Lesson no 1:

Basics of communication process

Communication is a process by which people talk in a way that everyone understood the message being conveyed. It is an in-built function in our day to day activities. Its basic function is the creation of meanings. Meanings exists in people’s mind not in the word or a sentence. Meanings are not communicable in nature. There are four types of meanings.

Denotation is precisely to its literal meaning. It is perceived through visible concepts. The structural meaning is the sign to sign relationship e.g; “He is running”. In this sentence running is a verb. Moreover “Running is good for health”. In this sentence running is a noun. Contextual meaning is actually mental ability test. It changes from person to person in respect to their mental ability. It has different meanings in different context. For example: right, left, bear, dear and bat. Connotative meaning is a relationship between a sign, an object and a person. Words may have value or enormously personal meaning in this case. Connotation is more personal, and it varies more among people. e. g. The term “MY MOTHER” has the connotative meaning based on sum total of all of our previous experiences that is our own mothers, other people’s mothers, and all of the situations in which we have used or heard this word. It is, however, impossible for people to agree completely and consistently on the connotative meaning of any word.

There are three main purposes of communication. The main purpose is to inform through education that is a demand to mind. The other one is to persuade that is an appeal to soul or our emotions through some propaganda. The last one is to entertain like entertainment programs. We are constantly trying to understand ourselves and other people around us through communication.

There are many implications of communication. **Communication is the primary means by which people obtain and exchange information. Information and communication represent power in organizations. Communication is a linking process of management.** Communication is the way managers conduct the managerial functions of planning, organizing, staffing, directing, and controlling. A person can talk, listen, read, write and watch. So people spend a great deal of their time communicating in some ways with others.

The main ingredient of communication is a source that may be a person. Person convey messages in the form of code that is encode or decode. Then a message conveyed which is a treatment. Then a channel which spread it through noise or distortion. The last one is receiver who gave a feed back to the message being conveyed. Communication takes place by many means, at many levels, with many people, in many ways, for many reasons. It is a two way process, where constant reversal of role is there. Individual’s capabilities of organization and converting raw sensory data into functionally consumable or process able units of information. Communication reliability varies from one communication situation to another. Fidelity is the faithful performance of all the element of communication process. Perfect communication is very rare and effectiveness of communication varies with situation.

Lesson no 2:

Types of communication

The aim of communication is to bring unity of understanding of meaning between source and receiver. There may be different types and methods of communication. **Mass Communication** is directed towards a relatively large, varied and unidentified audience. The features of mass communication are: The message is addressed “To whom it may concern” from Communicator’s point of view. Since the messages are meant to reach a large audience within a short time. It is often timed to reach most audience-members, at the same time. Messages are usually intended to be consumed immediately. The individual member of the audience generally remains personally unknown to the communicator. There is a lack of instant feedback from the audience. Mass contact methods contain campaigns, exhibitions, circular letters and extension publications. Campaign is an exhaustive teaching activity undertaken at an appropriate time, for a brief period, focusing attention in a focused manner on a particular problem. It must be directed towards the solution of a problem being supposed by majority of the people. It emphasis on a single idea at a time. Exhibition is a systematic display of models, specimens, charts, posters, etc. in a sequence, so as to convey some significant information.

In interpersonal communication, each individual functions both as a source as well as receiver of message. In this type a person plays a double role. It may be: Between 2 persons, between several persons, between Persons to Group Communication.

Group communication possesses at least 3 characteristics common to Interpersonal Communication. In Group Communication, it is possible for an individual member to determine the needs of the other members of the group and to adapt to them to that effect, more easily. Group contact methods include lectures, group discussions, group meetings, conduct farms, field tours, method demonstrations, result demonstrations, quizzes, questions and seminar. Delphi-technique (A flexible forecasting and/ or decision-making technique, wherein the help & co-operation of a group of experienced people is sought out to arrive at any appropriate/ reasonable decision.)

