TECHNICAL COMMUNICATION

PRINCIPLES AND PRACTICE

FOR GUJARAT TECHNOLOGICAL UNIVERSITY

REVISED 2ND EDITION

Meenakshi Raman
Professor and Head
Department of Humanities and Social Sciences
BITS, Pilani (K.K. Birla Goa Campus)

Sangeeta Sharma
Associate Professor
Department of Humanities and Social Sciences
BITS, Pilani (Pilani Campus)

OXFORD
UNIVERSITY PRESS

OXFORD
UNIVERSITY PRESS

Oxford University Press is a department of the University of Oxford.
It furthers the University's objective of excellence in research, scholarship,
and education by publishing worldwide. Oxford is a registered trademark of
Oxford University Press in the UK and in certain other countries.

Published in India by
Oxford University Press
Ground Floor, 2/11, Ansari Road, Daryaganj, New Delhi 110002, India

© Oxford University Press 2008, 2014, 2017

The moral rights of the author/s have been asserted.

First Edition published in 2008
Revised Second Edition published in 2017

All rights reserved. No part of this publication may be reproduced, stored in
a retrieval system, or transmitted, in any form or by any means, without the
prior permission in writing of Oxford University Press, or as expressly permitted
by law, by licence, or under terms agreed with the appropriate reprographics
rights organization. Enquiries concerning reproduction outside the scope of the
above should be sent to the Rights Department, Oxford University Press, at the
address above.

You must not circulate this work in any other form
and you must impose this same condition on any acquirer.

ISBN-13: 978-0-19-948296-2
ISBN-10: 0-19-948296-9

Typeset in Baskerville
by Ideal Publishing Solutions, Delhi
Printed in India by Magic International (P) Ltd., Greater Noida

Cover image: DiamondGraphics / Shutterstock

Third-party website addresses mentioned in this book are provided
by Oxford University Press in good faith and for information only.
Oxford University Press disclaims any responsibility for the material contained therein.

Preface to the Revised Second Edition

Today's professional world demands effective transfer of technical information in the form of correspondence, talks, discussions, and documents more than ever before. Such forms of communication not only reflect the knowledge and achievements of engineers, scientists, and other professionals but also act as the public face for organizations, reflecting their policies and achievements.

Technical communication is essentially formal, and hence requires a standard format for disseminating technical messages. Apart from general oral communication, the written aspect holds a lot of importance.

About the Book

The latest edition of this textbook has been updated as per the latest communication skills course at Gujarat Technological University (GTU). Accordingly, the book has now been divided into 11 chapters that provide a comprehensive coverage of all the topics included in the GTU syllabus. The contents have been reorganized keeping in mind the role of the four communication skills—listening, speaking, reading, and writing (LSRW). In addition to the LSRW skills, this book also aims to introduce the fundamental components of English grammar to the reader, which is essential for effective communication in the academic and professional environment.

Various audio and video exercises, to help the students acquire the necessary linguistic and soft skills, have been included in the CD accompanying the text. These activities are designed to fulfil the requirements of the university.

New to the Revised Second Edition

- Latest GTU solved question papers at the end of the book

About the CD

The CD content is closely linked to the main text and includes the following modules:

Videos This module contains videos that can be used to train the readers for group discussions and professional presentations.

Listening and speaking practice This module contains various types of audio clips related to telephonic conversation, negotiation skills, role play, and phonetics.

Text supplements This module contains supplementary material to the main text, including samples of various formal written documents as well as additional topics of interest.

The videos on group discussion and professional presentations can be viewed with VLC Media Player or Windows Media Player.

The file 'Text Supplements' is a PDF (Portable Document Format) document. The reader will need either Adobe Acrobat or its Reader to view it.

Coverage and Structure

The text has been divided into 11 chapters.

Chapter 1 emphasizes and elaborates the basics of technical communication, such as its importance, process, levels, and flow of communication. *Chapter 2* explains the importance of developing effective listening skills.

Chapter 3 presents effective presentation strategies for various kinds of audience. It also touches upon the nuances of oral communication and body language.

Chapter 4 highlights all the important aspects of reading, including skimming and scanning, and presents reading strategies that help improve comprehension skills. *Chapter 5* covers paragraph development including discussions on topic and supporting sentences.

Chapter 6 analyses technical letter writing and gives examples of various types of business letters, including claim, adjustment, and sales letters. It also discusses email writing as also the etiquettes to be followed while communicating through it.

Chapter 7 introduces report writing, including its objectives, types, importance, formats, and structure. *Chapter 8* covers the structure and content of a book review. *Chapter 9* explains the guidelines for completing a story.

Chapter 10 covers the essentials of grammar and vocabulary including tenses, impersonal passive voice, and concord, and listings of idioms, homophones, homonyms, one-word substitutes, and confusables.

Chapter 11 on enriching language through literature includes poems and short stories, with detailed explanations and questions.

Online Resources

The following resources are available to support the faculty and students using this text.

For Faculty

- PowerPoint Slides

For Students

- Multiple Choice Questions
- Additional Text Material

Acknowledgements

We are grateful to Professor B.N. Jain, Vice Chancellor, BITS, Pilani, Professor L.K. Maheshwari, former Vice Chancellor, BITS, Pilani, Professors G. Raghurama and K.E. Raman, Directors of Pilani and Goa campuses, respectively, under whose aegis we were provided an environment conducive to complete this edition.

The staff at the Oxford University Press deserves our special thanks for the tremendous effort put forth to constantly update us on all the review matters throughout the making of this edition.

We appreciate the constructive suggestions given by the reviewers to add new topics and update the first edition so as to suit the needs of the students.

We gratefully acknowledge Ruskin Bond, Random House UK, and Sahni Brothers, Agra for the permissions granted to reproduce their copyright material in this book.

Every effort has been made to trace copyright holders and to obtain their permission for the use of copyright material. We apologize for any error or omission and would be grateful if notified of any correction that should be incorporated in future reprints or editions of this book.

At the home front, we sincerely acknowledge the support and encouragement we got from our family members. Meenakshi Raman is running short of words to express her gratitude to her family members for the unstinting cooperation and affectionate concern extended during the course of the project. Sangeeta Sharma would like to acknowledge her husband Suresh Sharma for being a pillar of support at all times and her children Amrit and Anuj for innocently enquiring about the progress of the book and reminding her to complete the task. Her parents-in-law also need a special mention for never complaining about her deep involvement in the work and taking away their time.

We sincerely hope that this revised edition, with its updated, comprehensive coverage of all aspects and types of technical communication, will prove to be highly useful to the readers. Any suggestions for improvement are welcome.

MEENAKSHI RAMAN
(mraman@goa.bits-pilani.ac.in)

SANGEETA SHARMA
(sang@pilani.bits-pilani.ac.in)

Preface to the First Edition

The word *communication* has its roots in the Latin word *communicare*, meaning 'to impart'. The reference here is to the sharing of information. Effective communication thus involves effective exchange of information. As an integral part of one's academic and professional life, this requires a thorough grasp of the language being used as the medium of communication. Even though the majority of tasks performed by an engineer or a scientist are of technical nature, their success to a great extent depends on the effectiveness with which they assimilate or disseminate technical or formal information. It therefore becomes all the more essential for students of science and technology who are instrumental in bringing about significant developments in the society to master English for their technical communication. Technical communication is mostly formal and hence very often requires the use of set formats to get the required technical message across. As compared to general communication which is mostly oral, technical communication necessitates a lot of documentation, which brings into major focus the written aspect. The other major feature of technical communication to be kept in mind is audience specificity. Unlike ordinary day-to-day communication, formal communication is prepared for specific target segments of the society. Accordingly, the language used in such communication involves specific jargon, illustrations, etc. Hence, it is essential for the people preparing these correspondences to understand clearly the intricacies of listening, speaking, reading, and writing in the chosen medium. This book aims to facilitate this understanding, in addition to familiarizing the reader with the fundamental components of English grammar. It has been designed to enable students and professionals to disseminate technical and formal information effectively.

