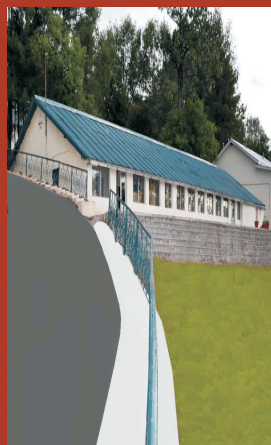


UNDERSTANDING EDUCATIONAL MANAGEMENT

A Handbook for
Teachers and the Taught



Brigadier (R) Muhammad Asif Sheikh, SI (M)

Understanding

EDUCATIONAL MANAGEMENT

A Handbook for Teachers and the Taught

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UNDERSTANDING EDUCATIONAL MANAGEMENT

**A Handbook for
Teachers and the Taught**

Brigadier (R) Muhammad Asif Sheikh, SI (M)

Dedicated to:

my Alma Mater, Gordon College, which has produced generations of Gordonians, who are serving the nation and humanity as enlightened, enthused, proud and productive members of society;

and to Burn Hall Abbottabad (the Alma Mater of my sons Ali Asif and Wajih Asif, and my daughter Marriam Asif), a leading public school, known for its values, ethos and an enviable history of preparing the youth to serve the nation and humanity as leaders and professionals, while displaying an unyielding resolve to uphold the lofty traditions of their alma mater;

and to the erstwhile College of Army Education, Upper Topa Murree (the best teachers' training institution in the country), which enabled thousands of marginally qualified soldiers to lead a respectable life as trained teachers after retirement from the Army.

Foreword

I take it as an honour to have been asked to write this foreword to Understanding Educational Management by Brigadier Muhammad Asif Sheikh, SI (M). Though I have known Brigadier Asif for the last nearly three decades, our first official interaction as a teacher and a student dates back to 1996. I have the privilege to have taught him Instructional Technology and Measurement and Evaluation, as a student of Officers Advance Course 11/96, (OAC 11/96) run at the erstwhile College of Army Education (CAE), Upper Topa Murree.

On behalf of my colleagues and on my own behalf, I express our profound gratitude to Brigadier Asif for the very encouraging views, he has so generously expressed, about the faculty of CAE detailed to teach OAC 11/96, in the preface to this book. There cannot be anything more heartening for a teacher than being remembered and acknowledged by his students after a lapse over a decade and a half. Such acknowledgment becomes more pleasing, when the acknowledging student happens to be someone like Brigadier Asif, who proved himself worthy of the reputation (he had earned even as very junior officer) of being an outstanding teacher himself, by securing first position in OAC 11/96. Despite being quite junior to Brigadier Asif and other participants of OAC 11/96, I had the privilege to teach as well as evaluate them as their instructor. But being evaluated so positively by the highest achiever of OAC 11/96 is, indeed, a singular honour, one can have as a teacher. Though not the senior most student of OAC 11/96, he outperformed his senior as well as junior course mates both in curricular and co-curricular course components, without compromising on his personal extra curricular engagements.

Although I already knew that Brigadier Asif never let learning opportunities go adrift un-availed, particularly when offered in an unconventional manner, I was honestly not aware of the

meticulousness and seriousness, with which he took formal studies. OAC 11/96 had “made or marred” status for the participating officers, as their further progression in career nearly solely depended on their performance in the course. Despite its status and significance, Brigadier Asif gave the impression of being totally relaxed during the course. But after having gone through the contents of this book, I am taken aback by the amazing accuracy and details, with which he recorded, preserved, and has now reproduced what was taught to him more than fifteen years ago. After having studied chapters on: Instructional Technology and Measurement and Evaluation, (the subjects taught to the students of OAC 11/96 by me) with greater interest; I feel to have been absolutely weighed down by ineffable elation and a sense of having done something worthwhile. I am deeply indebted to Brigadier Asif for making me and my colleagues so proud of what we did in our humble capacity as the members of faculty of the CAE, and for having perpetuated and made widely known our contribution in the form of this book.

In this book, Brigadier Asif attempted to reproduce as much of the class discourses as he possibly could do. He has credited the entire contents of this book to his instructors, though; there is lots of additional equally useful information particularly in chapters on: Teaching - Learning Process and Language Teaching and Learning Process, which besides being reflective of the areas of his primary interest, have broadened the scope of book's readership. I am sure; owing to richness of its contents, presented in a typical didactic style, Understanding Educational Management, will a long way in enhancing the existing resources of veteran as well as novice trainers of both teachers and managers.

Brigadier Dr Sher Daraz Khan

Preface

I had the opportunity to attend Army Education Officers Advance Course 11/96 (OAC 11/96) at the erstwhile College of Army Education (CAE) Upper Topa Murree in 1996. Before attending the course, I had served primarily on instructional and staff appointments for more than sixteen years. Because of my fairly long experience as an instructor, I thought the course might not have much to offer to me and other equally experienced course participants. In fact, my experience of having served at leading military institutions made me suffer from undue intellectual conceit. However, within the first few days of OAC 11/96, I was compelled to change my views regarding the likely outcome of a year long course due to the variety and richness of its contents and the professional expertise of the officers detailed to teach us.

The course contents ranged from Educational Administration, Instructional Technology, Measurement and Evaluation, Educational Research, Curriculum Development, Guidance and Counseling to Management, Supervisory Management, Planning, Organisational Behaviour, etc. Our instructors, who were quite junior to their students, endeavoured to teach us in a professional and innovative manner, with an uncompromising sense of self esteem. The course was designed to train the participants both as educators and educational managers. Now, when I analyse the aims and objectives of OAC 11/96, in retrospect, I feel convinced that it did attain its professed objectives to a great extent.

Besides the usefulness of OAC 11/96, becoming a part of a lively crowd of elderly educators, turned students at an advanced age (we nicknamed OAC as “Old Age Course”), coupled with my boyhood romance with Murree Hills, made my

stay at Upper Topa from 1996 to 1998 (including two years that I spent at CAE as an instructor, after completion of OAC 11/96), rewarding and memorable. The presence of old contacts at Cecil Hotel, also contributed towards making stay at Murree more delightful, even at an advanced age of early 40s.

When an old friend suggested to develop modules for professional development of the faculties of educational institutions, which generally leaves much to be desired, I bought the idea, readily. After selecting ten to fifteen topics for proposed modules, I got down to collect requisite material from the available sources, starting from my personal collection of books and notes. Having “renounced” the practice of visiting public or institutional libraries since yesteryears, I turned to the internet for downloading the needed information. While searching material, I came across the worn-out notebooks, containing nearly illegible classroom discourses, I had scribbled as a student of OAC 11/96. My initial response to those notes was; I had come across a valuable treasure, comprising readymade modules, which sufficed to conduct a minimum one month workshop for the professional development of the faculty of an educational institution. The scrutiny and reevaluation of the notes, however, revealed that they could not serve the intended purpose without necessary revision and updating.

The modules contained in this book primarily consist of my revised and updated classroom notes. The extensive “cut and paste” exercise carried out for this purpose took me quite a bit of time, as it was not confined to downloading additional information from the internet; it involved practical cutting and pasting of material from one module to another. For example, “Communication within an Organisation”, “Training and Developing Employees” and “Informal Groups in an Organisation” were convenient and freely shifted from

Supervisory Management to Language Learning–Teaching Process, Organisational Behaviour, Human Resource Management, etc.

Though primarily compiled for the professionals, involved in the management of various types of activities relating to the process of education as a separate discipline; the book offers information to the readers interested in augmenting their existing repertoire of knowledge about teaching – learning process and management science. Particularly chapters on; “Language Teaching and Learning Process”, “Human Resource Management”, etc. may help the readers enhance their understanding about the complexities and techniques of learning or teaching a second language, and the management of human resource.

The information contained in this book has been taken from a variety of unknown sources, consulted by my teachers and a colleague (who downloaded the additional information from the internet to complete these modules). I have, therefore, acknowledged only the secondary sources of information contained in this book.

Brigadier (R) Muhammad Asif Sheikh, SI (M)

Acknowledgements

The contents included in this book have been taken from a variety of secondary sources, comprising notes I scribbled while attending classes as a student of Officers' Advance Course 11/96 (OAC 11/96) at the erstwhile College of Army Education in 1996, and material downloaded by an office colleague of mine from the internet. I am deeply indebted to my instructors, particularly Brigadier (Retd) Dr Muhammad Younas, Lieutenant Colonel (Retd) Dr Manzoor Arif, Brigadier Abdul Hafeez and Brigadier Dr Sher Daraz Khan, for the invaluable guidance, coaching and help they extended to me and other students of OAC 11/96. Taking teaching (very experienced educators) as a challenge; they worked hard to make OAC a truly rewarding and meaningful experience for the course participants. My thanks are also due to Wajid Ali, Shagufta Latif, Imran Ahmed, Lalarukh Syed and Muhammad Irfan Maken who helped me in typing the hand-written notes, proofreading, downloading additional material from the internet and designing this book.

How to Use this Book

This book has been designed primarily for the trainers of teachers and managers. However, learners undergoing training as professional teachers/managers or as students of educational management can also benefit from this book to understand various dimensions of the Teaching-Learning Process and Management. Teaching-Learning and Management, though apparently different fields of learning, have been covered in a single volume as Part One and Part Two, respectively; for theirs being a part of curricula prescribed for Educational Planning and Management (EPM) or Educational Administration by most of the universities in Pakistan. Management, being offered/ taught as an independent discipline or as a part of Business Administration (BBA, MBA, etc.) or EPM does not vary in its contents or scheme of studies. I, therefore, thought; instead of compiling available material on Teaching-Learning Process and Management in two different books, it may be compiled in a single volume for the learners of EPM, MBA, M Ed, B Ed, etc.

Part One consists of seven chapters. Chapter 1, Teaching-Learning, Process has been covered more elaborately for being the title of Part One, itself. In addition to general principles of Teaching-Learning Process, principles of teaching science and humanities along with various methods of teaching have been discussed at length in this chapter. Keeping in view the nature and complexities of language teaching-learning process and techniques of teaching/learning a second language, this area has been covered separately in Chapter 2. In Chapter 3, the concept and techniques of using various audio-visual media have been discussed to highlight their significance as means of effective teaching process. Measurement and Evaluation, being integral part of teaching-learning process have been covered in Chapter 4. Curriculum Development, Guidance and Counseling and Educational Research are such areas of learning, which must be fully comprehended by the

professional teachers and educators. These learning areas have been covered in the last three chapters of Part One.

In Part Two, in addition to discussing Organisation and Management, separately in Chapter 1 and Chapter 2, respectively; major management functions, viz; Planning, Organising, Leading, Controlling and Staffing have been covered in the next five chapters. Supervisory Management and Organisational Behaviour have been discussed in the last two chapters of Part Two, for being directly linked to Management as a discipline.

A number of main topics or titles, included in each of the chapters, contain many subtitles, having numerous sub subtitles. To facilitate comprehension and for ease of referencing, following colour code and numbering scheme has been used in this book:

Colour Code

Chapter Title: Gold

Main Title in a Chapter: Red

Subtitle(s) under a Main Title: Green

Sub-subtitle(s) under a Subtitle: Blue

Numbering Scheme

Chapter: 1, 2, etc.

Main Title in a Chapter: 1.1

A Subtitle under a Main Title 1.1: 1.1.1

A Sub-subtitle under a Subtitle 1.1.1: 1.1.1.1

Example

1.7.16.1 Means; Sub-subtitle number **one**, of subtitle number **sixteen** of main title number **seven** in Chapter **one**.

OR

Chapter: 1, Main Title: 7, Subtitle: 16, Sub-subtitle: 1

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PART ONE

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CHAPTER 1

Teaching Learning Process

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- ➔ 1.3 Principles of Learning
- ➔ 1.4 Learning Techniques
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- ➔ 1.6 Principles of Effective Teaching
- ➔ 1.7 Principles of Teaching Science, Mathematics, Technology, etc.
- ➔ 1.8 Principles of Teaching and Learning Social Studies
- ➔ 1.9 Methods of Teaching



1.1 Introduction to Teaching and Learning

1.1.1 Introduction. We are passing through a great transition. The old is becoming obsolete and new is still in the process of emergence. The old ways of learning and teaching are found to be too rigid and too outdated. A greater appreciation of psychological principle is truly being demanded. It has been urged that the training of the young requires, on the part of teacher, a deeper psychological knowledge. Teaching-learning process is the heart of education. On it depends the fulfillment of the aims and objectives of education. It is a powerful instrument of education to bring about desired changes in the students.

Teaching learning are related terms. In teaching - learning process, the teacher, the learner, the curriculum and other variables are organised in a systematic way to attain some pre-determined goal(s). Let us first understand in short about learning and teaching, and then teaching-learning relation.

1.1.2 Learning. Learning can be defined as the relatively permanent change in an individual's behaviour or behaviour potential (or capability) as a result of experience or practice (i.e., an internal change inferred from overt behaviour). This can be compared with the other primary process producing relatively permanent change – maturation—that results from biological growth and development. Therefore, when we see a relatively permanent change in others, or ourselves we know that the primary cause was either maturation (biology) or learning (experience). As educators, there is nothing we can do to alter an individual's biology; the only influence open to use is to provide an opportunity for students to engage in experiences that will lead to relatively permanent change.

1.1.3 Teaching. Teaching then, can be thought of as the purposeful direction and management of the learning process. Note; teaching is not giving knowledge or skills to students; teaching is the process of providing opportunities for students to produce relatively permanent change through engagement in experiences provided by the teacher. Teaching has been defined by H.C. Morrison as: “Teaching is an intimate contact between a more mature personality and a less mature one, which is designed to further the education of the latter”.

1.2 Transactional Model of Teaching - Learning Process.

Take a moment to brainstorm a little on the reasons you think some students in some classrooms might learn more than students in the same or another classroom. That is, what are the reasons, both within and across classrooms and schools that you believe research has shown will influence what and how much students learn.

In 1963, John Carroll wrote a seminal article that focused attention on direct observation of classroom behaviour of teachers and students. The systematic study of classroom processes thought to influence students' achievements as measured on these tests led to an explosion of information about what exactly was going on within America's classrooms. Prior to that, and to some extent this continues, the major variables were thought to be environmental or qualities of the teachers and students.

In the 1980s several researchers developed models of the teaching-learning process that summarised much of what was known about increasing test scores (e.g., Cruickshank 1985; Proctor 1984; Squires, Huitt, Segars, 1983). At the same time that researchers were focused on accounting for all the factors related to school achievement, others developed models of effective teacher practice (e.g., Hunter, 1994; Rosenshine, 1995; Slavin, 2003). A major problem that envelops all these models is that they focus on improving test scores; yet the public is concerned about students' character, self-esteem, and social development (Gallup, 1975, 1980). In this regard, the public seems more knowledgeable than the researchers about indicators of adult success in that student achievement, level of education, or measures of academic intelligence account for at best one third of the variance related to adult success (Gardner, 1995; Goleman, 1995). Recent attempts to hold schools, and especially teachers, totally responsible for student achievement presents a problem in that there are multiple factors not under the control of building-level educators that contribute to educational achievement (Huitt, 1999).

The following model is an attempt to consider most of the possible answers to the question: Why do some students learn more than others? According to the model, the reasons can be classified into four categories.

A Transactional Model of the Teaching-Learning Process

Context	All those factors outside of the classroom that might influence teaching and learning.
Input	Those qualities or characteristics of teachers and students that they bring with them to the classroom experience.
Classroom Processes	Teacher and student behaviours in the classroom as well as some other variables such as classroom climate and teacher/ student relationships.
Output	Measures of student learning taken apart from the normal instructional process.

1.2.1 Output. The most important of these categories is the Output category because the variables in the rest of the categories are used to predict or relate to the variables measured in this one. For example, when we ask "Why do some students learn more than other students?" we must first be clear about what we mean by "learning." We must also be clear about how we measure learning.

The Teaching-Learning Process

Output
Student
Achievement
Other

At the present time when we say "How well or how much has the student learned" we mean "How well has the student done on a standardised measure of student achievement in the basic skills of Reading, Language, Arts, and Mathematics?" If we change what we mean by learning (we want to know how much Science or Social Studies students have learned or we want to know if they have developed appropriate social skills) or if we change the particular measure of learning, then we may change the important variables that relate to student learning.

There are a variety of outcomes that are important in today's world (such as cognitive development and character) that are not presently discussed when we talk about student learning. The most important category is Output because once that has been defined it impacts the importance of the variables in the other categories.

1.2.2 Classroom Processes. The second most important category, at least from the perspective of the educational institution and educational psychology, is the **Classroom Processes** category. This includes all the variables that would occur in the classroom. There are three subcategories: Teacher Behaviour, Student Behaviour, Other/Miscellaneous.

The category of Teacher Behaviour consists of all the actions a teacher would make in the classroom and includes three additional subcategories: Planning, Management, and Instruction.

1.2.3 Planning refers to all of those activities a teacher might do to get ready to interact with students in the classroom. Management refers to controlling student behaviour, while Instruction refers to actually guiding student learning. There are a variety of specific teacher classroom variables that have been related to student learning. For example, Walberg (1986) suggests the following individual variables:

- Use of positive reinforcement.
- Cues and corrective feedback.
- Cooperative learning activities.
- Higher order questioning.
- Use of advance organisers.

Given the moderate correlations between teacher behaviour and student learning as measured outside the classroom, however, it seems prudent to focus on Student Behaviour within the classroom and the impact that teacher behaviour has on that set of variables. Student Behaviour includes all of

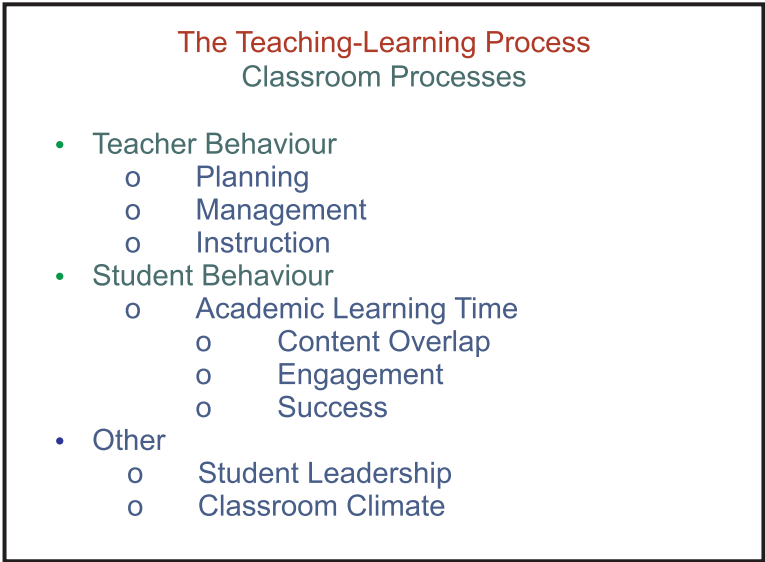
the actions a student would make in the classroom and includes one very important variable (at least in relationship to predicting student achievement on standardised tests) and that is Academic Learning Time (ALT). ALT is defined as "the amount of time students are successfully covering content that will be tested" (Squires, Huitt, Segars, 1983). ALT is a combination of three separate variables: Content Overlap, Involvement, and Success. Content Overlap is defined as "the percentage of the content covered on the test actually covered by students in the classroom" and is sometimes referred to as "Time on Target." Involvement is the "amount of time students are actively involved in the learning process" and is often referred to as "Time on Task." Success is defined as the "extent to which students accurately complete the assignments they have been given."

A high level of Academic Learning Time means that 1) students are covering important (tested/evaluated) content; 2) students are "on-task" most of the class period; and 3) students are successful on most of the assignments they complete. These three variables can be relatively easily measured and can be considered the vital signs of a classroom. If all of these are appropriate, there is a high probability that the classroom is functioning well. However, if any one of these variables is lower than expected, further inspection of classroom processes should be undertaken.

