

Communication Skills

Communication: Theory and Practice

1. Basics of Communication

1.1 Introduction

Communication is one of the most fundamental human activities, forming the basis of all personal relationships, social interaction, and professional collaboration. From the earliest forms of gesture and speech to today's advanced digital and technical modes of exchange, communication has remained the essential means by which individuals share knowledge, express feelings, coordinate actions, and build understanding with one another.

In any professional or engineering context, effective communication is equally vital, whether in explaining a technical concept to a colleague, writing a clear report, presenting an idea to a team, or simply listening carefully to instructions. The ability to communicate effectively is therefore considered an essential skill, alongside technical competence, for success in any career.

1.2 Meaning and Definition of Communication

The word “communication” is derived from the Latin word “communicare”, meaning “to share” or “to make common.” In its simplest sense, communication refers to the process of sharing or exchanging information, ideas, thoughts, or feelings between two or more people, in such a way that the meaning intended by the sender is understood by the receiver.

Communication may be formally defined as the process by which information is transmitted from one person (or group) to another, through a common system of symbols, signs, or behaviour, resulting in a shared understanding between the parties involved. Communication is not merely the transmission of a message, but the successful and accurate transfer of meaning and understanding from sender to receiver.

1.3 Process of Communication

Communication is best understood as a dynamic, cyclical process, involving several interconnected elements, described below:

Element	Role in the Communication Process
Sender (Encoder)	The person who originates the message and converts (encodes) their thoughts or ideas into words, symbols, or gestures that can be transmitted to the receiver.

Message	The actual information, idea, or feeling that the sender wishes to convey to the receiver.
Encoding	The process of converting the sender's thoughts into a communicable form, such as words, symbols, or gestures.
Channel (Medium)	The means through which the message is transmitted from the sender to the receiver, such as speech, writing, telephone, email, or body language.
Receiver (Decoder)	The person for whom the message is intended, who receives and interprets (decodes) the message.
Decoding	The process by which the receiver interprets and makes sense of the message received, converting it back into meaningful thoughts.
Feedback	The receiver's response to the sender's message, which confirms whether the message has been understood correctly and allows the communication process to continue as a two-way exchange.
Noise	Any interference or disturbance, physical or psychological, that distorts or obstructs the message during transmission, reducing the effectiveness of communication.

For communication to be truly effective, each of these elements must function properly: the sender must encode the message clearly, an appropriate channel must be used, the receiver must decode the message correctly, feedback should ideally be provided to confirm understanding, and noise (of any kind) should be minimised as far as possible.

2. Types of Communication

Communication can be classified in several ways, depending on the criterion used. Some of the most important classifications are summarised below:

Basis of Classification	Types	Description
Organisational Structure	Formal Communication	Communication that takes place through officially recognised channels within an organisation, following the established hierarchy, such as official letters, memos, notices, and reports.
Organisational Structure	Informal Communication	Communication that takes place outside official channels, often casually between colleagues, without following a fixed organisational structure; commonly referred to as the "grapevine."
Mode of Expression	Verbal Communication	Communication using spoken or written words, further divided into oral communication (face-to-face conversations,

		telephone calls, meetings) and written communication (letters, emails, reports).
Mode of Expression	Non-Verbal Communication	Communication without the use of words, conveyed instead through facial expressions, gestures, posture, eye contact, tone of voice, and body language.
Mode of Expression	Written Communication	Communication conveyed through written words, such as letters, reports, emails, memos, and notices, providing a permanent, referable record of the message.

In practice, effective communicators generally combine verbal, non-verbal, and, where appropriate, written elements together, since non-verbal cues (such as tone of voice, facial expression, and body language) often significantly influence how a verbal or written message is interpreted and received.

2.1 Barriers to Effective Communication

Despite best intentions, communication can often be hindered or distorted by various obstacles, known as barriers to effective communication. Some of the most common barriers are described below:

Type of Barrier	Description	Example
Physical Barriers	Environmental or physical obstructions that hinder the effective transmission of a message	Noise, poor telephone connection, physical distance between sender and receiver
Language Barriers	Difficulties arising from differences in language, vocabulary, or the use of jargon and technical terms not understood by the receiver	Use of complex technical jargon with a non-technical audience; communicating in a language unfamiliar to the receiver
Psychological Barriers	Mental or emotional factors within the sender or receiver that distort or obstruct effective communication	Prejudice, lack of attention, emotional distress, fear, or a closed mindset
Cultural Barriers	Differences in cultural background, customs, values, or social norms that lead to misunderstanding between sender and receiver	Differing interpretations of gestures, or differing norms of formality, between people from different cultural backgrounds
Organisational Barriers	Obstacles arising from the structure, policies, or hierarchy of an organisation that hinder the free flow of information	Excessive hierarchy or red tape delaying the flow of information between different levels of an organisation

Recognising and actively working to overcome these barriers, for example, by simplifying language, choosing an appropriate communication channel, remaining sensitive to cultural and psychological factors, and encouraging open feedback, is essential for achieving clear and effective communication.