This book meets the requirements of the first semester course on communication skills at Gujarat Technological University (GTU). The text has been developed based on two decades of teaching experience in the area of communication. Realizing the need to improve the communication skills of engineering students and technologists, the book discusses both oral and written forms of communication in depth. A key feature of this beginner-level book is its user-friendly approach. The language is simple and easy to understand.

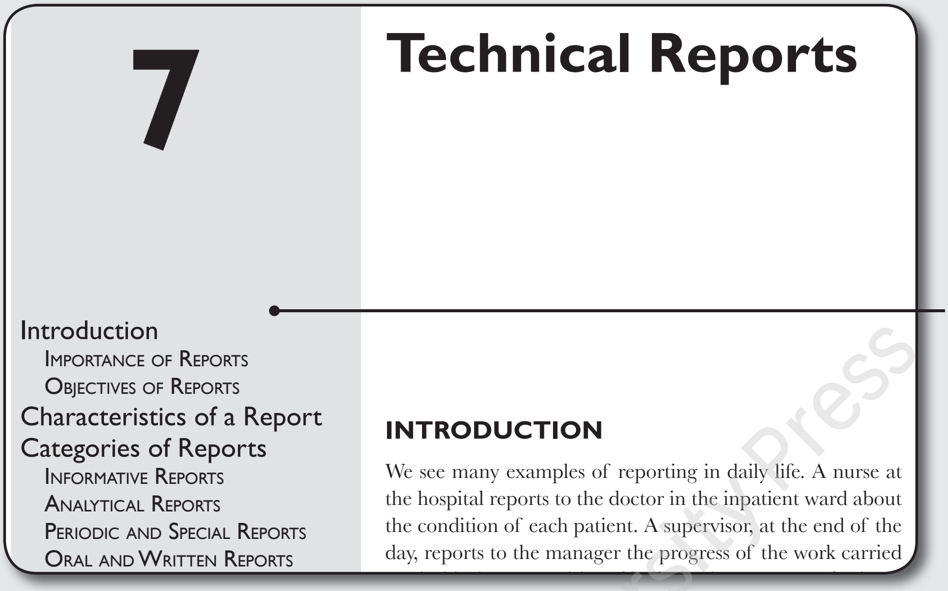
The technical aspects of communication have been explained through lively and relevant examples and illustrations. A number of strategies have been suggested throughout the book to enhance the efficiency and effectiveness of communication in various settings. Important definitions as well as related interesting information have been presented in sidebars and textboxes. Numerous exhibits specific to technical applications have been provided, including presentation styles, formats, and layouts for written communication. The worked-out exercises reinforce the concepts discussed in the book, correlating theory and practice.

The text has been divided into 14 chapters.

We sincerely hope that this book, with its comprehensive coverage of all aspects and types of technical communication, will prove to be highly useful to readers. Any suggestions for improvement are welcome.

MEENAKSHI RAMAN
SANGEETA SHARMA

Features of



7

Technical Reports

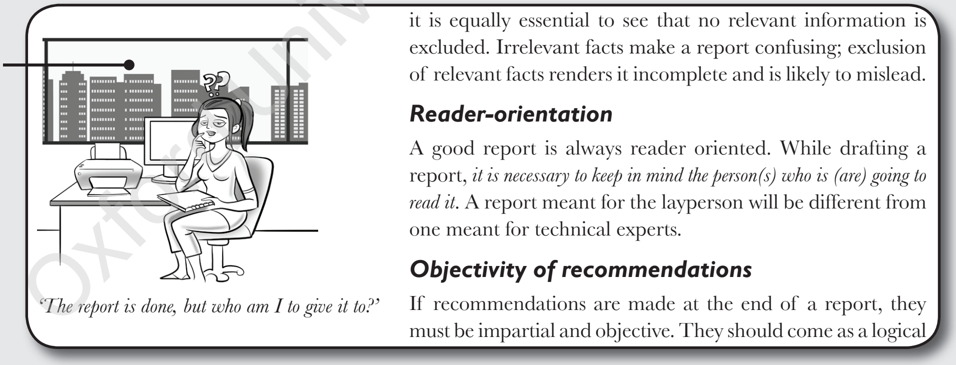
Introduction
  Importance of Reports
  Objectives of Reports
Characteristics of a Report
Categories of Reports
  Informative Reports
  Analytical Reports
  Periodic and Special Reports
  Oral and Written Reports

INTRODUCTION

We see many examples of reporting in daily life. A nurse at the hospital reports to the doctor in the inpatient ward about the condition of each patient. A supervisor, at the end of the day, reports to the manager the progress of the work carried

Chapter Outline
All chapters in the book begin with a chapter outline, which gives an overview of the contents covered in the chapter.

Illustrations
Illustrations, interspersed with the text in the chapters, make the book a more lively and interesting read.



'The report is done, but who am I to give it to?'

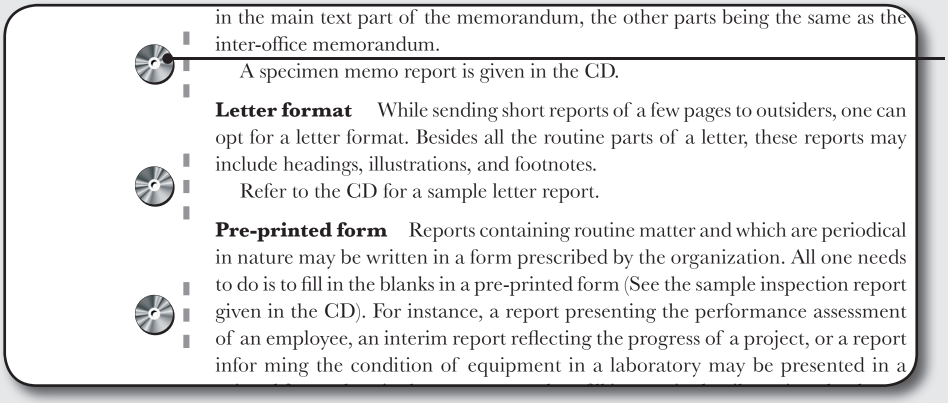
it is equally essential to see that no relevant information is excluded. Irrelevant facts make a report confusing; exclusion of relevant facts renders it incomplete and is likely to mislead.

Reader-orientation

A good report is always reader oriented. While drafting a report, *it is necessary to keep in mind the person(s) who is (are) going to read it*. A report meant for the layperson will be different from one meant for technical experts.

Objectivity of recommendations

If recommendations are made at the end of a report, they must be impartial and objective. They should come as a logical



in the main text part of the memorandum, the other parts being the same as the inter-office memorandum.

A specimen memo report is given in the CD.

Letter format While sending short reports of a few pages to outsiders, one can opt for a letter format. Besides all the routine parts of a letter, these reports may include headings, illustrations, and footnotes.