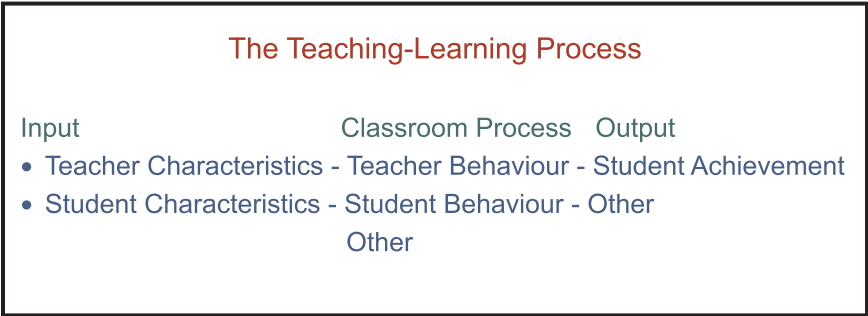
There are a variety of other classroom factors which have been related to student achievement such as the classroom climate and the opportunity for students to engage in leadership roles.

One of the important concepts that has been developed in educational psychology during the past 30 years is that classroom process variables are directly linked to student achievement (Rosenshine & Stevens, 1986). More specifically, the teacher's classroom behaviour (incorporated in the categories of planning, management and instruction) has a direct influence on student behaviour (most importantly,

Academic Learning Time) which, in turn, is most directly linked to measures of student achievement.



1.2.4 Input. The third major category of variables, **Input**, refers to descriptions of teachers and students prior to their coming into the classroom. There are again two important subcategories: Teacher Characteristics and Student Characteristics. Some important subcategories of **teacher characteristics** include the teacher's values and beliefs, knowledge, thinking and communication skills, performance skills, and personality. Of course, there are many more possible subcategories, but these seem to be the most important.



The most important teacher characteristic (in terms of predicting how well teachers will perform in the classroom as well as student achievement) seems to be the teacher's values and belief or more particularly Teacher Efficacy (Ashton, 1984). This variable is a measure of the teacher's belief that students can learn and that he/she can teach. Another important set of teacher characteristics includes the teacher's knowledge with respect to the content domain (knowledge of subject matter to be taught), human growth and development (theories, topics, and stages), learning theory (behaviouristic, cognitive, constructivistic, humanistic, social cognition), and the teaching/learning process (concepts and principles as well as their application in formal and informal environments).

There are a wide variety of Student Characteristics that have been related to classroom behaviour and student achievement. Researchers (Anderson & Block, 1977; Bloom, 1971) engaged in the development of mastery learning have shown that when time to learn is allowed to vary, a student's prior knowledge is most important. Other researchers have shown that when time to learn is held constant, then a student's intelligence or academic ability is most important. This issue of "time to learn" is very important. If we truly believe that everyone can learn and that it is important to learn, then it would seem we would make a greater effort to provide the appropriate time to learn. However, if we believe that ability is more important and that only the most capable individuals can learn all we want them to learn, then the present system will continue to produce a result that verifies that expectation. Other student characteristics that have been found to be important include Study Habits, Age, Gender, Motivation, Learning Style, Cognitive Development, Socio-emotional Development, Moral and Character Development, and Race/Ethnicity. In fact, the list of important student characteristics is so long that entire books have been written on them.

The Teaching-Learning Process

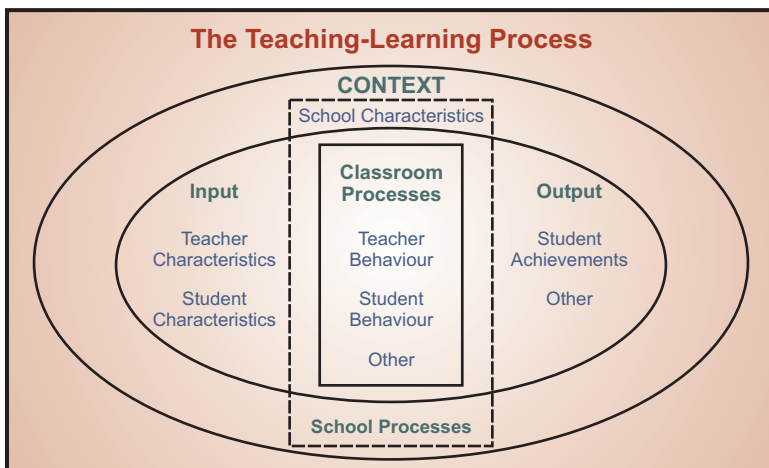
Classroom Process

- Teacher Behaviour
- Student Behaviour
- Other

Output

- Student Achievement
- Other

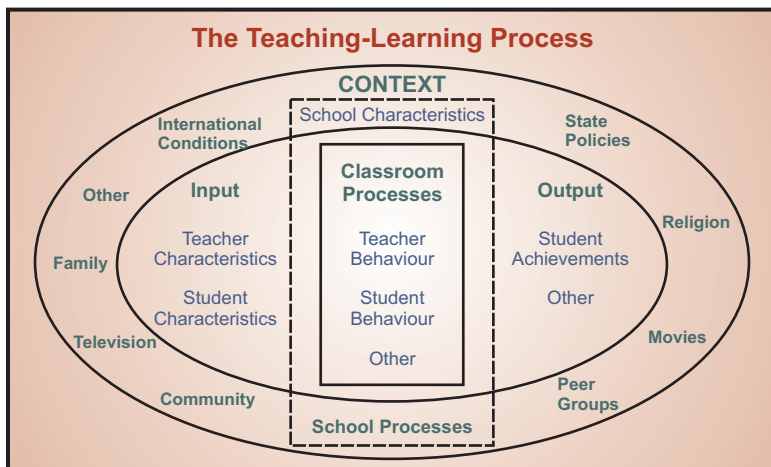
1.2.5 Context The category of context includes all of those variables outside of the classroom that have an impact on teacher and student characteristic, classroom processes, and output. The most immediate subcategories of context variables include **School Characteristics** and **School Processes**.



School characteristics include variables such as organisational structure and school size. School processes include factors related to activities such as leadership, supervisory practices, and school climate.

There are a wide variety of other context variables that influence the teaching/learning process. Some of the subcategories of these variables include Home, Peer Groups, Community, Religious Institutions, Society, Culture, and

International Conditions. Variables related to the home environment seem especially important and include such variables as the education levels of parents, family income/socioeconomic status (SES), other parental characteristics (such as age or marital status), and a group of miscellaneous variables which includes the amount of technology in the home, the number of books and magazines in the home, and so forth. One of the variables that best predicts student achievement seems to be the level of mother's education--especially if she did not graduate from high school (Campbell, 1991; Voelkl, 1993; Zill, 1992). This may be because the mother is the first educator of the child and the level of language usage she uses with the child is an important predictor of the child's language usage and school achievement. A second important factor is the amount of technology in the home (Perelman, 1992). This may be because technology is such an important factor in today's society and the more familiar the child is with technology, the more likely the child will feel comfortable in the modern classroom.



Context variables such as the size and region of the community impact teacher and student characteristics while the context variables associated with the family impact student characteristics. Of course, there are other important context variables that could also be considered as described above.

Additional context variables associated with school and state policies combine with teacher and student characteristics to impact teacher behaviour. Teacher behaviour along with student characteristics influence student behaviour, especially those variables associated with Academic Learning Time. Student classroom behaviour then influences teacher classroom behaviour in an interactive pattern. Student classroom behaviour, therefore, is the most direct influence on student achievement as measured by instruments influenced by state policies. Student achievement at the end of one school year then becomes a student characteristic at the beginning of the next.

1.3 Principles of Learning

Some of the well known and tested principles are explained in the succeeding paragraphs.

1.3.1 Learning Is Not Necessarily an Outcome of Teaching Cognitive research is revealing that even with what is taken to be good instruction, many students, including academically talented ones, understand less than we think they do. With determination, students taking an examination are commonly able to identify what they have been told or what they have read; careful probing, however, often shows that their understanding is limited or distorted, if not altogether wrong. This finding suggests that parsimony is essential in setting out educational goals: Schools should pick the most important concepts and skills to emphasise so that they can concentrate on the quality of understanding rather than on the quantity of information presented.

1.3.2 What Students Learn Is Influenced by Their Existing Ideas. People have to construct their own meaning regardless of how clearly teachers or books tell them things. Mostly, a person does this by connecting new information and concepts to what he or she already believes. Concepts—the essential units of human thought—that do not have multiple links with

how a student thinks about the world are not likely to be remembered or useful. Or, if they do remain in memory, they will be tucked away in a drawer labeled, say, "biology course, 1995," and will not be available to affect thoughts about any other aspect of the world. Concepts are learned best when they are encountered in a variety of contexts and expressed in a variety of ways, for that ensures that there are more opportunities for them to become imbedded in a student's knowledge system.

But effective learning often requires more than just making multiple connections of new ideas to old ones; it sometimes requires that people restructure their thinking radically. That is, to incorporate some new idea, learners must change the connections among the things they already know, or even discard some long-held beliefs about the world. The alternatives to the necessary restructuring are to distort the new information to fit their old ideas or to reject the new information entirely. Students come to school with their own ideas, some correct and some not, about almost every topic they are likely to encounter. If their intuition and misconceptions are ignored or dismissed out of hand, their original beliefs are likely to win out in the long run, even though they may give the test answers their teachers want. Mere contradiction is not sufficient; students must be encouraged to develop new views by seeing how such views help them make better sense of the world.

1.3.3 Progression in Learning Is usually from the Concrete to the Abstract. Young people can learn most readily about things that are tangible and directly accessible to their senses—visual, auditory, tactile, and kinesthetic. With experience, they grow in their ability to understand abstract concepts, manipulate symbols, reason logically, and generalize. These skills develop slowly, however, and the dependence of most people on concrete examples of new ideas persists throughout life. Concrete experiences are most effective in learning when they occur in the context of some

relevant conceptual structure. The difficulties many students have in grasping abstractions are often masked by their ability to remember and recite technical terms that they do not understand. As a result, teachers—from kindergarten through college—sometimes overestimate the ability of their students to handle abstractions, and they take the students' use of the right words as evidence of understanding.

1.3.4 People Learn to Do Well only What They Practise Doing.

If students are expected to apply ideas in novel situations, then they must practise applying them in novel situations. If they practise only calculating answers to predictable exercises or unrealistic "word problems," then that is all they are likely to learn. Similarly, students cannot learn to think critically, analyse information, communicate scientific ideas, make logical arguments, work as part of a team, and acquire other desirable skills unless they are permitted and encouraged to do those things over and over in many contexts.

1.3.5 Effective Learning by Students Requires Feedback.

The mere repetition of tasks by students—whether manual or intellectual—is unlikely to lead to improved skills or keener insights. Learning often takes place best when students have opportunities to express ideas and get feedback from their peers. But for feedback to be most helpful to learners, it must consist of more than the provision of correct answers. Feedback ought to be analytical, to be suggestive, and to come at a time when students are interested in it. And then there must be time for students to reflect on the feedback they receive, to make adjustments and to try again—a requirement that is neglected, it is worth noting, by most examinations—especially finals.

1.3.6 Expectations Affect Performance.

Students respond to their own expectations of what they can and cannot learn. If they believe they are able to learn something, whether solving equations or riding a bicycle, they usually make headway. But when they lack confidence, learning eludes them. Students

grow in self-confidence as they experience success in learning, just as they lose confidence in the face of repeated failure. Thus, teachers need to provide students with challenging but attainable learning tasks and help them succeed.

1.4 Learning Techniques

Here are three simple techniques you can use to make your practice more effective. Each is primarily beneficial to a certain approach to learning, but you can adapt it to suit your own style.

1.4.1 Writing: Notes and Essays. Taking notes during a lecture is a common technique every college student knows. This technique can be used in many other situations. You can make notes if you have to read a book, watch a video, listen to a recording, follow a presentation, etc. Depending on the subject, you may either record direct quotations from a speech or piece of writing, or use your own words. The latter is recommended because it forces you to understand the material and work on it right away. This is one way to help 'recall' and achieve 'active knowledge.'

The notes you take may be the only material you have available to study. If you have other resources, the notes are important additional material that helps you review. In either case, it makes sense to be methodical about your notes: devise a good system, and be thorough.

Making notes is especially useful if you find it easy to visualise written information. Even if you do not, however, you should try this technique because you can use it as an exercise. You can practise listing the main points of the subject you are studying to check your understanding and develop your active knowledge of the material. You can also write more detailed texts. Making an extensive written presentation is an excellent way to prepare for an essay, for instance, but it is also useful just to review the material. You can evaluate how well you can

recall each 'chunk' of information by having to rework the material in a logical way, trying to explore possible connections with other topics, and so on.

1.4.2 Visualising: Mind Maps and Models. A mind map is a visual representation of the most important ideas or facts of a subject. Instead of presenting the information as a text, the system arranges it so as to create a visual impact of some kind. This makes the mind map memorable and consequently easy to remember.

A map of this sort usually represents only the main ideas and these serve as clues to related information. Consequently, you can use the map as a summary. As with writing notes, however, you can make your practice as extensive as you want. For instance, you could create a very detailed map where all the points are recorded. This technique is very flexible and allows you to create both simple and complex systems. The main point is to design a structure that links the relevant information in a way that stands out visually.

Creating mind maps helps if you find it easy to memorise visually (either images or written material), but also if you like to do things with your hands. Maps do not have to be simply written on paper. You can think of other ways to use this technique. You can prepare flashcards for the main points and dispose them around as in a map, or make little models instead of paper cards. You can make a chart with pictures instead of words or you could represent the same information creating a tri dimensional map.

1.4.3 Speaking: Spoken Repetition and Presentations. Repetition is the best form of practice whether you need to build a theoretical knowledge or acquire a practical skill. You learn best by repeating the information or actions required. Whatever you are studying, you should repeat the material aloud. Simply by listening to your voice, you can reinforce your knowledge because you hear the information again. As with

writing, repeating aloud enables you to see if you have really understood and memorized the material. If a teacher, trainer, examiner, etc. will test you later, first practice explaining the material aloud to yourself. Organise the information in a clear and understandable way, and practise making a well-presented exposition. If you cannot recall all the information, you know that you need to study more.

You can also talk aloud when doing something. Speaking aloud can help you remember, especially if you are nervous, confused, or distracted. You can give yourself instructions repeating aloud the sequence of actions that are required to perform a particular task. You can guide yourself speaking aloud to make your practice more precise. This kind of technique benefits especially those who remember spoken information more easily, but it is always useful. It helps repeat the information in an organised way giving you a clear picture of how well you have learned the material. As with the other techniques, you can work on it to make it more suitable to your learning style. For instance, associating movement and sound (it can be dancing and singing too) is an excellent way to make practice more memorable.

1.4.4 Private Speech. It is common to hear children talking to themselves when learning and carrying out an action. As children, we develop this behaviour by listening to the instructions others give us. The phenomenon is called 'private speech' and it is part of the cognitive development of children (the way children learn and understand).

Adults speak to children to teach them how to do things. Children re-use those words when performing the tasks by themselves. This is why children may talk to themselves as much as they talk to others. This is not just 'noise': children talk to themselves to guide their actions. With age, children come to master their actions better so that known tasks can be performed in 'silence' and spoken words are reserved for activities that are more challenging.

Private Speech' does not disappear, but becomes internalised. As adults, we continue our 'private speech,' but usually do not speak it out. We learn to talk to ourselves 'in our head' rather than aloud. We may go back to spoken words when facing complicated tasks or intimidating situations. This is not a worrying sign: it is a natural technique we can use to solve problems and learn new skills.

1.5 Learning Styles

Different people learn using different 'styles.' Some people need to read printed material in order to memorise it, while others prefer to 'picture' what they are studying by creating images in their mind. You may retain information more easily if you can associate it with an action or you may feel more comfortable when information is conveyed through sound, either voice or music.

There are many classifications for the different styles of learning. Some definitions refer to the senses of sight, hearing, and touch. Learners may have a sight-based style: they memorise best using their eyes, either reading written material or seeing an action performed. If you have a hearing-based approach, you are more focused when you hear information. Other learners use movement and the sense of touch to commit to memory and recall information.

Other theories speak of different kinds of 'intelligence.' Besides those based on the senses, for example, there is an 'interpersonal' intelligence and an 'intra-personal' one. These definitions distinguish between a 'social' kind of learning and a 'private' style. Interpersonal intelligence favors communication and works best in one-to-one or group relationships: in this case, you learn best by interacting with other people and could benefit from study groups. On the other hand, intra-personal intelligence tends to use introspection and reasoning: you probably learn best alone, find it easy to concentrate and are attracted to the spiritual side of things.

1.5.1 How Do You Learn Best? You need to answer this question to devise a learning method that works well for you. For example, think of someone's name. Do you remember reading the name or can you see it 'printed' in your memory? Do you remember the sound of the name when it was spoken or do you remember the name better if you move your hand as if you were writing it? If you consider how you like to learn, you can understand how your brain prefers to receive information and how it can process it more efficiently.

1.5.2 Sight. If you are a 'visual learner,' try to concentrate your practice on the sense of sight. If you remember written information more easily, try to use printed resources, and create additional texts, writing by hand or using a word processor. Make notes of books, presentations, lectures, mathematical problems, experiments, graphics, etc. Try to transform whatever material you have into written information. You can first write detailed explanations, and then review them by writing summaries. Make use of colour too. Besides highlighting important information using colour pens, you can use different colors for different subjects (e.g. white paper for mathematics, yellow paper for history, blue paper for English, etc.) or types of information (black ink for facts or figures, red ink for problems or questions, blue ink for points in favor of a theory, green ink for points against a theory, etc.)

If you remember visual information better, try using pictures and videos. Transform what is written or spoken into visually striking material like graphics, diagrams, and symbols. Create your own images and charts to summarise the information. Use color and shape. Because you find it easy to create designs and patterns, use your imagination to create mental pictures of the subject.

1.5.3 Hearing. If you are an 'auditory learner,' try to concentrate your practice on the sense of hearing. Try to use audio material for your studies, such as books on tape or recordings of classes you attended. Transform written material into sound by

reading the texts aloud and recording yourself. Study by talking aloud too: read and repeat aloud, and speak aloud when going through a process (e.g. solving a mathematical exercise, carrying out an experiment, writing information, etc.) It may also be a good idea to partner with a fellow student to promote spoken communication. If you join or form a study group, you can both speak aloud and listen to others.

If you are sensitive to music, you can also try to incorporate rhythm into your studies. For instance, you can choose a tune you are familiar with and repeat the information aloud according to the melody.

1.5.4 Touch and Movement. 'Kinetics' is the science that studies movement. If you are a 'kinesthetic learner,' you should use movement when you study. If you are a 'tactile learner,' try to concentrate your practice on the sense of touch. You can 'rework' the material you have available to transform it into the kind that suits your learning style. Take notes of what you hear, draw pictures and graphs, re-enact a class, walk when you revise, recite the contents of a book, etc. Use drama and singing, if you feel comfortable with it. Simply moving your hands may help. Scientific studies have highlighted that people remember speech better when it is accompanied by gestures. Study outdoors if you can, and do field work. For instance, you can visit a place that is connected with the subject of your studies. Use a lab, if appropriate, or practise making things with your hands. You can create a model or devise a game. Think of hands-on activities that fit in with what you are learning.

1.6 Principles of Effective Teaching

Teaching is a complex, multifaceted activity, often requiring us as instructors to juggle multiple tasks and goals simultaneously and flexibly. The following small but powerful set of principles can make teaching both more effective and more efficient, by helping us create the conditions that support student learning and minimise the need for revising materials, content, and

policies. While implementing these principles requires a commitment in time and effort, it often saves time and energy later on.