3. The 7 Cs for Effective Communication

The 7 Cs of effective communication are a set of widely recognised guiding principles that help ensure a message is communicated clearly, accurately, and effectively. These principles are summarised below:

The 7 Cs	Meaning
Considerate	The message should be prepared keeping the receiver's viewpoint, interests, needs, and possible reactions in mind, rather than focusing solely on the sender's own perspective.
Concrete	The message should be specific, definite, and vivid, supported by clear facts and figures, rather than being vague or abstract.
Concise	The message should convey the intended meaning in the fewest possible words, avoiding unnecessary repetition and wordiness, while still remaining complete.
Clear	The message should be expressed in simple, straightforward language, with a clear purpose, so that it can be easily understood by the receiver without ambiguity.
Complete	The message should include all the necessary information the receiver needs to understand it fully and to act upon it appropriately, leaving no essential facts out.
Correct	The message should be accurate and free from grammatical, factual, and technical errors, since even small errors can create confusion or reduce the sender's credibility.
Courteous	The message should be polite, respectful, and considerate in tone, reflecting genuine regard for the feelings and perspective of the receiver.

Applying these seven principles together, whether in written correspondence, technical reports, or spoken presentations, greatly increases the likelihood that a message will be correctly understood and well received by its intended audience.

4. Art of Effective Communication

Beyond following general principles such as the 7 Cs, effective communication is also considered something of an art, requiring practice, awareness, and sensitivity to a number

of subtler elements that influence how a message is delivered and received. Some of the key elements of this art are described below:

Element	Explanation
Choosing Words	Selecting words carefully, appropriate to the receiver's level of understanding and the context of the communication, avoiding ambiguous, offensive, or overly complex words that could obscure the intended meaning.
Voice	The quality, tone, and pitch of the speaker's voice, which should be pleasant, audible, and appropriately varied, since a monotonous or unclear voice can reduce the receiver's interest and understanding.
Modulation	The deliberate variation of pitch, tone, pace, and volume of speech to emphasise important points, maintain listener interest, and convey the intended emotion or emphasis behind the message.
Clarity	Ensuring that the message is expressed in a straightforward, unambiguous manner, using simple sentence structures and precise language, so that the receiver can grasp the intended meaning without confusion.
Time	Choosing an appropriate moment and duration for communication, being mindful of the receiver's availability and attention span, and avoiding unnecessarily long or poorly timed communication.
Simplification of Words	Using plain, familiar, and easily understood words wherever possible, in place of complex, technical, or unfamiliar vocabulary, to ensure the message is accessible to the intended audience.

Mastering these elements together, choosing appropriate words, using a pleasant and well-modulated voice, communicating with clarity, choosing the right time, and simplifying language wherever possible, enables a speaker or writer to communicate not only accurately, but also persuasively and memorably, greatly enhancing the overall impact and effectiveness of their communication.

5. Technical Communication

Technical communication refers to the specialised form of communication used to convey technical, scientific, or specialised subject matter clearly, precisely, and effectively to a specific audience, which may include engineers, scientists, technicians, managers, or end users of a technical product or process.

Technical communication differs from general, everyday communication in several important respects:

- It typically deals with precise, factual, and often complex technical content, such as specifications, procedures, data, and instructions, requiring a high degree of accuracy and clarity.
- It is usually intended for a specific target audience, and the level of technical detail and vocabulary used must be carefully adapted to match the background knowledge and needs of that audience.
- It commonly makes use of standardised formats, such as technical reports, manuals, specifications, proposals, and presentations, often supported by diagrams, tables, charts, and other visual aids to convey complex information clearly.
- It places a strong emphasis on objectivity, precision, and the correct use of technical terminology, since ambiguity or error in technical communication can have serious practical, safety, or financial consequences.

