

GEC 324: Technical Communication

PRINCIPLES OF EFFECTIVE COMMUNICATION

Introduction

The importance of effective communication for an engineer's cannot be overemphasized for one specific reason. Everything an engineer does involves communicating. An engineer can't formulate strategy or make a decision without information. That information has to be communicated.

The best ideas, the most creative suggestion, or the finest plan cannot take form without communication. Engineers, therefore, need effective communication skills.

Definitions of communication

- i. **Communication** is the transfer of understanding and meaning from one person to another.
- ii. **Communication** is a vehicle for conveying ideas. It is a means through which a thought is transferred from one person to another.
- iii. **Communication** is the transmission of materials from a sender to a target recipient
- iv. **Communication** takes place between two people when the contents of one person's mind (i.e thoughts, ideas, or feelings) are transferred to the mind of the other.

The medium or agency of the transfer may be a gesture of some kind (such as a wave of the hand, a nod of the head or a twitching or blinking of the eye) or a sound of some sort made without the use of words (such as the sound made by the animal world)

All these forms of communication carried out without the use of words are referred to as **non - articulate or non- verbal communication**.

Articulate communication are the communication conducted by the use of words. It is vastly more powerful and effective than non- articulate communication.

Functions of communication

- i. Communication makes co-operative and collective action among people possible.
- ii. Communication provides the vehicle and means for motivating and directing people in an enterprise or understanding
- iii. Communication helps to mould attitudes and to impart belief for the purpose of convincing and persuading people and influencing their behaviour
- iv. Communication is the means by which people can be introduced and orientated to their environment.

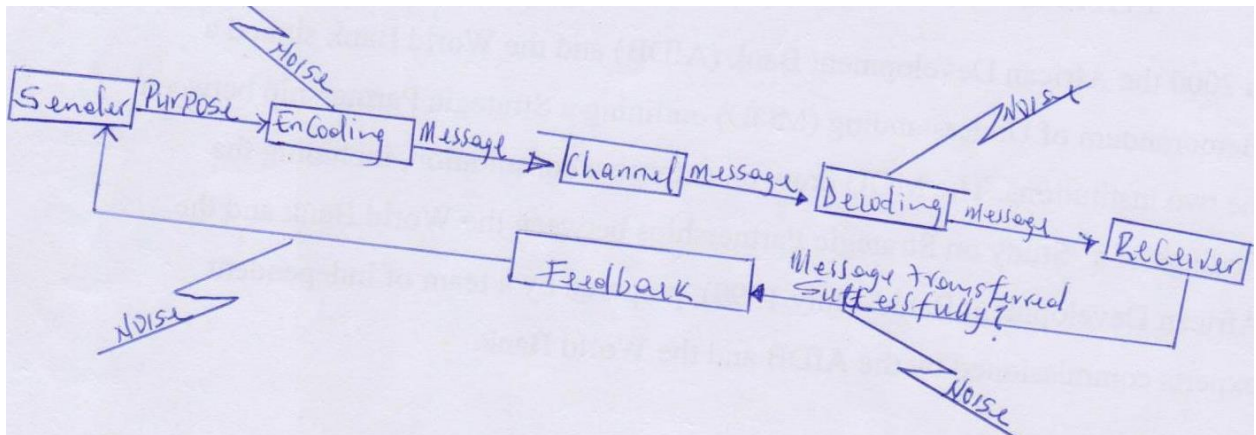
Communication process

Communication can be thought of as a process or flow. It passes between a source (sender) and a receiver. The message is encoded (converted into symbolic form) and is passed by way of some medium (channel) to the receiver, who retranslates (decodes) the message initiated by the sender. The result is communication.

The communication process is the seven- part process of transferring and understanding of meaning. These are:

1. The communication sources or sender
2. Encoding
3. Message
4. Channel
5. Decoding
6. Receiver
7. Feedback

The communication process



The source initiates a message by encoding.

Encoding is converting a message into symbolic form

Four conditions affect an encoded message. They are:

- i. Skill
- ii. Attitude
- iii. Knowledge
- iv. Social cultural system (i.e beliefs and values)

Message: This is the actual purpose for communicating that is to be conveyed. It could be in the form of words (speech), writing, picture, gesture.

