a linear, segmented way, whereas electronic media envelop man in a mosaic.

He also classified media as hot and cold. A hot medium, for example, radio, movies, extends one's single sense in "high definition" while a cool medium, such as television, telephone, is high in participation by the audience. Therefore, he suggested that the present generation study the grammar of its media as well as its contents.

Conclusion

Some selected models of communication most likely to help an extension communicator plan an effective technology transfer strategy have been reviewed here. Bettinghaus (1960), Miller (1966), and Dissanayake (1984) have also reviewed most of these models, including the sociologically oriented model of Riley and Riley (1969), Kelman's (1961) model of opinion change and even a model emphasising non-verbal communication.

In examining the evolution of communication models and theories, three phases become identifiable. In the first phase the emphasis was clearly on linear, one-way manipulative communication. Dissanayake (1984) lists characteristics of the communication models of this phase as (i) communication is manipulation of the receiver, (ii) communication is what the communicator does, (iii) communication is unilinear, (iv) while communicating, greater attention is paid to the individual and his psychological make-up than his social structure, (v) little attention is paid to the context in which communication takes place, and (vi) communication is seen in mechanical rather than organic and processional terms.

In the second phase, communication models began to place emphasis on the organic nature of communication. As a result, most of the models of this phase are circular, two-way and contextualised, placing an enormous impact on knowledge generation and utilisation activities.

Communication models characteristic of the third phase see communication as interactional in specific sociocultural contexts through shared meaning. According to Dissanayake (1984), the nature of meaning generation, the way information is absorbed, the holistic as opposed to mechanical approaches to the art of communication, the way the participants in the communication process are constantly changing, etc. are important considerations lying at the heart of contemporary communication models.

Thus, from the technology transfer viewpoint it may be stated that human communication is a complex, continuous, circular, two-way process, in which certain key elements, such as the source, message, channel and receiver(s), are involved in some kind of dependence, co-orientation and interaction through mutually understandable signs or symbols, including feedback and certain wanted or unwanted effects in both the communicator and the receiver.

Further, the Source, Message, Channel and Receiver model may be universal in its application but factors influencing each of these elements, such as credibility, message structure, communication channels, effects on the receiver, and lack of homogeneity in the social system, lack of free communication climate etc., vary more widely in India than they do in the West.

5

Communicator

Introduction

A perusal of the theories and models of human communication described in the previous chapter will reveal that various authors have listed several elements of the communication process. However, a consensus is emerging in literature about the presence of at least the following four elements in the communication process.

1. Communicator
2. Message
3. Channel
4. Receiver

Before describing each of these elements in detail, let us also refer to the sequence in which a communication event occurs. Based on the Lasswell (1948) formula, we can describe the communication sequence as: 'Who says, what, to whom, when in what manner, under what circumstances and with what effect'. These should not be taken as discrete steps because communication is not a single functional unit. The process of communication is better understood when languages and other modes of communication, rules for their use, culturally determined modes of thinking and conceptualising and the interrelationship of all of the elements of communication, are kept in view.

Communicator

The communicator is that person who initiates the process of communication. He is the source, originator or sender of messages. He is the first to give expression to a message intended to reach an audience.

A communicator may be an individual, a group or a social system. In each case, the source may either represent itself or may communicate on behalf of someone else. However, keeping in view the conceptual framework of the present book (communication in the context of extension education), we shall limit our description of the communicator to all those change agents, extension workers, scientists, administrators, planners, key communicators etc. who individually or as a group, are communicating in person or through a mass medium, with rural people on behalf of an extension agency.

Who the communicator is, what he says, or does not say, his status, his position vis-à-vis receivers, his credibility, reputation, and receivers' expectations and past communication experience with him etc. — all these are likely to influence his communication performance.

Communication Behaviour

The communication behaviour of a communicator may be defined as his expression of results from information seeking, information processing and information dissemination behaviour.

We have already indicated that what the communicator says, or does not say, exerts a tremendous impact on his audience. As Osgood et al. (1957) pointed out, sometimes silence can be as meaningful to others as any word one might purposively say or write.

So, we shall try to refer here to those factors which govern a communicator's utterance, the way he utters, or does not utter. There are several factors which affect his communication behaviour. Some of these have been listed by Berlo (1960), others by Thayer (1968), Cherry (1958) etc. Important among these factors are (1) communication skills, (2) attitude, (3) knowledge level, (4) position within a social-cultural system, (5) relationship with the receiver, (6) purpose or intention, (7) roles and rules, (8) law of large numbers, (9) implications of on-behalf-of and (10) communication competence. Some of these factors are likely to overlap.

COMMUNICATION SKILLS

As Berlo (1960) points out there are five verbal communication skills. Two of these are encoding skills, writing and speaking while

two of them are decoding skills, reading and listening. The fifth is crucial to both encoding and decoding, i.e., thought or reasoning. There are other encoding skills also, such as painting, drawing and gesturing. What we say about writing and speaking can be generalised to the other encoding skills as well.

From extension education's point of view, communication skills also include an extension worker's ability to plan a communication strategy vis-à-vis a given objective, his ability to write, speak, prepare and use a teaching aid, treat a message to suit a given situation and to analyse feedback.

As source-encoders, our communication skills determine our communication behaviour in three ways:

- i) They affect our ability to comprehend or understand what others are saying and expecting.
- ii) They affect our ability to analyse our purpose and intentions.
- iii) They affect our ability to encode messages that express precisely what we intend to express.

ATTITUDES

The attitudes of a communication source affect the ways in which he communicates. We can argue that the source's attitudes affect communication in at least three ways:

(i) *Attitude towards self*: Attitude towards self is important. A favourable attitude leads to self-confidence, while a negative attitude will reflect pessimism. However, an extension worker conscious of his favourable/unfavourable attitude towards self, can manipulate/hide/neutralise it during communication with others.

(ii) *Attitude towards subject matter*: Listener is likely to pick up the attitude of a speaker towards his subject matter. Quite often it is reflected in his message. If he does not believe in the value of his subject matter, convincing communication is difficult to achieve. A study by Sinha (1969) revealed that the village level workers and extension officers themselves did not like the farm-planning concept in the IADP, which they were expected to 'sell'. To be an effective communicator the extension worker must be aware of his attitude towards the contents of his message, and must be able to manipulate it to advantage, if favourable, or be able to hide/neutralise it, if unfavourable.

(iii) *Attitude towards receiver*: The source's attitude towards his receiver(s) also affects communication. When listeners or readers realise that the source is really speaking or writing for them, they are much less critical of his message, and much more likely to accept what he says. Aristotle called this perceived characteristic of the speaker 'ethos', a quality in the speaker that is personally appealing to the listener. It is not rare to find communicators with a negative attitude towards recipient farmers. Experience in extension work with farmers has also proven that when the farmers believe that the communicator likes them, they are much less critical of his message.

Besides the above three kinds of attitudes, the communicator's attitude towards any person, object, or channel relevant to the communication situation may also affect his communication behaviour. If the communicator is conscious of his attitude and makes an effort to conceal it, he may not only be successful in this attempt, but even use it to an advantage.

KNOWLEDGE LEVEL

It is obvious that the amount of knowledge a source has about his subject matter will affect his message. One cannot communicate what one does not know. On the other hand, if the source knows 'too much', or if he is overspecialised, it is possible that his communication skills may be employed in such a highly technical manner that his receivers are unable to understand his message.

The source needs to know his subject matter as well as how to communicate effectively. Knowledge of the communication process itself affects source behaviour. In other words, his communicator behaviour is affected by how much he knows about his own attitudes, his knowledge of the characteristics of his receivers, his knowledge of the ways in which he can produce or treat messages, and his knowledge of the kinds of choices he can make about communication channels etc.

POSITION WITHIN A SOCIAL-CULTURAL SYSTEM

No source communicates as a free agent, without being influenced by his position in a social-cultural system. People in differing social classes communicate differently. People from different cultural

backgrounds communicate differently. Social and cultural systems partly determine (i) the word choices which people make, (ii) the purpose they have for communicating, (iii) the meanings they attach to certain words, (iv) their choice of receivers, (v) the channels they use for this or that kind of message etc.

It is also true that the source fulfils many roles, according to changing perceptions or images of the social and cultural positions of his receivers. These perceptions affect communication behaviour. We have also noticed in the Stimulus-Response Theory of communication that quite often a communicator brings into encounter with the receiver, a projected concept of self, in view of his perceived concept of self and those of the receivers.

RELATIONSHIP WITH THE RECEIVER

Interpersonal communication requires some sort of interdependence amongst the participants. The way each participant in a communication event comprehends the other, is likely to govern what each says and the manner in which it is said. As Thayer (1968) points out, if each person in a two-person encounter has a different conceptual model of the relationship, it is fairly easy to image the obstacle that would be to their communication.

Status and prestige are common relationship factors, such as superior-subordinate, expert-novice etc. There are other conceived relationships as well. What is important is that some conceptual model of one's relationship with another is not only a basic prerequisite of any intercommunication, but also affects the way a message is encoded. This concept of relationship will be examined more thoroughly later.

PURPOSE OR INTENTION

Thayer (1968) points out that although talking may serve no useful purpose, communication always occurs in the service of some need of the psychological system. So communication will occur to the extent that purpose or intentions of both the communicator and the receiver match each other. If the communicator is conscious of this fact, he will always try to adjust the encoding of his message to match to the purpose or intentions of the receiver, so long he is able to operate within the broad framework of his own

purpose or intention of engaging in a communication encounter with the receiver.

ROLES AND RULES

All individuals involved in human encounter follow certain roles and rules, whether consciously or otherwise. There are rules governing the use of language, rules regarding place and time, rules of protocol and rules about meeting mutual expectations. These are psychological, sociological and anthropological rules. It would take us somewhat out of field to attempt to explore in depth the prerequisites and the consequences of rules followed in every sort of human communication. What is important to know is that entering into intercommunication with another person involves submitting to a wide range and levels of rule-following.

One particular type of rule which deserves special mention in the case of extension communicators, is what is usually referred to as role. A change agent while communicating, evaluates, either in advance or in retrospect, the appropriateness of his communication behaviour according to the role he assumes or is supposed to be playing on behalf of his extension organisation.

LAW OF LARGE NUMBERS

Whenever a change agent communicates to a relatively large number of persons, as he usually does, another factor comes to influence his communication behaviour. Communicating to a large number of people requires what Thayer (1968) calls a different orientation, based on the properties of that aggregate, which may or may not be discernible properties of any individual in that aggregate. This may also require different manipulation of voice and treatment of the message.