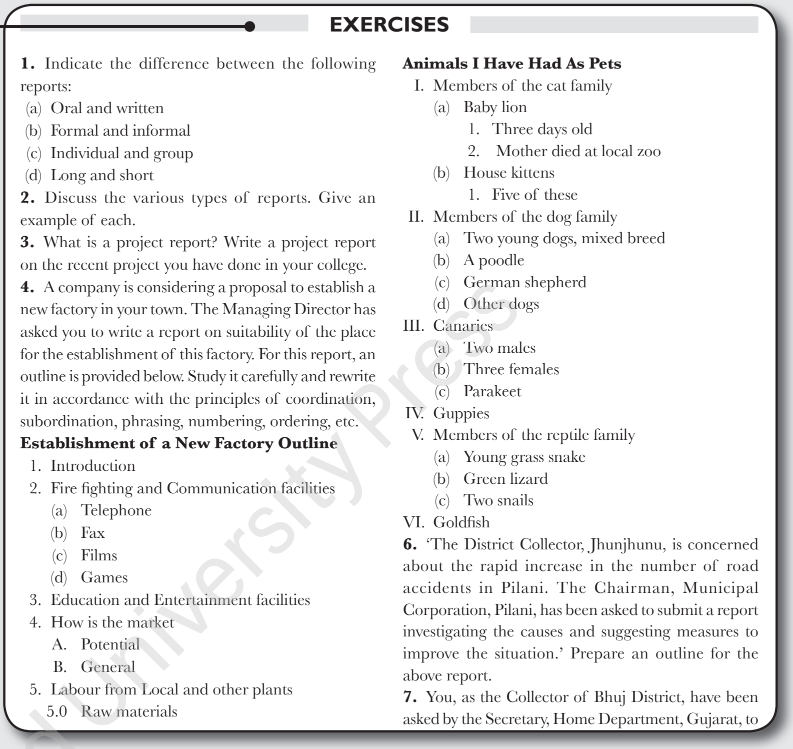
Refer to the CD for a sample letter report.

Pre-printed form Reports containing routine matter and which are periodical in nature may be written in a form prescribed by the organization. All one needs to do is to fill in the blanks in a pre-printed form (See the sample inspection report given in the CD). For instance, a report presenting the performance assessment of an employee, an interim report reflecting the progress of a project, or a report informing the condition of equipment in a laboratory may be presented in a

CD Links
The chapters include CD links that aid in better understanding of the concepts discussed in the book. A CD icon in the left margin of the text indicates digital support.

the Book

Exercises
A series of practice exercises highlight the major topics covered in the chapter. The questions enhance learning and can be used for review and classroom discussion.



EXERCISES

1. Indicate the difference between the following reports:
- (a) Oral and written
- (b) Formal and informal
- (c) Individual and group
- (d) Long and short

2. Discuss the various types of reports. Give an example of each.

3. What is a project report? Write a project report on the recent project you have done in your college.

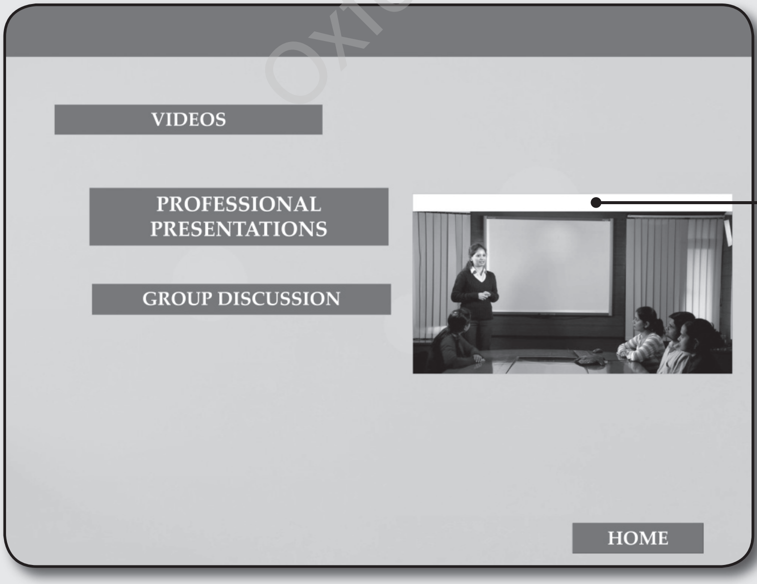
4. A company is considering a proposal to establish a new factory in your town. The Managing Director has asked you to write a report on suitability of the place for the establishment of this factory. For this report, an outline is provided below. Study it carefully and rewrite it in accordance with the principles of coordination, subordination, phrasing, numbering, ordering, etc.

Establishment of a New Factory Outline
1. Introduction
2. Fire fighting and Communication facilities
    (a) Telephone
    (b) Fax
    (c) Films
    (d) Games
3. Education and Entertainment facilities
4. How is the market
    A. Potential
    B. General
5. Labour from Local and other plants
    5.0 Raw materials

Animals I Have Had As Pets
I. Members of the cat family
    (a) Baby lion
        1. Three days old
        2. Mother died at local zoo
    (b) House kittens
        1. Five of these
II. Members of the dog family
    (a) Two young dogs, mixed breed
    (b) A poodle
    (c) German shepherd
    (d) Other dogs
III. Canaries
    (a) Two males
    (b) Three females
    (c) Parakeet
IV. Guppies
V. Members of the reptile family
    (a) Young grass snake
    (b) Green lizard
    (c) Two snails
VI. Goldfish

6. 'The District Collector, Jhunjhunu, is concerned about the rapid increase in the number of road accidents in Pilani. The Chairman, Municipal Corporation, Pilani, has been asked to submit a report investigating the causes and suggesting measures to improve the situation.' Prepare an outline for the above report.

7. You, as the Collector of Bhuj District, have been asked by the Secretary, Home Department, Gujarat, to



Companion CD
The CD contains the following:

Videos on group discussion and professional presentations

Audio clips comprising listening and speaking practice, phonetics, telephonic conversations, role play, and negotiation skills

Text supplements including samples of various formal written documents as well as additional topics of interest

Brief Contents

Preface to the Revised Second Edition iii
Preface to the First Edition vii
Features of the Book viii
Detailed Contents xi
GTU Syllabus xiv

1. Communication Skills 1
2. Listening Skills 16
3. Effective Presentation Strategies 25
4. Effective Reading Skills 42
5. Paragraph Development 67
6. Letter Writing and Email 80
7. Technical Reports 119
8. Writing a Book Review 154
9. Story Writing 162
10. Grammar and Vocabulary 172
11. Enriching Language through Literature 209

Appendix I 221
Appendix II 245
Index 248
About the Authors 250

Detailed Contents

Preface to the Revised Second Edition *iii*
Preface to the First Edition *vii*
Features of the Book *viii*
Brief Contents *x*
GTU Syllabus *xiv*

1. Communication Skills 1

Introduction *1*
The Process of Communication *2*
  The Communication Cycle *2*
  Noise *3*
  General and Technical Communication *4*
Language as a Tool of Communication *5*
  Characteristics of Language *5*
Levels of Communication *9*
  Extrapersonal Communication *9*
  Intrapersonal Communication *9*
  Interpersonal Communication *10*
  Organizational Communication *10*
  Mass Communication *11*
The Flow of Communication *11*
  Downward Communication *12*
  Upward Communication *12*
  Lateral or Horizontal Communication *13*
  Diagonal or Crosswise Communication *13*
The Importance of Technical Communication *14*

2. Listening Skills 16

Introduction *16*
Types of Listening *17*
Traits of a Good Listener *18*
  Being Non-evaluative *18*
  Paraphrasing *18*
  Reflecting Implications *19*
  Reflecting Hidden Feelings *19*
  Inviting Further Contributions *20*
  Responding Non-verbally *20*
Barriers to Effective Listening *20*
  Content *21*
  Speaker *21*
  Medium *21*
  Distractions *21*
  Mindset *22*
  Language *22*
  Listening Speed *22*
  Feedback *23*
  Cultural Barriers *23*

3. Effective Presentation Strategies 25

Introduction *25*
Defining Purpose *26*
Analysing Audience and Locale *26*
Organizing Contents *28*
  Introduction *28*
  Main Body *29*
  Conclusions *30*
Preparing an Outline *31*
Kinesics *32*
  Personal Appearance *33*