1.6.1 Effective teaching involves acquiring relevant knowledge about students and using that knowledge to inform our course design and classroom teaching. When we teach, we do not just teach the content, we teach students the content. A variety of student characteristics can affect learning. For example, students' cultural and generational backgrounds influence how they see the world; disciplinary backgrounds lead students to approach problems in different ways; and students' prior knowledge (both accurate and inaccurate aspects) shapes new learning. Although we cannot adequately measure all of these characteristics, gathering the most relevant information as early as possible in course planning and continuing to do so during the semester can (a) inform course design (e.g., decisions about objectives, pacing, examples, format), (b) help explain student difficulties (e.g., identification of common misconceptions), and (c) guide instructional adaptations (e.g., recognition of the need for additional practice).

1.6.2 Effective teaching involves aligning the three major components of instruction: learning objectives, assessments, and instructional activities. Taking the time to do this upfront saves time in the end and leads to a better course. Teaching is more effective and student learning is enhanced when (a) we, as instructors, articulate a clear set of learning objectives (i.e., the knowledge and skills that we expect students to demonstrate by the end of a course); (b) the instructional activities (e.g., case studies, labs, discussions, readings) support these learning objectives by providing goal-oriented practice; and (c) the assessments (e.g., tests, papers, problem sets, performances) provide opportunities for students to demonstrate and practise the knowledge and skills articulated in the objectives, and for instructors to offer targeted feedback that can guide further learning.

1.6.3 Effective teaching involves articulating explicit expectations regarding learning objectives and policies. There is amazing variation in what is expected of students across classrooms and even within a given discipline. For example, what constitutes evidence may differ greatly across courses; what is permissible collaboration in one course could be considered cheating in another. As a result, students' expectations may not match ours. Thus, being clear about our expectations and communicating them explicitly helps students learn more and perform better. Articulating our learning objectives (i.e., the knowledge and skills that we expect students to demonstrate by the end of a course) gives students a clear target to aim for and enables them to monitor their progress along the way. Similarly, being explicit about course policies (e.g., on class participation, laptop use, and late assignments) in the syllabus and in class allows us to resolve differences early and tends to reduce conflicts and tensions that may arise. Altogether, being explicit leads to a more productive learning environment for all students.

1.6.4 Effective teaching involves prioritising the knowledge and skills we choose to focus on. Coverage is the enemy: Do not try to do too much in a single course. Too many topics work against student learning, so it is necessary for us to make decisions – sometimes difficult ones – about what we will and will not include in a course. This involves (a) recognising the parameters of the course (e.g., class size, students' backgrounds and experiences, course position in the curriculum sequence, number of course units), (b) setting our priorities for student learning, and (c) determining a set of objectives that can be reasonably accomplished.

1.6.5 Effective teaching involves recognising and overcoming our expert blind spots. We are not our students! As experts, we tend to access and apply knowledge automatically and unconsciously (e.g., make connections, draw on relevant bodies of knowledge, and choose appropriate strategies) and so we often skip or combine critical steps when we teach.

Students, on the other hand, do not yet have sufficient background and experience to make these leaps and can become confused, draw incorrect conclusions, or fail to develop important skills. They need instructors to break tasks into component steps, explain connections explicitly, and model processes in detail. Though it is difficult for experts to do this, we need to identify and explicitly communicate to students the knowledge and skills we take for granted, so that students can see expert thinking in action and practice applying it themselves.

1.6.6 Effective teaching involves adopting appropriate teaching roles to support our learning goals. Even though students are ultimately responsible for their own learning, the roles we assume as instructors are critical in guiding students' thinking and behaviour. We can take on a variety of roles in our teaching (e.g., synthesiser, moderator, challenger, and commentator). These roles should be chosen in service of the learning objectives and in support of the instructional activities. For example, if the objective is for students to be able to analyse arguments from a case or written text, the most productive instructor role might be to frame, guide and moderate a discussion. If the objective is to help students learn to defend their positions or creative choices as they present their work, our role might be to challenge them to explain their decisions and consider alternative perspectives. Such roles may be constant or variable across the semester depending on the learning objectives.

1.6.7 Effective teaching involves progressively refining our courses based on reflection and feedback. Teaching requires adapting. We need to continually reflect on our teaching and be ready to make changes when appropriate (e.g., something is not working, we want to try something new, the student population has changed, or there are emerging issues in our fields). Knowing what and how to change requires us to examine relevant information on our own teaching effectiveness. Much of this information already exists (e.g.,

student work, previous semesters' course evaluations, dynamics of class participation), or we may need to seek additional feedback with help from the university teaching centre (e.g., interpreting early course evaluations, conducting focus groups, designing pre- and post-tests). Based on such data, we might modify the learning objectives, content, structure, or format of a course, or otherwise adjust our teaching. Small, purposeful changes driven by feedback and our priorities are most likely to be manageable and effective.

1.7 Principles of Teaching Science, Mathematics, Technology, etc.

Principles specific to teaching Science, Mathematics, Technology, etc. are discussed at length in the succeeding paragraph.

1.7.1 Teaching Should Be Consistent With the Nature of Scientific Inquiry. Science, mathematics, and technology are defined as much by what they do and how they do it as they are by the results they achieve. To understand them as ways of thinking and doing, as well as bodies of knowledge, requires that students have some experience with the kinds of thought and action that are typical of those fields. Teachers, therefore, should do the following:

1.7.2 Start with Questions about Nature. Sound teaching usually begins with questions and phenomena that are interesting and familiar to students, not with abstractions or phenomena outside their range of perception, understanding, or knowledge. Students need to get acquainted with the things around them—including devices, organisms, materials, shapes, and numbers—and to observe them, collect them, handle them, describe them, become puzzled by them, ask questions about them, argue about them, and then to try to find answers to their questions.

1.7.3 Engage Students Actively. Students need to have many

and varied opportunities for collecting, sorting and cataloguing; observing, note taking and sketching; interviewing, polling, and surveying; using hand lenses, microscopes, thermometers, cameras, and other common instruments. They should dissect; measure, count, graph, and compute; explore the chemical properties of common substances; plant and cultivate; and systematically observe the social behaviour of humans and other animals. Among these activities, none is more important than measurement; figuring out what to measure, what instruments to use, how to check the correctness of measurements, and how to configure and make sense out of the results are at the heart of much of science and engineering.

1.7.4 Concentrate on the Collection and Use of Evidence. Students should be given problems—at levels appropriate to their maturity—that require them to decide what evidence is relevant and to offer their own interpretations of what the evidence means. This puts a premium, just as science does, on careful observation and thoughtful analysis. Students need guidance, encouragement, and practice in collecting, sorting, and analysing evidence, and in building arguments based on it. However, if such activities are not destructively boring, they must lead to some intellectually satisfying payoff that students care about.

1.7.5 Provide Historical Perspectives. During their school years, students should encounter many scientific ideas presented in historical context. It matters less which particular episodes teachers select than that the selection represent the scope and diversity of the scientific enterprise. Students can develop a sense of how science really happens by learning something of the growth of scientific ideas, of the twists and turns on the way to our current understanding of such ideas, of the roles played by different investigators and commentators, and of the interplay between evidence and theory over time.

History is important for the effective teaching of science, mathematics, and technology also because it can lead to social

perspectives—the influence of society on the development of science and technology, and the impact of science and technology on society. It is important, for example, for students to become aware that women and minorities have made significant contributions in spite of the barriers put in their way by society; that the roots of science, mathematics, and technology go back to the early Egyptian, Greek, Arabic, and Chinese cultures; and that scientists bring to their work the values and prejudices of the cultures in which they live.

1.7.6 Insist on Clear Expression. Effective oral and written communication is so important in every facet of life that teachers of every subject and at every level should place a high priority on it for all students. In addition, science teachers should emphasise clear expression, because the role of evidence and the unambiguous replication of evidence cannot be understood without some struggle to express one's own procedures, findings, and ideas rigorously, and to decode the accounts of others.

1.7.7 Use a Team Approach. The collaborative nature of scientific and technological work should be strongly reinforced by frequent group activity in the classroom. Scientists and engineers work mostly in groups and less often as isolated investigators. Similarly, students should gain experience sharing responsibility for learning with each other. In the process of coming to common understandings, students in a group must frequently inform each other about procedures and meanings, argue over findings, and assess how the task is progressing. In the context of team responsibility, feedback and communication become more realistic and of a character very different from the usual individualistic textbook-homework-recitation approach.

1.7.8 Do Not Separate Knowing From Finding Out. In science, conclusions and the methods that lead to them are tightly coupled. The nature of inquiry depends on what is being investigated, and what is learned depends on the methods

used. Science teaching that attempts solely to impart to students the accumulated knowledge of a field leads to very little understanding and certainly not to the development of intellectual independence and facility. But then, to teach scientific reasoning as a set of procedures separate from any particular substance—"the scientific method," for instance—is equally futile. Science teachers should help students to acquire both scientific knowledge of the world and scientific habits of mind at the same time.

1.7.9 De-emphasise the Memorisation of Technical Vocabulary. Understanding rather than vocabulary should be the main purpose of science teaching. However, unambiguous terminology is also important in scientific communication and—ultimately—for understanding. Some technical terms are, therefore, helpful for everyone, but the number of essential ones is relatively small. If teachers introduce technical terms only as needed to clarify thinking and promote effective communication, then students will gradually build a functional vocabulary that will survive beyond the next test. For teachers to concentrate on vocabulary, however, is to detract from science as a process, to put learning for understanding in jeopardy, and to risk being misled about what students have learned.

1.7.10 Science Teaching Should Reflect Scientific Values. Science is more than a body of knowledge and a way of accumulating and validating that knowledge. It is also a social activity that incorporates certain human values. Holding curiosity, creativity, imagination, and beauty in high esteem is certainly not confined to science, mathematics, and engineering—any more than skepticism and distaste for dogmatism are. However, they are all highly characteristic of the scientific endeavour. In learning science, students should encounter such values as part of their experience, not as empty claims. This suggests that teachers should strive to do the following:

1.7.11 Welcome Curiosity. Science, mathematics, and technology do not create curiosity. They accept it, foster it, incorporate it, reward it, and discipline it—and so does good science teaching. Thus, science teachers should encourage students to raise questions about the material being studied, help them learn to frame their questions clearly enough to begin to search for answers, suggest to them productive ways for finding answers, and reward those who raise and then pursue unusual but relevant questions. In the science classroom, wondering should be as highly valued as knowing.

1.7.12 Reward Creativity. Scientists, mathematicians, and engineers prize the creative use of imagination. The science classroom ought to be a place where creativity and invention—as qualities distinct from academic excellence—are recognised and encouraged. Indeed, teachers can express their own creativity by inventing activities in which students' creativity and imagination will pay off.

1.7.13 Encourage a Spirit of Healthy Questioning. Science, mathematics, and engineering prosper because of the institutionalised skepticism of their practitioners. Their central tenet is that one's evidence, logic, and claims will be questioned, and one's experiments will be subjected to replication. In science classrooms, it should be the normal practice for teachers to raise such questions as: How do we know? What is the evidence? What is the argument that interprets the evidence? Are there alternative explanations or other ways of solving the problem that could be better? The aim should be to get students into the habit of posing such questions and framing answers.

1.7.14 Avoid Dogmatism. Students should experience science as a process for extending understanding, not as unalterable truth. This means that teachers must take care not to convey the impression that they themselves or the textbooks are absolute authorities whose conclusions are always correct. By dealing with the credibility of scientific claims, the overturn of

accepted scientific beliefs, and what to make out of disagreements among scientists, science teachers can help students to balance the necessity for accepting a great deal of science on faith against the importance of keeping an open mind.

1.7.15 Promote Aesthetic Responses. Many people regard science as cold and uninteresting. However, a scientific understanding of, say, the formation of stars, the blue of the sky, or the construction of the human heart need not displace the romantic and spiritual meanings of such phenomena. Moreover, scientific knowledge makes additional aesthetic responses possible—such as to the diffracted pattern of street lights seen through a curtain, the pulse of life in a microscopic organism, the cantilevered sweep of a bridge, the efficiency of combustion in living cells, the history in a rock or a tree, an elegant mathematical proof. Teachers of science, mathematics, and technology should establish a learning environment in which students are able to broaden and deepen their response to the beauty of ideas, methods, tools, structures, objects, and living organisms.

1.7.16 Science Teaching Should Aim at Counteracting Learning Anxieties. Teachers should recognise that for many students, the learning of mathematics and science involves feelings of severe anxiety and fear of failure. No doubt this results partly from what is taught and the way it is taught, and partly from attitudes picked up incidentally very early in schooling from parents and teachers who are themselves ill at ease with science and mathematics. Far from dismissing math and science anxiety as groundless, teachers should assure students that they understand the problem and will work with them to overcome it. Teachers can take such measures as the following:

1.7.16.1 Build on Success. Teachers should make sure that students have some sense of success in learning science and mathematics, and they should de-emphasise getting all the right answers as being the main criterion of success. After all,

science itself, as Alfred North Whitehead said, is never quite right. Understanding anything is never absolute, and it takes many forms. Accordingly, teachers should strive to make all students—particularly the less-confident ones—aware of their progress and should encourage them to continue studying.

1.7.16.2 Provide Abundant Experience in Using Tools. Many students are fearful of using laboratory instruments and other tools. This fear may result primarily from the lack of opportunity many of them have to become familiar with tools in safe circumstances. Girls in particular suffer from the mistaken notion that boys are naturally more adept at using tools. Starting in the earliest grades, all students should gradually gain familiarity with tools and the proper use of tools. By the time they finish school, all students should have had supervised experience with common hand tools, soldering irons, electrical meters, drafting tools, optical and sound equipment, calculators, and computers.

1.7.16.3 Emphasise Group Learning. A group approach has motivational value apart from the need to use team learning (as noted earlier) to promote an understanding of how science and engineering work. Overemphasis on competition among students for high grades distorts what ought to be the prime motive for studying science: to find things out. Competition among students in the science classroom may also result in many of them developing a dislike of science and losing their confidence in their ability to learn science. Group approaches, the norm in science, have many advantages in education; for instance, they help youngsters see that everyone can contribute to the attainment of common goals and that progress does not depend on everyone having the same abilities.

1.7.17 Science Teaching Should Extend Beyond the School. Children learn from their parents, siblings, other relatives, peers, and adult authority figures, as well as from teachers. They learn from movies, television, radio, records, trade books and magazines, and home computers, and from going to

museums and zoos, parties, club meetings, rock concerts, and sports events, as well as from schoolbooks and the school environment in general. Science teachers should exploit the rich resources of the larger community and involve parents and other concerned adults in useful ways. It is also important for teachers to recognise that some of what their students learn informally is wrong, incomplete, poorly understood, or misunderstood, but that formal education can help students to restructure that knowledge and acquire new knowledge.

1.7.18 Teaching Should Take Its Time. In learning science, students need time for exploring, for making observations, for taking wrong turns, for testing ideas, for doing things over again; time for building things, calibrating instruments, collecting things, constructing physical and mathematical models for testing ideas; time for learning whatever mathematics, technology, and science they may need to deal with the questions at hand; time for asking around, reading, and arguing; time for wrestling with unfamiliar and counterintuitive ideas and for coming to see the advantage in thinking in a different way. Moreover, any topic in science, mathematics, or technology that is taught only in a single lesson or unit is unlikely to leave a trace by the end of schooling. To take hold and mature, concepts must not just be presented to students from time to time but must be offered to them periodically in different contexts and at increasing levels of sophistication.

1.8 Principles of Teaching and Learning Social Studies

he principles of teaching and learning Social Studies enunciated in “A Vision of Powerful Teaching and Learning in the Social Studies” are briefly described in the succeeding paragraph.

1.8.1 Well Defined Objectives:

- Students learn connected networks of knowledge, skills, beliefs, and attitudes that they will find useful both in and

outside of school.

- Instruction emphasises depth of development of important ideas within appropriate breadth of topic coverage and focuses on teaching these important ideas for understanding, appreciation, and life application.
- The significance and meaningfulness of the content is emphasised both in how it is presented to students and how it is developed through activities.
- Classroom interaction focuses on sustained examination of a few important topics rather than superficial coverage of many.
- Meaningful learning activities and assessment strategies focus students' attention on the most important ideas embedded in what they are learning.
- The teacher is reflective in planning, implementing, and assessing instruction.

1.8.2 Integrated Approach

- Social Studies is integrative in its treatment of topics. It is integrative across time and space.
- Social Studies teaching integrates knowledge, skills, beliefs, values, and attitudes to action.
- Social studies teaching and learning integrate effective use of technology.
- Social Studies teaching and learning integrate across the curriculum.

1.8.3 Value-based Curricula

- Powerful social studies teaching considers the ethical dimensions of topics and addresses controversial issues, providing an arena for reflective development of concern for the common good and application of social values.
- Students are made aware of potential social policy implications and taught to think critically and make value-

based decisions about related social issues.

- Rather than promulgating personal, sectarian, or political views, these teachers make sure that students:
 - Become aware of the values, complexities, and dilemmas involved in an issue.
 - Consider the costs and benefits to various groups that are embedded in potential courses of action.
 - Develop well-reasoned positions consistent with basic democratic social and political values.
 - Powerful social studies teaching encourages recognition of opposing points of view, respect for well-supported positions, sensitivity to cultural similarities and differences, and a commitment to social responsibility.

1.8.4 Purposeful and Practicable Contents

- Students are expected to strive to accomplish the instructional goals, both as individuals and as group members.
- Teachers model seriousness of purpose and a thoughtful approach to inquiry and use instructional strategies designed to elicit and support similar qualities from students.
- Teachers show interest in and respect for students' thinking, but demand well-reasoned arguments rather than opinions voiced without adequate thought or commitment.

1.8.5 Cognitive Development

- Active social studies teaching requires reflective thinking and decision-making as events unfold during instruction.
- Students develop new understanding through a process of active construction of knowledge.
- Interactive discourse facilitates the construction of meaning required to develop important social understanding.

- Teachers gradually move from providing considerable guidance by modelling, explaining, or supplying information that builds student knowledge, to a less directive role that encourages students to become independent and self-regulated learners.
- Powerful social studies teaching emphasises authentic activities that call for real-life applications using the skills and content of the field.

1.9 Methods of Teaching

The variety of teaching and learning methods which are used within a course is an important ingredient in creating a course of interest to students. A course with a large proportion of its teaching taking place in lectures will need to have a high level of intrinsic interest to students to keep them engaged. Over the past few years, a wide range of different teaching and learning methods have been introduced and tested, often with the aim of developing skills which more didactic methods are poorly adapted to do.

All methods of instruction can be classified as telling, lecturing, or discussing; showing or demonstrating; or any combination of these. Often the best method of teaching combines the various methods. You must decide which methods to combine and the emphasis to place on each unless the curriculum itself dictates the combination needed. In making that decision, consider:

- The nature of the trainees.
- The subject matter.
- The limitations of time.

1.9.1 Lecture Method. The lecture is still the most frequently used method of instruction. However, presenting a lecture without pausing for interaction with trainees can be ineffective regardless of your skill as a speaker. The use of pauses during the lecture for direct oral questioning creates interaction

between instructor and trainee. Unfortunately, when classes are large, the instructor cannot possibly interact with all trainees on each point. The learning effectiveness of the lecture method has been questioned because of the lack of interaction; but it continues as a means of reaching a large group at one time with a condensed, organised body of information. Providing trainees with lesson objectives before the lecture will enable them to listen more effectively. It will help them to take concise, brief notes concerning the objectives rather than writing feverishly throughout the lecture. We discuss the lecture method first because the techniques involved serve as the basis for other methods of training. Those techniques apply not only to lectures, but to many other kinds of presentations in which oral explanations play a secondary, but important, role. Every method depends on oral instruction to give information, to arouse attention and interest, and to develop receptive attitudes on the part of the trainees. Therefore, as an instructor, organise your oral presentations with the following techniques in mind:

- Maintain good eye contact: as you speak, shift your gaze about the class, pausing momentarily to meet the gaze of each trainee. Make the trainees feel what you have to say is directed to each one personally. Your eyes as well as your voice communicate to them; and their eyes, facial expressions, and reactions communicate to you. Watch for indications of doubt, misunderstanding, a desire to participate, fatigue, or a lack of interest. If you are dealing with young trainees, you may sometimes need to remind them that they must give undivided attention to the instruction.
- Maintain a high degree of enthusiasm.
- Speak in a natural, conversational voice. Enunciate your words clearly. Make certain the trainees can hear every spoken word.
- Emphasise important points by the use of gestures, repetition, and variation in voice inflection.