ON BEHALF OF

Extension communicators are not free to express just anything nor in any way they like because they are working for an extension organisation and are in communication with farmers on behalf of this organisation. The contents of their message are largely determined by the role and rules of their extension organisation. The operational limitation is likely to have several implications for

their communication behaviour. They may communicate not what they could, but what they are supposed to communicate on behalf of the organisation for which they work.

Communication Competence

In spite of all the progress made in understanding the process of communication, there is still lack of consensus regarding the concept of competence in communication. Hymes (1972) and Spitzberg and Cupach (1984) have recently made efforts to take stock of the various views expressed in literature about defining, understanding and measuring competence. They have identified at least six distinguishable categories for classifying competence. Fundamental competence, social competence and interpersonal competence are all concerned with achievement of outcomes. Linguistic competence and communication competence are message-focussed rather than outcome-focussed and attempt to explain message behaviour. The sixth, i.e., relationship competence, examines the relationship between behaviour and outcomes such as the perception of appropriateness and effectiveness or social skillfulness. As such, it is more concerned with the links between the communication processes and functional outcomes.

NATURE OF COMMUNICATION COMPETENCE

Communication competence in an interpersonal situation has been referred to as the ability to engage in appropriate and effective communication, the ability to convey accuracy in meaning, purposive, strategic message formation, the ability to adapt messages appropriately to the interaction context etc. As such, it is clearly broader in scope than linguistic competence. According to Hymes (1972), communication competence is an individual ability and hence extends beyond knowledge of language. It includes the ability to process information cognitively and the ability to explain and predict human behaviour. In other words it is the ability to perform as well as the knowledge of how to perform.

Konsky and Murdock (1980) stated that competency has two dimensions—knowledge and skills. Knowledge includes our awareness and understanding of the numerous variables which

affect human relationships. Skills involve the ability to pragmatically apply our knowledge. Wiemann and Backlund (1980) argue that communication competence focusses on the individual's ability and skills, which necessarily include both knowledge of the social communication rules and the wherewithal to perform in an appropriate manner.

Spitzberg and Cupach (1984), after a review of literature on interpersonal communication competence, concluded that a competent communicator is one who is motivated to communicate, has knowledge of how to communicate, possesses communication skills and is sensitive to the expectations of the context in which the communication occurs. Thus communication competence has five major components for each individual, namely motivation, knowledge, skills, context and outcomes. This model is based on the assumptions that (i) competence is perceived appropriateness and effectiveness, (ii) competence is contextual, (iii) competence is a matter of degree, (iv) competence is both molar and molecular (molecular behaviour provides specific communicative indicators of competence as well as a reference point for skill enhancement, while molar impression provide evaluative outcome criteria), (v) competent communication is functional (related to and productive of functional outcomes), (vi) competence is an interdependent process (it lies in the relationship system of all participants) and (vii) competence is an interpersonal impression (it implies not actual performance but an evaluation of the performance by someone).

In the context of a technology transfer model, extension communicators, in order to be competent communicators, should have knowledge of the technology as well as the process of communication, be motivated to communicate, possess communication skills, be sensitive to the expectations of the context in which the communication is to occur, and be concerned about the expected outcomes both on their part as well as that of the receivers.

Sequence of Extension Communicator's Roles

According to Rogers and Shoemaker (1971), the sequence through which an extension communicator introduces new ideas comprises seven stages.

(1) *Develops need for change:* An extension worker is often initially required to help his clients become aware of the need to alter their behaviour. This is especially true in developing countries. The short planning horizons, low achievement motivation, high fatalism and low aspirations characteristic of most farmers mean that the extension workers must serve a catalytic function for clients' needs. In order to initiate the change process, the extension worker points out new alternatives to existing problems, dramatises these problems and convinces clients that they are capable of confronting these problems. He not only assesses client needs at this stage, but also helps to create these needs in a consultative and persuasive manner.

(2) *Establishes a change relationship:* Once a need for change is created, the extension worker must develop rapport with the audience. He may enhance his relationship with his receivers by creating an impression of credibility, trustworthiness and empathy with their needs and problems. Farmers must accept the extension worker before they will accept the innovations he promotes.

(3) *Diagnoses the problem:* The extension worker is responsible for analysing his clients' problem situation in order to determine why existing alternatives do not meet their needs. In arriving at his diagnostic conclusions, the extension worker must view the situation empathetically from his clients' perspective, not his own. He must psychologically zip himself into their skins, put himself in their shoes, see their situation through their eyes. This empathetic transferral is difficult but is very useful for effective communication.

(4) *Creates intent to change in the clients:* After an extension agent explores various avenues of action that his clients might take to achieve their goals, he should encourage an intent to change, a motive to innovate. But the change must be client-counteracted, rather than a change for change sake. Here, the extension agent's role is to provide repeated motivation to farmers.

(5) *Translates intent into action:* An extension worker seeks to influence his clients' behaviour in accordance with his recommendations, which are in line with the clients' needs. In essence the extension agent works to promote compliance with the programme he advocates. This involves not only establishing

comprehension and acceptance of the message by farmers, but motivating them to effect behavioural changes.

(6) *Stabilises change and prevents discontinuances*: Extension workers may effectively stabilise new behaviour by directing reinforcing messages to those farmers who have adopted his recommendations, thus 'freezing' the new behaviour. This assistance frequently is given when the client is at the trial-decision or confirmation function in the adoption process.

(7) *Achieves a terminal relationship*: The end goal for any extension communicator is development of self-renewing behaviour on the part of his clients. He should seek to put himself out of business by developing his clients' ability to be their own change agents. In other words, he must seek to shift the clients from a position of reliance on him to reliance on themselves.

Communication Activities

Bhanja (1987) has reported communication activities of agricultural administrators as a percentage of their time utilisation. According to him, their communication activities include (i) writing and reading routine official communications (21.17%), (ii) interpersonal communication with staff and visitors (16.11%), (iii) reading and writing other than routine work (13.57%), (iv) formal and informal official meetings (12.23%), (v) restful thinking (intrapersonal communication (11.46%), (vi) giving dictation (11.14%), (vii) attending incoming and outgoing telephone calls (5.57%) and (viii) others (9.16%).

Communication I.Q.

Bhanja (1987) has also studied the communication I.Q. of agricultural administrators using Paul Preston's (1979) Communication I.Q. test. Communication intelligence quotient refers to an extension executive's understanding of the intricacy of communication effectiveness. The test includes ten statements with a maximum possible score of ten. Bhanja observed that the average communication I.Q. score of agricultural executives was 5.39, which was equal to that of civil servants and forest officers, but slightly better than those of bank and commercial organisation executives (5.0).

Organisational Leadership

A good communicator, who is in intimate communication with his workers, is likely to be a better leader in an organisation. In other words, communication effectiveness determines organisational leadership to a large extent. Using Arthur Paul's Leadership Quotient Test with appropriate modifications, Bhanja (1987) reported that 85.7 per cent of the agricultural extension administrators scored medium organisational leadership. He further studied the relationship between communication I.Q. and organisational leadership of agricultural administrators. His results confirm that communication and leadership are interdependent and that one's understanding of the communication process definitely influences his leadership quality.

Communication Effectiveness

Some of the factors likely to affect the communication effectiveness of a communicator in the technology-transfer model of communication are given in Fig. 17 and discussed here. However, it must be clearly understood that a communicator's competencies do not lie in his being able to follow a recipe for successful communication, but rather in his ability to comprehend what Thayer (1968) calls a dynamic relationship between himself and a specific message, a specific receiver and a specific situation.

(1) *Communication behaviour*: As already stated, the communication behaviour of extension workers will itself largely depend upon their communication skills, attitudes, knowledge level, positions within a social-cultural system, purpose or intention, roles and rules, law of large numbers and implications of on behalf of the organisation. The nature of communication behaviour of an extension worker is likely to affect his communication effectiveness. To the extent an extension worker is conscious of his communication skills, attitudes, knowledge level and position etc., and to the extent he is able to manipulate to enhance the positive points and hide or neutralise the negative factors, he will be able to increase his communication effectiveness.

(2) *Role, perception and role performance*: To the extent an extension worker is clear about his role expectations, and to the

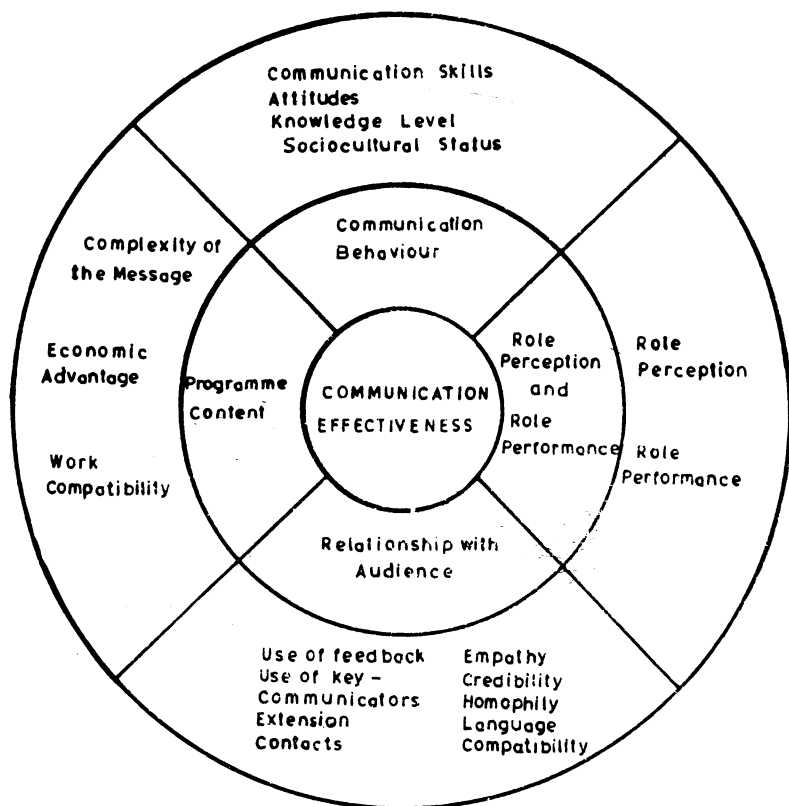


Fig. 17: Factors affecting communication effectiveness of extension workers.

extent he puts in efforts to perform his role, he is likely to be effective in his communication effort.