    - Posture 33
    - Gesture 34
    - Facial Expression 34
    - Eye Contact 35
- Proxemics 35
- Paralinguistics 37
    - Quality 37
    - Volume 37
    - Pace/Rate 38
    - Pitch 38
    - Articulation 38
    - Pronunciation 39
    - Voice Modulation 39
    - Pauses 39
- Chronemics 40

4. Effective Reading Skills 42

- Introduction 42
- What is Reading Comprehension? 43
- Reading Strategies 43
    - Reading General Articles 43
    - Reading Essays 44
    - Reading Journal Articles 48
- Techniques for Good Comprehension 48
    - Skimming and Scanning 49
    - Non-verbal Signals 49
    - Structure of the Text 50
    - Structure of Paragraphs 50
    - Punctuation 50
    - Author's Viewpoint (Inference) 50
    - Reader Anticipation: Determining the Meaning of Words 51
    - Summarizing 51
    - Typical Reading Comprehension Questions 52

5. Paragraph Development 67

- Introduction 67
- Central Components of a Paragraph 68
    - Topic Sentence 69
    - Coherence 69
    - Unity 72
    - Adequate Development 72
- Techniques for Paragraph Development 75

6. Letter Writing and Email 80

- Business Letters 80
    - Significance 80
    - Purpose 81
    - Structure 81
    - Layout 88
    - Principles 92
    - Types and Samples 100
- Email 109
    - Advantages and Limitations 110
    - Style, Structure, and Content 111
    - Email Etiquette 112

7. Technical Reports 119

- Introduction 119
    - Importance of Reports 120
    - Objectives of Reports 121
- Characteristics of a Report 121
- Categories of Reports 123
    - Informative Reports 123
    - Analytical Reports 123
    - Periodic and Special Reports 124
    - Oral and Written Reports 124
    - Long and Short Reports 124
    - Formal and Informal Reports 125
    - Individual and Group Reports 125
- Formats 126
- Prewriting 127
    - Purpose and Scope 127
    - Audience 127
    - Sources of Information 129
    - Organizing the Material 129
    - Interpreting Information 130
    - Making an Outline 130
- Structure of Reports (Manuscript Format) 134
    - Prefatory Parts 134
    - Main Text 142
    - Supplementary Parts 145
- Types of Reports 146

Writing the Report *148*
  First Draft *148*
  Revising, Editing, and Proofreading *149*

8. Writing a Book Review 154

Introduction *154*
Different Types of Book Reviews *155*
The Art of Book Reviewing *156*
  Important Attributes *156*
  Steps *156*
Samples *158*

9. Story Writing 162

Introduction *162*
The Resources *162*
How to Begin *163*
  Catchy Bait *163*
  Draw from Experience *163*
  Choose a Point of View *164*
Guidelines for Completing a Given Story *164*
Samples *165*
  Sample 1 *165*
  Sample 2 *166*
  Sample 3 *168*

10. Grammar and Vocabulary 172

Concord (Subject–Verb Agreement) *172*
Tenses *175*
  Present Tense *175*
  Past Tense *178*
  Future Tense *179*
Impersonal Passive Voice *182*
Conditional Sentences *184*
Conjunctions and Prepositions *188*
  Conjuctions *188*
  Prepositions *190*
Idioms *191*
  Confusables *198*
  One-word Substitutes *199*
Homonyms *203*
Homophones *203*
Eponyms *204*

11. Enriching Language through Literature 209

The Road Not Taken *209*
  About the Poet *209*
  Explanation *210*
Goodbye Party for Miss Pushpa T.S. *211*
  About the Poet *211*
  Explanation *212*
The Eyes are Not Here *213*
  About the Author *213*
  Summary *216*
The Romance of a Busy Broker *217*
  About the Author *217*
  Summary *219*

Appendix I *221*
Appendix II *245*
Index *248*
About the Authors *250*

GTU Syllabus

The following table is a guide to the coverage of the syllabus topics, specifying the chapters that cover the various units.

Syllabus	Chapter(s)
1. Basics of Communication	
• Definition and process of communication	1
• Kinesics	3
• Paralinguistics	
• Proxemics	
• Chronemics	
2. Presentation Strategies	
• Defining the purpose of presentation	3
• How to make an effective presentation	
(i) Analysing audience and locale	
(ii) Organizing content and preparing an outline	
3. Listening Ability	
• Hearing and listening	2
• Types of listening	
• Barriers to effective listening	
4. Reading Fluency	
• Introduction	4
• Reading strategies	
• Techniques of reading	
• Developing reading comprehension	
5. Writing: Mastering the Final Skill	
• Paragraph writing	5
• Business letters	6
• Report writing	7
• Completion of a given story	9
• Email etiquettes	6
6. Enriching Language through Literature	
Poems	11
• *The Road Not Taken* by Robert Frost	
• *Goodbye Party for Miss Pushpa T.S.* by Nissim Ezekiel	
Short Stories	
• *The Eyes are Not Here* by Robert Frost	
• *The Romance of a Busy Broker* by O. Henry	

1

Communication Skills

Introduction
The Process of Communication
  The Communication Cycle
  Noise
  General and Technical Communication
Language as a Tool of Communication
  Characteristics of Language
Levels of Communication
  Extrapersonal Communication
  Intrapersonal Communication
  Interpersonal Communication
  Organizational Communication
  Mass Communication
The Flow of Communication
  Downward Communication
  Upward Communication
  Lateral or Horizontal Communication
  Diagonal or Crosswise Communication
The Importance of Technical Communication

INTRODUCTION

In your academic environment, you encounter various situations involving speech or writing: conversation with your friends, professors, or office staff to achieve various purposes; seminars, group discussions, written tests, and examinations; and laboratory or project report submissions on diverse topics. Likewise, when you take up a profession after completing your studies, you will have to interact with your superiors and subordinates, conversing with them face to face or over the telephone, and read and write e-mails, letters, reports, and proposals.

All these activities have a common denominator—*the sharing of information*. For example, when you request your professor to explain a concept which you could not understand very well in the class, you transmit the information to him that you need some clarification. Now, the professor receives this information, understands it and responds by giving an explanation which clears your doubt. If you are satisfied with this explanation, you thank the professor and the communication comes to an end. If you are still in doubt, you once again request clarification, and the process continues. This process involving the transmission and interchange of ideas, facts, feelings, or courses of action is known as the *process of communication*. You give, get, or share information with others during this process. Whether you communicate orally or in writing, this process essentially remains the same.

When you become a part of any organization, you need to communicate, and communicate effectively. No organization can survive without communication. All the activities an organization undertakes have communication at their hub. The better your communication skills, the greater are your chances of quick progress. However skilful you may be in other aspects of your work, knowledge, thoughts, and organization, sans communication are of little use. For instance, though you may possess an excellent academic record, you may not emerge victorious in an interview if you are not able to express your ideas clearly to those on the other side of the table. You may have observed that people at the pinnacle of their profession generally have excellent communication skills, one reason for their rapid rise up the ladder of success. So let us find out more about this communication process and what role it plays in an organization.

THE PROCESS OF COMMUNICATION

Communication can be defined as the exchange of information, ideas, and knowledge between the sender and the receiver through an accepted code of symbols.

The word communication has its root in the Latin word *communicare*, which means *to share*, and this sharing is of information, knowledge, and thoughts. For sharing information, you require two parties, the sender and the receiver, without which communication cannot take place. However, it is not sufficient to have two parties; there should also be cooperation and understanding between them. They should have a mutually accepted code of signals making up a common language. So, communication can be defined as the exchange of information, ideas, and knowledge between the sender and the receiver through an accepted code of symbols. It is termed effective only when the receiver receives the message intended by the sender in the same perspective. Otherwise, it is miscommunication.

The Communication Cycle

Consider the communication process as shown in Figure 1.1.