- Check trainee comprehension carefully throughout the presentation by watching the faces of the trainees and by questioning. Observing facial expressions as an indication of doubt or misunderstanding is not a sure way of checking on trainee comprehension. Some trainees may appear to be comprehending the subject matter when, in reality, they are completely confused. Trainees who are in doubt often hesitate to make their difficulty known. They may hesitate because of natural timidity, fear of being classified as stupid, or failure to understand the subject matter well enough to explain where their difficulty lies. Frequently ask if the class has any questions, thus giving the trainees an opportunity to express any doubts or misunderstandings on their part. Based on your personal knowledge and past experiences, ask specific questions about those areas which might give trainees the most trouble. Some instructors make the mistake of waiting until the end of the presentation to ask questions. The best time to clear away mental fog is when the fog develops. Mental fog tends to create a mental block that prevents the trainee from concentrating on the subject matter being presented. Instruct on the class level. Use words, explanations, visual illustrations, questions, and the like, directed to the needs of the average trainee in the class.
- Stimulate trainees to think. Think, as used here, refers to creative thinking rather than to a mere recall of facts previously learned. Use a number of instructional devices for stimulating trainee thinking. Among those devices are thought-provoking questions, class discussions, rhetorical questions (a question to which no answer is expected).

Fifty-minute lectures remain the core teaching method for most undergraduate courses. Their role is best suited to providing an overview of the subject matter and stimulating interest in it, rather than disseminating facts. Lecturing to large classes is a skill which not all staff has acquired and some are not comfortable in this role, and so, where possible, a course organiser is advised to try to spread the lecturing load so as to

favour those staff with best skill at it, although freedom of action in this respect is often limited! All students appreciate good quality lectures, and the key ingredients are: Clear objectives (these can be put in the course handbook, with the lecture summaries, to avoid provision of them being forgotten by individual lecturers) and appropriate handouts which provide students with complex diagrams or difficult or critical text. This should not be viewed as spoon feeding. It is part of the process of ensuring that students take away the important elements from a lecture, irrespective of how well the lecture was delivered on that day. Good handouts also help to avoid the communication difficulties which can arise in any lecture where large numbers of students are present. As class enrolments have risen and lecture theatres are used continuously, ease of access by students to the lecturer at the end of a lecture has been reduced. A more radical approach to the problems of the large 'performance' lecture is to consider the extent to which some lectures could be removed entirely and replaced by structured exercises (i.e. resource-based learning). To some degree, those students who do not attend lectures follow this path anyway!

1.9.2 Discussion Method. Discussion methods are effective in getting the trainees to think constructively while interacting with the rest of the group. Conduct discussions with large or small groups; however, small groups are more desirable. You can control and direct a small group more easily than you can larger groups of 10 or more trainees. If a group is extremely large, break it into smaller groups or teams with a discussion leader for each team. The use of the terms class discussion and directed discussion in this text refer to a method in which you direct and control the verbal exchange of the class. To use this method, first lay a suitable foundation for the discussion by asking one or more challenging questions. Then stimulate the trainees to discuss the basic questions; finally, guide the discussion to a logical conclusion. In the directed discussion, you act as the chairman or moderator. As a result of your questions, suggestions, and redirection of ideas, the trainees

in the class become genuinely interested in exploiting all angles of the central problem. They forget the normal classroom restraints and begin to talk to each other as they would when carrying on an ordinary conversation. A true class discussion requires a trainee-to-trainee interchange of ideas. An instructor-to-trainee interchange of ideas during a typical question-and-answer period is not a class discussion. To conduct a class discussion, you must ensure following:

- Make more extensive and more thorough preparations than you would for a lecture. Although the trainees supply the ideas, you must have a thorough knowledge of the subject matter to be able to sift out pertinent ideas. Be aware of ideas that may lead the trainees off on a tangent; steer the discussion away from these ideas. Guide the trainees away from irrelevant ideas and toward the desired goals without dominating the discussion.
- To receive full benefit from the discussion, the trainees should have some previous familiarity with the subject matter. They could be familiar with the subject matter as a result of outside reading, prior training and experience.
- Arrange the classroom in such a manner that you are a part of the group. If possible, arrange for the group to sit around a table so that all of the trainees can see each other and you.
- Use the discussion method only when classes are small enough to allow everyone a chance to take part.
- Build a background for the discussion. The development of an appropriate background tends to focus the trainees' attention upon the central problem. An appropriate background also limits the problem to an area that can be covered in a reasonable length of time and creates interest in the solution of the problem.
- Ask thought-provoking discussion questions. Ask questions to keep the discussion in bounds, to bring out the desired aspects of the main problem, and to guide the discussion toward the desired conclusion.

- Encourage the timid, restrain the talkative, and maintain a standard of discipline in keeping with the maturity level of the trainees.
- Be willing to accept, temporarily, an incorrect idea. A hasty "No!" or 'You're wrong!' can bring sudden death to any discussion. Avoid expressing your own ideas until the trainees have had ample opportunity to express theirs. Summarise the discussion at intervals. Use the chalkboard for this purpose.
- Give due credit to the trainees for their contributions.
- Clear up misunderstandings and emphasise correct ideas.

1.9.3 Tutorials and Seminars. After the lecture, this is probably the next most widely used teaching method. The distinction between what is a tutorial and what is a seminar is woolly - to some it depends upon size (i.e. 'a 20 person group cannot be a tutorial as it is too big and is therefore a seminar') whereas to others the seminar has a different structure (speaker + audience) and different objectives.

Clarity of objectives is more important for tutorials than for lectures, in that there is general agreement and expectations for lectures whereas there is certainly greater divergence for tutorials. Much tutorial work is carried out by part-time staff, especially for courses in the first two years, and they too need to be clear about what they are trying to achieve with their students. When asking students about tutorials, the paradoxical finding that they complain about them but ask for more frequent tutorials is perhaps closely related to their perception of their need for small group support but lack of clarity about what they should be getting out of what is provided. Making explicit what students should get out of tutorials can be quite a taxing exercise for the course organiser.

The active nature of the tutorial/seminar makes it the main source for students to acquire some of the 'personal

transferable skills', e.g. in presentation and group work.

1.9.4 Demonstration Method. Demonstration or “doing” method is used to effectively teach skills. Demonstrate step-by-step the procedures in a job task, using the exact physical procedures if possible. While demonstrating, explain the reason for and the significance of each step. To be effective, plan the demonstration in advance so that you will be sure to show the steps in the proper sequence and to include all steps. If you must give the demonstration before a large group or if the trainees might have trouble seeing because of the size of the equipment involved, use enlarged devices or training aids. Allow trainees to repeat the procedure in a “hands on” practice session to reinforce the learning process. By immediately correcting the trainees' mistakes and reinforcing proper procedures, you can help them learn the task more quickly. The direct demonstration approach is a very effective method of instruction, especially when trainees have the opportunity to repeat the procedures.

1.9.5 Laboratory and Practical Classes. For science subjects, laboratory work is an essential ingredient of the course and some component of this is generally preserved, even though the amount may fall. In addition to the experience of lab work, students often derive a lot of their contact with staff in the lab setting, and compensation for this may be needed if lab time is significantly reduced. High quality lab work is expensive to provide, and it is important that we are sure that students do indeed gain all that they might from it, especially as the number of students present may have increased, more part-time demonstrators are used, and the frills have been trimmed to cut costs. The balance between fewer but better labs and more but simpler is not always easy to find, but is an important consideration.

1.9.6 Presentation Method. Presentation model of teaching is the one in which the teacher develops the subject all by himself, in a formal teaching environment without much of

class participation. According to this definition:

- Teacher develops lesson entirely by himself.
- Not assisted.
- Formal learning environment.
- No class participation.

1.9.6.1 Uses of Presentation Methods:

- To orient the taught.
- To introduce a subject.
- To open discussion.
- To give directions.
- To present basic material.
- To review/summarise.

1.9.6.2 Set Induction. It is a technique used by a teacher in the beginning of presentation to prepare students to learn and to establish a communicative link to inform them about what is going to be presented.

1.9.6.3 Advance Organiser. It is a means to make information meaningful. It consists of statements made by the teacher just prior to the presentation of actual material. The statements are at a higher level of abstraction than the subsequent information.

1.9.7 Advantages and Disadvantages of Lecture, Discussion and Presentation Methods. Instructional methods and teaching methods mean the same thing. They are primarily descriptions of the learning objective-oriented activities and flow of information between teachers and students. Although some may argue otherwise, to split hairs over whether such methods are meaningfully different, adds nothing to the process of learning to be a teacher. Direct and indirect instruction are two main categories that many educators find

useful for classifying teaching methods, but it is a bit more complicated than placing all instruction into two categories. Any instructional method a teacher uses has advantages, disadvantages, and requires some preliminary preparation. Often a particular teaching method will naturally flow into another, all within the same lesson, and excellent teachers have developed the skills to make the process seamless to the students. Which instructional method is "right" for a particular lesson depends on many things, and among them are the age and developmental level of the students, what the students already know, and what they need to know to succeed with the lesson, the subject-matter content, the objective of the lesson, the available people, time, space and material resources, and the physical setting. Another, more difficult problem is to select an instructional method that best fits one's particular teaching style and the lesson-situation. There is no one "right" method for teaching a particular lesson, but there are some criteria that pertain to each that can help a teacher make the best decision possible. The following teaching or instructional methods are not listed in a preferred sequence, no hierarchy of putative superiority of method is intended, and obviously, not all are appropriate for all grades and subject matters.

1.9.7.1 Lecture Method

Advantages	Disadvantages	Preparation
<ul style="list-style-type: none"> • Factual material is presented in a direct, logical manner. • May provide experiences that inspire. • Useful for large groups. 	<ul style="list-style-type: none"> • Proficient oral skills are necessary. • Audience is often passive. • Learning is difficult to gauge. • Communication is one-way. • Not appropriate for children below grade 4. 	<ul style="list-style-type: none"> • There should be a clear introduction and summary. • Effectiveness related to time and scope of content. • Is always audience specific; often includes examples, anecdotes.

1.9.7.2 Lecture with Discussion Method

Advantages	Disadvantages	Preparation
<ul style="list-style-type: none">• Involves students, at least after the lecture.• Students can question, clarify and challenge.• Lecture can be interspersed with discussion.	<ul style="list-style-type: none">• Time constraints may affect discussion opportunities.• Effectiveness is connected to appropriate questions and discussion; often requires teacher to "shift gears" quickly.	<ul style="list-style-type: none">• Teacher should be prepared to allow questions during lecture, as appropriate.• Teacher should also anticipate difficult questions and prepare appropriate responses in advance.

1.9.7.3 Discussion Method

Advantages	Disadvantages	Preparation
<ul style="list-style-type: none">• Pools ideas and experiences from group.• Effective after a presentation, film or experience that needs to be analysed.• Allows everyone to participate in an active process.	<ul style="list-style-type: none">• Not practical with more than 20 students.• A few students can dominate.• Some students may not participate.• Is time consuming.• Can get off the track.	<ul style="list-style-type: none">• Requires careful planning by teacher to guide discussion.• Requires question outline.

1.9.7.4 Small Group Discussion Method

Advantages	Disadvantages	Preparation
<ul style="list-style-type: none">• Allows for participation of everyone.• Students often more comfortable in small groups.• Groups can reach consensus.	<ul style="list-style-type: none">• Needs careful thought as to purpose of group.• Groups may get side tracked.	<ul style="list-style-type: none">• Need to prepare specific tasks or questions for group to answer.

1.9.7.5 Presentation Method

Advantages	Disadvantages	Preparation
<ul style="list-style-type: none">• Equally effective for large and small audience.• Cost effective.• A lot information can be presented in short time.• Universally used for higher education.• Source of motivation.	<ul style="list-style-type: none">• Rely on hearing, only.• Virtually no class participation.• Saturation.• Confirmation not possible.• Not suitable to teach skills.	<ul style="list-style-type: none">• Determine educational objectives.• Collect material.• Prepare outline.• Prepare training aids.• Rehearse.• Issue précis, hand-out, etc.

1.9.8 Advantages and Disadvantages of other Methods of Teaching

1.9.8.1 Direct Teaching Method

Advantages	Disadvantages	Preparation
<ul style="list-style-type: none">• Very specific learning targets.• Students are told reasons why content is important - helps to clarify lesson objective.• Relatively easy to measure students' gains.• Is a widely accepted instructional method.• Good for teaching specific facts and basic skills.	<ul style="list-style-type: none">• Can stifle teacher.• Requires well-organised content preparation and good oral communication skills.• Steps must be followed in prescribed order.• May not be effective for higher-order thinking skills, depending on the knowledge base and skill of the teacher.	<ul style="list-style-type: none">• Content must be organised.• Teacher should have information about students' prerequisites for the lesson.

1.9.8.2 Cooperative Learning Method

Advantages	Disadvantages	Preparation
<ul style="list-style-type: none">• Helps foster mutual responsibility.• Supported by research as an effective technique.• Students learn to be patient, less critical and more compassionate.	<ul style="list-style-type: none">• Some students do not work well this way.• Loners find it hard to share answers.• Aggressive students try to take over.• Bright students tend to act superior.	<ul style="list-style-type: none">• Decide what skills or knowledge are to be learned.• Requires some time to prepare students. to learn how to work in groups.

1.9.8.3 Panel of Experts Method

Advantages	Disadvantages	Preparation
<ul style="list-style-type: none">• Experts present different opinions.• Can provoke better discussion than a one person discussion.• Frequent change of speaker keeps attention from lagging.	<ul style="list-style-type: none">• Personalities may overshadow content.• Experts are often not effective speakers.• Subject may not be in logical order.• Not appropriate for elementary age students.• Logistics can be troublesome.	<ul style="list-style-type: none">• Teacher coordinates focus of panel, introduces and summarises.• Teacher briefs panel.

1.9.8.4 Brainstorming Method

Advantages	Disadvantages	Preparation
<ul style="list-style-type: none">• Listening exercise that allows creative thinking for new ideas.• Encourages full participation because all ideas are equally recorded.	<ul style="list-style-type: none">• Can be unfocused.• Needs to be limited to 5 - 7 minutes.• Students may have difficulty getting away from known reality.• If not managed well, criticism and negative evaluation may occur.	<ul style="list-style-type: none">• Teacher selects issue.• Teacher must be ready to intervene when the process is hopelessly bogged down.

<ul style="list-style-type: none"> • Draws on group's knowledge and experience. • Spirit of cooperation is created. • One idea can spark off other ideas. 	<ul style="list-style-type: none"> • Value to students depends in part on their maturity level. 	
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1.9.8.5 Videotapes/Slides Method

Advantages	Disadvantages	Preparation
<ul style="list-style-type: none"> • Entertaining way of introducing content and raising issues. • Usually keeps group's attention. • Stimulates discussion. 	<ul style="list-style-type: none"> • Can raise too many issues to have a focused discussion. • Discussion may not have full participation. • Most effective when following discussion. 	<ul style="list-style-type: none"> • Need to obtain and set up equipment. • Effective only if teacher prepares for discussion after the presentation.

1.9.8.6 Case Studies Method

Advantages	Disadvantages	Preparation
<ul style="list-style-type: none"> • Develops analytical and problem solving skills. • Allows for exploration of solutions for complex issues. • Allows student to apply new knowledge and skills. 	<ul style="list-style-type: none"> • Students may not see relevance to own situation. • Insufficient information can lead to inappropriate results. • Not appropriate for elementary level. 	<ul style="list-style-type: none"> • Case must be clearly defined. • Case study must be prepared.

1.9.8.7 Role Playing Method

Advantages	Disadvantages	Preparation
<ul style="list-style-type: none">• Introduces problem situation dramatically.• Provides opportunity for students to assume roles of others and thus appreciate another point of view.• Allows for exploration of solutions.• Provides opportunity to practise skills.	<ul style="list-style-type: none">• Some students may be too self-conscious.• Not appropriate for large groups.• Some students may feel threatened.	<ul style="list-style-type: none">• Teacher has to define problem situation and roles clearly.• Teacher must give very clear instructions.

1.9.8.8 Worksheet/Surveys Method

Advantages	Disadvantages	Preparation
<ul style="list-style-type: none">• Allows students to think for themselves without being influenced by others.• Individual thoughts can then be shared in large group.	<ul style="list-style-type: none">• Can be used only for short period of time.	<ul style="list-style-type: none">• Teacher has to prepare handouts.

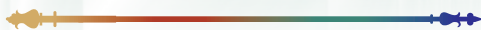
1.9.8.8 Worksheet/Surveys Method

Advantages	Disadvantages	Preparation
<ul style="list-style-type: none">• Personalises topic.• Breaks down audience's stereotypes.	<ul style="list-style-type: none">• May not be a good speaker.	<ul style="list-style-type: none">• Contact speakers and coordinate.• Introduce speaker appropriately.

CHAPTER 2

Language Teaching and Learning Process

- ➔ 2.1 Introduction to Language Teaching and Learning Process
- ➔ 2.2 Methods of Teaching a Second Language
- ➔ 2.3 Communication Process
- ➔ 2.4 Communication within Formal Organisations



2.1 Introduction to Language Teaching and Learning Process

Children learn their first language subconsciously with relative ease and little if any stress. When all circumstances are normal, most children learn the basic structures and vocabulary of their first language within the first four years of their life. The language continues to develop through life in sophistication and complexity depending primarily on the child's eventual level of education and use of the language in question. Generally speaking, all people are successful in the acquisition of their first language, and their speech tends to be marked by the accent and regional expressions of the area where they grow up. Although people are capable of learning any number of languages during their lifetime, many experience failure to different degrees in the process of learning other languages. Adults often complain that the target language (second/foreign language) is difficult to understand or pronounce. Anyone who has ever seriously attempted to master another language knows that it is a time consuming and challenging effort. Yet, research and experience demonstrate that the only area most negatively affected by a “late” onset of language study is pronunciation; in other words, a second language speaker can often be recognised by an accent

caused by the characteristics of the first language's phonology; few second language learners can ever "disguise" themselves as native speakers of the target language. This issue is of no concern, however, since there are so many distinctly different accents and even varieties of English itself throughout the world that all English speakers have an accent in someone else's ears. If one considers language study to mean only the memorisation of some vocabulary and sentence structures with "good" pronunciation, the entire effort is doomed to failure from the beginning. The study of another language is far more extensive than that. Freeman and Freeman (2004) clearly explain the components of language which one needs to know in order to teach language. In short, the linguistic components the learner and the teacher need to delve into are syntax (sentence structure), phonology (sound system), lexicon (vocabulary), semantics (meaning), and pragmatics (usage).

Language is a complex whole, the mastery of which requires the learner's total commitment for life, especially if the standard sought is the educated native speaker. Language learning is a process which takes time under the best of circumstances, when the learner is motivated and has everything available to help him to reach his goals. It is important to note that language learning is never a linguistic phenomenon, only. It is affected by several sociolinguistic and psychological factors, which are all intertwined in unique ways in the case of each learner. The learner's prior experience as a student in general and self-image specifically as a language learner will determine how the learning task is viewed, whether it, for example, will seem impossible or doable. The person's prior knowledge, attitudes, personality, learning styles and skills and motivation, to mention a few, are all factors related to the eventual outcome of the language study. The most critical element, however, which appears to determine the relative failure or success of language acquisition, is the learning environment itself.