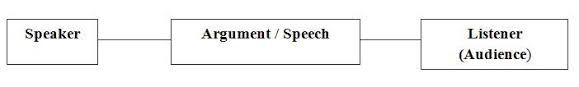
Organizational communication is the “life and blood” of any organization, and it occupies a planned place in administration. Performance of any Organization can be adjudged on the basis of effectiveness and efficiency of its communication system. Organizational communication classified into informative communication (e.g. Circular), instructive communication (e.g. Memo), evaluative communication (e.g. Confidential Report), persuasive communication (e.g. Explanation).

A well-established communication network in any organization is not a guarantee of effective communication! For instance, merely organizing frequent conferences and meetings, or sending out so many circulars, reports can’t help the people. People in any organization attach meaning according to their taste & liking in the communicated messages. For effective communication, the common frame of reference between the communicator and the receiver in any organization is an essential condition. In order to communicate with the students, the teachers must bring themselves down to the level of knowledge, understanding and comprehension of the students. A better communicator is one who has respect for the facts, and is willing to share them with people who can make good use of those facts. Informal communication can be a great source for maintaining the health of the administration. For example; Get-together, Picnic, Social calls, Tea-clubs, etc.

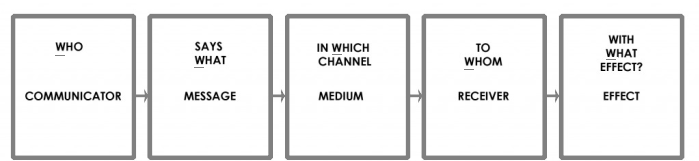
Lesson no 3:

Models of communication

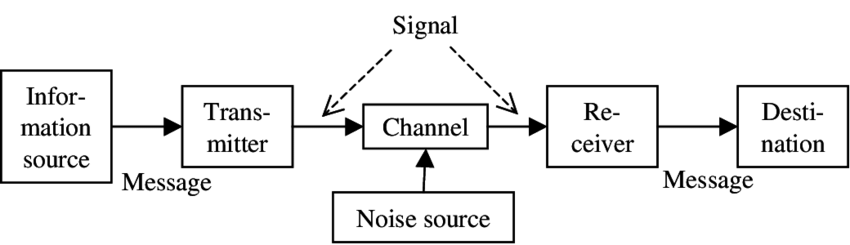
Models are used to show size, shape or connection of various parts or mechanisms of an object or process. These are the symbolic representations of structures, object or operations. Models are a useful way to inspect the working of any phenomenon.



This is a model of communication given by Aristotle. He proposed model before 300 B.C who found the importance of audience role in communication chain in his communication model. This model is more focused on public speaking than interpersonal communication. Aristotle Model of Communication is formed with 5 basic elements; speaker, speech, occasion, audience and effect.

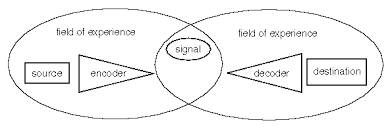


The above model is given by “**Lasswell”**. Lasswell’s model of communication is regarded as one the most influential communication models. Lasswell’s model was developed to study the media propaganda of countries and businesses at that time. Only rich people used to have communication mediums such as televisions and radios back them. It was made to show the mass media culture.

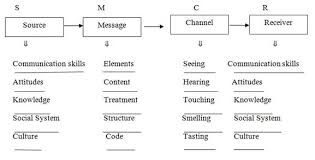


This is a model given by Shannon and weaver. According to them Communication will be used, in a very broad sense to include all the procedures by which one mind may affect another’s. This involves not only written and oral speech, but also all human behavior.

Noise is the label for any alteration that delays with the transmission of a signal from the source to the destination. For example Image / Picture distortion on T.V. The Receiver is a kind of converse transmitter, changing the transmitted signal into message, and passing this message on to the destination.



This is a model given by schramm. According to the Schramm's model, coding and decoding are the two essential processes of an effective communication. He also emphasizes that the communication is incomplete unless and until the sender receives a feedback from the recipient.



Basic elements of berlo’s model are source, message, channel and receiver. According to this model, sources encode messages and send it through channel and then receiver decodes the message. Thus commonality is achieved between source and receiver.

Lesson no 4:

Verbal and non-verbal communication

The process of communication has got two scopes: verbal and non-verbal communication. Verbal communication is the use of sounds and words to express yourself, especially in contrast to using gestures or mannerisms. An example of verbal communication is saying “No” when someone asks you to do something you don’t want to do. It is the process of sending and receiving messages with words, including writing and sign language. Non-verbal communication refers to: gestures, postures, facial expressions, symbolic clothing and similar other phenomena.