The *sender* encodes the *message* and sends it through a *channel. This channel is nothing but the language used*—words, actions, signs, objects, or a combination of these. The receiver receives the message, decodes it, and acts on it. If the message received

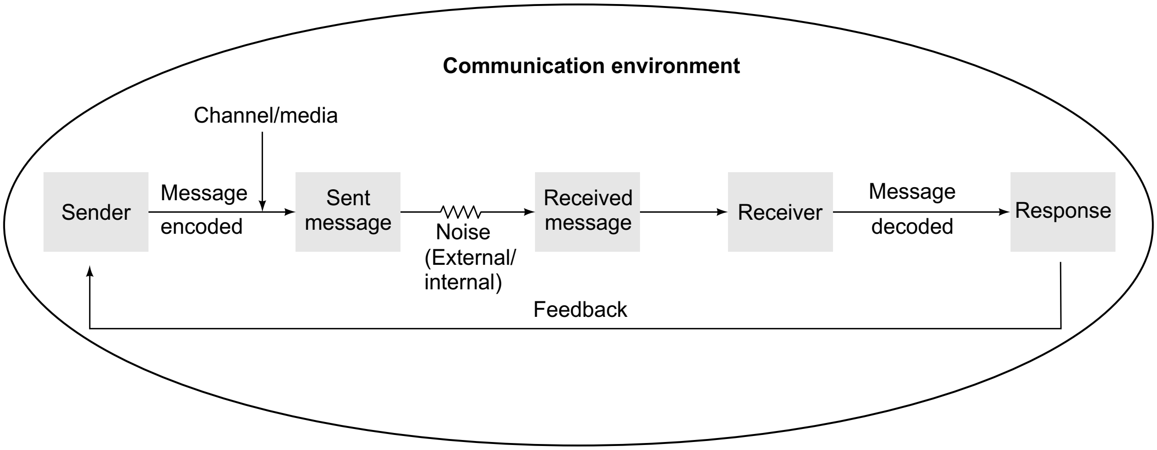


FIGURE 1.1 THE PROCESS OF COMMUNICATION

is the same as the message sent, there will be a response; if not, there has been a breakdown of communication. This may happen because of 'noise'. The reasons for noise production have been discussed in detail in the latter part of this section.

The transmission of the receiver's response to the sender is called feedback. Feedback is essential as it is a barometer of effective communication. If you are sending a message to somebody, your communication cycle is complete only when you get a response from the recipient of your message. Otherwise, you need to resend the message. Of course, even if you receive a response, it may or may not be the one you had expected. But once you receive some response, you know that you have communicated your message to the other party successfully. For example, you put up a notice asking the members of your student council to attend a meeting on a specified date, at a particular time, at the location mentioned. On the day of the meeting, you find that some of them have come while the others have not turned up. In this case you have obtained both the positive and negative responses to your message. But since you have got some feedback, the communication process is complete. Also, it has been effective, at least from your side. Hence, to understand whether you have communicated successfully or not, you must get feedback which is your observation of the recipient's response. Your communication is fully effective only when you get the desired response from the receiver.

Communication takes place in a well-defined set-up. This is called the *communication environment*. A classroom is the communication environment when a teacher delivers lectures to students. A teacher's cubicle becomes the communication environment when a student privately approaches the teacher.

Messages themselves are transferred through a medium, the *channel*. In oral communication, the air or telephone wires are commonly used channels. Language is the tool we use through these channels to exchange information.

In brief, the *essentials of effective communication* are as follows:

- A common communication environment
- Cooperation between the sender and the receiver
- Selection of an appropriate channel
- Correct encoding and decoding of the message
- Receipt of the desired response and feedback

Noise

Noise is defined as any unplanned interference in the communication environment, which causes hindrance in the transmission of the message.

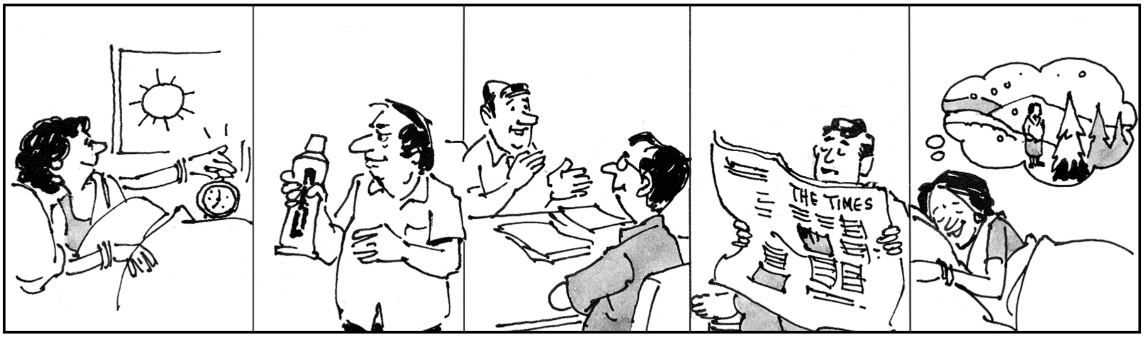
When you communicate, you desire that the message received should be the same as the message sent. But you might notice that this is not always the case. Sometimes, this is due to the presence of *noise. Noise is defined as any unplanned interference in the communication environment, which causes hindrance in the transmission of the message*. Noise distorts *interpretation* or the decoding part of the communication process.

Noise can be classified as *channel* and *semantic. Channel noise is any interference in the mechanics of the medium used to send a message*. Familiar examples of channel noise are distortion due to faulty background, noise in telephone lines, or too high a volume or pitch from loudspeakers. In written communication, illegible handwriting can be termed as channel noise.

Whereas channel noise develops externally, *semantic noise is generated internally, resulting from errors in the message itself*. It may be because of the connotative meaning of a word allowing the meaning to be interpreted differently by the sender and the receiver. For example, the word 'condescend' may be used in a positive manner, implying *graciousness* or *dignity of manner*, but the receiver might interpret it in a negative manner, related to a *(baseless) assumption of superiority*. Other examples of semantic noise are ambiguous sentence structure, faulty grammar, misspellings, and incorrect punctuation.

General and Technical Communication

Communication is important not only in an organization but also in daily life. In everyday life, you will find that communication occurs everywhere. It is an integral part of daily activity. When your alarm clock goes off, it is communication through sound and urges you get out of bed. When you use a particular brand of toothpaste while brushing your teeth, it is because of the impact of the company's persuasive advertising or its salesman's spiel, both being effective forms of communication. You watch the morning news on TV—communication. You say goodbye to your family as you leave home—this is communication. You call for a cab and tell the driver to head for your office—this is communication. At your workplace, all activities revolve around communication, be it oral or written. Your boss calls to tell you about your increment—this is communication again. At the end of the day, you return home and read the newspaper—this is communication once more. Finally, you retire to bed and dream—this is also communication, this time with yourself. Messages that are non-technical or informal in nature are categorized as general purpose communication, whereas messages pertaining to technical, industrial, or business matters belong to the category of technical or business communication. Table 1.1 shows the differences between the two categories.



Communication in everyday life

Table 1.1 Characteristics of General and Technical Communication

General communication	Technical communication
• Contains a general message • Informal in style and approach • No set pattern of communication • Mostly oral • Not always for a specific audience • Doesn't involve the use of technical vocabulary or graphics, etc.	• Contains a technical message • Mostly formal • Follows a set pattern • Both oral and written • Always for a specific audience • Frequently involves jargon, graphics, etc.

LANGUAGE AS A TOOL OF COMMUNICATION

Language employs a combination of words to communicate ideas in a meaningful way. By changing the word order in a sentence, you can change its meaning, and even make it meaningless.