Languages are taught and learned in various places, some in informal settings; others in formal contexts, such as

classrooms. It is common knowledge that regardless of the method used, second language learners achieve mastery of the target language to varying degrees. Although 10 individuals may be in the same language class for a year, their eventual proficiency level and profile will be different from one another. This is the result of a combination of the factors mentioned above, compounded with the pedagogical methods that the learner has encountered. Generally speaking, it can be stated that most individuals learn to communicate basic information through a conversation in the target language in the first few years of active language study (provided that there are opportunities to use the language to create personal meaning). It is important to note that mere exposure or contact with the target language in most cases is not sufficient to result in productive language skills. Second language development follows a developmental process, which resembles that of the first language. Yet, adults, unlike children, are often more critical of themselves and have fears, which children do not experience. Adult learners are also more affected by the type of language input they experience and often control its quantity and quality, meaning that they can either “tune out” the language if so desired, or they can seek opportunities to speed up the learning process. Adult learning is a relatively conscious process. Most language learners seem to be able to articulate whether they are “good” at learning languages or not, whether they seem to enjoy it or not, and whether they want to pursue it or not. Since adults have cognitive tools available to them which they use to study other subjects in general, these same study skills can assist them in identifying personally effective and meaningful learning routes to second language acquisition.

Cummins (1988) in his classic work has separated language skills into two major categories of proficiency. Basic Interpersonal Communication Skills (BICS) typically requires a few years to develop. This means that the language learner is able to converse about every day affairs and often appears to be a competent user of the language, being fluent and able to respond to most concrete stimuli. However, according to

Cummins, Cognitive Academic Language Proficiency (CALP), the ability which allows the learner to discuss and study conceptual, academic, material in the second language takes several years longer, being the result of years of extended study in the target language. In other words, although a person may be perfectly capable of carrying on a conversation in the target language, that same individual may not be equipped with the skills needed to study abstract concepts in the same language. That requires academic knowledge of complex sentence structures, understanding of the written and spoken rhetoric of the language, and possession of a sophisticated fine-tuned vocabulary. This level of language proficiency is attainable only through directed academic study and, therefore, can be achieved only through hard work, native speakers included. Working adults often have the need to acquire new knowledge as quickly as possible; yet, language places its own timetable on the learner and tends not to respond to “cramming.” Language requires its own time, for the learning of a language is, indeed, a process. The process can be speeded up by intensive language courses in those cases where the focus is solely on the systematic study of language for several hours each day. Students who, for example, have the opportunity to attend intensive language courses may be able to advance sooner and take greater leaps of advancement than those who lack the time or the resources to do the same.

No matter how second languages are studied, the instructional context – whether formal or informal – must contain certain key components to foster success. Van Lier (1996) notes that language learning efficiency is enhanced by the learner's own understanding of what he is doing and why (awareness), being able to make some personal decisions about the process (autonomy), and being introduced to materials which are relevant, meaningful and practical (authenticity). The learner, in other words, must be mentally present in the learning situation and must have some desire to put forth the effort towards acquiring another language. Krashen (1988) for the last two decades has emphasised the role of “comprehensible

input” in language teaching. This means that the instructor must create learning situations which are not too difficult for the student. The language material should be appropriately and developmentally sequenced so that it is slightly above the learner's current level of mastery. Swain (1993) believes that in addition to comprehensible input, “meaningful output” cannot be underestimated: the learner must actively participate in the production of the language. The learner must engage in the language, solve problems with it, create one's own ideas in “home-made” sentences, and negotiate meaning in the target language; in other words, passive listening or note-taking of someone else's language use will never result in proficiency in the production of the language. In short, interaction in the language is needed in order for the learner to communicate personal meaning in the target language (Cummins and Swain 1986). Language practice, which takes place in relevant context will then result in the acquisition of the language. In other words, the learner will not only learn about the language but he will learn to use the language. Knowing about the language and knowing the language are not always synonymous. The other crucial components of any organised language programme are the methods and materials used to enhance students' learning experiences. There is no one correct way to teach language nor is there any one text or computer programme which will suffice in its entirety. Since teaching must be based on the students' needs and diagnosed levels of ability, the instructor is in the key position to determine what the students should learn and how they should be taught. All this, however, must be encased in the identified goals of the programme itself. The entrance requirements must match the abilities of the admitted students. The exit examinations should test whether the programme was successful in delivering its content or not. What happens during the course must be tailored to meet realistic and locally appropriate programme goals.

Since language is an ever-evolving skill, attention must also be paid to whether language support will be continuous or offered intermittently to ensure maintenance of the critical language

proficiency level. As tempting as it may be to settle for quick solutions, the reality is that language learning and teaching is an endeavour which absolutely requires time, energy and often funds. Programmes which promise language success in a matter of hours or weeks are surely not based on empirical research and evidence. Learning a language is an achievable goal, but it must be approached with systematically, proven methods which work, and common sense. Language learning does not happen because someone requires it. It happens with personal effort. It is always an individual challenge and journey. When the learner is persistent and endures till the desired standard has been achieved, the rewards of being bilingual are not only professionally but also personally satisfying. Bilingual people have unique cognitive pathways at their disposal for problem solving which can only enhance their ability to think and perform. This is one of the many bonuses of knowing more than one language.

2.2 Methods of Teaching a Second Language

Both conventional and latest methods of teaching a second language are discussed below.

2.2.1 The Grammar-Translation Approach. This approach was historically used in teaching Greek and Latin. The approach was generalised to teaching modern languages. Classes are taught in the students' mother tongue, with little active use of the target language. Vocabulary is taught in the form of isolated word lists. Elaborate explanations of grammar are always provided. Grammar instruction provides the rules for putting words together; instruction often focuses on the form and inflection of words. Reading of difficult texts is begun early in the course of study. Little attention is paid to the content of texts, which are treated as exercises in grammatical analysis. Often the only drills are exercises in translating disconnected sentences from the target language into the mother tongue, and vice versa. Little or no attention is given to pronunciation.

2.2.2 The Direct Approach. This approach was developed

initially as a reaction to the grammar-translation approach in an attempt to integrate more use of the target language in instruction. Lessons begin with a dialogue using a modern conversational style in the target language. Material is first presented orally with actions or pictures. The mother tongue is NEVER, NEVER used. There is no translation. The preferred type of exercise is a series of questions in the target language based on the dialogue or an anecdotal narrative. Questions are answered in the target language. Grammar is taught inductively--rules are generalised from practice and experience with the target language. Verbs are used first and systematically conjugated only much later after some oral mastery of the target language. Advanced students read literature for comprehension and pleasure. Literary texts are not analysed grammatically. The culture associated with the target language is also taught inductively. Culture is considered an important aspect of learning the language.

2.2.3 The Reading Approach. This approach is selected for practical and academic reasons. For specific uses of the language in graduate or scientific studies. The approach is for people who do not travel abroad for whom reading is the one usable skill in a foreign language. The priority in studying the target language is first, reading ability and second, current and/or historical knowledge of the country where the target language is spoken. Only the grammar necessary for reading comprehension and fluency is taught. Minimal attention is paid to pronunciation or gaining conversational skills in the target language. From the beginning, a great amount of reading is done in second language, both in and out of class. The vocabulary of the early reading passages and texts is strictly controlled for difficulty. Vocabulary is expanded as quickly as possible, since the acquisition of vocabulary is considered more important than grammatical skill. Translation reappears in this approach as a respectable classroom procedure related to comprehension of the written text.

2.2.4 The Audio-lingual Method. This method is based on the principles of behaviour psychology. It adapted many of the

principles and procedures of the Direct Method, in part as a reaction to the lack of speaking skills of the Reading Approach. New material is presented in the form of a dialogue. Based on the principle that language learning is habit formation, the method fosters dependence on mimicry, memorisation of set phrases and over-learning. Structures are sequenced and taught one at a time. Structural patterns are taught using repetitive drills. Little or no grammatical explanations are provided; grammar is taught inductively. Skills are sequenced: Listening, speaking, reading and writing are developed in order. Vocabulary is strictly limited and learned in context. Teaching points are determined by contrastive analysis between First Language (L1) and Second Language (L2). There is abundant use of language laboratories, tapes and visual aids. There is an extended pre-reading period at the beginning of the course. Great importance is given to precise native-like pronunciation. Use of the mother tongue by the teacher is permitted, but discouraged among and by the students. Successful responses are reinforced; great care is taken to prevent learner errors. There is a tendency to focus on manipulation of the target language and to disregard content and meaning. Following hints for using audio-lingual drills in L2 teaching must be borne in mind:

- The teacher must be careful to ensure that all of the utterances which students will make are actually within the practised pattern. For example, the use of the auxiliary verbs “have” should not suddenly switch to “have” as a main verb.
- Drills should be conducted as rapidly as possibly so as to ensure automaticity and to establish a system.
- Ignore all but gross errors of pronunciation when drilling for grammar practice.
- Use of shortcuts to keep the pace of drills at a maximum. Use hand motions, signal cards, notes, etc. to cue response. You are a choir director.
- Use normal English stress, intonation, and juncture patterns conscientiously.

- Drill material should always be meaningful. If the content words are not known, teach their meanings.
- Intersperse short periods of drill (about 10 minutes) with very brief alternative activities to avoid fatigue and boredom.
- Introduce the drill in this way:
 - Focus (by writing on the board, for example)
 - Exemplify (by speaking model sentences)
 - Explain (if a simple grammatical explanation is needed)
 - Drill
 - Don't stand in one place; move about the room standing next to as many different students as possible to spot check their production. Thus you will know who to give more practice during individual drilling.
 - Use the "backward buildup" technique for long and/or difficult patterns.
 - -- tomorrow
 - -- in the cafeteria tomorrow
 - -- will be eating in the cafeteria tomorrow
 - -- Those boys will be eating in the cafeteria tomorrow.
 - Arrange to present drills in the order of increasing complexity of student response. The question is: How much internal organisation or decision making must the student do in order to make a response in this drill. Thus: imitation first, single-slot substitution next, then free response last.

2.2.5 Community Language Learning. This methodology is not based on the usual methods by which languages are taught. Rather the approach is patterned upon counselling techniques and adapted to the peculiar anxiety and threat as well as the personal and language problems a person encounters in the learning of foreign languages. Consequently, the learner is not thought of as a student but as a client. The

native instructors of the language are not considered teachers but, rather are trained in counselling skills adapted to their roles as language counsellors. The language-counselling relationship begins with the client's linguistic confusion and conflict. The aim of the language counsellor's skill is first to communicate empathy for the client's threatened inadequate state and to aid him linguistically. Then slowly the teacher-counsellor strives to enable him to arrive at his own increasingly independent language adequacy. This process is furthered by the language counsellor's ability to establish a warm, understanding, and accepting relationship, thus becoming an "other-language self" for the client.

2.2.6 The Silent Way. This method begins by using a set of coloured rods and verbal commands in order to achieve the following:

- To create simple linguistic situations that remains under the complete control of the teacher. To pass on to the learners the responsibility for the utterances of the descriptions of the objects shown or the actions performed. To let the teacher concentrate on what the students say and how they are saying it, drawing their attention to the differences in pronunciation and the flow of words.
- To generate a serious game-like situation in which the rules are implicitly agreed upon by giving meaning to the gestures of the teacher.
- To permit almost from the start a switch from the lone voice of the teacher using the foreign language to a number of voices using it. This introduces components of pitch, timbre and intensity that will constantly reduce the impact of one voice and hence reduce imitation and encourage personal production of one's own brand of the sounds.
- To provide the support of perception and action to the intellectual guesses of what the noises mean, thus bring in the arsenal of the usual criteria of experience already developed and automatic in one's use of the mother tongue.

2.3 Communication Process. Primarily communication process consists of three steps thinking/ideation, articulation and listening. The first step is thinking. The second step is articulating or transferring information or ideas into a series of symbols such as words, gestures or phrases. The third step is listening, and it involves not only the elementary activities of seeing and hearing but also the more sophisticated activity of attempting to derive meaning from the symbols. Each of the elements of communication process is briefly explained in the succeeding paragraphs.

2.3.2 Thinking. The creation of a clear idea by the sender of information is essential. There is no substitute for clarity if a sender is not clear about what he wants to say; the message will invariably become blurred. To ensure efficient communication and transmission of messages a sender must keep the following guiding principles in mind.

2.3.2.1 Definition of Problem. Before delivering a written or oral report a sender must first gather requisite information in order to determine the precise nature and purpose of a particular problem/message. For example, before counselling an employee, a supervisor must find out the reasons of his being so frequently absent.

2.3.2.2 Planning of Remarks. The facts and understanding of the problem are not all one needs to ensure efficient communication. Planning remarks is as essential as understanding the problem. Every message must have a definite purpose which must be kept in mind by the sender while communicating to avoid rambling or faltering.

2.3.2.3 Awareness of Receiver's Feelings/Attitudes. Besides the understanding of problem and deliberately prepared remarks, it is also essential to understand beforehand the feelings and attitudes of the person who will receive the message. To a large extent people see and hear what they want to see and hear. By anticipating the reaction of the

receiver, one can plan the message appropriately to achieve the desired end.

2.3.3 Articulating. Articulating transfers information into symbols (both verbal and non verbal) and then transmits them to the receiver. The major elements of articulation are explained below:

2.3.3.1 Gestures. Gestures are actions and facial expressions. Gestures convey a great deal of meanings in a face-to-face situation. Every time two persons meet, they do not only listen to each other's words, but they also observe and react to non-verbal cues such as facial expressions, posture and movement. We look for these non-verbal cues to sense more clearly a person's underlying feelings or motives.

2.3.3.2 Spoken Words. The second major element of articulation is spoken works. The quality of spoken communication is obviously affected by syntax, grammar and choice of words or diction. Particularly diction reflects the speaker's attitude towards the listener as well the message.

2.3.3.3 Written Words. The third major element of articulation is the written words. Here too, the syntax, grammar and diction are as important and perhaps more important than in case of spoken communication as the written words cannot be changed. Style of writing is also equally important in case of written communication as it can either enhance or deter articulation.

2.3.4 Listening. All efficient communication depends on listening. To be a good listener one must try to be speaker-centered, not self-centered, open-minded and aware of the kinds of feelings his or her attitude may convey to the speaker. As a listener one can use the following checklist to improve two-way communication process.

- Anticipate a situation by anticipating speaker's message.

- Look for main points
- Analyse the speaker's purpose i.e. try to determine why the message is being conveyed.
- Weigh the speaker's evidence. Try to determine validity of message.
- Be open-minded. Watch your bias and prejudice. Think before replying.
- Analyse the speaker's language in terms of what he means. He can have a handicap or use incorrect words.
- Do not concentrate on what you will say. Listen and analyse the message before you question.
- Be an active listener.

2.3.5 One-way vs Two-way Communication. In the one-way communication process, the sender develops information or a message and converts it into symbols and transmits to the receiver who participates by listening. Two-way communication also consists of thinking, articulating and listening, but in two-way communication instead of thinking and articulating being exclusive to the sender and listening to the receiver, there is an exchange of thinking, articulating and listening between both the parties. The relative merits and limitations of one-way and two-way communication are explained below.

2.3.6 One-way Communication. One-way communication is usually faster than two-way communication and it can be effective:

- If efficiency and speed is important.
- If the sender can afford greater possibility of error.
- If the sender wants to protect the prerogative.

2.3.7 Two-way Communication. Two-way Communication is usually more accurate but slower than one-way communication. If a listener does not understand the message,

he can ask questions. This may take time, but accuracy will be enhanced. The two-way process allows the receiver to be surer of himself and thus make correct judgments in carrying out directions. However, in two-way communication sender can be criticised and his mistakes and oversights can be focused upon. In coping with groups, formal or informal, one must practise two-way communication due to the following reasons.

- Only through listening one can understand rumours, attitudes and opinions.
- Since no one articulates perfectly, one must listen in order to be sure that his message is correctly received.

Note. One can never master the art of communication perfectly. One can only become better at it. By considering the three steps/elements of thinking, articulating and listening one can improve his/her communication skills.

2.3.8 Human Barriers to Communication Process. Barriers to communication are a natural part of human behaviour. Barriers filter communication and prevent some messages or parts of a message from going through, while allowing other messages to pass through. One must have a good understanding of the following barriers in order to overcome them.

2.3.8.1 Opinions. It is truthfully said that people see and hear what they want to see and hear. Pleasure is one motive for this behaviour, but in other cases the motive is avoidance. The desire to hear and see what we want to believe makes listening the most critical part of the communication process. It hampers the communication process and forces us to shut out communication that we do not like or that is detrimental to how we see ourselves.

2.3.8.2 Attitudes. An attitude is a well-defined feeling or emotion directed toward a fact or a state of affairs. Attitudes are one of the principle barriers to communication as they screen communication for the listener, but attitudes can be changed. The behaviour or actions of human beings are strongly

influenced by attitudes. Attitude development can be the result of previous experience or even the lack of experience.

2.3.8.3 Reasons. Another barrier to communication is the illogical reasoning possessed by the sender or the listener. Although a person with higher degree of intelligence may be more aware of environment than a person with lesser degree of intelligence, the person with higher intelligence may be tempted to think too far ahead of a transmission and may lose some of the message. In either case, when complicated messages are being communicated the ideas should be appropriately worded to make them understandable for all types of listeners.

2.4 Communication within Formal Organisations

Communication within formal organisations is generally classified into following well known categories.

2.4.1 Downward Communication. The traditional lines of communication flows from top, branching down through each management level to the management employees. This information flow requires great deal of concentration. The more people involved in communication process, the greater the probability that message may become distorted. The trend in modern organisations is to reduce the number of communication levels. Note that bad news tends to travel downward.

2.4.2 Upward Communication. Upward communication provides a way to monitor the implementation of plans. Employees sometimes have better ideas for improvement than managers. The upward flow of data tends to be filtered at each level of management as heads of departments wish to present the performance of their departments favourably. Note: good news tend to travel upward.

2.4.3 Horizontal Communication. Horizontal communication usually involves information being conveyed between departments. There are special problems related to this type of

information. Staff people with technical background may find it difficult to communicate with non technical people, or departments may feel that their objectives are different, even at times in conflict.

2.4.4 Multidirectional Communication. Meeting that includes several levels can provide efficient multidirectional communication. Although confusion is possible drawback, this type of communication can benefit an organisation by stimulating new ideas and solutions to problem.

2.4.5 External Communication. External communication includes public relations, advertising, marketing, sales etc. All members of an organisation can be involved in this type of communication.

CHAPTER 3

Instructional Technology

- ➔ 3.1 Media and Instruction
- ➔ 3.2 Communication/Field of Experience
- ➔ 3.3 Media, Message and Methods
- ➔ 3.4 Why Use Instructional Media
- ➔ 3.5 ASSURE Model of Instruction
- ➔ 3.6 Visual Design
- ➔ 3.7 Non Projected Visuals
- ➔ 3.8 Projected Visuals
- ➔ 3.9 Audio Media



3.1 Media and Instruction

3.1.1 Instructional Technology. Instruction is the arrangement of information to produce learning i.e. effect permanent change in the behaviour of a learner. The change effected by learning could be in cognitive, psycho-motive, or affective domains. Technology is the systematic application of scientific knowledge to practical tasks. It is both a process as well as a product. Instructional Technology is the application of our scientific knowledge, about human learning, to the practical tasks of teaching and learning.