There are three types of non-verbal communication: one is facial expressions that include emotions like happiness, fair, sadness, anger and surprise. One is eye behavior and kinesics that is study of body movement.

Emblems, Illustrations, Regulators, Affect displays, Body manipulators, Personal appearance these are the classes of specified body expressions. Intimate Distance, Personal Distance, Social Distance and Public Distance are the spatial zones of interpersonal communication. Paralanguage is the variations in the voice. It includes vocal characteristics, such as, pitch, range, tempo, resonance and quality and various vocal sounds, such as, grunts, groans and clearing of the throat.

Wherein nonverbal signs emanate from bodily actions, like Facial Expressions, Eye-Movement, Gestures, Body Posture, Tactile (the Sense of Touch/Contact) and Olfaction (the sense of smell). A special Sub-Category of performance codes encompasses paralinguistic Phenomena, such as: Voice quality, Sighs, Yawns, Laughter and Grunts etc. Artifact is a thing made by people, especially a tool or a weapon of historical interest like Manipulation of Dress, Cosmetics, Furnishings, Art objects, Status symbols and Architecture etc.

Where nonverbal signs arise from Selections, Arrangements and Inventions within the media; e.g. · An Editor can crop a photograph in various ways for example He can select a photo or a drawing; He can choose Black and White or Colored Photograph; etc., A film maker can select close-up or Long shot; He can add music or sound effects; He can Re-arrange his shots into a new syntax.

Where nonverbal signs arise in the use of time and space communication systems, and in the arrangements of communicators and their artefacts. Temporal is equal to relating to the affairs of the world e.g. Politics of this Life; Not spiritual of or relating to time of the Temple of the Head e.g. Rang De Basanti.

In many occupations, establishing credibility and trust is a significant success factor. Using nonverbal behavior (like eye contact, for instance) can further demonstrate your sincerity and engaging personality. **Nonverbal communication** is the act of conveying a thought, feeling, or idea through physical gestures, posture, and facial expressions. A study conducted at UCLA found a majority of communication to be nonverbal, although the study’s exact statistics which showed only 7% of any message to be relayed through words, 38% through vocal elements such as tone, and 55% through nonverbal elements such as posture and gesture are often disputed.

Lesson no 5:

Barriers to communication

Anything that prevents understanding of the content is a barrier to communication. Sender sends the message, which goes through the channel, but it is exposed to above barriers and is then received by the receiver. These barriers soften the message and it can be overcome through active listening and feedback.

The ways that are concerned with the communicator includes: Unsuccessful environment, like, Physical services; respect & gratitude of others’ views; rapport-building with audience; etc. Wrong Concept of communication Process, i.e. one’s idea or timing about communication will affect the overall quality. Confused efforts to communicate, Knowledge about social organization & its Cultural Values, like possessing the attribute of empathy. Empathy is the ability of an individual to put himself in the other peoples’ condition. Standard of social responsibilities, for example; one must undertake the responsibility for the effect of one’s communication on the defendant.

The habits that are concerned with the transmission of messages include; wrong handling of the communication channels, wrong selection of the communication channel, physical distraction or noise and use of improper combination of communication channels.

The customs that are concerned with receiver includes; attention of the listeners towards the message being conveyed, standard of correctness, i.e.; use of correct language, appropriate words/symbols etc. knowledge about the matter or the topic being discussed, deficiency of co-operation, contribution and connection, lack of comprehension and presence of too large audience.

There are three types according to the types of problems that are technical problems, semantic problems and influential problems. Technical problems are especially during the process of transmission of message from the source to receiver; noise. Semantic problems are the difference in the interpretation of meaning between sender and receiver. Influential problems are concerned with effectiveness of the message particularly in terms of response received from the receiver.

There are three types according to the nature of problems; that are physical, psychological and cultural problems.

Physical problems are the speech and voice defects, faulty body language, i.e. gestures and postures.