(3) *Relationship with audience*: The nature of the relationship of the extension communicator with his audience is also likely to affect his effectiveness. However, the concept of relationship here is taken in a broader sense. Implied therein is the perceived or psychological relationship as well as the actual contacts. More specifically, it is referred to as an extension worker's (a) orientation towards clients, (b) his empathy (especially his compatibility with clients' needs), (c) his credibility in the minds of the audience and (d) his homophily with the clientele, especially his cultural and

language compatibility. It also refers to the extent he (e) makes actual contacts, (f) uses opinion leadership and (g) allows feedback etc.

Thayer (1968) has also introduced the concept of communication economy while considering effectiveness. At the interpersonal level there is investment in terms of capacity, time, loss of certain degrees of freedom, cost of fulfilling the expectations of the channels and receivers etc. At times some of these investments may run counter to an extension worker's performance levels. But they are in line with the philosophy of extension education.

(4) *Programme content*: The communication effectiveness of an extension worker will also depend on (a) the nature and characteristics of the programme content and (b) its compatibility with the existing needs of the people. Some programmes or messages are very complex and some may need heavy investment in terms of money and time. On the other hand, some messages are quite simple and easy to adopt. Whereas it may be relatively easy to communicate effectively programmes that are simple, communication of complex messages is difficult, challenging and time-consuming.

Improving Oral Communication

Extension workers depend very heavily on oral communication for technology transfer to farmers. Oral communication refers to not only to the use of spoken language, but also facial expressions, body movements, gestures and voice manipulations in terms of intensity, pitch, tone etc. for communication. An effective oral communication should be able to achieve comprehension, understanding, perceived utility and validity and a lasting impression of the message in the mind of the listener (so that he is able to recall the message when needed).

CLEAR OBJECTIVES

In order to be effective in oral communication one must first of all be clear about the objectives to be achieved. This will help him knit his message around that objective. It is assumed that an extension worker, because of his training, experience, role expectations etc., has the ability to use appropriate language for communicating his

message and is able to clearly perceive the objectives he wants to achieve in any communication situation.

GOOD RELATIONSHIP WITH RECEIVERS

In any communication encounter, the communicator and the receiver are interdependent both physically and mentally. It is therefore pertinent for an extension worker to establish a good functional relationship with the receivers in order to secure a good response to his message. For this, a number of factors, such as good rapport, positive attitude, pleasing personality, language compatibility, degree of previous contacts, ability to listen and analyse problems and perceived credibility etc., are likely to influence reception, interpretation and response to the message on the part of the receiver.

EFFECTIVE DELIVERY

Having clearly understood the objective of a communication situation and having established a sound functional relationship with the receiver, an extension worker can follow some simple rules of effective oral communication. Some of these rules are talk less, talk sweet, talk truth, talk slow (rate of delivery may be around 100 words a minute), talk loud, talk clearly, give examples, repeat key ideas, use stories to elaborate, quote sources of information, use local proverbs, local terms. Be up-to-date, specific, timely, ask questions for clarification, and draw conclusions about the expected actions on the part of the receivers. Thus, effective oral communication is a function of clear objectives, good functional relationship and effective delivery, as given in Fig. 18.

Conclusion

In oral communication, an extension worker should appear to be talking to people he knows and cares about, on a subject he knows well, in the language of the listeners and in line with their needs and interests. The information should look clear, specific, timely, accurate and up-to-date. The communicator limits his communication to a few ideas, repeats key points and even draws conclusions for the listeners. He keeps the communication interesting by adding proverbs, stories and by asking questions.

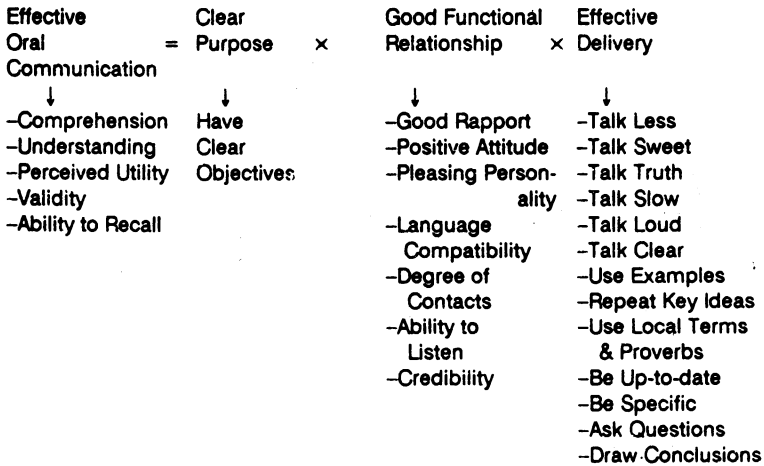


Fig. 18: Factors affecting oral communication effectiveness.

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Message

Effective communication in extension education is assumed to be a matter of promoting behavioural changes. For this the message being communicated must look useful to the learner. But what is a message, rather a good message? How should that message be treated and conveyed to the receivers in order for them to comprehend, understand and feel convinced of its usefulness in their situations? These and some related issues need to be examined in detail.

What is a Message?

A message can be defined as some alternations or disturbances of the physical environment, which can be attended to and discriminated from the rest of the physical environment. However, from the extension education point of view, a message is the facts, feelings, impressions, attitude, information etc. that a communicator wishes his audience to receive, understand, accept and act upon. Messages for example, may consist of statements of scientific facts about agriculture, sanitation or nutrition, description of some phenomenon, or explanation of some actions being taken by individuals, groups or committees, or reasons as to why certain kinds of action or steps should be taken for a particular action. Potential messages range as wide as the content of the programme.

Dimensions of a Message

As Berlo (1960) pointed out, at least three factors need to be taken into account in the message. They are the message code, the message content and the message treatment.

(i) *The message code:* A code may be defined as any group of symbols that can be structured in a way that is meaningful to some person. According to Berlo (1960), a code is anything which has a group of elements (a vocabulary) and a set of procedures for combining those elements meaningfully (a structure). Language is a code. Even painting involves a code.

Whenever we encode a message, we must make certain decisions about the code to be used. We must decide (i) which code, (ii) its elements and (iii) the methods of structuring these elements.

(ii) *The message content:* We can define content as the material in the message selected by the source to express his purpose. Content, like a code, has both elements and structure. If you try to present three pieces of information, you have to present them in some order or sequence.

(iii) *The message treatment:* We may define the treatment of a message as the decisions which the communication source makes in selecting and arranging both code and content in order to achieve comprehension on the part of receivers. In general, message treatment refers to the decisions the source makes as to how he should deliver his message. For example, given his code and content choices, a newspaper copywriter will use various type sizes to let his reader know that he considers some things more important than others. In interpersonal communication we use such phrases as 'now hear this', 'listen', 'this is important'.

Characteristics of a Good Message

Messages are not precisely the same as the subject matter of the technology to be conveyed. They are rather a generalised idea of what the subject matter means. For example, a fertiliser properly used increases crop yield or washing rice properly retains its food value. These statements represent messages a communicator may wish an audience to receive, accept and act upon.

If after exposure to a communication, one is prompted to remark so what? or I do not get the point, or where do we go from here? — he has not received the message. The missed signal may be due to his poor attention, but more likely the cause of incomplete communication lies in what the communicator did

or did not do. The chances are high that the message was buried in a mass of words and hence not clearly identified even by the communicator.

According to Schramm (1964), the following conditions must be fulfilled if the message is to arouse its intended response.

- (1) The message must be so designed and delivered as to gain the attention of the intended destination.
- (2) The message must employ signs which refer to experience common to source and destination, so as to 'get the meaning across'.
- (3) The message must arouse personality needs in the destination and suggest some ways to meet those needs.
- (4) The message must suggest a way to meet those needs which are appropriate to the group situation in which the destination finds himself at the time when he is moved to make the desired response.

Further, as Leagans (1961) said, a good message must be:

- (1) In line with the objectives to be achieved;
- (2) Significant to the receiver, socially and economically;
- (3) Clear: understandable by the audience
- (4) Specific, not vague;
- (5) Accurate and up-to-date;
- (6) Appropriate to the channel;
- (7) Timely.

Message Treatment Strategies

Treatment refers to the manner in which a message is handled to get the information across to an audience. It relates to the techniques, or details of procedure, or manner of performance, essential for effective presentation of the message. Hence treatment deals with the design of methods for presenting messages. Designing strategies for treating messages do not relate to the formulation of the message or to the selection of channels, but to the techniques employed for presentation within the situation provided by a message and a channel.

The purpose of treatment is to make the message interesting, clear, understandable and realistic to the audience. The message, when communicated, must be comprehensible to the receivers. They must understand its meaning, perceive it as valid in terms of

consonance, context and credibility as well as useful under their own situations. A message may be termed properly and effectively treated to the extent that it actually imprints these three qualities on the receivers' mind. Designing treatment usually requires original thinking, deep insight into the principles of human behaviour and skill in orienting and using refined techniques of message presentation.

A. METHODS OF MESSAGE ORGANISATION

- (i) Repeat key ideas, important concepts;
- (ii) Compare and contrast important ideas;
- (iii) Present ideas in chronological, logical or psychological sequence;
- (iv) Present one side or both sides of an issue depending on the objectives to be accomplished;
- (v) Use either factual or emotional appeals or both;
- (vi) Start with strong arguments or save them until the end of presentation;
- (vii) Use inductive or deductive analysis;
- (viii) Draw explicit conclusions for the audience or leave conclusions implicit for the audience to draw.

B. METHODS OF GETTING ATTENTION

- (i) *Intensity*: A loud noise, a flash of light etc. are fairly reliable stimuli for forcing one to respond.
- (ii) *Extensivity*: The larger the stimulus, the more likely it will be noticed.
- (iii) *Movement*: Movements, gestures attract attention.
- (iv) *Change and contrast*: Changes in rate of movement, loudness and pitch while communicating a message are likely to attract attention.

Some persons, however, are alert to any communication, while others are quite selective.

C. METHODS OF SPEAKING

- (i) Limit the scope of presentation to a few ideas at a time. Presenting too many ideas at one time, by one speaker is confusing.

- (ii) Be yourself. Try to be specific, rather than vague. Be accurate, up-to-date and timely.
- (iii) Do not read your speech. You should appear to be talking ad lib. on a subject you know well.
- (iv) Know the audience. Each audience has its own personality. The audience must feel that you know and care for them.
- (v) Avoid condemning.
- (vi) Keep the communication interesting, by using local proverbs, stories and adding a bit of humour and personal touch.

D. ELEMENTS OF PERSUASIVE MESSAGES

There seem to be at least two variables that affect the strategies for an effective treatment of a message. First is the amount of credibility the communicator enjoys in the mind of the receiver. Second is the receiver's initial attitude towards the message. Thus the communicator should make every effort to determine how the audience feels about him and about the message he is going to encode.