3.1.2 Instructional Media. Anything that carries information from a source to a receiver is called medium. When such vehicles are used to carry messages intended to change the

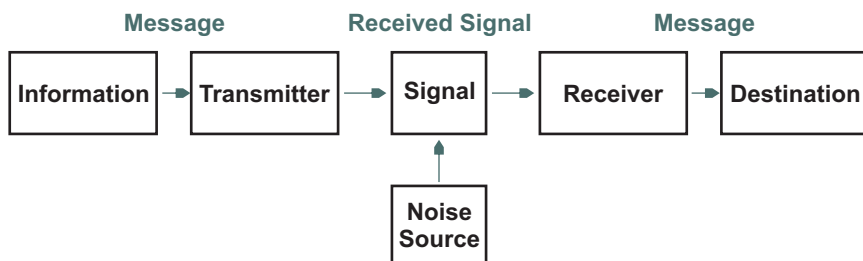
behaviour of information receivers (learners) then they are called Instructional Media.

3.2 Communication/Field of Experience

3.2.1 Introduction. Communication occurs whenever two or more individuals interact. It is the information flow from one individual to another that results in a shared-meaning and common understanding on the part of both information sender and information receiver.

3.2.2 Shannon-Weaver Communication Model. One of the first models of communication process was developed by Claude E. Shannon of the Bell Telephone Laboratories. Because of his background and job, Shannon was solely interested in technical aspects of communication. However, Warren Weaver collaborated with Shannon to develop broader applications of this model to other communication problems. The Shannon-Weaver model can be used to analyse instructional situations.

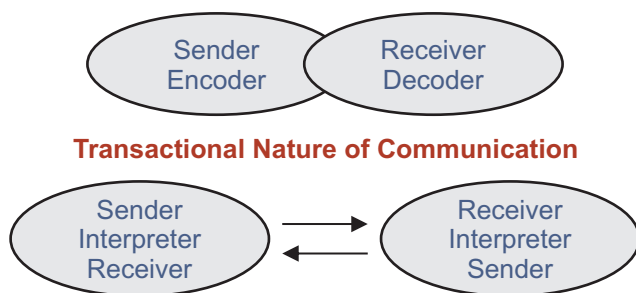
Shannon-Weaver Communication Model



A message is selected by an information source. That message is then incorporated by the transmitter into a signal. That signal could be a spoken word or a drawing on a chalkboard, or printed material. The signal is then received by the receiver's ear or eye and transformed into a message in the students' mind i.e. the destination. Acting on the signal as it is being transmitted are various distorting factors that Shannon called "noise". In our case noise could be various background sounds or glare on chalkboard. It is important to note that its not

the meaning but the symbol such as the words and pictures etc that are or can be transmitted.

3.2.3 Field of Experience. One major purpose of instructional communication is to broaden and extend the field of experience of the learner. Ideally, material presented to a learner should be sufficiently within his field of experience so that he can learn what needs to be learned, but sufficiently outside the field of experience to challenge and extend that field. How far the instruction can extend beyond the student's field of experience depends on many factors. Perhaps the most important of these is the ability of the student. Able students can assume more of the responsibilities for extending their own field of experience themselves than less able students. Slower students will need instructional contents closer to their field of experience in order to be successful. Most retarded learners would require instruction that is almost within their field of experience.



Communication is an interpretive transaction among individuals. The sender of a message encodes it according to his skills and knowledge (field of experience) and receiver decodes it according to his field of experience. In the feedback process, however, the receiver (student) does more than decoding the message. He now encodes his interpretation of the signal before relaying it back to the sender (teacher) who in turn must decode it. In fact, receiver becomes sender and sender becomes receiver. And both interpret the message according to their field of experience.

3.3 Media, Message and Methods

3.3.1 Media. A medium is a channel of communication. Derived from the Latin word for “between”, the term refers to “anything that carries information between a source and receiver”.

3.3.2 Message. Information intended to be communicated is called message. In any instructional situation there is a message to be communicated. This is usually subject matter/ content but it may be directions to the learners as well.

2.3.3 Method. The procedure or presentations, such as lectures, discussions, etc. which are selected to help the learner achieve the objectives i.e. understand the message are called methods. Various media may be employed within a method of instruction.



3.4 Why Use Instructional Media

- It facilitates intellectual development.
- It provides a concrete experience.
- It integrates prior experience.
- It improves balance between the concrete and abstract experience.

3.5 ASSURE Model of Instruction

3.5.1 Introduction. Effective instruction requires careful planning. Teaching with instruction media is certainly no exception to this educational truism. The educational researchers have structured a procedural model which has been given the acronym: ASSURE, because it is intended to “assure” effective use of media in instruction. Assure Model stands for:

- A = Analyse Learners
- S = State Objectives
- S = Select Media and Material
- U = Utilise Material
- R = Require Learner Performance
- E = Evaluate and Revise

3.5.2 Analyse Learners. If instructional media are to be used effectively, there must be a match between the characteristics of the learner and contents of the lessons and its presentation. The first step in Assure Model, therefore, should be the analysis of the learners. To analyse the learner we should keep the following aspects in mind:

3.5.2.1 General Characteristics. There are several factors about the learners that are critical for choosing appropriate media, material and methods of instruction. General characteristics of the learner include age, grade level, job/position and cultural and socio-economic factors. General characteristics are the factors which are not related to the contents of a lesson but these factors help a teacher select suitable instructional media/material and to select examples that would be meaningful to the learners.

3.5.2.2 Specific Entry Competencies. Under the Specific Entry Competencies, we have content-related qualities which directly affect the decision about the selection of media and method. These qualities are:

- **Pre-requisite Skills.** It means whether the learners have the knowledge base required to study a particular lesson/subject. This could be technical vocabulary or terminology of a lesson or a subject.
- **Target Skills.** It implies whether the learners have already mastered some of the skills they are going to study or not.
- **Learning Style.** It refers to the whole spectrum of

psychological traits such as perceptual preferences, (auditory, visual or tactile) information processing habits (learner can be analytical or global, field dependent or field independent, concrete sequential or concrete random, and abstract sequential or abstract random) motivational factors and physiological factors like male/ female differences.

3.5.3 State Objectives. The second step in ASSURE Model for using instructional media is to state objectives of instruction that means WHAT new capabilities a learner should possess at the completion of instruction. Thus OBJECTIVES are the statement of the new capabilities the students will possess at the end of the instruction and that of what the instructor plans to put into the lesson.

3.5.3.1 Advantages of Stating Objectives

- **Selection of Correct Media and Method.** A teacher must know his objectives in order to select correct media and methods. Objectives in a way dictate the choice of media and sequence of learning activities.
- **Help Carryout Proper Evaluation.** Another basic reason or advantage of stating instructional objective is that it helps assume proper evaluation. An instructor can not be absolutely sure if the learners have achieved an objective unless he knows what that objective is.
- **Make Teaching-Learning Objective-Oriented.** Objectives make teaching-learning process more purposeful and well-directed.

3.5.3.2 How to State Objectives. The procedure of stating objectives, given the acronym of ABCD, is explained below:

- **A (Audience).** Means the individuals whose capabilities are intended to be changed. It implies that objective-oriented instruction should focus on what the learner is doing, not on what the teacher is doing.

- **B (Behaviour).** While stating objectives it should be mentioned categorically what capabilities the learners will have after the instructions or we can say what changes will be brought about in the observable behaviour of the learners after the instruction.
- **C (Conditions).** Well-stated objectives must spell out the conditions under which the performance of the learners will be checked/observed after the instruction.
- **D (Degree).** The standard by which the acceptable performance will be judged i.e. what degree of accuracy or proficiency must be attained/displayed by the audience. It must be noted that degree can be both qualitative as well as quantitative.

NB Objectives must always be stated in observable term i.e. verbs such as state, describe, etc. should be used instead of verbs like know, understand, etc. which are not observable.

3.5.3.3 Classification of Objectives

- Cognitive.
- Psycho-motive.
- Affective.

3.5.4 Select Media and Methods - Selection Criteria. The decision concerning the selection of media depends upon several factors. Some of the important factors that determine the choice of media are as follows:

- Must match the material and instructional objectives.
- Should provide accurate and up-to-date information.
- Must arouse and maintain interest.
- Must be free from objectionable bias.

3.5.5 Utilise Media and Materials. The next step in ASSURE Model is the presentation. To get maximum impact of learning from presentation the following procedure may be adopted to

utilise media and materials:

3.5.5.1 Preview the Materials. No instructional materials should be used blindly. During the selection process it should be determined that the materials are appropriate for the audience and objectives.

3.5.5.2 Practise the Presentation. After the preview of materials, presentation must be practised. It is advisable to go through the presentation at least once in advance then to review the notes immediately before the presentation.

3.5.5.3 Prepare the Environment. Wherever the presentation is to take place- classroom, auditorium or meeting room, etc. the facilities such as comfortable seating, proper ventilation, lighting etc. have to be put in order.

3.5.6 Prepare the Audience. Research on learning tells us what is to be learned depends upon how the learners are prepared. Proper warm-up generally consists of an introduction including a broad overview of contents of the presentation, rationale of the lesson to be studied and motivation.

3.5.7 Present the Material. This is what you have been preparing for, so you will want the most of it. Material can be presented effectively by making use of instructional techniques referred to as “Showmanship”, which is explained below:

3.5.7.1 You are a Medium. Most audio-visual presentations include some sort of live performance by the instructor both as an orator as well as an actor.

3.5.7.2 Be Natural. Your audience will quickly sense affectation. Do not try to be someone or something that you are not.

3.5.7.3 Avoid Distracting Mannerisms. If you have any annoying habits/mannerisms including verbal tic, get rid of them as they cause a lot of distraction.

3.5.7.4 Your Classroom is a Stage. When you are making presentation in a classroom you are functioning like an actor and you can improve your performance a lot by keeping following points, related to stagecraft, in mind.

3.5.7.5 Strong Areas on the Stage:

Dimensions of a Stage

X	2	X
3	1	4

3.5.7.6 Body Position. Facing the audience full front is the strongest position.

3.5.7.7 Movements. Avoid distracting movements/mannerisms; but at times movement can be used to underscore important points.

3.5.7.8 Keep it Light. A relaxed environment is always helpful for effective learning.

3.5.7.9 Keep a Surprise in Store. Do not be afraid to surprise your audience.

3.5.7.10 Control Attention. Eye contact with audience is extremely helpful to control attention.

3.5.7.11 Keep Light and Sound Synchronised.

3.5.8 Evaluate. Evaluation is a must for following reasons:

- To see the level of learners' achievement, to judge to what extent objectives have been achieved.
- To measure the effectiveness of media and methods.
- To see the success of instructional process.

3.6 Visual Designs

We are a visual society, one that has experienced an increasing production and distribution of visual messages in recent years. Television comes immediately to mind, but images are all around us. New technologies of printing and reproduction have also contributed to the flood of visual messages in books, newspapers and periodicals as never before. We are surrounded by visual messages on billboards and posters. Advertisements of all kinds have become increasingly visual. Instruction is also becoming less verbal and more illustrative. From instructional point of view we know most people are visually oriented. They learn about 10 percent from listening and over 80 percent from what they see. More importantly they remember only about 20 percent of what they hear and over 50 percent of what they hear and see.

3.6.1 Visuals as Referents to Meaning. The primary function of visuals as a communication device is to serve as a more concrete referent to meaning than the spoken or written word. Words are arbitrary symbols they do not look or sound like the objects they represent. Visuals, on the other hand, resemble the things they represent. It is a general principle of human communication that the possibility of successful communication is increased when a concrete referent is present. When a thing to be discussed is not present the next best referent is a visual representation of it.

3.6.2 Picture Preferences of Learners. We need to make a distinction between the pictures people prefer to look at and those from which they learn the most. People do not necessarily learn best from the kind of pictures they prefer. For example, research on picture preferences indicates that children in upper elementary schools tend to:

- Prefer colour to black and white.
- Choose photographs over designs.
- Choose realism in form and colour.
- Young children prefer simple over complex illustrations.

- Adults/older children prefer complex over simple illustrations.

Teachers have to make appropriate choice between effective illustrations and proffered illustrations. Most learners prefer coloured visuals over black and white visuals. However, there is no significant difference in amount of learning except where colour is an essential part of the content to be learned.

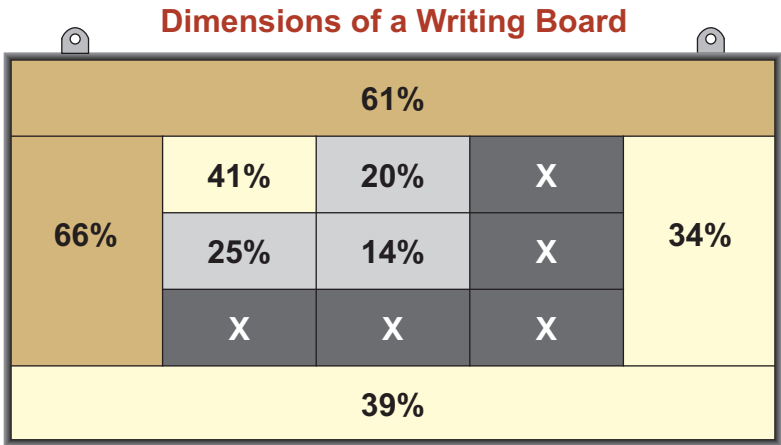
3.6.3 Using Visuals in Instruction. Students can learn from visuals in two ways viz Decoding and Encoding. First they must be able to read visuals accurately, understand the elements of visuals and translate the visuals into messages. This skill is referred to as Decoding. Secondly, they should be able to create visuals as a tool to communicate effectively with others and be able to express themselves through visuals. This skill is called Encoding. The development of both decoding and encoding skills requires practice. The factors that influence decoding are mentioned below:

- Age.
- Cultural Background.
- Experience/Education.

3.6.4 The Concept of Visual Literacy. Until recently the concept of literacy was applied almost exclusively to the ability to read and write. In the mid 1960s, however, we began to hear of a different kind of literacy i.e. “Visual Literacy”. This new concept of literacy came in response to the realisation that specific skills are needed to read and write “Visual Messages”. Visual Literacy is the learned ability to interpret visual messages accurately and to create such messages.” Visual Literacy has also become a “Movement” within the field of education. The movement now has its own professional association viz The International Visual Literacy Association, which has its own periodicals.

3.6.5 How People Look at Visuals. All instruments ought to be concerned about how people look at pictorial and graphic

materials and what they see in them because these factors determine considerably what people get out of the material. Research in the United States indicates that viewers have a tendency to look at visuals in the manner explained below:



3.6.6 Classification of Visuals. Visuals can be classified into three categories viz Representational, Analogical and Arbitrary.

3.6.6.1 Representational. Representational visuals are those that resemble the object or the concept under study.

3.6.6.2 Analogical. Visual convey a concept by showing something else and implying a similarity e.g. to illustrate electricity flow showing water flowing in series and parallel pipes.

3.6.6.3 Arbitrary. Or non-representational visuals are such as flowcharts, graphs, maps etc.

3.6.7 Designing Visuals. Well-designed visuals not only promote the learning of subject matter but also provide aesthetic model for students' own creative growth. There is no magic recipe to achieve design. You must develop creative and imaginative techniques through practice and exposure to good design methods. There are some general interrelated

principles that apply to all forms of designs. These principles relate to unity, line, shape, form, arrangement, balance and colour. Each of these principles is briefly explained below:

3.6.7.1 Unity is the relationship among the elements of a visual so that they function together. A mistake frequently made is to crowd too much into one space. Eliminate every element that is not essential to the communication of your idea.

3.6.7.2 Line is one dimensional structural device that attracts attention by moving the eye around or to a specific area. Lines suggest action, direction and movement as explained below:

- **Horizontal** lines give a feeling of stability and rest.
- **Vertical** lines imply strength.
- **Diagonal** lines imply movement and action. Crossed diagonals give a sense of conflict.
- **Curved** lines also give a feeling of motion.

3.6.7.3 Shape. Shapes are two dimensional and can form the outline of objects. Shapes can work together to create a meaningful whole.

3.6.7.4 Form. Most visuals are two dimensional with lines and shapes. However, a third dimension of form can be added with the use of texture or actual material. Form creates a definite feeling among the viewers about the visuals.

3.6.7.5 Arrangement. The visual and verbal elements of the object or concept be arranged in a manner/pattern that captures the viewers attention and directs it towards the important details.

3.6.7.6 Balance. The psychological sense of equilibrium or balance is achieved, when the “weight” of the element of/in a display is equally distributed on each side of the axis.

3.6.7.7 Colour. Cannot only enhance and enrich visual designs but also influence moods and indicate movement. Some of the

other functions of colour in a visual are:

- To heighten realism by depicting the actual colours of objects.
- To point out similarity and differences.
- To highlight the important information and details.
- To create particular emotional response. Artists have long appreciated the blue, green and violet are perceived as cool/receding, whereas red and orange are considered hot/approaching. Suggestions for colour combination are:
 - Blue on white/yellow
 - Green on white
 - Red on white
 - Blue on white
 - White on blue, etc.

3.7 Non-Projected Visuals

3.7.1 Introduction. Non-projected visuals are so common that at times instructors are inclined to underestimate their instructional value. These include real objects, models, field trips, still pictures and graphic materials etc. Some of the more important non-projected visuals are discussed in the succeeding paragraphs.

3.7.2 Realia. Real things, objects such as coins, plants, animals, etc. are some of the most accessible materials in educational use. Being, by definition, concrete objects, realia are ideal media for introducing learners to a new subject. Realia may be used as it is or modified to enhance instructional utility. Examples of modification include:

3.7.2.1 Cutaways. Devices such as machines, with one wall cut away to allow close observation of the inner working.

3.7.2.2 Specimens. Actual plants, animals or parts thereof preserved for convenient inspection.

3.7.2.3 Realia Exhibits. Collection of artifacts, often of scientific or historical nature brought together with printed information to illustrate a point.

3.7.3 Models. Are three dimensional representations of real things. A model may be larger, smaller or of the same size as the object it represents. It may be complete in detail or simplified for instructional purpose. Indeed, models may provide learning experience that may not be provided by the real things. Important details, for example, can be highlighted by colour. Some models can be disassembled to provide interior views not possible with the real things.

3.7.4 Field Trips. Or excursions outside the classroom to study real process, people and objects, often grow out of students needs for first hand experience. It makes possible the utilisation of phenomena that cannot be brought into the classroom for observation and study. Field trips include a trip of few minutes into the school yard to observe a tree or perhaps a longer trip of several days to tour historical locations. Proper field trip sites include zoos, museums, public buildings, parks, etc.

3.7.5 Still Pictures. Are the photographic representations of things, persons, places, etc.

3.7.5.1 Advantages of Still Pictures:

- Can be used to translate abstract ideas into more realistic format.
- Are readily available.
- Are easy to use.
- Are relatively inexpensive.

3.7.5.2 Limitations of Still Pictures:

- Some photographs are too small to be used before a large group.
- Enlargement is too expensive.

- Still pictures can't be used to show motion/movement.
- Still pictures are two dimensional.

3.7.5.3 Application of Still Pictures:

- Photos taken on a field trip can be a source of information for follow up activities.
- Are helpful in the study of the process.
- Are useful in teaching of social sciences.
- Can be used for testing and evaluation.
- May be used to stimulate creative expression.

3.7.6 Graphic Material. Graphics are non-photographic two-dimensional material designed specifically to communicate a message to viewers. They often include verbal as well as symbolic visual cues.

3.7.6.1 Drawings. Drawings, sketches and diagrams are the graphic arrangements of lines to represent persons, places, things and concepts.

3.7.6.2 Charts. Are graphic representations of abstract relationships such as chronologies, qualities and hierarchy. Types of charts are:

- Organizational Charts.
- Classification Charts.
- Time Lines.
- Flow Charts for showing processes or transformation, etc.
- Tabular Charts containing data in form of numerical information.

3.7.6.3 Graphs. Provide visual representation of numerical data. They also illustrate relationships between unit of data and trends in data. Types of graphs are:

- Bar Graphs.