It is a well-established fact that effective communication is made possible with the help of language. You do not have to be a linguist in order to acquire good language skills. However, a basic knowledge of the theory of language will certainly help you to understand the intricacies of writing and speaking clearly. So, let us look at some of the basic features of language.

When you try to define language, the first thing that comes to mind is words. Language employs a combination of words to communicate ideas in a meaningful way. By changing the word order in a sentence, you can change its meaning, and even make it meaningless.

How did words acquire their meanings? What, for example, is the connection between a wooden plank balanced on four legs and the word 'table'? The answer is that there is no obvious correlation between the symbol and its meaning, as language is arbitrary. When language first came into being, a community of people agreed to represent a certain object or idea by a specific sound or symbol. In the very first words, there may have been some correlation between the symbol and the sense—they may have been onomatopoeic. A few such words that still persist in the English language are buzz, drizzle, and murmur. In fact most words evoke certain meanings because people have agreed that the symbols (words) represent specific meanings. Thus language is directly dependent on people and cannot exist in isolation. It arose out of the human need to communicate. Primitive man communicated only with sign language and cries. Much later, as human beings became more interdependent and complex, language came into being. Of course, though it is accepted that language is universal, it cannot be denied that it is also specific to the individual. When you use it, you reflect your personality and your thoughts.

Characteristics of Language

Let us now consider how language operates. When you think of any event, innumerable pictures come to your mind. For instance when you think of your first oral presentation, you recall the audience's expressions, the dimly lit room, the podium, and your own nervousness.

All of us carry such images in our minds. And these memories of our experiences shape our ideas and influence our thoughts and actions. If you experience something new, you alter your viewpoint. Individuality is the sum of all these myriad experiences. This is the reason people have varied viewpoints.

People use language to give shape to their experiences. Since language is not exact, many a time it leads to misunderstandings. Being aware of the basic characteristics of language can help us understand this better and communicate more effectively.

According to the ideas put forward by eminent linguists such as Noam Chomsky and Ferdinand de Saussure, language is

- Artificial
- Restricted
- Abstract
- Arbitrary
- Creative
- Redundant
- Recursive

Language is artificial

Do you know how the meaning of 'nice' has changed over hundreds of years? Today, 'nice' is used to describe something as 'good' in an abstract way. Its Latin root 'nescire' meant 'to be ignorant', and in thirteenth century English, it came to mean 'foolish, stupid'.

Language is created by people. It does not exist in isolation or outside the minds of people. It is created by human as they need it. Every *symbol* is attached to a particular thought or thing, called a *referent*.

Let us take the word 'AIDS', which did not exist until people were infected by this contagious disease. The process of how this word was created is easy to trace. But this is not always possible. For instance, the word 'nice' has changed its shades of meaning over a period of time. Irrespective of the etymology, more important is the fact that we select a word for use in a particular way from the limitless choices available. As noted before, there is no organic connection between a symbol and its meaning. Humans attach meanings to words as they need to and modify these meanings according to changing needs. This is why we say language is 'artificial'.

Language is restricted

When we think and translate our thoughts into language, some meaning is lost in the process. No symbol or word can transmit the exact reality. That is one reason you sometimes find yourself saying that you cannot find words to express your feelings. This is because language is restricted. In other words, it has limitations.

Think of your alma mater. When you were in school, the building was new and modern. You called it 'your school'. After many years, it now looks antediluvian and dilapidated. You still call it 'your school'. Are not the same words being used to describe the building in its different states? If you want to give a more specific description, you have to supplement your words with other kinds of symbols or perhaps more words.

To overcome this limiting quality of language, people enliven their words with non-verbal cues to explain things better.

Language is only a sketch of the apparent and obvious. While communicating, we must keep two things in mind:

1. We must avoid mistaking a changed reality for an unaltered one because of unchanged language.
2. We need to use language as accurately as possible. When required, we should corroborate it with other available alternatives, such as non-verbal cues, graphical elements, or audio-visual recordings.

Language is abstract

We say language is abstract because it represents generalized ideas of things or thoughts. The idea which the word represents is different every time. For example, 'dress' can represent anything from a frock to a sari. Even if you are more specific and use the word 'business suit', you are still employing an abstraction, as a business suit can come in a variety of sizes and colours. To be abstract is to generalize, and to generalize is to leave out many details.

Abstractness is an important feature of language. It is this that makes all generalization possible. When we talk about a number of similar items, such as paper clips, pins, staples, etc., we can group them through abstraction, labelling their common features. This makes it possible to categorize, so that we need not constantly redefine the new information we receive. As we use already existing words, the task becomes easier. If this were not possible, we would never be able to make sense of things we have not experienced.

How does this happen? An existing word takes many similar ideas under its umbrella. A 'table' can be of different shapes and sizes, and still be called a table. Even if you have never seen a table with three legs, you can still identify it as a table. *This happens because meanings get associated with symbols and users keep expanding the range of meanings*.

We have already discussed the etymology of the word 'nice'. But, do you know how many meanings it had acquired that are currently in use? Here we list just some of them:

1. Pleasant, enjoyable, or attractive
2. Kind; friendly
3. (Ironic) bad or unpleasant
4. (Formal) involving a very small detail or difference

Some of the obsolete meanings of 'nice' are 'wanton', 'profligate', 'affectedly modest', and 'coy'.

Language is arbitrary

There is no direct relationship between a word and the idea or object it represents. People speaking a particular language accept the fact that certain symbols or sounds will represent a particular thing. For example, a 'table' could have been called by any other name, but these people speaking English accepted that a piece of furniture with four legs and a wooden plank used for keeping things will be called 'table'.

Language has evolved as a cultural system of agreements in which words repre-sent certain symbols or thoughts. Learning these agreements is part of learning the language.

Sometimes this arbitrary aspect of language causes problems. When a word undergoes a change that may not be universally accepted, it might not be under-stood clearly. For example, the word 'verbal' means 'spoken, not written' and also 'connected with words or using words'. The same word is used to represent two different realities.

To summarize, language keeps changing to include new concepts, and words can attach a number of specific and arbitrary meanings.

Language is creative

Language is indeed very creative and you can marvel at its ability to generate so many words every day. Every year innumerable words are added to the dictionary. These words can be added by different processes: *borrowing* (the taking over of words from other languages such as, 'alcohol' from Arabic and 'boss' from Dutch), *constructing portmanteau words* (words made by combining the sound and meaning of two different words; e.g., netiquette = net + etiquette, edutainment = education + entertainment), *back formation* (where a word of one type, usually a noun is reduced to a word of another type, usually a verb, like 'opt' from 'option', and 'emote' from 'emotion'), etc. As the need arises, a word is created to explain that particular thought or process. As computers inundated offices, new words such as 'keyboard' and 'emoticons' came into being. Meanings of other words—such as mouse, virus, and boot—were expanded or modified.

Look at how the meanings of the following words have changed over a period of time.

Word	Earlier meaning	Current meaning
Egregious	Outstandingly good	Outstandingly bad
Maverick	Unbranded cattle (after owner who declined to brand his)	An outsider, admirable for unorthodox ways (positive connotation)

Language is repetitive

Whatever language you use, it has the capacity for redundancy or repetition. This may either improve or impede effective communication. Look closely, for example, at this simple sentence:

A couple of girls are riding their bicycles.

How many signals in it indicate the presence of more than one person? The first two are the plural nouns: *girls* and *bicycles.* The third is the agreement of the verbs *are riding*. The fourth and fifth are *couple* and *their.* We can accept that in this instance repetition of information makes the meaning clear.

On the other hand, excessive and unnecessary repetition, or redundancy, may lead to verbosity or wordiness without contributing to the meaning. For example, when you say 'All of you meet together to see me in the afternoon at 3 pm', you are using an excessive number of words to no purpose. Even if you leave out 'All of you' and 'afternoon', no confusion would arise. When redundancy is a problem, dispense with the words that are unnecessary.