Burgoon and Burgoon (1975) suggested the following general rules for preparing a persuasive message:

(i) Evidence is effective only if the receiver was not previously aware of it. If the receiver already knows the evidence, he has probably already accepted or rejected it and a mere restatement of the same is unlikely to enhance the persuasive message.

(ii) The credibility of the communicator is probably more important than evidence in persuasive communication.

(iii) Evidence must be presented well if it is to be persuasive. If it is not delivered well, it may not be understood by the receiver. Also a poor delivery might reduce the credibility of the communicator and consequently the persuasiveness of the message.

(iv) If the audience is initially in agreement with the message, a one-sided message may suffice. If the receivers are initially opposed to the contents, a two-sided message is more effective.

Two sided-messages tend to be more effective with receivers who have more formal education, regardless of their initial attitude. Similarly, if the receivers have already been exposed to the opposite arguments, a two-sided message is more persuasive.

(v) The credibility of the communicator influences how a receiver reacts to fear appeals. A strong fear appeal is more persuasive than a mild fear appeal. Evidence supporting the fear appeal influences the persuasiveness of the message. A strong appeal with evidence is more effective than a strong appeal without evidence, or mild appeals with or without evidence.

(vi) When a communicator knows that a receiver has a high regard for him, he can be relatively more intensive in stating his claim and be persuasive. If it is known that the topic is very important to the receiver, the communicator should state his claim in a less intensive manner.

E. METHODS OF SYMBOLS VARIATION AND DEVICES FOR PRESENTING IDEAS

The communicator while treating the message may introduce aids or equipment such as charts, models, flashcards, flannel-graphs, specimens, real objects, songs, dramas, slides, film-strips, films, puppets, video cassettes etc. to help him communicate clearly and effectively.

The foregoing list of suggested possibilities for message treatment can be extended and the techniques used may vary widely. Communicators should be aware that treating messages to achieve maximum audience impact is a highly professional task. How to do it is not given in books. The task cannot be reduced to a formula or recipe. Treatment is a creative task that has to be tailor-made for each communication situation. Treatment of a message will also vary in accordance to the objectives to be accomplished and according to the nature of the audience, channel to be used, stages of adoption, exposure to mass media etc.

It should be remembered that people respond best to messages that are reliable, realistic, relevant and understandable. Regardless of reliability, the message will not be accepted until it is understood. Treatment that makes messages understandable must be clear rather than just clever. It must make the ideas specific and concrete.

Message Efficiency

Message efficiency cannot be determined apart from the individual costs to the originator and the receiver. The relative utility of the

message to the receiver together with the relative ease or difficulty of the receiver's comprehension of the message may be considered. The efficiency of any message is thus encounter-specific. It depends on the participants, the situation, the timing etc.

However, in the technology transfer model of communication, the objectives are worth achieving within the allocated cost. Further, as Thayer (1986) indicate the long-range advantage to people or to their organisation does not inevitably accrue from the effectiveness of specific and immediate communication encounters. However, there is great need to avoid achieving immediate effectiveness at the cost of long-term disadvantage.

Message Characteristics and Effectiveness

Adoption research bears ample testimony to the fact that a number of attributes of innovations as perceived by the farmers influence their rate of adoption. Several authors have listed a number of such attributes. A study by Roy (1960) found the following characteristics of a message influencing its adoption (Table 1).

Table 1: Relative Importance of Characteristics of Message

<i>Characteristics</i>	<i>Scale Value</i>
Profitability	1.954
Cost of innovation	1.949
Simplicity-complexity	1.924
Physical compatibility	1.910
Cultural compatibility	1.663
Saving of labour and time	0.462
Divisibility	0.000

In another study, it was found that a simple message is better understood and retained longer.

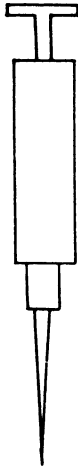
Message Flow Models

Several models have been conceptualised to explain the flow of a message from the communicator or mass media to the audience. Some of these are described briefly:

(i) *Hypodermic needle model* (Fig. 19): Based on the S-R principle, this model hypothesises that the information flows direct the masses waiting to receive it, with nothing intervening.

Later on communication research proved the inadequency of this model by establishing the presence of many intervening variables operating between the communication stimulus and the receiver's response.

MASS MEDIA



Mass Media

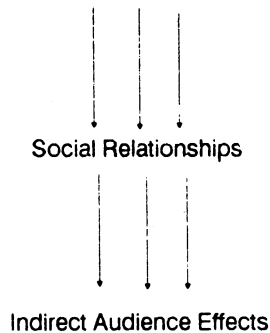


Fig. 20. Two-step flow of message.

DIRECT AUDIENCE EFFECTS

Fig. 19. Hypodermic needle model.

(ii) *Two-step flow model* (Fig. 20): In the presidential election of 1940 in the USA, it was discovered that ideas flow from radio and print to some active members of a social system called key communicators and from them to less active members of the audience. It was further concluded that in the first step, from source to key communicators, mostly information flows, while in the second step, from key communicators to other members, there is also a flow of influence.

Rogers and Shoemaker (1971) listed several limitations of this model.

- a) This model implies that individuals active in information seeking are key communicators. In fact, they could either be active or passive.
- b) The model implies a dichotomy between key communicators and others. In fact this phenomenon is a continuous variable.
- c) Flow of information may involve more than two steps.
- d) It implies a reliance by key communicators on mass media channels. This may not always be true.
- e) The use of mass media channels varies with the stages of adoption of an idea.

iii) *One-step flow model* (Fig. 21): The one-step flow model states that mass media channels communicate directly to the mass audience, without the message passing through opinion leaders. However, the message does not equally reach all the receivers, nor has it the same effect on all. This model seems to be an improvement over the hypodermic needle model. It recognises that (i) the media are not all powerful, (ii) the screening aspects of selective exposure, perception, and retention affect message impact, (iii) differential impact for members and (iv) allows for direct flow of information to members also.

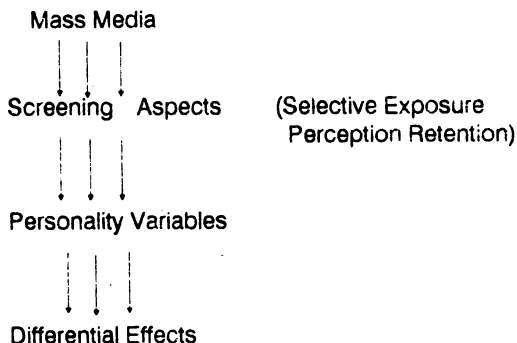


Fig. 21. One-step flow of message.

(iv) *Multistep flow model*: This model implies a variable number of relays in the flow of information from the source to a large audience. This suggests that some members will receive the message directly through channels from the source, while others may be one, two or even several stages removed from the

message origin: The exact number of steps involved may depend on the (i) intention of the source, (ii) availability of mass media, (iii) nature of message and (iv) relevance of the message to the receivers. Thus this model incorporates all other models and is the least specific or restrictive.

Message Distortion

According to Kirk (1953), the distortion of information may be of three fundamentally different kinds: (i) systematic or stretch distortion, (ii) fog distortion, and (iii) mirage distortion.

In systematic distortion, no information is lost. Rather it is changed or recorded in an orderly or systematic way. Thus in this case the information is purposely changed in a systematic way to serve some specific objective. This type of distortion may be useful for extension workers for effective treatment of the message. In fog distortion, information is lost, masked or 'fogged' over, because of the inability of the communicator to encode and/or the inability of the receiver to decode the message with the complete fidelity. In mirage distortion, we see something that 'is not there'. Far from withholding information from us, mirage distortion gives us extra, unwanted information. It is unwanted because it is likely to result in mistaking the distorted message as pertinent information, thus introducing error into prediction. Extension workers, while painting a rosy picture with regard to new ideas, may create a mirage-type distortion in the mind of the farmers.

7

Channels of Communication

What is a Channel

The sender and the receiver of a message must be connected or tuned with each other so that the message gets through. For this purpose, channels of communication are necessary. They provide the vehicle for getting communication from one person or institution to another. According to Rogers and Shoemaker (1971), communication channels are the means by which messages travel from a source to a receiver. Leagans (1961) calls them the physical bridges between the sender and the receiver of messages. They are the avenues between a communicator and an audience on which messages travel to and fro. They may be referred to as transmission lines for carrying messages to their destination. Thayer (1968) distinguished between media and channels of communication. According to him, media refers to the technological medium over or through which messages are disseminated; a channel is any specialised, functional link between and among people, such as policies, rules, practices etc. that link individuals together in a communication system. Thus media are means of transporting data in particular ways, what McLuhan (1966) calls an extension of man's abilities to acquire and disseminate consumable data.

Dimensions of Channels

It might be accurate to say that no word in communication has been used or abused as much as the word 'channel'. Very often, the distinction between a source of a message and the channel which carries the message is not understood. According to Berlo

(1960), we need to consider at least three dimensions of the concept of a channel, namely: (i) modes of encoding and decoding messages such as our speaking and hearing mechanism, (ii) message vehicles such as sound waves and (iii) vehicles carriers that support the sound waves during transmission.

Classification of Channels

There may be many methods for classifying communication channels. One of the simplest is to categorise them as (i) interpersonal channels and (ii) mass media channels. Another method might refer to them as (i) localite and (ii) cosmopolite channels. Interpersonal channels refer to those which are used for face-to-face communication between two or more individuals. Mass media channels, such as radio, television, films, newspapers, magazines etc., enable a source of one or a few individuals to reach in a relatively shorter time, an audience of many, almost simultaneously, that may even be physically separated.

Some of the important characteristics of interpersonal and mass media channels, as reported by Rogers and Shoemaker (1971) are given in Table 2.

Table 2: Classification of Channels

<i>Characteristics</i>	<i>Interpersonal channels</i>	<i>Mass media channels</i>
Message flow	Trends to be two-way	Trends to be one way
Communication context	Face-to-face	Interposed
Amount of feedback readily available	High	Low
Ability to overcome selective processes (primarily selective)	High	Low
Speed to reach large audience	Relatively slow	Relatively rapid
Possible effects	Attitude formation	Knowledge change

Channels may also be categorised as either localite or cosmopolite, depending on the place of origin. Localite channels, such as neighbours, opinion leaders etc., originate within the social system of the receiver. Cosmopolite channels, such as extension workers, sale agents etc., have their origin outside the immediate social system.