- Pictorial Graphs.
- Circular Graphs.
- Line Graphs.

3.7.6.4 Posters. Posters incorporate the visual combination of images, lines, colours and words, and are intended to catch and hold attention at least long enough to communicate brief messages usually persuasive ones.

3.7.6.5 Cartoons. Cartoons are rough caricatures of real people and events.

3.8 Projected Visuals

Projected visuals refer to media format in which still images are enlarged and displayed on a screen.

3.8.1 Overhead Projection. Because of its many virtues, the overhead projection system has advanced rapidly over the last several decades to become the most widely used training aid in classrooms. The typical overhead projector is a very simple device. Basically it is box with a large aperture at the top. Light from the powerful box inside the box is condensed by a special type of lens and passes through a transparency placed on the mirror system mounted on a bracket above the box turn the light 90 degree and projects the image back on the screen.

3.8.1.1 Advantages of Overhead Projection:

- Can be used in normal room lighting.
- It allows the presenter to maintain eye contact with audience.
- It is easily portable.
- It is simple and can be operated easily.
- Projected material can be manipulated then and there.
- Material can be projected before a large group.

3.8.1.2 Limitations of Overhead Projection:

- It is dependent upon presenter.
- Cannot be used in independent study.
- Printed material and other long transparent items cannot be projected.
- Transparencies have to be prepared, which is a time consuming process.

3.8.2 Slides. The term slides refer to a small format photographic transparency individually mounted for one-at-a-time projection.

3.8.3.1 Advantages of Slides:

- Slides can be arranged and rearranged i.e. they are more flexible than film strips.
- Permanent collection of slides can be made.
- Can be used for large and small group as well as independent study.

3.8.2.2 Limitation of Slides:

- Slide can be easily reorganised.
- Careless storage and handling can damage slides.
- Slides are comparatively costly.

3.8.3 Film Strip. It is a role of 35mm or 65mm transparent film containing a series of related pictures intended for showing.

3.8.3.1 Advantages of Film Strip:

- Film strips are compact and easy to handle.
- The frames are in sequential order and can be shown chronologically.

3.8.3.2 Limitations of Film Strips:

- It is not possible to alter the sequence.
- Back tracking and skipping of a frame is difficult.

3.8.4 Opaque Projection. It is method of enlarging and displaying a non transparent material on a screen.

2.8.4.1 Advantage of Opaque Projection:

- It allows on the spot projection of readily available classroom material such as maps, newspaper, books, etc.
- It presents group viewing and discussion of students work.
- Three dimensional objects can be magnified and projected.

3.8.4.2 Limitations of Opaque Projection:

- Room darkness is required to operate opaque projector.
- Some opaque projectors are quite heavy.
- Heat of projector can damage the material.

3.9 Audio Media

3.9.1 Introduction. Elementary and secondary students spend 50% of their time just listening (or at least hearing). College students are likely to spend nearly 90% of their time in class, listening to lectures and seminars discussion. The importance, then, of audio media in the classroom should not be underestimated. By audio media we mean the various means of recording and transmitting human voice and other sound for instruction purpose. The audio devices mostly commonly used in classrooms are record players and tape recorders.

3.9.2 Hearing and Listening. Before going on to discuss these audio formats, let us examine hearing and listening process itself, as it pertains to the communication of ideas and information for the development of listening skills. Hearing and listening are not the same thing, though they are interrelated, we may say that hearing is a physiological process, whereas listening is a psychological process.

3.9.2.1 Hearing. It is a physiological process in which sound waves entering the outer ear are transmitted to the ear drum,

converted into mechanical vibrations in the middle ear, and changed in the inner ear, into nerve impulses that travel to the brain.

3.9.2.2 Listening. It is the psychological process which begins with someone's awareness of and attention to sound or speech patterns, identification of specific auditory signals and finally comprehension or incomprehension. The hearing/listening process is also communication/learning process. As with communication and learning process, a message is encoded by the sender and decoded by the receiver. The quality of the encoded message is affected by the ability of the sender to express the message clearly and logically. The quality of the decoded message is affected by the ability of the receiver to comprehend the message.

3.9.3 Techniques to Improve Students Listening Abilities/Skills. In formal education much attention is given to recording, a little to speaking and essentially none to listening. Listening is a skill; it can be improved with the help of following techniques:

3.9.3.1 Directed Listening. Before orally presenting a story or a lesson, give the student some objectives or questions to guide their listening.

3.9.3.2 Following Directions. Give directions individually or as a group on audio tape and ask them to follow these instructions.

3.9.3.3 Listening for Main Idea. Keeping the age level of the student in mind, you can ask the students to listen for the main ideas and then write them down.

3.9.3.4 Using Context in Listening. Younger students can learn to distinguish meanings in an auditory context by listening to sentences with words missing and then supplying the appropriate words.

3.9.3.5 Analysing the Structure of a Presentation. The students

can be asked to outline (analyse and organise) an oral presentation. The teacher can determine how well they were able to discuss the main ideas.

3.9.3.6 Distinguishing between Relevant and Irrelevant Information. After listening to an oral presentation the students can be asked to identify the main ideas and rate, from most to least relevant, ideas that are presented.

3.9.4 Advantages of Audio Media:

- Comparatively inexpensive forms of instructions.
- Audio materials are readily available and simple to use.
- Students who cannot read can learn from audio media.

3.9.5 Limitations of Audio Media:

- Audio media tend to fix the sequence of presentation even though it is possible to rewind the tape.
- Some students do not pay attention when speaker is not present.
- Initial expense of audio equipment may be a problem.

3.9.6 Applications of Audio Media:

- Can be used for self-paced instrument and mastery learning.
- Sounds of current events and historical happenings can be presented.
- Can be used for blind students.
- Tape recorder can be used on field trip and then same inputs can be used for discussion.
- Students can also record their own sound for presentation, etc.
- It can be used for evaluation purpose.

CHAPTER 4

Measurement and Evaluation

- ➔ 4.1 Role of Evaluation in Teaching
- ➔ 4.2 Evaluation and Instructional Process
- ➔ 4.3 Types of Evaluation Procedures
- ➔ 4.4 General Principles of Evaluation
- ➔ 4.5 Preparing Instructional Objectives
- ➔ 4.6 Validity
- ➔ 4.7 Reliability
- ➔ 4.8 Types of Test Items



4.1 Role of Evaluation in Teaching

4.1.1 Introduction. Many of the instructional decisions, a teacher makes, depend upon informal classroom observation. For example, oral questions of pupils may indicate the need for a complete review of the material; a class discussion may reveal misunderstanding that must be corrected on the spot; and the pupils' obvious interest in a topic may suggest that more time should be spent on it than originally planned. Tests and other evaluation procedures designed to measure pupils' learning are not intended as replacements for teachers' informal observations and judgments. Rather they are intended to complement and supplement the teachers' informal method of obtaining information about pupils. The teacher is still the observer and decision maker. Evaluation procedures provide information, but teachers must interpret

and use this information in making decisions. Tests and other evaluation procedures are simply a means of obtaining comprehensive, systematic and objective evidence on what to base instructional objectives/decisions.

4.1.2 The Meaning of Evaluation. As is common with terms commonly used, there is some confusion concerning the meaning of the term evaluation. In some instances it is used as the synonym of measurement. In other cases it is used interchangeably with the term testing. The term evaluation is also used as a collective term for those methods of appraisal that do not depend upon measurement. This use distinguishes evaluation as “qualitative description” of pupils' behaviour as opposed to measurement which is a “quantitative description”.

4.1.3 Definition of Basic Terminology:

4.1.3.1 Test. An instrument or systematic procedure for measuring a sample of behaviour (answer the question, “How well does the individual perform either in comparison with others or in a domain of performance tasks?”).

4.1.3.2 Measurement. The process of obtaining a numerical description of the degree to which an individual possesses a particular characteristic (answer the question, “how much?”)

4.1.3.3 Evaluation. The systematic process of collecting, analysing, and interpreting information to determine the extent to which pupils are achieving instructional objectives (answer the question, ‘How good?’)

4.1.4 Evaluation vis-à-vis Measurement and Testing. Evaluation is much more comprehensive and inclusive than measurement, and testing is just one type of measurement. The term measurement is limited to quantitative description of pupils; the results of measurement are always expressed in numbers (e.g. Mary solved 35 out of the 40 questions, correctly). It does not include qualitative descriptions (e.g. Mary's work was neat), nor does it imply judgments concerning

the value of the obtained results. Evaluation on the other hand, may pertain to either or both quantitative description (measurement) and qualitative description (non-measurement) of pupils. In addition, evaluation always includes value judgments concerning the desirability of the results (e.g. Mary is making good progress).

4.2 Evaluation and Instructional Process

4.2.1 Introduction. Broadly conceived, the main purpose of classroom instruction is to help pupils achieve a set of intended learning outcomes which includes changes in pupils' intellectual, emotional and physical spheres. When classroom instruction is viewed this way, evaluation becomes an integral part of teaching-learning process. The intended learning outcomes are established by instructional objectives, these objectives are achieved by the planned learning activities and pupils' learning progress is evaluated by tests and other evaluation devices. The interdependence of these three facts can be seen in the following steps included in the instructional process:

4.2.1.1 Preparing Instructional Objectives in Terms of Desired Learning Outcomes. The first step in both teaching and evaluation is determining the learning outcomes to be expected from classroom instructions. By identifying instructional objectives we can set the stage for not only teaching process but also for the evaluation of pupils' learning.

4.2.1.2 Pre-assessing the Learners' Needs. When instructional objectives have been specified it is always desirable to make assessment of pupils' abilities and skills needed, to proceed with instructions.

4.2.1.3 Providing Relevant Instructions. During the instructional phase, evaluation provides a means of (1) monitoring learning progress and (2) diagnosing learning difficulties.

4.2.1.4 Evaluating Intended Outcomes. The final step in the instructional process is to determine the extent to which the pupils have achieved instructional objectives.

4.2.1.5 Using the Evaluation Result. Properly used evaluation procedure can contribute to improved pupils' learning by:

- Clarifying the intended learning outcomes.
- Providing short-term goals to work towards.
- Offering feedback concerning learning progress.
- Providing information concerning learning difficulties.

4.3 Types of Evaluation Procedures

Evaluation procedures are categorised into following types.

4.3.1 On the Basis of Nature of Measurement:

4.3.1.1 Maximum Performance. Includes those procedures which are used to determine a person's abilities. Procedures of this type are concerned with how well an individual performs, when motivated to obtain as high a score as possible. Aptitude and achievement tests are included in this category. Aptitude test predicts success in future learning activity. Achievement test indicates degree of success in some past learning activity.

4.3.1.2 Typical Performance. Includes those procedures which are designed to determine how an individual usually behaves/performs in normal or routine situations. Results in this area, then indicate what individuals will do rather than what they can do.

4.3.2 On the Basis of Use in Classroom:

4.3.2.1 Placement Evaluation. Placement evaluation is concerned with pupil's entry performance and focuses on questions such as: Does the pupil possess the knowledge and skills needed to begin the planned instructions? To what extent

has the pupil mastered the objectives of planned instructions? To what extent the pupil's interests, work habits and personal characteristics indicate that one mode of instructions might be better than another?

4.3.2.2 Formation Evaluation. Formation evaluation is used to monitor learning progress or difficulties during instructions and to provide continuous feedback to both pupil and teacher concerning learning successes and failures.

4.3.2.3 Diagnostic Evaluation. Based on the results of formation evaluation, diagnostic test is administered to weak students to find out the causes of weak areas.

4.3.2.4 Summative Evaluation. Summative test comes at the end of a course of instruction. It is designed to determine the extent to which the instructional objectives have been achieved and is primarily used for assigning course grades or certificates.

4.3.3 On the Basis of Methods of Interpretation:

4.3.3.1 Norm Referenced Test (NRT). A test designed to provide a measure of performance that is interpretable in terms of an individual's standing in relation to some known group.

4.3.3.2 Criterion Referenced Test (CRT). A test designed to provide a measure of performance that is interpretable in terms of a clearly defined domain of learning tasks.

4.3.4 Comparison of NRTs and CRTs:

4.3.4.1 Common Characteristics:

- Both require specification of the achievement domain to be measured.
- Both require a relevant and representative sample of test items.

- Both use the same types of test items.
- Both use the same types of rules for item writing.
- Both are judged by the same qualities of goodness (validity and reliability).
- Both are useful in educational measurement.

4.3.4.2 Differences:

- NRT: Covers a large domain of learning tasks, with a few items.
- CRT: Covers limited domain of learning tasks with few items.
- NRT: Emphasises discrimination among individuals
- CRT: Emphasises what learning tasks individuals can and cannot learn.
- NRT: Favours items of average difficulty and omits easy items.
- CRT: Matches item difficulty to learning tasks.
- NRT: Used primarily for survey testing.
- CRT: Used primarily for mastery testing.
- NRT: Interpretation requires clearly defined group.
- CRT: Interpretation requires clearly defined achievement domain.

4.4 General Principles of Evaluation

General principles of evaluation are briefly discussed below.

4.4.1 Determining and Clarifying the Purpose of Evaluation. Identify and clearly specify the learning outcomes to be measured.

4.4.2 Selecting Appropriate Evaluation Techniques. Once the particular learning outcomes to be measured have been precisely identified, the evaluation techniques that are most

appropriate for evaluating the learning outcomes should be selected.

4.4.3 Selecting Variety of Techniques. No single evaluation technique is adequate for appraising pupils' progress towards all of the important outcomes of instructions.

4.4.4 Beware of Limitations of Evaluation Techniques. Evaluation techniques vary from well-developed instruments to rather crude observational methods. Even the very best educational measuring instruments fall short of precision as all are subject to one or more types of errors.

4.4.5 Evaluation is a Means to an End, not an End Itself. The use of evaluation implies some useful purpose will be served and the user is aware of that. To gather data about a student and then file it away in the hope that it will prove useful some day, is a waste of both time and effort.

4.5 Preparing Instructional Objectives

Instructional objectives play a vital role in the instructional process. When clearly stated they serve as a guide for both teaching and evaluation. A clear description of intended learning outcomes aids in; selecting relevant materials and methods of instructions, monitoring student progress, selecting and constructing appropriate evaluation, and conveying instructional intent to others.

4.5.1 Definition. “The behaviour the students are expected to exhibit as the result of instructions. It is concerned with the product of teaching rather than the process of teaching.”

4.5.2 Concept of Instructional Objectives as Learning Outcomes. In preparing instructional objectives, it is possible to focus on different aspects of instructions. Some teachers prefer to state objectives in terms of what they are going to do during instruction e.g. demonstrate to the pupils how to use the microscope. Although this statement clearly indicates what the

teaching activity is, it does not concern the intended learning outcomes. A more desirable way of stating instructional objectives is in terms of what we expect pupils to be able to do at the end of instruction. After demonstrating how to use the microscope, for example, we may expect students to be able to do following:

- Identify parts of a microscope.
- List the steps to be followed in using a microscope.
- Demonstrate skill in using a microscope.

4.5.3 Dimensions of Instructional Objectives

- Mastery vs. Developmental Outcomes
- Ultimate vs. Immediate objectives
- Single-Course vs. Multiple Choice Objectives

4.5.4 Taxonomy of Educational Objectives. A useful guide for developing a comprehensive list of instructional objectives is the Taxonomy of Educational Objectives. It first divides objectives into three major areas: cognitive domain, which is concerned with knowledge and intellectual abilities; affective domain, which is concerned with attitudes, interests and appreciation, etc.; and psychomotor domain which is concerned with motor skills. The summary of Taxonomy of educational objectives is as under:

4.5.4.1 Cognitive Domain (Bloom 1956):

- **Knowledge.** Remembering previously learned material.
- **Comprehension.** Ability to grasp the material, may be shown by translating material from one form to another.
- **Application.** The ability to use the learned material in new situations.
- **Analysis.** Break down material in parts so that its organisational structure may be understood.
- **Synthesis.** Put parts together to form new whole/structure.
- **Evaluation.** Judge the value of material.

4.5.4.2 Affective Domain (Krath Wohl-1964):

- **Receiving.** Willingness to attend to particular phenomena or stimuli.
- **Responding.** Active participation
- **Valuing.** Value a students' attendance to a particular objective.
- **Organisation.** Building of internally consistent value system by resolving conflicting values.
- **Characterisation.** Value system that has controlled one's behaviour for long time and developed a characteristic life style.

4.5.4.3 Psychomotor Domain (Simpson 1972):

- **Perception.** Obtain cues through use of sense organs.
- **Set.** Readiness to take particular type of action.
- **Crude Response.** Under supervision action.
- **Mechanism.** Habitual action.
- **Complex Overt Response.** Skillful performance of motor acts.
- **Adaptation.** Modify habitual pattern to special requirements/situation.
- **Originating.** Creating of new movement patterns.

4.5.5 Criteria for Selecting Appropriate Objectives. In drawing up a list of objectives for a particular course, the teacher must determine the adequacy of the final list of objectives. The following questions will serve as criteria for this purpose:

4.5.5.1 Do the objectives include all important outcomes? Knowledge objectives are seldom neglected, but objectives in the order of understanding, thinking skills attitudes and the like tend to be slighted unless special efforts are made to consider them.

4.5.5.2 Are objectives in harmony with general goals of the school? The objectives developed by individual teachers must be consistent with general goals of the school. For example, if independent thought, self-direction and effective communications, etc. are highly valued in the school, they must be reflected in the teacher's objectives.

4.5.5.3 Are the objectives in harmony with general principles of learning? Because objectives indicate the desired outcomes of series of learning experiences, they should be consistent with sound principles of learning.

4.5.5.4 Are the objectives realistic in terms of students' abilities and the time and facilities available?

4.6 Validity

4.6.1 Introduction. Tests and other evaluation instruments serve a variety of uses in a school. For example, tests of achievement might be used for selection, placement or diagnosis and attitude tests might be used for predicting success in future learning activities or occupation. Regardless of the type of instrument used or how the results are interpreted/used, all of the evaluation instruments must have certain characteristics. The most essential of these are:-

- Validity
- Reliability
- Usability

4.6.2 Concept of Validity. If a test measures what it is supposed to measure, it is said to be valid. "It is the appropriateness of the interpretation of the result of a test." According to another definition, "Validity refers to the appropriateness of interpretations made from test scores and other evaluation results, with regard to a particular use." For example, if a test is to be used to describe a pupil's achievement, we should be able to interpret the scores as a relevant and representative sample of the achievement domain or if the results are used to

predict the pupil's success in some future activity, we should be able to estimate future success as accurately as possible.

4.6.3 Cautions Related to Validity. When using validity in relation to testing and evaluation, some cautions must be borne in mind:

- Validity refers to the appropriateness of the interpretation of the results of a test or evaluation instrument for a given group of individuals, and not the instrument itself.
- Validity is a matter of degree; it does not exist on an all or none basis. The results, therefore, cannot be referred to as valid or invalid. Validity can be considered in terms of high validity, moderate validity or low validity.

4.6.4 Approaches Related to Validation

4.6.4.1 Content Related Evidence. “It is the process of determining the extent to which a set of test tasks provides a relevant and representative sample of the domain of tasks under consideration.” Content validation takes place during test development. It is primarily a matter of preparing detailed test specifications and then constructing a test that meets these specifications.

4.6.4.2 Subject Specification. One widely used procedure in constructing an achievement test, is using a 2-way chart called a Table of Specification. The contents of the course or the curriculum indicated in the Table of Specification, include both subject matter/content and instructional objectives. The former is concerned with the topics to be learned and the latter with the types of performance pupils are expected to demonstrate.

4.6.4.3 Criterion Related Evidence. Whenever, test scores are to be used to predict future performance or to estimate current performance on some valued measure other than the test itself (called a criterion) we are especially concerned with criterion-related evidence. Criterion-related evidence may be defined as a process of determining the extent to which test

performance is related to some other valued measure.