Message is affected by the codes or group of symbols use to transfer meaning, the content of the message itself and the decisions made in selecting and arranging both codes and content.

Channel: this is the medium through which the message travels. It is selected by the source, who must determine whether to use a formal or an informal channel.

Decoding: It is the translating of a received message. Before a message can be received, the symbols in it must be translated into a form that can be understood by e receiver.

Receiver: This is the person to whom the message is directed.

Feedback: This is a check to see how successfully a message has been transferred. It determine whether understanding has been achieved. This is to say that the recipient must give a response to what has been heard.

Given the cultural diversity that exists in our society, the importance of effective feedback to ensure proper communications cannot be overstated.

Quality of effective communication

For communication to achieve its objectives in whatever vista of life we operate, it should possess certain qualities or attributes:-

1. **Accuracy:** The correctness and reliability of data or information, of interpretation of the data, and of the handling of language (sentence construction, expression, articulation, phrasing, punctuation, spelling other elements, the mishandling of which can lead to ambiguity and imprecision of meaning.
2. **Completeness:** It means including in a piece of communication all information relevant to it without withholding any such information and expressing all such information in language which the intended recipient can understand fully. Completeness requires that, besides for example the courses of action recommended, possible alternative courses of action be examined and rejected for reasons which should also be given in the piece of communication. A piece of communication should not be overloaded, or a recipient bored with unnecessary information.
3. **Clarity:** This is essentially a function of language use. One important practice for achieving clarity is re-writing and rehearsing. It is rare that the first draft or plan of a piece of communication achieves perfection.

Written communication should go through at least three stages of preparation, namely, the draft, the proof and final versions. The extent to which a word or idea reaches the audience with the same meaning it had when it left the sender constitutes clarity in communication.

4. **Conciseness:** A vital quality of effective communication. Over-writing often arises, not from necessity of including all vital information, but from the writer's desire to impress

the recipient or audience with the writer's fund of information or knowledge. Often, reading a report aloud or rehearsing a speech can help a communicator to decide on what should be pruned out.

5. **Readability:** This refers to the beauty, charm, attractiveness and simplicity of the style of a piece of communication. It is again squarely a function of language use. It results from the clarity, conciseness, flawless grammar, accurate spelling, functional punctuation and a warm, original style of writing.
6. **Timeless or Quickness:** It refers to the speed with which a piece of communication takes to travel from its source called the communicator, through its channel to its recipient, audience or communicant.

In written and oral communication disseminated through what is called "the line or chain of command", it is important to ensure prompt arrival of the communication at its destination.

Delayed information runs a serious risk of being misrepresented through what is referred to in organisations as the grape-vine i.e. the unofficial information channels of rumours and gossip.

7. **Must receive a response:** Unless a piece of communication receives a response from those to whom it is addressed, the correctness of its reception cannot be ascertained. In all cases of communication, some feedback mechanism must be used to ensure that the information communicated has been accurately received.
8. **Utility:** Every piece of communication must have a purpose; it must have a utilitarian value; it must be useful. The harm done by purposeless communication stretches beyond mere waste of time, it creates doubts in the minds of the recipients and then, through misinterpretation, may lead to negative action.
9. **Sellability:** A piece of communication should sell itself- should be sellable. This quality refers to the attribute of charms and attractiveness of presentation. Attractiveness offers a powerful stimulus for the favourable reception of a piece of communication. Sellability of communication is another important function of language.

Barriers to effective communication

A number of interpersonal and intrapersonal barriers affect why the message decoded by a receiver is often different from what the sender intended.

1. **Filtering:** the deliberate manipulation of information to make it appear more favourable to the receiver.
2. **Selective perception:** Receiving communication on the basis of what one selectively sees and hears depending on his or her needs, motivation, experience, background, and other personal characteristics
3. **Information Overload:** when the amount of information one has to work with exceeds one's processing capacity. Information is lost and less effective communication results when there is more information than can be sorted out or used.