Selection of Communication Channels

There are several channels of communication available to the extension communicator. It is obvious that there is no one channel that is effective or best for all situations. What is needed is a parallel combination of channels in order to have the intended impact. Proper selection and use of channels is very important in order to reach a given audience and to achieve a predetermined objective. Amongst the large number of factors that may govern the wise selection of channels, some are listed below:

- (i) Availability of the channel to the communicator.
- (ii) Suitability of the channel for audience and message.
- (iii) Competency of the communicator in using the channel.
- (iv) Frequency of use of the channel.
- (v) Ability to combine different channels.
- (vi) Relative effectiveness of channels.
- (vii) Efficacy of the extension education system, i.e., having or not having the kinds of qualities and characteristics that would enable and facilitate effective communication by their users.

Channel Efficiency

Efficiency of a channel will depend on its ability to communicate effectively at minimum cost. According to Thayer (1968), the efficiency of communication channels 'predict to their use and creation in the emergence of communication systems between and among people.' Similarly, cost will vary depending on the mass media employed for conveying a given purpose to an audience, as mass media vary greatly in their cost of operation.

Rogers and Shoemaker (1971), based on a large number of research studies, drew the following generalisations regarding the relative effectiveness of various channels of communication.

1. Mass media channels are relatively more important at the knowledge function and interpersonal channels are relatively more important at the persuasion function in the adoption process.
2. Mass media channels are relatively more important than interpersonal channels for early adopters than for late adopters.

3. Cosmopolite channels are relatively more important at the knowledge function, and localite channels are relatively more important at the persuasion function.
4. Cosmopolite channels are relatively more important than localite channels for early adopters than for later adopters.
5. The effects of mass media channels, especially among farmers in developing countries, are greater when these media are coupled with interpersonal communication channels in media forums. Media forums refer to organised small groups of individuals who meet regularly to receive a mass media programme and to discuss its content. Rural radio forums, tele-clubs, discussion groups etc. are some examples of such forums.

Channel Credibility

Credibility refers to perceived trustworthiness and expertise accorded to a source by its audience at any given time. A comparative picture of the relative credibility of various channels/information sources is given in Table 3.

Use of Channels by Farmers

There are many sources/channels of information through which farmers seek information on farm technology. It has been noted that some farmers are exposed to a relatively larger number of information sources, and with greater frequency, than others. Findings of a study by Sandhu and Lal (1973) are summarised in Table 4.

It is evident from the Table results and from several other studies that web-of-word of mouth, radio, infrastructure and extension agency are the most important sources generally utilised by farmers.

Of late, farmers' exposure to written information is also widely increasing, especially in agriculturally progressive states. Farmers are also getting close to information sources and agricultural scientists. Farmers are increasingly being more and more exposed to farm, home and other development programmes on various mass media, especially television, farm journals and local

Table 3: Relative credibility of various channels/information sources

Credibility rank	IMC, 1968	Roy and Fligel et al., 1968	Shankariah, 1969 Progressive village	Non-progressive village	Singh and Shankariah, 1970	Sandhu, 1970	Sandhu, 1972	Sandhu, 1973
1.	V.L.W.	Demonstrations	Scientists	Demonstrations	Scientists	Demonstrations	PAU scientists	Progressive farmers
2.	Demonstrations	Neighbours	Radio	Progressive farmers	V.L.W.	PAU Scientists	Agric. Deptt. Officers	Block agency
3.	Other normal persons	V.L.W.	Progressive farmers	Scientists	Progressive farmers	Radio	Radio station staff	Radio
4.	Radio	Radio	Block agency	Block agency	Next-door neighbour	Block agency	Block officials	Demonstrations
5.	Neighbours	Demonstrations	Radio	Farmers of neighbouring villages	Progressive farmers	Progressive farmers	Progressive farmers	PAU scientists
6.	Bulletins, leaflets	-	Bulletins	Bulletins	B.D.P.O	Leaflets	-	Farm publications
7.	Posters	-	Newspapers	Newspapers	Radio	Newspapers	-	Newspapers

8. Newspapers	-	-	-	Bulletins	-	-
9. Films	-	-	-	Newspapers	-	-
10. Relations	-	-	-	-	-	-

Indian Institute of Mass Communication. 1968. Agro-information flow at the village level. Report of the survey of communication sources in the adoption process of high-yielding varieties of crops. New Delhi.

Roy, P., Fligel, F.C., Kivlin, J.E. and Sen, L.K. 1968. Agricultural innovation among Indian farmers. N.I.C.D., Hyderabad.

Shankariah, Ch. 1969. A study of differential communication patterns in a progressive and a non-progressive village. Ph.D. thesis, I.A.R.I., New Delhi.

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Singh, K.N. and Shankariah, Ch. 1970. Measuring the information source credibility with pair comparison. *Behavioural Sciences and Community Development*, 2(1): 38-44.

Sandhu, A.S. 1970. Characteristics, listening behaviour and programme preferences of radio-owning farmers in Punjab, Ph.D. thesis, I.A.R.I., New Delhi.

Sandhu, A.S. 1972. Farmers Evaluation of Radio. *Kurukshetra*, XX(13): 9 pp. New Delhi.

Sandhu, A.S. 1973. Relation efficiency of four methods of measuring credibility of farm information sources. *Indian Journal of Ext. Educ.* IX(1-2): 71-74.

Table 4: Various information sources used by farmers

Sr. No.	Information sources	Categories		Individual sources	
		Extent of use score (%)	Rank order	Extent of use score (%)	Rank order
DEMONSTRATIONS					
1.	Demonstration centre or Demonstration plots	27.89	VI	27.89	XIV
FARM LITERATURE					
2.	Farm publications	30.71	V	30.71	XIII
RADIO					
3.	Radio farm broadcasts	90.09	II	90.69	VII
INFRASTRUCTURE					
4.	Market committees			47.33	XI
5.	Co-operatives			97.77	V
6.	Fertiliser/seed stores			80.00	VIII
7.	Commercial agencies of insecticides/pesticides			25.11	XV
EXTENSION AGENCY					
8.	V.L.W.	33.57	IV		
9.	A.E.O.	53.57	IV	99.33	III
10.	B.D.P.O.	52.4		52.44	X
11.	P.A.U. scientists	92.46	I	20.22	XVI
WEB-OF-WORD OF MOUTH					
12.	Family members			99.67	I
13.	Friends/relatives			99.66	II
14.	Neighbours			99.00	IV
15.	Fellow cultivars			95.67	VI
16.	Farmers of other villages			68.33	IX
TRAINING PROGRAMMES					
17.	Agricultural Extension Training Programmes	7.14	VII	7.14	XVII

daily newspapers. Farmers' exposure to some informal sources — input dealers, especially pesticide dealers, sugar mill functionaries and field staff of various fertiliser and seed agencies etc. — has also increased considerably.

MEDIA FORUMS: Combining Mass Media Channels with Interpersonal Channels

A combination of mass media and interpersonal channels is, perhaps, the most effective way of reaching people with new ideas

and persuading them to utilise these innovations. For this purpose media forums can be developed and used.

Media forums are organised small groups of individuals who meet regularly to receive a mass media programme and to discuss its contents. The mass media linked to the forum may be radio, radiophonics, television, video etc.

Such forums, originally organised in Canada, are now available in several developing countries, e.g., India, Nigeria, Ghana, Costa Rica, Brazil etc.

Communication research studies have found that the effects of mass media channels, especially among farmers in less developed countries, are greater when these media are combined with interpersonal communication channels in media forums. Some of the reasons for increased effects are:

- (i) Interest in attendance and participation is encouraged by group pressure and social expectation.
- (ii) Attitudinal change appears to be more readily achieved when individuals interact in groups.
- (iii) Further, group decisions are more likely to be accepted by an individual if he happens to participate in making the decision, as is the case in media forums.
- (iv) The novelty effect of new channels of information and the subsequent high credibility that may be attached to these media, may account for some of the success of the media forums.
- (v) Feedback from these media forums is comparatively quick and organised and relatively more objective and usable.

8

Audience or Receivers

An audience or receiver is the intended recipient/consumer of a message. In good communication the audience aimed at is already identified by the communicator. However, several authors have given various conceptual approaches to mapping an organisation's public. These approaches are social system analysis (Loomis, 1960), social stratification (Williams, 1969), social differentiation (Betrand, 1967) and cultural analysis (Spicer, 1952). Based on an extension organisation's policies and programmes and their perceived relevance, the extension worker must identify the public or audience to be served. He must also select and apply appropriate processes for identifying formal and informal leadership within the target audience. Extension educators must have a knowledge and understanding of the processes and strategies for interfacing with the identified leaders of the intended audience. They must understand and be skillful in the application of the process of promoting collaborative need-based behavioural changes with the leaders and the audience, in order to be effective as communicators.

Factors Determining Audience Response

The response of a receiver to a message seems to be a function of the whole personality. Berlo (1960) pointed out that the response of a receiver of a message depends upon his (i) communication skills, (ii) attitudes, (iii) knowledge level and (iv) position in a social-cultural system.

(i) *Communication skills*: If the receiver lacks the ability to listen, to read, to think, he will not be able to receive and decode

the message that the source-encoder transmits. So the response of a receiver to a message will depend upon the latter's communication abilities.

(ii) *Attitudes*: How he decodes a message is in part determined by the receiver's attitudes (i) towards himself, (ii) towards the source and (iii) towards the content of the message. If these attitudes are favourable, the response is likely to be high and positive but vice versa otherwise.

(iii) *Knowledge level*: If the receiver does not know the code, he cannot understand the message. If he knows nothing about the content of a message, he probably will not understand it either. If he cannot understand the nature of the communication process itself, the chances are good that he will misperceive messages and make incorrect inferences about the intentions of the source. Thus the previous knowledge level of a receiver about the message is likely to affect his quality of response to a new message.

(iv) *Position in a social system*: The receiver's own social status, his group membership, his position in a social system and his customary modes of behaviour affect the ways in which he receives and interprets messages. Farmers with a high socio-economic status and social participation are likely to be more active in receiving and interpreting a message that is in line with their needs and interests.

There is also cost involved in acquiring and consuming information. The receiver has to pay in terms of time, energy, loss of a certain degree of freedom etc. and may not be able to convert all the sense data to functional information due to the limitations imposed by such factors.

If we limit our discussion to effective communication, the receiver is the most important link in the communication process. The audience may consist of one person or many. It may comprise men, women or both, youth-groups, villages or their leaders. An audience may be formed according to occupation groups—farmers or artisans, professional groups—Block Development Officers, Extension Officers, Village Level Workers etc. Many other categories may be used to categorise audiences, including geographic location, age, special interests, needs, economic status,

social status, educational status etc. People make the categories and communicators must identify them.