Psychological problems are the nervousness, stage- brightness, perception conceptual problem about the topic being discussed, attitudinal differences, etc.

Cultural problems are the differences between the culture/ religion and other background of speaker and the audience; etiquettes & manners; norms/values/beliefs/Customs and more.

Lesson no 6:

Oral presentations skills

Oral presentation is one of the instructional methods of training. Presentation is the practice of showing and explain the content of a topic to an audience or learner. In the business world, there are sales presentations, informational and motivational presentations, first encounters, interviews, briefings, status reports, image-building, and of course, the inevitable training sessions.

There are some effective tips for oral presentation: Any speech you make must have some drive to entertain, charm, teach, interact, sell an idea or product, or ask for some action. In case spectators are odd, then introduce yourself, but avoid pointless information. There are far more types of audiences because listeners have countless flavors. When an individual stands up to deliver a presentation before an audience, it’s vital that the audience know who the announcer is, why they are there, what exactly they expect to get from your presentation, and how they will react to your message. Practice your presentation until you feel relaxed. Make sure you can present your information within limited time frame. It is better not to speech at all than to read a speech, regardless of how useful, well prepared and expressive it may be.

You are not prepared, no need to announce it in public speaking, because audience never notices it. Always speak in terms of what the audience wants and what you want. Opening should be effective for making your presentation a success. Change your eye-contact around the room, so that everyone feels that you are talking to them. Nonverbal communication plays a vital role in transfer of message. So, for actual presentation your motion, carriage and body movement should match with your verbal communication.

Eloquence is one of the most important limitation for effective communication. Without a smooth flow of speech, you are handicapped as a speaker. Make it clear that you are well-informed and keen about your subject. Add suitable examples and humor for effective understanding.

Make sure that everyone can easily see the visual helps. Don't use visual aids that are so compound that the audience will spend its time trying to read them instead of listening to you. Skillful use of properly selected visuals makes your presentation easier and more effective. People can only listen so long without their attention travelling. Build in some simple and quick activities for your audience so that they are actively involved in your presentation. Ask questions that you are confident your audience will be able to answer. Recurrence pauses and variations in voice for emphasis are desirable in oral presentation. You must come to an early and appropriately end after reaching the climax. Make it a point to stop at a time, when audience feels you should stop.

Lesson no 7:

Listening and Note-Taking

Hearing, which is only one part of the attending process, mentions to the bodily act of getting sounds. It is an inactive process that occurs when we are in sleep. Listening on the other hand is effort. There are seven types of listening that are active listening, passive listening, appreciative listening, conversational listening (It implies a constant exchange in the roles of speaker and listener), courteous listening, critical listening (In the term of analysis and evaluation) and discriminative listening( e.g. Students taking notes in a class).

There are six stages of listening. First is hearing that is the reception of sound waves. Second is attention that is selective perception of stimuli. Third is understanding that is interpreting symbol. Fourth is remembering that is symbols in memory bank. Fifth is evaluating that is rendering judgement of messages. Sixth is responding that is to message source.

Hearing refers to the response caused by sound waves stimulating the sensory receptors of the ear. Our minds are continually shelled by countless incentives from the world around us. However, your brain shades these stimuli and licenses only a few to come into focus. This choosy awareness is known as attention. Remembering is important to the listening process because it means that an individual has also added it to the mind’s storage bank. This stage of the process requires that the receiver complete the process through verbal and/or nonverbal feedback.

Environmental setting, the message source (Speaker’s image/reputation/credibility etc.), the message, channel, and the listener: (a) listener’s attitude (b) listener’s needs (c) listening habits are the factors that effects listening. Note-taking is the practice of recording information captured from a transient source, such as an oral discussion at a meeting, or a lecture. Notes of a meeting are usually called minutes. Note-taking is an important skill for students, especially at the college level. Many different formats are used to structure information and make it easier to find and to understand, later.

The Cornell Method is based on two columns: one containing the keyword or concept, and the other containing the description or notes associated with the keyword or concept. At the bottom of the page you should write paragraphs summarizing the information contained in the notes. A mind map is a diagram in which ideas, concepts and images are linked together around a central concept, keyword or idea. Charting is effectively a table of rows and columns. The top row normally classifies the concept with descriptions or keywords listed in the row below. This method enables you to quickly identify facts and their relationships with other information. With the sentence method, you simply write every new concept or topic on separate line. You can also number the information if you wish. It is recommended that you use some form of visual aid to group related points together.