4. **Emotion:** How the receiver feels when a message is received. Extreme emotions are most likely to hinder effective communications. It is best to avoid reacting to a message when upset because thinking clearly is unlikely.
5. **Language:** Words have different meanings to different people. Receivers will use their definition of words being communicated. Age, education, and cultural background are three of the more obvious variables that influence the language a person uses and the definition applies to words.
In any society, people come from diverse background and, therefore, have different patterns of speech. Respect for language is a serious matter, and miscommunication is dangerous.
6. **Gender:** How males and females react to communication may be different, and they each have a different communication style. To keep gender difference from becoming persistent barriers to effective communication, individuals must strive for acceptance, understanding, and a commitment to communicate adaptively with each other.

Overcoming Barrier to effective communication

1. **Use Feedback:** This is to check the accuracy of what has been communicated or what you think you heard.
Many communication problems are directly attributed to misunderstanding and inaccuracies. These problems are less likely to occur if feedback is available. Feedback can be more subtle as general comment can give a sense of the receiver's reaction to a message
2. **Simply language:** Use words that the intended audience understands. Language can be a barrier, an engineer should consider the audience to whom the message is directed and tailor the language to them.
3. **Listen actively:** Listen for the full meaning of the message without making premature judgment or interpretation or thinking about what you are going to say in response. Listening is an active search for meaning, whereas hearing is passive. In listening, the receiver is also putting effort into the communication.
Active listening which is listening for full meaning without making premature judgment or interpretations, demand total concentration. Active listening is enhanced by developing empathy with the sender- that is, by putting yourself in the sender's position.
4. **Constrain Emotions:** Recognize when your emotions are running high. When they are, don't communicate until you calm down. Emotions can cloud and distort communication. An engineer who is upset over an issue is more likely to misconstrue incoming messages and fail to communicate his/her outgoing messages clearly and accurately.
5. **Watch Non- Verbal Cues:** Be aware that your actions speak louder than your words. Keep the two in mind.

Guide / Hints for Achieving Effectiveness of Communication

No matter how well- reasoned one's decision maybe, the ideas and decisions become effective only in proportion to the degree of success with which they are transmitted to other people and with which they achieve the desired action or reaction with such people.

Communication is seen as the engineer's most important tool. It embraces both words and apparent attitudes and actions, i.e all human behaviour which results in exchange of information.

The following points/commandments can enhance effectiveness of an engineer in communication as relate to the discharge of his/ her duties. They are:

1. **Clarify your ideas before communication:** the need to analyse a piece of intended communication in order to identify and clearly state its purpose, plan thoroughly and consider the goals and attitudes of those who are to receive the information and those who will be affected by it.
2. **Be sure of the true purpose of each communication:** Is it to give or obtain some information, initiate some action or change a person's or some people attitude? The language, tone and total approach to the communication should be adapted to serve that purpose. One must not attempt to achieve too much in any one piece of communication. The sharper the focus, the greater the chances of success of piece of communication.
3. **Consider the total physical and human setting for every piece and occasion of communication:** It means that the communicator must consider the total environment in determining the timing for making an announcement or making known a decision and for communicating in private and public.
4. **Consult with others, where appropriate, in planning communication :** Consultation sharpens, lends further insight to, and increases objectivity.
5. **Be mindful, while you communicate, of the overtone, as well as the basic content, of your communication:** Tone of voice, expression employed, responsiveness to the feelings and reaction of others- all affect effectiveness of communication. Choice of language affect the way in which messages are received.
6. **Take the opportunity, whenever it offers itself, of communication something of value to your audience and others:-** This demands that one should be aware of people's interests and sensitivities.
7. **Follow up your communication otherwise, you may never know whether you have communicated or not:** There is need to ask questions, to encourage the receiver to express his reactions, and to make follow up contacts. Every important piece of communication should have an inbuilt feedback provision.
8. **Communicate for tomorrow as well as for today:** This requires taking past events and past communication into account in making current communication. This helps to

maintain consistency and avoid contradicting previous information, and also ensures that we anticipate issues that could hamper performance in the future.

9. **Be sure that your actions support your communication:** Actions speak louder than words. What one does is more important than what one says. The need is to maintain a good supervision practice in giving a clear assignment of responsibilities and a clear delegation of authority; giving fair rewards for effort, and carrying out a sound enforcement of policy.
10. **Seek, not only to be understood, but also to understand:** This demands that an engineer be a good listener. Listening is perhaps the important skill in communicating but probably also the most difficult to cultivate.