It is useful to a communicator to understand these and other traits of an audience in making a plan for communication. He should keep in mind that audience participation is voluntary in free-choice societies. Consequently, if he does not transmit useful messages, make the meaning clear and persuade an audience to accept them, the respondents will neither act nor participate for long in the programme.

Communication Behaviour

Communication behaviour of the farmers refers to the degree to which a farmer exposes himself to various information sources communicating agricultural technology, the extent to which he processes the information so received and the extent to which he uses or passes on the information so received to others. In a study conducted by Sandhu and Lal (1973), it was found that 36 per cent of the farmers had low, 44.33 per cent medium and 20.67 per cent had high communication behaviour. It was further revealed that the source utilisation pattern of the farmers was determined in order of importance by their (i) social participation, (ii) education, (iii) value orientation and (iv) socioeconomic status respectively. It was also observed that farmers with high communication behaviour were nearer to the direct sources of information compared to those of medium or low scoring in this dimension. No significant relationship was observed between the inward and outward communication behaviour of the farmers.

Communication Patterns in a Village

According to Shankariah (1969), the farm consultation pattern and credibility of different communication sources vary between progressive and non-progressive villages or farmers. In a progressive village, scientists, radio, progressive farmers, block level extension agency and demonstrations were accorded first to fifth positions respectively for their credibility. In a non-progressive village, demonstrations, progressive farmers, scientists, block level

agency and radio were accorded first to fifth positions respectively in terms of perceived credibility.

Social Networks in Communication

Research on small groups has highlighted the existence and importance of social networks amongst people and the impact of structure and environment on communication behaviour. We now know that configuration of the network has a direct effect on communication behaviour. Consider the type of networks shown in Fig. 22. The 'circle' networks represent the individuals linked to others. These networks can be evaluated in terms of their collective decision-making and satisfaction. The least satisfying to participants of all of these networks is the 'wheel'. The 'chain' network provides moderate member satisfaction for those participants who are further along the line but interaction is possible with people on either side of an individual. It is prone to distortion and other biases as messages are passed down the chain. The 'star' network has the advantage of providing the greatest amount of satisfaction to its members. It is quite efficient for cognitive tasks and least efficient for production tasks.

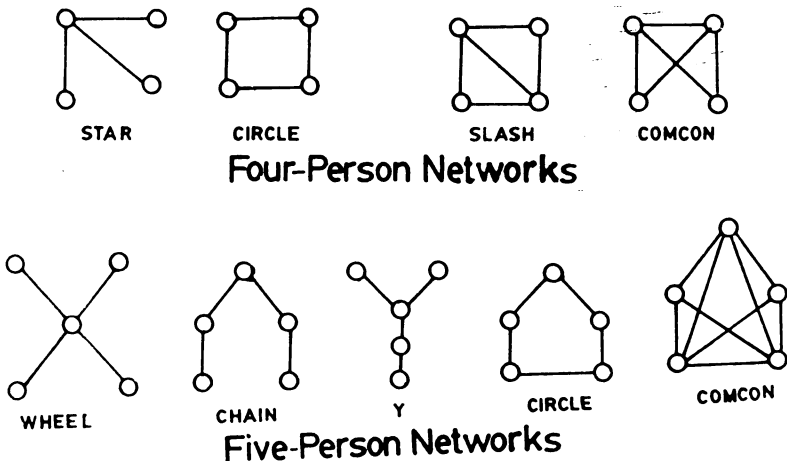


Fig. 22: Some examples of social net-works among people.

Thus, a bird's eye view of the end-results of the various social networks that exist, mandates the conclusion that fewer the links in a network, the greater the fidelity of the information passing through these channels, i.e., less distortion or withholding of information. In an organisation, the more restricted the communication channels, the more efficient flow of communication. Research also bears testimony that such networks exert both psychological and behavioural influence on the receptivity of messages by the participants.

9

Relationship in Communication

We have said earlier that in a communication encounter, the communicator and the receiver must have some definitional or conceptional relationship. We shall examine this relationship in terms of (i) physical interdependence, (ii) action-reaction interdependence, (iii) empathy, (iv) interaction, and (v) heterophily etc.

Physical Interdependence

The concepts of communicator and receiver are dyadic. We can define a communicator only in relation to a receiver and vice versa. The functions of the source and receiver are physically interdependent, although the functions may be performed at different points of time and space. For communication to take place some type of physical interdependence is necessary between the communicator and the receivers.

Action-Reaction Interdependence or Feedback

Another level of interdependence is action-reaction, or what is generally referred to as feedback. Consider what happens in a conversation between two people. Each is constantly communicating back to the other. The return process is called feedback and plays an important part in communication because it tells us how our messages are being interpreted. An experienced communicator is attentive to feedback and constantly modifies his message in the light of what he observes or hears from his audience.

A communicator can anticipate a receiver's reaction to his communication. He can even react to his own output himself. Thus

feedback makes both the communicator and the receiver truly interacting members of a communication system. When an individual communicates with himself, the message he encodes is fed back into his system by his decoding system. This is what is called feedback. Thus, if a communication source decodes the response to the message that he encodes, if the response is put back into his system, he has feedback.

Communication often involves an action-reaction interdependence. The communicator can use the reaction of the receiver as a check on his own effectiveness and as a guide to his own future actions. The reaction of the receiver is a consequence of the response of the source. When a source receives feedback that is rewarding, he continues to produce the same kind of message. When he gets non-rewarding feedback, he will eventually change his message.

Feedback affects the source: We often overlook the power of feedback to affect the source. We fail to realise the extent to which the feedback affects the communicator. When feedback indicates that the receivers are not comprehending, he repeats. In the case of mass media, drastic changes are made as a result of the feedback obtained in the form of opinion polls, attitude surveys etc.

Feedback exerts control over future messages: Feedback provides the source with information concerning his success in accomplishing his objectives. In doing this, it exerts control over future messages which the source is likely to encode. Thus, a communicator is always trying to adjust his message to suit the needs of his receivers.

Feedback affects communication fidelity: Communications research bears testimony that learners perceive better, gain more knowledge, retain longer when opportunities for feedback are provided in a communication situation. Thus feedback increases the accuracy with which information is transmitted. Sender experience contributes more than receiver experience in improved accuracy of communication.

Feedback varies in different communication situations: We can separate one communication situation from another in terms of the feedback obtained.

Clearly, person-to-person communication permits maximum feedback. All available channels can operate. The source has an

opportunity to change his message on the spot as a result of the feedback he gets.

On the other hand, communication through mass media has minimal opportunities for feedback. The source and the receiver are separated in time and space. They have little opportunity to get immediate feedback from the responses of the other.

Feedback is source-orientated: The concept of feedback is usually source-orientated, rather than receiver-orientated or process-oriented. When we speak of the receiver's responses as feedback for the source, we are observing the communication situation from the point of view of the source.

Feedback increases confidence: Feedback increases receiver and sender's confidence in what they have accomplished. On the other hand, zero feedback engenders some hostility in the receiver that becomes clearly perceptible when the situation changes to free feedback. Lack of any feedback also engenders doubt in the sender.

Conclusion: Findings of communication research prove that free feedback is an aid to accuracy in interpersonal communication. The presence or absence of feedback affects the sender-receiver relationship. Lack of feedback is accompanied by low confidence and hostility, free feedback is accompanied by high confidence and amity.

Empathy

Another form of interdependence between the source and the sender is that of expectations or empathy. Empathy refers to the ability to project ourselves into other people's personalities. 'We can define empathy as the process through which we arrive at expectations, anticipations of the internal psychological states of man' (Berlo, 1960).

All human communications involve predictions by the source and receiver about how the other will respond to a message. Every communicator carries around with him an image of his receiver. He takes his receiver into account when he produces a message. He anticipates the possible response of his receiver and tries to predict it ahead of time. When we develop expectation, when we make predictions, we are assuming that we have skill in what we

have referred to as empathy. There are two popular theories about the basis of empathy. They are (i) the inference theory and (ii) the role-taking theory.

(i) *Inference theory*: Each communicator develops a concept of self in a communication situation. He can observe his own physical behaviour directly and can relate his behaviour symbolically to his own internal psychological status, feelings, emotions, thoughts etc. On the basis of his prior interpretations of self, he makes inferences about the internal states of others.

(ii) *Role-taking theory*: This theory developed by Mead (1937) argues that the concept of self does not precede communication, rather it is developed through communication. In the case of a child, for example, the infant actually plays other's roles without interpretation. He imitates the behaviour of others. Later, an individual plays other people's roles with understanding. Still later, he begins to put himself in other people's roles symbolically, rather than physically.

Thus, whereas the inference theory assumes a concept of self, which in turn determines how we empathise, the role-taking theory suggests that the concept of self is learnt through communication. No single theory is sufficient to explain the reality. Generally, human beings utilise both these approaches of empathy for the purpose of communicating with others.

Empathic Accuracy

- (i) As a group increases, empathic accuracy decreases.
- (ii) When prior communication is minimal, empathic accuracy is less.
- (iii) When we are insensitive to the behaviour of others, empathic accuracy is less.
- (iv) Empathic accuracy also decreases when we are not motivated in a communication encounter.

So, a knowledge of the composition and working of a social system is useful in making predictions about how members of that systems will behave in a given communication situation.

Interaction

The term interaction refers to mutual and reciprocal influencing of each other's behaviour. The term interaction names the process of

reciprocal role-taking, the mutual performance of empathic behaviours. If two individuals make inferences about their own roles and take the role of others at the same time, and if their communication behaviour depends on the reciprocal taking of roles, then they are communicating by interacting with each other (Berlo, 1960).

All communication is not interactional. However, to the extent we are in an interactional situation, our effectiveness, our ability to affect and to be affected by others, increases. Thus, 'we can define interaction as the ideal of communication, the goal of human communication' (Berlo, 1960).

Homophily-Heterophily

According to Rogers and Shoemaker (1971), heterophily is the degree to which pairs of individuals who interact differ in certain attributes, such as beliefs, values, education, social status and so forth. Whereas in general, human communication takes place between individuals who are homophilous, a situation that leads to more effective communication, heterophily, is markedly pronounced as a basis of relationship between the communicator and the receiver in extension education. Thus the degree of heterophily amongst the extension communicators and their audience not only leads to special problems in securing effective communication, it has many implications in their relationship insofar as they communicate with each other over agricultural technology.