Language is recursive

Recursiveness is the characteristic of language which enables you to generate any number of sentences using the same basic grammatical templates. It also allows you to express any idea, thought, or feeling using the same finite vocabulary.

Recursiveness implies that there is no limit to the potential length of a sentence. For example, consider the following statement:

This man who is wearing a crumpled suit, which he borrowed from me to wear to his interview, which was on Wednesday, which was the day it was raining . . . .

If you use your imagination, you can see that this sentence can continue to any length if you keep on adding qualifying clauses for every noun. This is because the recursive quality of language here enables you to keep repeating the relative clause pattern.

So, we can conclude that these basic characteristics of language make it an effective means of communication.

LEVELS OF COMMUNICATION

Human communication takes place at various levels:

- Extrapersonal
- Intrapersonal
- Interpersonal
- Organizational
- Mass

Extrapersonal Communication

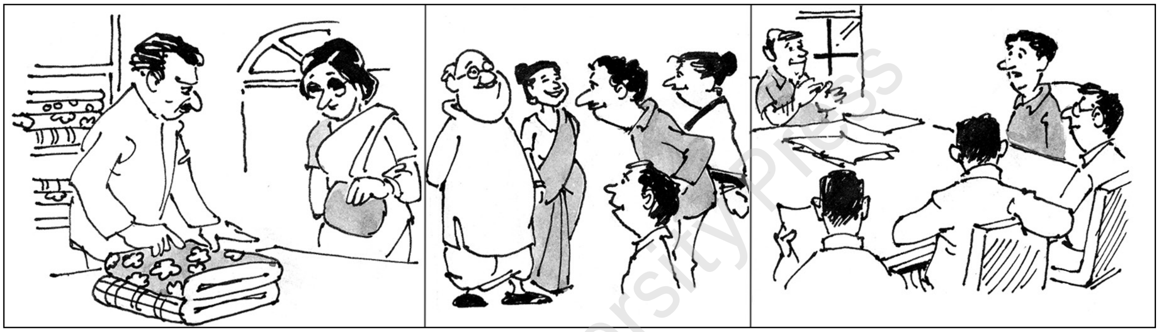
Communication between human beings and non-human entities is extra-personal. For example, when your pet dog comes to you wagging its tail as soon as you return home from work, it is an example of extrapersonal communication. A parrot responding to your greeting is another example. More than any other form, this form of communication requires perfect coordination and understanding between the sender and the receiver as at least one of them transmits information or responds in only sign language.

Intrapersonal Communication

This takes place within the individual. We know that the brain is linked to all the parts of the body by an electrochemical system. For example, when you begin to 'feel hot', the information is sent to the brain and you may decide to 'turn on the cooler', responding to instructions sent from the brain to the hand. In this case, the relevant organ is the sender, the electrochemical impulse is the message, and the brain is the receiver. Next, the brain assumes the role of sender and sends the feedback that you should switch on the cooler. Then the process is complete. This kind of communication pertains to thinking, which is the basis of information processing. Without such internal dialogue, you cannot proceed to the further levels of communication—interpersonal and organizational. In fact, while we are communicating with the other party, internal dialogue with oneself continues concurrently—planning, weighing, considering, and processing information. You might have noticed that at times you motivate yourself or consciously resolve to complete a certain task. Self-motivation, self-determination, and the like take place at the intrapersonal level.

Interpersonal Communication

Communication at this level refers to the sharing of information among people. To compare it with other forms of communication, we need to examine how many people are involved, how close they are to one another physically, how many sensory channels are used, and the feedback provided.



Informal Informal Formal

Interpersonal communication differs from other forms of communication in that there are few participants involved, the interactants are in close physical proximity to each other, there are many sensory channels used, and feedback is immediate. Also, the roles of sender and receiver keep alternating. This form of communication is advantageous because direct and immediate feedback is possible. If a doubt occurs, it can be instantly clarified. Note that non-verbal communication plays a major role in the interpretation of a message in this form of communication due to the proximity of the people involved.

Interpersonal communication can be *formal* or *informal*. For example, your interaction with a sales clerk in a store is different from that with your friends and family members; the interaction between the panel members and the candidate appearing at an interview is different from the conversation between two candidates waiting outside. Hence, depending upon the formality of the situation, interpersonal communication takes on different styles.

Moreover, most interpersonal communication situations depend on a variety of factors, such as the psychology of the two parties involved, the relationship between them, the situation in which the communication takes place, the surrounding environment, and finally the cultural context.

Organizational Communication

Communication in an organization takes place at different hierarchical levels. It is extremely necessary for the sustenance of any organization. Since a large number of employees are involved in several different activities, the need to communicate becomes greater in an organization. With a proper networking system, communication in an organization is possible even without direct contact between employees. This kind of communication can be further divided into the following:

Internal-operational All communication that occurs in conducting work within an organization is classified as internal-operational.

External-operational The work-related communication that an organization does with people outside the organization is called external-operational.

Personal All communication in an organization that occurs without purpose as far as business is concerned is called personal communication.

You will learn more about communication in organizations in the section: The Flow of Communication later in this chapter.

Mass Communication

For this kind of communication we require a mediator to transmit information. These are several mass media such as journals, books, television, and newspapers, which mediate such communication. Since the messages are for a large audience that is heterogeneous and anonymous, the approach is impersonal. Press interviews given by the chairman of a large firm, advertisements for a particular product or service, and the like take place through mass media. This type of communication is more persuasive in nature than any other form of communication and requires utmost care on the part of the sender in encoding the message. Oral communication through mass media requires some equipment, such as microphones, amplifiers, etc., and the written form needs print or visual media. The characteristics of this type of communication are as follows:

Large reach Mass media communication reaches audience scattered over a wide geographical area.

Impersonality This kind of communication is largely impersonal as the participants are unknown to each other.

Presence of a gatekeeper Mass communication needs additional persons, institutions or organizations to convey the message from sender to receiver. This 'gatekeeper' or mediator could be a person or an organized group of persons active in transferring or sending information from the source to the target audience through a mass medium. For example, in a newspaper the editor makes choices and decides which news makes it to the hands of the reader. The editor is therefore the gatekeeper in the mass communication process.

THE FLOW OF COMMUNICATION

Information flows in an organization both formally and informally. *The term formal communication refers to communication that follows the official hierarchy and is required to* *do one's job*. In other words, it flows through formal channels—the main lines of organizational communication. Internal-operational and external-operational communication can be described as formal. In fact, the bulk of communication that a business needs in order to operate flows through these channels. For example, when a manager instructs a subordinate on some matter or when an employee brings a problem to a supervisor's attention, the act of communication is formal. Similarly, when two employees interact to discuss a customer's order, there is a formal communication. Information of various kinds flowing through formal channels, such as policy or procedural changes, orders, instructions, confidential reports, etc., is classified as formal communication. This type of communication can flow in various directions—downward, upward, lateral, or diagonal—as shown in Figure 1.2.

Downward Communication

Downward communication flows from a manager, down the chain of command. When managers inform, instruct, advise, or request their subordinates, the communication flows in a downward pattern. This is generally used to convey routine information, new policies or procedures, to seek clarification, to ask for an analysis, etc. Also, superiors send feedback about their subordinates' action through this channel. Such communication increases awareness about the organization among subordinates and employees and enables managers to evaluate the performance of their subordinates. Downward communication can take any form—memos, notices, face to face interactions, or telephone conversations. However, this should be adequately balanced by an upward flow of communication.