Taking notes in class is one of the most effective ways to understand the material being presented in class. Always bring enough paper and a writing instrument of your choice to class. Put the date on the top of the first page. You will not be able to, even if you can write very fast.

Lesson no 8:

Writing skills

Communication skills include verbal and non-verbal communication skill. Writing skills are of major importance in written communication. Appropriate and need-based from intended audience’s view-point, use of simple language, use of shorter sentences, and use of comprehensible words, accuracy/correctness, clarity and brevity and use of relevant/appropriate examples for making things clear are the characteristics of good writing.

The study of plants and animals in their natural environment needs observations at all levels of organization from an individual organism to the ecosystem, and includes behavior, life history, characters, distribution, plenty, habitat, scenery and all kinds of interrelationships. A field-diary is a permanent record of observations and, if it is to fulfill its purpose, it should be useful and comprehensible to others, perhaps long after the author is dead. The standard field- diary consists of three components: diary, species account and catalogue.

The field-diary is the nucleus of your field-records. It is a precise daily account of your many observations, and it should be given high priority, even when you are short of time or exhausted. If you want to know everything you noted about a particular species you don't have to stride through pages of daily journal to find the reference; each species will have a page to itself.

The standard field-diary is written up directly, without transcribing field notes, but this requires a discipline and a life-style which is not reasonable to expect on a trip like ours. The field - diary and species accounts should be written in black, water-proof, fade-proof pigment ink on one side of good quality paper. Laboratory-records & notebooks, if used properly, can serve as the basis of beginning of ideas. They can also serve to help in patent prosecution by enabling the scientists to swear behind a quoted reference.

Do use a bound notebook, do attach to your lab notebook loose notes, e-mails, letters, graphs, figures and charts containing any part of conception of an idea or result of an experiment, record all the original data in the bound laboratory notebook and NOT on scratch paper. Be sure to include what is being measured as well as the correct units. Any data that appears to be useless or wrong, draw a single line through so it is still readable. After careful analysis, you may find that the measurement is valuable, do not use binders, loose leaf or spiral notebooks, do report completed experiments in the past tense and do use a table of contents to provide cross references. These are the general guidelines for keeping lab records and notebooks.

Do clearly define what you/your laboratory mean by electronic notebooks. To some, data generated on a computer and affixed to a paper notebook is an electronic notebook. To others, saving data on the desktop or hard drive of their computer is an electronic laboratory notebook, do store your electronic notebook contents on unchangeable mediums, CD-R, or in an electronic archive that cannot be modified and do restrict access to the electronic notebook using key and screen locks, and/or passwords. These are the some tips for electronic notebooks.

Lesson no 9:

Technical writing

Technical Writing is used in all fields of science, technology, agriculture, engineering and social sciences. It is an art of recording information on specialized fields accurately and effectively and passing it on to those who have to use and process it. It has to be clear, simple and well-ordered communication to transmit the facts and findings. The typical undergraduate students regard the writing of reports as a dull and superfluous chore. One of the main reasons for this state of affairs is that the undergraduates particularly in their earlier years-seem to have very little to say.

At some time in their career, they acquire some information or some idea that they want to pass on to others. This is when they need to acquire skills in technical reporting. Only through a full exchange of information can the various divisions of large organization co-ordinate their efforts effectively. But even a small organization has a vital need for accurate technical reporting. In many of the scientific organizations, particularly those doing experimental work or research, the young employee’s chief communication with his superiors is through his written (or oral) reports.

Their only tangible product is the report. If they are to have anything to show for their efforts, they must do thorough job of reporting. Reports have achieved a recognized position of importance in our technological world. Technical Reporting is different from creative writing because it deals with scientific facts and does not present an imaginary view of reality. It is always precise, exact, and to the point so that it may have the desired effect on the reader and lead to the required action. Journals publish technical material on specialized fields and are circulated amongst the scientists and scholars. All types of articles such as technical articles; semi-technical articles; popular articles; research papers and dissertations, theses and technical bulletins are covered under the domain of technical writing.