Questions

1. Which do you think is more important for an engineer: speaking accurately or listening actively? Why?
2. "Ineffective communication is the fault of the sender" Do you agree or disagree with this statement? Discuss
3. Which type of communication do you think is most effective in a work setting? Why?
4. Communication is seen as the engineer's most important tool. Discuss

Written and Oral Communication

To communicate effectively, it is essential that a suitable medium is chosen. For many engineers, the choice is often between the spoken and the written word. The ability to communicate effectively through speaking as well as in writing is highly valued and demanded in business.

Written communication: This is the use of words connected together to make sentences which are put down in writing. Such a piece of communication is said to be documented.

It can be in the form of memo, letter, e-mail, text messages, fax, telegraph, bulletin, boards, books, messages, songs on audio and videos, cassettes, CD, VCD and DVD.

The nature of the engineering task may call for a proposal, plan, report, or specification in writing. Typically, both sender and receiver have a record of the communication. The message can be stored for an indefinite period of time. If questions arise about the content of the message, it's physically available for latter reference. This feature is particularly important for complex or lengthy communication. Written communications are tangible, verifiable and more permanent than oral.

Having to put something in writing forces a person to think more carefully about what is to be conveyed. Therefore, written communications are more likely to be well thought out, logical and clear.

Written messages have their drawbacks. It is hard work, time consuming and expensive.

Oral communication: It describes any type of interaction that make use of spoken words, and it is a vital and integral part of the modern business world.

Oral communications allow receivers to respond rapidly to what they think they hear. A conversations may be better, especially if negotiation is needed, or the subject is sensitive. A phone call or face to face meeting may be better especially if give and take is needed. For speed and convenience, speech is the best form of communication. Spoken words can be face to face, telephone, internet etc.

For oral communication to be effective, it should be clear, relevant, tactful in phrase and tone, concise and informative.

Both oral and written forms of communication can be of different forms

1. **Upward communication:** This is the case where a junior staff passes information across to a superior staff. The information passed will be in the form of advice, a request, or a response to a query.
2. **Downward communication:** This is the case where a senior staff passes information to a junior staff. The information given will be either an instruction or a query.
3. **Vertical communication:** This can be taken as the communication of both upward and downward methods of communication.
4. **Quasi-vertical communication:** This is the case whereby information is passed from the bottom to the top and vice- versa without going through the middle cadres e.g information from the Registrar to the students and vice –versa.
5. **Horizontal communication:** This is the case where information is passed among the same cadre of staff.
6. **Interpersonal communication:** This is when two or more staff/ people discuss or exchange views on a subject matter. E.g. students performing experiments in the laboratory.
7. **Intra-personal communication:** This is the case when an individual talks within or to himself
8. **Body language:** Almost every part of the body can be used to communicate e.g. eye,ear, mouth, legs, hand, head, finger, shoulder etc. it is the non verbal communication cues such as facial expressions, gestures, and other body movements. It refers to gestures, facial configuration, and other movements of the body

All the above methods of communication can have the information sent as formal or informal.

Formal information:- A piece of information will be formal when the route of communication is made official. This is to say in written form and then sent to the appropriate quarter. When sent in this form, the information becomes binding on the recipient e.g notice of meeting.

Informal information

: This is that which is not put into writing and hence is not official. It is passed orally which may or may not require immediate action to be taken. It is of course not official even though it is quick method of communication.

Style of communication

Speech and written communication can be formal and informal depending on the situation or relationship with the recipient. A good example is the way people relate with one another at home, at work, in the market places and in the public generally. The way intimate friends relate with one another is the most informal style of communication.

In work environment, the way people talk to one another becomes more formal particularly when it comes to official matters. This formal communication is very common when talking with strangers, business associate and people in higher ranks.

Mass communication

This is defined as a process of creating shared meaning between mass media and their audience. It is the use of electronic equipment in passing information to people all around the world. Such equipment include radio, television, megaphone, video camera and equipment accessories, compact disc player, internet and billboard.

Constraints of mass communication

There are some few constraints in mass communication and these are as stated below:

1. Virtually every aspect of the communication situation is constrained.
2. Level of communication is most likely not going to meet the great number of viewer's needs
3. Belief that experimentation is dangerous
4. Belief that to challenge the audience is to risk failure.

References

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