Upward Communication

When subordinates send reports to inform their superiors or to present their findings and recommendations, the communication flows upward. This type of communication keeps managers aware of how employees feel about their

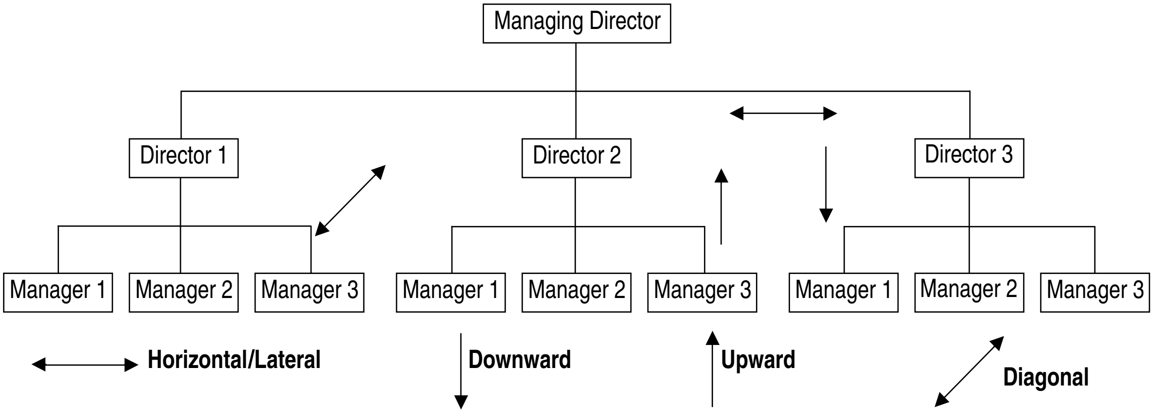


FIGURE 1.2 FLOW OF COMMUNICATION IN AN ORGANIZATION

jobs, colleagues, and the organization in general. Managers also rely on upward communication for making certain decisions or solving some problems which concern the organization.

The extent of upward communication, especially that which is initiated from at the lowest level depends on the organizational culture. In an open culture without too many hierarchical levels, managers are able to create a climate of trust and respect, and implement participative decision-making or empowerment. Here, there will be considerable upward communication. This is mainly because employees provide the input for managerial decisions. In a highly authoritative environment, where downward flow dominates, upward communication still takes place but it is limited to the managerial ranks. Suggestion boxes, employee attitude surveys, grievance procedures, superior-subordinate decisions (decisions taken for the subordinate by his superior), review reports, statistical analyses, etc. provide restricted information to top management.

Lateral or Horizontal Communication

This form of communication takes place among peer groups or hierarchically equivalent employees. Such communication is often necessary to facilitate coordination, save time, and bridge the communication gap among various departments. Occasionally, these lateral relationships are formally sanctioned. But generally, they are informally created to bypass the formal hierarchical channels and expedite action.

From the organization's point of view, lateral communication can be either advantageous or disadvantageous. As compared to vertical (downward or upward) communication, which can at times impede and delay timely and accurate transfer of information, lateral communication can be beneficial. Nevertheless, they can also create conflicts when formal vertical channels are bypassed by employees in order to accomplish their goals, or when superiors find out that they had not been consulted before certain decisions were taken.

Lateral communication enables the sharing of information with a view to apprise the peer group of activities of a department. The Vice President (Marketing) sending some survey results in the form of a memo to the Vice President (Production) for further action is an example of lateral communication. This type of communication is very vital for the growth of an organization as it builds cooperation among the various branches. In such organizations where work is decentralized, it plays a greater role because there is a higher probability of communication gaps.

Diagonal or Crosswise Communication

Diagonal or crosswise communication flows in all directions and cuts across functions and levels in an organization. For example, when a sales manager communicates directly with the Vice President (Production), who is not only in a different division, but also at a higher level in the organization, they are engaged in diagonal communication. Though this form of communication deviates from the normal chain of command, there is no doubt that it is quick and efficient.

In some situations, ignoring vertical and horizontal channels expedites action and prevents other employees from being used merely as conduits between senders and receivers.

The increased use of e-mail also encourages crosswise communication. Any employee can communicate via e-mail with another employee, regardless of the receiver's function or status. Since there is no specific line of command, diagonal communication is also referred to as crosswise, radial, or circular communication, depending upon the structure of the organization. For instance, a Managing Director could directly call a supervisor and give instructions.

THE IMPORTANCE OF TECHNICAL COMMUNICATION

Technical communication plays a pivotal role in an organization, whether it is a business enterprise, an industry, or an academic institution. All managerial or administrative activities involve communication, be it planning, organizing, recruiting, coordinating, or decision-making. When you write reports, give instructions, or read brochures and manuals, you are involved in the process of communication. Communication serves as an instrument to measure the success or growth of an organization. For example, papers published by research and development organizations bring to light their progress.

The success of any organization is largely recognized by the quality and quantity of information flowing through its personnel. When the CEO of an organization presents his company's achievements in a meeting, each of the participants comes to know of these milestones. The various types of communication not only help an organization to grow, but also enable the communicators to develop certain attributes.

Sadly, though most professionals are well aware of the importance of communi-cation, they do not develop their skills to good effect in this sphere of work. The higher your position, greater is your need to communicate. A labourer, for example, may not be as involved in communication as a top-level executive. The more you participate in the communication process, the better you develop your skills in collecting and organizing information, analyzing and evaluating facts, appreciating the difference between facts and inferences, and communicating effectively. If you wish to become an effective communicator, you need to communicate, communicate, and communicate. There is no other way out.

Technical communication in an organization can be divided into two parts: oral and written. Both are equally important, as it cannot be specified which of these is used more in an organization. Some forms of oral and written communication in an organization are summarized in Table 1.2.

TABLE 1.2 FORMS OF ORAL AND WRITTEN COMMUNICATION

Oral forms	Written forms
Face-to-face conversations	Memos
Telephone conversations	Letters
Meetings	E-mails
Seminars	Faxes
Conferences	Notices
Dictation	Circulars
Instructions	Newsletters
Presentations	Reports
Group discussions	Proposals
Interviews (employment, press)	Research papers
Video conferences	Bulletins
Voice conferences	Brochures
	Manuals
	In-house journals

It is not necessary that all these forms of communication should exist in an organization. If the organization is very large, for example, a university with various affiliated institutions, or a business enterprise with branches across the nation and abroad, it may have all these forms of communication, whereas a smaller educational institution or business may not have all of them. However, an organization becomes an organized whole because of its communication. It is this communication which enables employees to work together. It is the vehicle through which management performs all its functions. It is impossible for an organization to survive without communication, for all its activities would come to a standstill. Therefore, its importance can never be ignored.

EXERCISES

1. State whether the following statements are true or false. Justify your answer in 100 words each.

(i) Communication in an organization means sharing of thoughts, ideas, feelings, and emotions.
(ii) There is no difference between general-purpose communication and technical communication.
(iii) Your communication will be very effective if you use impressive vocabulary and correct grammar.
(iv) Oral communication is more advantageous than written communication as you can clarify your point after observing the response of the receiver.
(v) Since language is recursive in nature, the user can produce innumerable sentences.
(vi) Technical knowledge, even without communication skills, can make you a successful manager.
(vii) The message sent is not always the same as the message received.

2. Answer the following questions in about 200 words each.

(i) Define the communication process. Also explain it with the help of schematic representation.
(ii) How is feedback important in communication? Give two examples of delayed feedback.
(iii) Explain the flow of communication. Illustrate it with examples from the existing communication patterns in your college/institute.

3. Projects

(i) Visit a few organizations (academic institutions/ business enterprise/ industries) in the neighbouring area and find out the communication patterns existing there. Classify them into oral and written categories. Also find out the direction in which these flow. Prepare a two-page report on each of your visits.
(ii) Discuss characteristics of language with your friends and collect more examples to illustrate them.