Conclusion: For effective communication to take place between extension workers and the extension public, the significance of their mutual relationship must be understood and exploited. Communication takes place best amongst equals. Thus extension workers must take conscious efforts to create a mutual relationship based on trust, empathy, homophily, perceived expertise, feedback etc. in order to achieve a communication situation in which there is full and effective interaction of hearts, body and symbols.

10

Mass Communication

Nature of Mass Communication

According to Wright (1966), mass communication may be characterised as public, rapid and transient. It is public insofar as the messages are addressed to no one in particular and their content is open for public surveillance. They are rapid because the messages are meant to reach a large audience within a relatively short time, or even simultaneously. They are transient because they are usually intended to be consumed immediately. Of course there are exceptions, such as film libraries, radio transcriptions and kinescope recordings, but customarily the output of the mass media is regarded as expendable (Wright, 1966).

In popular usage the phrase 'mass communication' evokes images of television, radio, motion pictures, newspapers, comic books etc. But these technical instruments should not be mistaken for the process of mass communication. In fact, mass media are the mechanisms capable of reproducing a multiple number of identical messages, almost simultaneously, for a relatively large, heterogeneous and anonymous audience.

Nature of Mass Audience

As stated by Wright (1966), mass communication is directed towards a relatively large, heterogeneous and anonymous audience. Hence messages addressed to specific individuals are not customarily regarded as mass communication. Such a criterion excludes letters, telephone calls, telegrams etc.

Each of the criteria cited for a mass audience is relative and needs further specification. For example, what size audience is

'large'?. A tentative definition would consider as 'large' any audience exposed during a short period of time and of such a size that the communicator could not interact with its members on a face-to-face basis.

The second requirement is that the audience be heterogeneous. The communications directed towards an exclusive or elite audience are excluded. Mass communicated news is offered to an aggregate of individuals occupying a variety of positions within one society etc. Finally, the criterion of anonymity means that the individual audience members generally remain personally unknown to the communicator. It does not mean that they are socially isolated. But, from the point of view of the communicator, the message is addressed 'to whom it may concern'.

Nature of Mass Communicator

Mass communication is an organised type of communication. The communicator in mass media works through a complex organisation embodying an extensive division of labour and an accompanying degree of expense. This distinction is not merely academic, but has important consequences for the communication process. The complexity of modern mass media has moved the creative artist many stages away from his final product. Besides, the communicator is not free to communicate any idea he may wish to; rather he is bound by the rules and regulations of the mass communication organisation. Also, the nature of the medium used is likely to determine, to some extent, the shape of the coded message. For example, showing objects such as the Kutab Minar and Red Fort shown in the same 3 : 4 ratio, would be termed an aspect ratio.

To summarise, recent technological developments have made possible a new form of human communication, i.e., mass communication. This new form can be distinguished from older types by the following major characteristics:

1. It is directed towards a relatively large, heterogeneous and anonymous audience.
2. Messages are transmitted publically.
3. It is often timed to reach most audience members simultaneously.

4. It is transient in character.
5. The communicator tends to operate within a complex organisation.
6. It may involve great expense.
7. It uses a mechanism that is capable of reproducing a large number of identical messages, almost simultaneously, and is able to transmit within a relatively short period to an audience that may even be physically separated in terms of space.

Communication Media and Technologies

Electronic media have revolutionised communication media, resulting in the emergence of new communication devices, such as television, satellite communication, video cassette recorder, teletext, videotext, supercomputers, minicomputers, fax machines and word processors, besides improving the functioning of old technologies, such as radio broadcasting, printing press, telephone, telegraphs etc.

Many such devices are already playing an important role in communicating agricultural technology to farmers, while others have a good potential in this regard. Since most of the communication media emerged to provide entertainment for the urban population, media communicators are facing several problems while enlarging their role for providing education and information to the rural population to accelerate the process of development. It is therefore important to codify a definite policy, lay down guidelines and set up centres capable of planning and producing good need-based programmes for the rural population.

Radio

In 1965, ten intensive Farm and Home Units were established at selected AIR stations to feed factual and technical information and utility announcements to the farming community. Since then, such units have been greatly increased. At present, the broadcasting network in India covers about 93 per cent of the population, spread over 82 per cent of the geographic area. In fact, all the broadcasting stations in India are devoting considerable time to diffusing

improved farm technology, thus covering most of the farming population in the country. As a result, radio has emerged as a widely used mass communication device in rural India. Farmers accord it a very high credibility as a source of reliable and latest farm technology for them.

Radio enjoys a number of discrete characteristics which have contributed to its widespread use. It can be as up to date as the latest broadcast. Thus the sense of immediacy makes this medium gripping. Through on-the-spot broadcasts or through simulated broadcasts, radio can actually overcome the barriers of space and time. Radio has the advantage of being able to bring the first-hand experience of an authority on a subject within the reach of every radio listener. This medium commands a universal audience by geographic spread, income, education, age and sex etc., and thus reaches an audience not as often reached by other mass media. Furthermore, education through radio is inexpensive compared to other methods.

Nevertheless, radio as a medium of communication also has several limitations. First, it is generally perceived as a medium of entertainment. Second, in this medium the voice alone has to bear the burden and as such it is difficult to hold the listener's attention. As such it is not very suitable for giving precise and detailed information. But it is very suitable for achieving a favourable attitude and motivating listeners to action. Further, rural radio forums may also be very useful in traditional areas.

It should thus be clear that radio has much to contribute for communicating innovations to farmers. But to make our farm broadcasts effective, it is essential that the communication characteristics of this medium be well understood. We also need to understand the listening habits and interests of our rural audience in order to build up interesting programmes to put across useful information logically and effectively.

Television

Television was introduced in India in 1959 primarily to impart education and to promote rural development. At present with its vast network throughout the country, it is covering about 58 per cent of the population spread over 36 per cent of the geographic

area and has emerged as a very powerful medium of communication. However, it is mostly viewed as a medium for entertainment. Although its audience is mostly in urban areas, television is fast reaching rural areas as well. And there is much scope to increase the transmission hours, for agriculture and rural development programmes and to justify the basic objectives of its introduction in India.

In order to use television effectively for communicating improved agricultural technology to its rural viewers, it is essential to understand its educational implications. Television has the quality of direct address; in other words, every viewer feels as if he is being talked to personally. The television camera can project a television personality, through close-ups etc., into something larger than life. As such, television confers prestige over media personalities. Its visual magnification and sound amplification characteristics makes this medium unique as viewers can have a full view of even tiny objects, can hear and feel the heartbeat of even a mouse, and see the things happening in a process as in real life.

Television also represents selective attention. Since the television image is brighter than its surroundings, it attracts viewers' attention and keeps them glued. Since television programmes are planned and produced very carefully and utilise techniques of visual magnification, sound amplification, superimposition, split-screen processes, fading, and zooming etc., they are more effective and leave a greater impact on the viewers than most other extension teaching methods.

However, television also has a number of communication limitations. Its image can produce only limited details, always in the ratio of 3 : 4. It is an ad lib. medium. Even the movement before the T.V. camera has to be deliberate and slow. It encounters great problems regarding copyright material. Its other limitations are continuous flow, i.e., it cannot be interrupted, slowed down or speeded up at will to suit the viewers and is more or less a one-way communication medium.

Audio and Video Cassettes

With the local manufacture of audio-cassette-recorders, these have come within the reach of middle-class people. Earlier they

were available only to the elite; now they are owned by a large population, both in urban and rural areas. Prerecorded cassettes with music, song, religious talks, religious philosophy etc. have become very popular. A similar revolution has been ushered in the case of video-cassette-recorders.

Realising the potential, several agricultural universities, communication centres etc. and private organisations have begun to produce and supply prerecorded audio and video cassettes, which are becoming quite popular with farmers. The Punjab Agricultural University gave a lead in this regard by releasing the first precoded audio cassette in September 1985 during *Kisan Diwas*. Now they are being bought by farmers, rural youth, village girls, extension workers etc. in large numbers.

Now the Directorate of Extension, Ministry of Food and Agriculture, Govt. of India, National Dairy Research Institute, Karnal, many Krishi Vigyan Kendras and several other National Institutes are experimenting with prerecorded audio and video cassettes through media forums and find them very useful in diffusing improved technology and in organising quality training for farmers.

Videotex and Teletex

Videotex: Videotex refers to an information system with which text and graphic information is transmitted and then received either by a videotex television or on an ordinary television set with an adapter unit. The concept has been developed to provide a method of low-cost information delivery in offices and homes. A videotex coupled with a microcomputer permits editing as well as retrieval of information on a videotex page.

Teletex: There are basically two types of videotex. The videotex transmission based on broadcast signals is known as teletex. Thus teletex is a system that links a computer to a television, by which text and graphic information can be transmitted on a one-way basis to home viewers. Indian television joined the advanced nations when in 1985 it started the teletex, known as the intex service, to telecast the latest news and information on the stock exchange, airlines, railway timings, weather information etc.

In this system, a fixed number of pages are broadcast sequentially but continuously. Each page consists of a television screen display of text and graphic shapes.

Interactive videotex: The videotex which is transmitted via telephone, cables, data lines, or private network is called Interactive Videotex. According to Brown (1983), it is a fully interactive system and can even print a hard copy of any page that appears. Its two-way nature helps users access to thousands of pages stored in a number of computers that may be geographically dispersed but are in communication with each other.

Using the normal telephone network, the user dials the required number or the videotex device automatically dials the local videotex computer. The TV set displays the videotex page and asks the user to use the available index or to key-in the required page number.

Videotex has certain attributes which makes it a potential teaching medium. It can be effectively used in training and in distant education.

Satellite Communication

The first experiment with satellite television broadcasting was conducted in India in 1975-76 when the Satellite Instructional Television Experiment (SITE) was launched. Programmes were beamed to about 34,000 villages spread over six states. Experience in working with SITE indicated that rural people are enthusiastic to view rural development programmes. Rural viewers gained knowledge of innovations in agriculture, health, sanitation etc. According to Agarwal et al. (1977), their overall modernity has also increased.

SITE has been followed by a number of satellite systems to reach viewers in all parts of the country and to increase accuracy in weather forecasting. INSAT-1 A, launched in 1982, became inoperative due to a technical snag. Later INSAT-1 B, with a life of seven years, was launched. In 1990, INSAT-1 D was launched.

Satellite communication has become a part of our communication system. It plays an important role in reaching millions of people spread throughout the corners of the country, in achieving

more accuracy in weather forecasting and transmission of various educational programmes for schools and colleges and of development programmes for rural listeners.

Interactive Videodisc and Computer-Assisted Instruction

The interactive videodisc system consists of a videodisc player, microcomputer and monitor. According to Vijayaraghavan et al. (1988), the monitor accepts signal from both the computer and the disc player. This enables simultaneous presentation of video images, texts and computer-graphics on the screen.