Industrial reports are must for spread of latest advances in the vast field of Industry. Service manuals and guidance manuals are efficient tools to provide specifications to the users. Every written communication has a specific purpose and a specific audience. It should be carefully planned and constructed to fit both. Any communication, if it is to be effective and efficient, must be designed for the needs and the understanding of a specific reader or group of readers. One must, therefore, have adequate knowledge of the educational and professional background of the readers. The language and style of the report depends, to a great extent, on the academic and professional background of its readers.

The subject of the report primarily determines the nature of the contents. Report writing is meaningless when the writer is not clear about the subject of his report. However, the detailed aspects of the contents are determined by the purpose for which the report is written. Any form of scientific writing always begins with the general statement about its nature and scope. The most common fault found in most of the scientific reports is the burial of the really important and significant ideas under a mass of details. One sure way to stress important information is to remove unessential material. On the other hand, you may need to include a lot of details for record purposes. If you do, you can usually put them into an appendix leaving your main discourse uncluttered.

Lesson no 10:

Forms of scientific and technical writing

Technical writing is used in all fields of science, technology, agriculture, engineering, social sciences, and even the humankinds. Scientific and technical writing may take the form of reports, articles, papers, dissertations and theses, manuals, and correspondence. Reports, articles, research papers, theses, manuals and scientific correspondence are the several forms of technical and scientific writing. The most important types of scientific and technical reports are form reports, article reports, and formal reports such as research papers, dissertations and theses. The report writer has to fill in the columns and give the required facts under different heads. It is a true statement of facts, figure, or data, which form the basis for the evaluation of work in an institution or organization.

The use of headings and subheadings, tables and figures, charts and graphs, etc. is made for effective communication of facts and findings. Formal reports involve big institutions, scientific organizations, and technical establishments. A formal report takes the shape of a book and is divided into many chapter and sections. Articles may communicate knowledge on a particular subject for preservation and dissemination of ideas. Technical articles contain highly specialized information and involve the use of technical vocabulary and scientific abbreviations, which are understood by experts belonging to a particular discipline. The scope of semi-technical articles is much broader as they can also be understood and used by people working in similar disciplines. These articles are also published in scientific journals but they have wider readership.

The use of technical vocabulary and abbreviations is, therefore, avoided. These articles are published in periodicals and journals of common interest and are widely read. A scientific experiment, no matter how spectacular the result, is not complete, until the results are published. Only this way, new scientific knowledge be authenticated and then added to the existing data base that we call science. These papers are published separately or included in journals of research brought out by universities and other educational institutions. A scientific paper is primarily an exercise in organization. Each scientific paper should have, in proper order, its introduction, materials and methods, results and discussion.

A dissertation is based on a student’s research on a particular subject. A thesis is also based on the research work of a student or a scholar. While the term “dissertation” is modest in connotation, the term “thesis” is high sounding; the former should, therefore, be preferred while referring to the research work done by a student at the master’s or doctoral level. Information brochures, instruction books, guidance manuals and style manuals contain useful information for the users. Manuals should, therefore, be written with great care to have the desired effect. Many industrial establishments engage experts to do this job.

Scientific communication may be in the form of correspondence between two different organizations or within the same organization for vertical and horizontal flow of scientific information. They help in recording technical information, making and seeking recommendations on scientific and technical matters, providing clarifications, coordinating projects, initiating action, and meeting many other requirements of different institutions.

Lesson no 11:

Features and style of technical and scientific writing

The former concerns grammar, usage, spelling, capitalizations and punctuation, the latter concerns the organization of ideas through proper choice of words, arrangement of words into sentences, grouping of sentences into paragraphs, sections and chapters. Scientific and technical writing is different from literary writing in a number of ways. Hence, the style of writing adopted is generally simple and concise. Scientific and technical writing is objective in content and systematic in form. Every written communication has a specific purpose and a specific audience.