Common examples of technical communication in engineering and professional practice include technical reports, project proposals, standard operating procedures, user manuals, engineering drawings and specifications, technical presentations, and professional emails or memos conveying technical information. Developing strong technical communication skills, alongside general communication ability, is therefore considered an essential requirement for success in any engineering or technical profession.

6. Multiple Choice Questions (MCQs)

Answer the following questions by selecting the most appropriate option.

1. Communication is best defined as:

- A) The process of remaining silent
- B) The process of exchanging information, ideas, or feelings between two or more people
- C) A one-way process that requires no receiver
- D) A purely written activity only

2. In the communication process, the person who originates and sends the message is called the:

- A) Receiver
- B) Sender (encoder)
- C) Channel
- D) Noise

3. The process of converting thoughts into words or symbols that can be communicated is called:

- A) Decoding

- B) Encoding
- C) Feedback
- D) Noise

4. The receiver's response to the sender's message, confirming understanding, is called:

- A) Encoding
- B) Channel
- C) Feedback
- D) Noise

5. Any interference that distorts or obstructs a message during transmission is called:

- A) Feedback
- B) Noise
- C) Encoding
- D) Channel

6. Communication that follows the official hierarchy and recognised channels within an organisation is called:

- A) Informal communication
- B) Formal communication
- C) Non-verbal communication
- D) Grapevine communication

7. Communication conveyed through facial expressions, gestures, and posture, without words, is called:

- A) Verbal communication
- B) Written communication
- C) Non-verbal communication
- D) Formal communication

8. Difficulties in communication arising from the use of complex technical jargon are an example of:

- A) Physical barriers
- B) Language barriers
- C) Cultural barriers
- D) Organisational barriers

9. Prejudice, fear, or lack of attention on the part of the receiver are examples of:

- A) Physical barriers
- B) Psychological barriers
- C) Organisational barriers
- D) Written barriers

10. Which of the 7 Cs of effective communication refers to keeping the receiver's viewpoint and interests in mind?

- A) Concrete
- B) Considerate
- C) Correct
- D) Concise

11. Which of the 7 Cs of effective communication refers to conveying the message in the fewest possible words, without unnecessary repetition?

- A) Concise
- B) Complete
- C) Courteous
- D) Concrete

12. Which of the 7 Cs of effective communication refers to a message being accurate and free from errors?

- A) Clear
- B) Correct
- C) Considerate
- D) Concrete

13. Which of the 7 Cs of effective communication refers to a message being polite and respectful in tone?

- A) Courteous
- B) Concise
- C) Complete
- D) Concrete

14. In the art of effective communication, 'modulation' refers to:

- A) Choosing simple words only
- B) Deliberately varying pitch, tone, pace, and volume of speech to maintain interest and emphasis
- C) Speaking in a single, unchanging tone throughout
- D) Avoiding all body language

15. Technical communication is best described as communication that:

- A) Deals only with casual, everyday conversation
- B) Conveys specialised, technical, or scientific information clearly and precisely to a specific audience
- C) Avoids the use of any facts or data
- D) Is used only in non-professional settings

Answer Key

1. B) The process of exchanging information, ideas, or feelings between two or more people
| 2. B) Sender (encoder) | 3. B) Encoding | 4. C) Feedback | 5. B) Noise | 6. B)
Formal communication | 7. C) Non-verbal communication | 8. B) Language barriers |

9. B) Psychological barriers | 10. B) Considerate | 11. A) Concise | 12. B) Correct | 13. A) Courteous | 14. B) Deliberately varying pitch, tone, pace, and volume of speech to maintain interest and emphasis | 15. B) Conveys specialised, technical, or scientific information clearly and precisely to a specific audience

7. Broad / Long Answer Questions

1. Define communication, and explain its meaning and importance in personal and professional life.
2. Describe, with a suitable diagram or step-by-step explanation, the process of communication, explaining the role of each element involved (sender, message, encoding, channel, receiver, decoding, feedback, and noise).
3. Distinguish between formal and informal communication, giving examples of each.
4. Distinguish between verbal, non-verbal, and written communication, giving examples of each.
5. Explain any four barriers to effective communication, giving a suitable example of each.
6. Explain the 7 Cs of effective communication, briefly describing each of the seven principles.
7. Explain the role of 'choosing words' and 'voice' in the art of effective communication.
8. Explain the role of 'modulation' and 'clarity' in the art of effective communication.
9. Explain the role of 'time' and 'simplification of words' in achieving effective communication.
10. Define technical communication, and explain how it differs from general everyday communication, giving suitable examples from an engineering or workplace context.