This system has a great potential for training students, farmers and extension workers. Lessons can be prepared for different levels of comprehension and for location-specific training.

Computer-assisted instruction (CAI) is a natural outgrowth of the application of the principle of programmed learning. The computer can store a massive amount of organised information, which can be made available for individualised instruction to meet the needs of the particular learner(s).

CAI can be arranged for teaching up to forty thousand learners, simultaneously. Each learner's performance during the course and on the test is automatically recorded. Further, this system can be used in all types of teaching-learning programmes. Thus CAI can be used to provide drill, practice and simulated experiences to enhance the efficiency and performance of the workers.

Computers

The computer is one of the powerful devices for storing and processing information. Widespread use of computers has helped to develop several computer-based devices and techniques. Word processors and laser printers are increasingly being used in communication centres, printing houses, for printing agricultural extension publications, reports, newsletters etc. With the help of minicomputers it is possible to have graphic illustrations prepared which facilitate comprehension of extension publications.

Computers via satellites can take pictures of clouds to accurately forecast weather conditions and with remote sensing

techniques can accurately work out land use, area under forests and the like. With the help of fax-machines, message, including illustrations, can be transmitted from one place to another easily. Thus, all such devices and others in the pipeline, have a great potential in agricultural communication

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Key Communicators

Key communicators or opinion leaders are persons in any social system who are sought out for information and advice on general or specific topics. Rogers and Kincaid (1981) define opinion leadership as the degree to which an individual is able to informally influence others' knowledge, attitudes, or overt behaviour in a desired way with relative frequency. It is assumed that such persons are respected persons in each social system to whom some people look for advice and information and who, through such consultations, influence their behaviour and actions.

Nomenclature

The concept of key-communicators was first developed by Lazarsfeld et al. (1944). Since then they have been variously called as fashion leaders, influencers, information leaders, opinion leaders, spark plugs, style-setters, taste-makers, etc. However, all of these names have been used more or less for individuals operating in a social system who are more important in the communication of information than others. Research evidence suggests that each social system has its own opinion leaders.

Identification Methods

Three methods are in common use for identifying key-communicators. These methods are (i) sociometric method, (ii) self-designation technique and (iii) information ratings.

(i) *Sociometric method*: In this method, members of a social system are asked to name the person(s) to whom they go for

advice and information on a particular topic. It has several advantages over other methods insofar as sociometric questions are easy to administer and are adaptable to different situations. This method has also relatively higher validity. However, the use of this method requires a large number of respondents and complex statistical analysis.

(ii) *Information ratings*: In this method, some members of a social system are purposively or randomly selected and asked to designate persons giving advice and information on a general or particular topic. This method is economical and quick as it saves cost and time. However, it is limited to the extent each informant is thoroughly familiar with the social system.

(iii) *Self-designating method*: In this method, each selected person is asked a series of questions designed to determine the degree to which he perceives himself to be a key-communicator. This method has one important advantage insofar as it also measures the individual's perception of his being a key-communicator, which in turn influences his behaviour. However, its accuracy is limited to the extent the respondents can identify and report their self-images correctly.

Characteristics

Key-communicators have been found to have distinctive characteristics. On the basis of a review of a large number of research studies, Rogers and Shoemaker (1971) drew the following conclusions regarding characteristics of key-communicators.

(i) *External communication*

- (a) Key-communicators have greater exposure to mass media than their followers.
- (b) Key-communicators are more cosmopolitan than their followers.
- (c) Key-communicators have greater change agent contact than their followers.

(ii) *Accessibility*: Key-communicators exercise relatively greater social participation than their followers in a social system.

(iii) *Social status*: Key-communicators enjoy a relatively higher social status than their followers as far as conditions in that social system exist.

(iv) Innovativeness

- (a) Key-communicators are more innovative than their followers.
- (b) When the social system's norms favour change, key-communicators are more innovative but otherwise not especially so.
- (c) When the norms of a system are more modern, key-communicators are more monomorphic. Monogamy is the tendency of a key-communicator to act as such for only one topic.

(v) *Relationship to the social systems*: According to Shankariah (1969), the key-communicators under Indian conditions are:

- (a) perceived as the best farmers when the social system is actively modern.
- (u) social stars when the social system is relatively traditional.

On the basis of a review made by Sandhu (1970) of a large number of research studies conducted under Indian conditions, no specific conclusions could be drawn regarding age, education, farm size etc., although key-communicators tend to belong to the middle-age group, i.e., 30 to 50 years, be somewhat better educated and own relatively larger farms than their followers.

Role of Key-communicators

Key-communicators play a large variety of roles within their social system, some of which are stated below:

- (1) Indirect communication of innovations in a social system.
- (2) Legitimisation of new ideas for diffusion into the system.
- (3) Self-adoption of a relatively greater number of innovations.
- (4) Help in securing services and supplies to the members in a social system.

CHARACTERISTICS AFFECTING THEIR ROLE

In a study conducted by Sandhu and Khurana (1971), the following characteristics affect the extent to which key-communicators play their role.

- (i) Social participation

- (ii) Education
- (iii) Value orientation
- (iv) Socioeconomic status.

Identification and understanding of such leaders in a target public is not sufficient. The extension workers must train them and use them for an effective interfacing with the audience. As Boone (1985) pointed out: 'The extension educator must have knowledge and understanding of the process and strategies for interfacing with the key-communicators in a social system to use them to legitimise and indirectly spread the message'.

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Overview of the Communication Process

After scanning the literature on communication, the following generalisations were drawn.

1. Oral tradition came first.
2. Adequacy of language to serve as a medium of communication stems from the primitive emphatic response of the organism.
3. Communication is a social process.
4. Communication affects intelligence and behaviour.
5. Communication is interaction.
6. Communication can also be involuntary.
7. Co-operation, participation and involvement are essential to communication.
8. Printing adds easy storage and dissemination.
9. The camera adds a new sense of reality.
10. Radio and television extend the range of the human voice.
11. The rise of mass communication has an impact on the conduct of public affairs.
12. The growth of mass communication is cumulative.
13. Consumer cost of communication products has declined.
14. The consumer is highly influential.
15. The mass media tend to diminish behavioural differences.
16. Mass media tend to produce product uniformity.
17. Cost of mass communication business goes up.
18. Concentration of ownership increases.

19. Mass media reflects the thinking of the business community.
20. Communication is useful as a test of reality.
21. 'Feedback' is of critical importance in testing the success of any attempt at communication.
22. The concept of self does not precede communication. It is developed through communication.
23. We learn words and acquire meanings for them by perceiving a word as related to other words, or objects, or perceptions, for which we already have meanings.

The Communicator

1. The source of the communication is important.
2. Media personalities become influence figures.
3. The mass media convey legitimacy and status.
4. Communication devices help centralise authority.
5. Media-created prestige figures challenge the communicator.
6. Most individuals are vague about their source of information.
7. Mass communication has an impact on international affairs.
8. Perceived credibility affects a communicator's effectiveness.

The Message

1. Message must contain something worth saying.
2. The specific from mass communication is more easily learned than the abstract.
3. Communication of meaning is a complex problem.
4. Characteristics of the message affect its response and understanding on the part of receivers.

The Channels

1. Face-to-face communication is the most effective form.

2. New communication devices generally help to put across the message.
3. Oral argument is more effective in producing changes in opinion than printed argument.
4. Non-printed devices are often very effective.
5. No single device is always the best.
6. A variety of methods is more effective than a single method.
7. The use of devices must be organised and planned.
8. If other conditions are kept constant, the mental functions of recognition, verbatim recall and suggestibility seem more effectively aroused in listening, whereas critical attitudes and discriminative comprehension are favoured by reading.
9. The radio situation is more solidly structured than the face-to-face situation, less easily analysed and regarded less critically by the listener.
10. Effective films are approximately equal to an instructor for the presentation of facts and the demonstration of concepts.
11. Different media attract different types of audiences.

Treatment of the Message

1. Effective communication builds on existing attitudes.
2. Opinion may not be closely related to quantity or accuracy of information.
3. Non-verbal forms of communicating help in putting the message across clearly and precisely.
4. Emotional appeal has relatively more effect than rational appeal. However, research evidence is not very consistent on this point.
5. The impact of a communication is also influenced by the order in which the various points are presented.
6. When one is successfully exposed to first one side and then the other of a controversial subject, as in a debate the typical result is that the individual is left at approximately his initial position.
7. A communication giving both sides of an argument proves more effective among the better-educated

regardless of initial position, whereas one-sided presentations are primarily effective with those who are already convinced among the less-well-educated groups.

8. Two-sided presentation is particularly effective in 'inoculating' the audience against the effects of subsequent counter-communication.
9. The environment created by the communicator influences effectiveness.
10. To make sense, the message be organised according to some specific patterns.
11. The system of symbols to represent ideas, objects, or concepts must be accurate and used skillfully.
12. Standards of communication influence its success.

The Receiver

1. Active participation increases learning.
2. An individual chooses messages which he thinks will reward him.
3. A good predictor of communication behaviour is educational level.
4. The individual tends to select that which is most accessible.
5. Problem of lack of attention affects communication.
6. Uncommitted people become the propaganda target.
7. The receiver is liable to misperceive the message.
8. The receiver's secondary experience is greatly enlarged at the cost of primary experience.
9. The receiver responds to status conferred by mass communication.
10. Communication research re-emphasises the influence of personality differences on response.
11. Most persons jump to conclusions.
12. Most persons have closed minds.
13. Most persons listens only to words and not to their meanings.

Response or the Effect

1. Response is a function of the whole personality.

2. Influence groups are involved in message response.
3. Misperception is a constant problem.
4. The social context of any communication influences its effect.
5. Communication builds on existing attitudes.
6. The basic long-term effect of communication is the slow infiltration and colouring of the individual's view.
7. Communication devices have capacity for thought-control.
8. Some mass campaigns demonstrate power in persuasion.
9. Mass communication intensifies propaganda conflicts.
10. Much available information is imperfectly absorbed.
11. Lack of primary experience affects communication.
12. Mass communication increases the commonality of experience among the public.
13. The pressure of conformity strongly affects communication.
14. Opinion may not be closely related to quantity or accuracy of information.
15. Factors such as inducing action, social interaction after hearing the communication etc., affect communication effects.
16. Books, newspapers, magazines, leaflets etc. have effects which can be classified into five categories: instrumental, prestige, reinforcement, enriched aesthetic experience and respite.
17. Cultural values and the social organisation are determinants of communication.