The primary objective of technical writing is to transmit information briefly, clearly and efficiently. The first step towards a simple and clear style is to use simple language. The first and foremost objective of the technical report is to enable the readers grasp its meaning quickly and accurately. To achieve this objective, use of simple, plain and short words is recommended in technical writing. Concrete nouns name objects or things that can be perceived by the senses Abstract nouns tend to be general and vague. For simple, clear style, eliminate from your writing every word that does not contribute to the meaning or clarity of your message. Don’t use words that add nothing. On the other hand, don’t eliminate so many words that you’re writing reads like a telegram.

It is very correct that there are three unfilled vacancies in the directorate of the company. The wages vary in relation to the age and experience of the employee. It is considered that the entire exercise appears to be a waste of time. Terminology is useful and often necessary in technical communication restricted to people working on the same or similar subjects. Jargon is a special language of a particular field or profession. The Jargon of any given field is often the most efficient means of communication within that field. Colloquial diction is a language that reads like spoken English. In some contexts, colloquial diction is perfectly appropriate.

A cliché is a trite (stale or stereotyped), overused expression or combination of words. But when such a phrase is used over and over again, it becomes so familiar that it loses all impact. In the passive voice, the subject is the receiver of an action rather than the doer of it. Passive voice is employed by writers when they want to evade or conceal the responsibility for someone’s behavior. The passive voice may be preferable, for example, when the real doer of an action is either unknown or, in the context of a discussion, relatively important. A common failing of technical writers is the expression of ideas of unequal importance in constructions that seem to give equal weight. Meaning can be grasped more quickly and more easily if subordinate ideas are indicated and put in subordinating constructions. A sentence should express the main thought in a principal clause. Less important thoughts should be expressed in subordinate clauses. This machine has been imported from Japan and it is easy to operate.

Lesson no 12:

Mechanics of styles; footnotes; bibliographic procedures

“Mechanics of Style” is equally important and has a bearing on the clarity of the writing. Abbreviations and symbols used in scientific writing generally contribute to economy of words and clarity. Symbols need not always bear a direct relationship to the words that they present. Symbols of units are generally standardized within each system of measurement. There are no absolute rules about abbreviations. However, there are certain guidelines that you may follow in abbreviating names and technical terms. A period is not used at the end of the abbreviated form of the word if the abbreviation includes the last letter of the word; a period is used if the abbreviation does not contain the last letter.

In names consisting of several words, the abbreviation is generally formed with the first letter of the key words, each followed by a period. Some of them, after prolonged use, are treated like common words, as Unesco etc. Some names consisting of several words are abbreviated by selecting more than one letter from each key word, and the first letter of prepositions and articles, where necessary. In abbreviating units of measurement consisting of more than one word, the standard practice is to retain the period after each word unless the name refers to the product or combination of the units represented by the individual words.

Abbreviated names of units are preferred in all tabulated information and numerical data accompanying illustrations. If your reader is not likely to be familiar with an abbreviation, define it the first time it occurs in your writing. Abbreviations for words are written without intervening space, and the general tendency is now to eliminate the full stop not only between the letters forming an abbreviation, but also at the end. The abbreviations, except for those desired from proper names, are written in lower case, in roman with no end, or middle full stops. Footnotes have a pronounced effect on style, general tone and clarity. It interrupts the reader. If he reads it, his eyes must make an excursion to the bottom of the page; and when he is through, he must find the place where he departed from it. When we borrow the words or ideas of somebody else, we must give credit for them.

Explanatory Footnotes can practically never be justified on the grounds of necessity. Explanatory Footnotes should either be integrated into the main text or put in parenthesis, if they are of secondary importance. We keep a list of books, articles, and other sources that seem promising for our paper. Our preliminary reading will probably provide the first titles for this list. The working bibliography will frequently change as new titles are added and those that do not prove useful are eliminated. Many instructors recommend that students use index cards to compile the working bibliography. These cards can be arranged and rearranged as per the need. Index cards also allow us to divide sources into groups. A computer file is created for the working bibliography, and titles are entered as we proceed with the research. The file can be revised by additions or deletions as per the requirements and then saved for the future use. When we add sources to the working bibliography, we have to be sure that we have all the publication information needed for the works cited list. The working bibliography functions as an efficient tool for finding and acquiring information and ideas and, on the other, provides all the data we need for the list of works cited.