4.6.4.4 Validity is always Specific to a Particular Use. No test is valid for all purposes.

4.6.4.5 Validity is a Unitary Concept. The three basic ways of gathering evidence of an interpretation (content, criterion related and construct) simply provide convenient categories for describing the evidence of validity.

4.7 Reliability

4.7.1 Introduction. Reliability refers to the consistency of measurement i.e. how consistent test scores are from one measurement to another. The meaning of reliability, as applied to testing and evaluation, can be further clarified by noting following general points:

- Reliability refers to the results obtained with an evaluation instrument and not to the instrument itself.
- An estimate of reliability always refers to a particular type of consistency.
- Reliability is a necessary but not a sufficient connection for validity.
- Reliability is primarily statistical, and not a logical analysis.

4.7.2 Basic Terminology:

- **Correlation Coefficient.** A statistical method that indicates the degree of relationship between any two sets of measures obtained from the same group of individuals.
- **Validity Coefficient.** A correlation coefficient that indicates the degree to which a measure predicts or estimates performance on some criterion measure e.g. correlation between aptitude scores + grades in school.
- **Reliability Coefficient.** A correlation coefficient that indicates the degree of relationship between two sets of measure obtained from the same instrument or procedure.

- **Standard Deviation.** It is an average by which a set of scores deviates the mean.
- **Standard Error of Measurement.** The amount of variation expected in scores is called standard error of measurement.

4.7.3 Determining Reliability by Co-relation Methods. In determining reliability it would be desirable to obtain two sets of measures under identical conditions and then to compare the results. This procedure is impossible because the conditions under which evaluation data are obtained can never be identical. As a substitute for this ideal procedure, several methods of estimating reliability have been introduced. The methods are similar in that all of them involve correlating two sets of data, obtained either from the same evaluation instrument or from equivalent forms of the same procedure. The correlation coefficient used to determine reliability is calculated and interpreted in the same manner as that used in determining the statistical estimates of validity.

4.7.4 Factors Influencing Reliability

4.7.4.1 Length of Test. In general the longer the test is, the higher its reliability will be. This is because longer test will provide a more adequate sample of the behaviour being measured (scores are likely to be less distorted by chance factors such as guessing).

4.7.4.2 Spread of Scores. Reliability coefficients are directly influence by the spread of scores in the group tested. Other things being equal the larger the spread of scores is, the higher the estimate of reliability will be.

4.7.4.3 Difficulty of Test. Tests that are too easy or too difficult for the group members taking it, will tend to produce scores of low reliability.

4.7.4.4 Objectivity. The objectivity of a test refers to the degree to which equally competent scores obtain the same results.

4.7.5 Usability of Test. In selecting tests practical considerations such as the expertise of scorers, availability of time, resources, etc. must be taken into account:

4.7.5.1 Ease of Administration. If a test is to be administered by teachers with limited administrative skills, then the test should be simple and clear because quality administration is especially important.

4.7.5.2 Time Required for Administration. Reliability is directly related to the length of test. We always favour shorter test. But in an attempt to cut down too much time, we may reduce test reliability, drastically.

4.7.5.3 Ease of Scoring. Objective type items and marking with key.

4.7.5.4 Ease of Interpretation and Application. The final analysis; the success or failure of testing is determined by the use made of test results. If they are interpreted and applied correctly, they will contribute to correct educational decisions.

4.7.5.5 Availability of Equivalent or Comparable Form. To check reliability.

4.7.5.6 Cost of Testing. Validity and reliability should not be compromised to reduce the cost of testing.

4.8 Types of Test Items:

Test items are broadly categorised into two types i.e. Essay or Descriptive type and Objective type. These two types of test items are further classified in a number of categories. The hints to construct various types of test items along with their relative advantages and limitations are listed below

4.8.1 Constructing Objective Test Items

4.8.1.1 Short – Answer Item. The short answer and the

completion item both are supply type test items that can be answered by a word, phrase, number or symbol. They are essentially the same, differing only in the method of presenting the process. The short answer item uses the direct question, whereas the completion items consist of incomplete items or an incomplete statement. The short-answer item is subject to a variety of defects and pitfalls which can be avoided by keeping following suggestions in mind:

- Word the items so that the required answer is both brief and specific. This can be easily conveyed through directions and by properly phrasing questions.
- Do not take statements directly from the textbooks to use as a basis for short-answer items. Bookish statements are likely to be too general and analogous.
- If answer is to be expressed in numerical units, indicate the type of answer wanted. e.g 02, 1b, km etc. This clarifies the problem and simplifies scoring.
- Blanks for answer should be equal in length and to the right of question. As length may provide a clue to right answer.
- In completion items, do not include too many blanks. As meaning may be lost due to over mutilated statement.

4.8.1.2 True – False Items. Possibly the most common use of the true-false item is: measuring the ability to identify the correctness of statement, definition of terms, statements of principles and the like. The main task in constructing true-false items is formulating statements free from irrelevant clues and ambiguity. This is extremely difficult task which can be accomplished by keeping following suggestions in mind:

- **Avoid Broad General Statement.** For example, adverb is used to describe the verb in a sentence.
- **Avoid Trivial Statement.** President Ayub Khan ruled Pakistan from 10th Oct 58 to 15th March 69.
- **Avoid Complex Sentence.** As students may not be presented with a clearly defined problem.

- **Avoid Including Two Ideas In One Statement.** Unless cause – effect relationship are being measured.
- **True False Statements Should be Approximately Equal in Number.** It will prevent from unduly inflating or deflating students score.
- **Avoid Partially Correct Statements.** For example Allama Iqbal was the first Muslim leader who gave the idea of Pakistan.

4.8.1.3 Suggestions for Construction of Multiple Choice Items.

The construction of multiple choice items involves formulating a clearly stated problem, identifying plausible alternatives and relevant clues to answer. The following suggestions provide more specific maxims for this purpose:-

- The stem should be meaningful and present a definitive problem and it should be an incomplete statement.
- The stem should include as much of the items as possible and yet it should be free of irrelevant material.
- Use negative stem only when significant learning items require it. As pupils are likely to overlook no, not, least and similar words e.g. which one of the countries is not in South Asia.
- All the alternatives should be grammatically consistent with the stem e.g. An electric transformer is used to: (1) increase ----- (2) it converts ----- (3) for storing ----- (4) stabilising voltage -----, etc.
- An item should contain only one correct or clearly best answer e.g. the tomb of Allama Iqbal is located in Lahore, Karachi, Peshawar, the Punjab.
- All distracters should be plausible i.e. all distracters should be homogeneous e.g. names of people and places should not be juxtaposed.
- Verbal association between the stem and the correct answer should be avoided e.g. use of achievement both in stem and one of the alternatives.

- Relative length of the alternative should not provide a clue to the answer.
- Answer should change its form in the alternative i.e. no systematic distribution of correct response be adopted.
- Use of special alternatives such as none of the above or all of the above should be rare.
- Breach any of these rules, when you have a good reason.

4.8.2 Suggestions for Constructing Essay Questions

4.8.2.1 Restrict the use of essay questions to those learning outcomes that cannot be measured by objective items. Due to difficulties/problems regarding scoring and sampling of contents.

4.8.2.2 Formulate questions that will call forth the behaviour specified in the learning outcomes. As with objective items, essay questions should measure the achievement of clearly defined instruction objective.

4.8.2.3 Phrase each question so that the pupils' task is clearly indicated e.g. write a note on Allama Iqbal as a philosopher, thinker, poet and political leader

4.8.2.4 Indicate an appropriate time limit for each question. While preparing a paper this aspect should be kept in mind. Pupils can be indicated time indirectly by mentioning length of answer in words or by providing limited space for each answer.

4.8.2.5 Avoid use of optional questions. It may affect the reliability of the test due to selective study.

4.8.3 Suggestions for Scoring Essay Questions:

4.8.3.1 Prepare an outline of the expected answer in advance. This should contain:

- Major points to be included.

- The characteristics of the answer (e.g. organisation)
- The amount of credit to be allotted to each.

4.8.3.2 Use the scoring method, which is the most appropriate:

- **Point Method.** Each answer is compared with the ideal answer in the scoring key. It is more appropriate for restricted response.
- **Rating Method.** Each paper is placed in one of a number of files and answer is read. These files represent degree of quality. If eight points are allocated for example nine files might be used ranging from 8 to 0.

4.8.3.3 Decide how to handle factors that are irrelevant to the learning outcome being measured. Such as handwriting, spellings, sentence structure and neatness. Such factors should not influence judgment.

4.8.3.4 Evaluate all answers to one question before going to the next one.

4.8.3.5 Evaluate the answer without looking at the pupil's name/index, etc.

4.8.3.6 If specific decisions are to be based on results, obtain two or more independent ratings.

CHAPTER 5

Curriculum Development

- ➔ 5.1 Introduction to Curriculum Development
- ➔ 5.2 The Process of Curriculum Development
- ➔ 5.3 Elements of Curriculum Development
- ➔ 5.4 Setting for Curriculum Development
- ➔ 5.5 Recent Trends in Curriculum Development
- ➔ 5.6 Need for Curriculum Development
- ➔ 5.7 Factors that Necessitate Change in Curriculum
- ➔ 5.8 Determiners of Curriculum Development
- ➔ 5.9 Objectives of Curriculum Development
- ➔ 5.10 Development of Contents
- ➔ 5.11 Contents and Methods
- ➔ 5.12 Role of Evaluation in Curriculum Development



5.1 Introduction to Curriculum Development

Curriculum is a specialised environment deliberately arranged for directing the interests and abilities of children towards effective participation in the life of a community and the nation. It is an educational means developed to make the students aware of their faculties and use them to adapt themselves to the environment.

Curriculum development implies the planning of learning opportunities intended to bring about certain changes in pupils and the assessment of the extent to which these changes have taken place.

5.2 The Process of Curriculum Development

The Curriculum Development process involves a number of stages which are briefly explained in the following paragraph.

5.2.1 Stages of Curriculum Development. The process of curriculum development involves the following four stages:

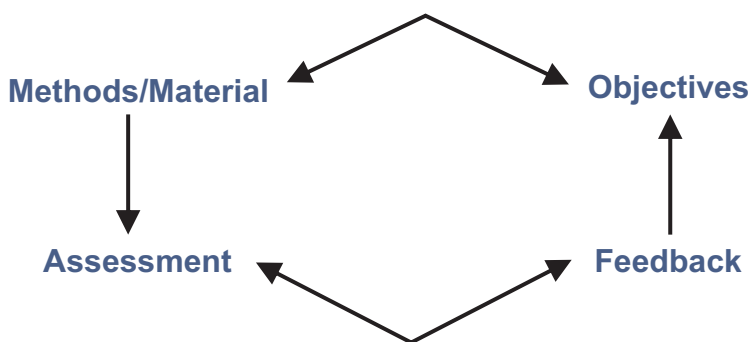
5.2.1.1 Selection of Objectives. The selection of objectives implies the careful examination, drawing on all available sources of knowledge and informed judgment, of the objectives of teaching, whether in a particular subject, course or over the curriculum as a whole.

5.2.1.2 Selection of Methods and Materials. The selection of methods and materials is the second stage in the process of curriculum development. It means the development and trial of those methods and materials, which are most likely to achieve the objectives selected for the curriculum.

5.2.1.3 The Assessment. The assessment means the judgment of the extent to which the determined objectives have been achieved. This part of the process may also be expected to provoke new thought about the objectives themselves.

5.2.1.4 Feedback. The final element or step in the process of curriculum development is the feedback of all experiences gained through the implementation of the curriculum development process to provide a starting part for further improvement. The last part suggests that curriculum development is a cyclical process.

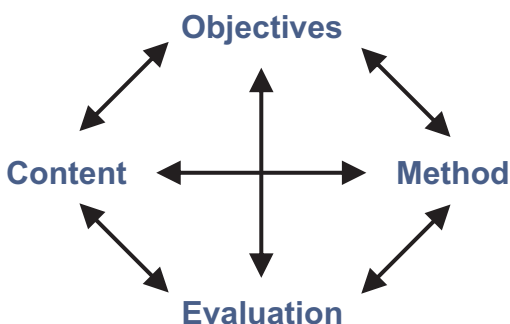
The Process of Curriculum Development



5.3 Elements of Curriculum Development

Same as the process of curriculum development, except material, has been separated from method and given the name of content, whereas assessment and feedback have be grouped together under the heading of evaluation as illustrated below:-

Elements of Curriculum Development



5.4 Setting for Curriculum Development

The activity of curriculum development can be carried out in a variety of settings as mentioned below.

5.4.1 Individual Teacher. An Individual teacher can undertake curriculum development for his/her own class/subject or for more classes.

5.4.2 Group of Teachers. A group of teachers undertaking curriculum development has the obvious advantage of their complementary skills and experiences; the benefit of their joint knowledge and expertise. The greatest advantage of teachers working as a group is not only that they can undertake their development work with definite knowledge of all relevant factors about their pupils, themselves and the school, but also that there will be consistency in their plan.

5.4.3 Teachers Training Centres. Work on curriculum development in teachers' training centres has some of the advantages mentioned for groups of teachers working together in their own schools, together with the possibility of expert guidance in the process of curriculum development from the centre and possible provision of resource material and equipment that might not be available in school.

5.4.4 National/Regional Agencies. The teams of teachers/lecturers can be appointed by the federal/provincial governments to carry out curriculum development on a self-time basis. The curriculum prepared by such teams can be introduced in institutions where it can be tried out and commented upon.

5.4.5 Research Work. Research carried out in the field of education can form a sound basis for curriculum development.

5.5 Recent Trends in Curriculum Development

5.5.1 Unified School Curriculum. Certified school curriculum implies the integration of objectives into a single set of ultimate objectives or the inter-relationship of objectives to form a unified whole instead of differing objectives.

5.5.2 Realistic Learning. Learning related to real life situation.

5.5.3 Emphasis on Democratic Way of Life

5.5.4 Continuity in School Experience. Same Teacher with

same class and subjects taught in a progressive manner.

5.6 Need for Curriculum Development

- Essentials i.e. rules, beliefs, ideology, etc.
- Changes in the area of curriculum.
- Preservation and improvement of system.
- Changes in society.
- Environmental changes.
- New knowledge.
- Demands of society.
- Wider range of objectives.
- Research findings.
- New boundaries of subjects.
- New teaching methodology.
- New techniques of evaluation.

5.7 Factors that Necessitate Change in Curriculum

Change is a commonly used word but in the context of curriculum development it implies innovation or the introduction of new techniques in the teaching-learning process necessitated by the following factors:

- A changing society in which old knowledge is being replaced by new knowledge.
- Schools that are part of society are also changing fast in respect to structure, attitudes to disciplines, student-teacher relationship.
- New boundaries of subjects.
- Variety of teaching techniques.
- New techniques of examinations.
- Environmental change.

5.7.1 Adoption of Logical Process to Introduce Change.
Change in curriculum should be planned and introduced on a

rational and valid basis by adopting a logical process. Students should be provided education relevant to the society in which they are living now and the kind of society in which they will live as adults. The teacher requires sufficient knowledge, skills and experience to impart this type of knowledge. Such knowledge expertise and experience cannot be acquired overnight. The best way teachers can equip themselves with this type of knowledge and experience is by taking part in curriculum development, a setting in which theories are put to practice in a practical situation.

5.8 Determiners of Curriculum Development

5.8.1 The Teacher. Due to his/her qualification, experience, academic abilities and involvement, a teacher can play significant role in the process of curriculum development. He/She should be aware of his/her capabilities. Teachers have their own strengths and weaknesses, which should be taken care of in curriculum development process. Teacher's role in curriculum development can be determined by the following factors:

- School environment.
- Teacher's experience with students.
- Dispassionate approach.
- Teacher's attitude.
- Curriculum development is a means of in-service- training.

5.8.2 The Pupils. Despite certain general characteristics, pupils differ greatly. Some differences like physical appearances are apparent and are easily observed by the teacher. Other like difference in personality and temperament take a relatively short time to discover. But differences like learning styles and perceptual preferences take a long time to be discovered. In theory these difference are given a lot of weightage but in practice very few teachers/institutions care for individual training to cater for these difference. Many teachers argue it is impossible to treat pupils as individuals because

they have to be prepared for the same type of examination, but even non-examination pupils are subjected to the same type of training. The answer to this problem is placement of pupils on the basis of their abilities, attitudes and interests, and assigning them to various forums on the basis of these differences. Teachers who provide individual training are few. Another way pupils exert influence on curriculum development is older pupils can have the curriculum changed by showing disregard for the programme presented to them.

5.8.3 The Environment. The environment for the purpose of curriculum development is in which school is situated and from which it draws its students. The two greatest environmental influences on the pupil are family and peer group. Within the family itself, factors such as size, pupil's position, relationship between parents, attitude towards education, level of aspiration and absence of own parents, etc. may affect the pupil, which will either hinder or help learning. The influence of peer group on child is very strong particularly during the period of adolescence. Teachers should be aware of relationships that exist in class. Sometimes influence of peer group can hinder learning when motivation is low. Sometimes relationships among children can be used to help learning by pairing students, having low aspirations with students, having high motivation. Teachers must understand the influence of both the family and peer group, while involved in the process of curriculum development.

5.8.4 The School Climate. Includes the sum total of values and attitudes held by schools i.e. relationships that exist. In fact, everything the school reflects must be considered because it influences every aspect of the curriculum. School climate develops slowly but may be changed by appointment of a new head, or a large number of new teachers. Analysis of school climate is not an easy task but it is essential for curriculum development. Analysis is particularly important when curriculum is developed for each individual school, and modified for each student. It is an ideal towards which the process of curriculum development should aim.

5.9 Objectives of Curriculum Development

Objectives are statements indicating what new capabilities the students will possess after instruction.

5.9.1 Behavioural Objectives. Education can be described as the process which is intended to bring about certain changes in the behaviour of students i.e. changes in the way students think, act or feel. Changes, when expressed in the form of what pupils are expected to be able to do at the end of a course, are called behavioural objectives.

5.9.2 Difference between Aims and Objectives. The aims are much more general than objectives and serve the purpose of indicating general direction.

5.9.3 Statement of Objectives. Teachers should have a fairly wide range of objectives which should be expressed clearly and precisely. Clearly stated objectives facilitate the selection of contents and method and help in devising means of assessing the extent to which pupils have achieved the objectives. The teacher must have a clear idea of where they are going in order to have rational basis to guide and direct activities in the classroom.

5.9.4 Sources of Objectives:

- Pupil: individual differences, needs, etc.
- Local environment including pupils' homes.
- The school: physical environment, facilities, equipment, contents, etc.
- Teacher's own philosophy of education.
- Social requirements.
- National ideology.
-

5.9.5 Classification of Objectives:

5.9.5.1 Short Term and Long Term. Behavioural changes, for example are short term and attitudinal changes are long term objectives.

5.9.5.2 Specific and General. Specific objectives relate to a particular area of the curriculum e.g. writing reports on field trips, reading fiction in own time, etc.; general objective are not related to a specific area e.g. leading a more purposeful life as a member of society. General objectives are often overlooked particularly at the secondary school level when teachers are regarded as subject specialists.

5.10 Development of Contents

In teaching one must teach something to someone, someone being the pupil and something, the contents. Contents might be described as knowledge, attitudes, skills and values to be learned. In school the curriculum is subject-based. For certain teachers the subject may have intrinsic value, and for others it may be a means to teach knowledge, skills, etc.

5.10.2 Relationship between Content and Method. An important consideration about content is its close relationship with method. It is often difficult to say where one begins and the other ends. The methods used have as much influence on what the pupil learns as does the content. For instance, in trying to change the behaviour or the students' attitude, teachers might find group discussion techniques more useful than direct classroom teaching. It is always the school and the range and nature of contents that determine the selection and organisation of methods.

5.10.3 Content Criteria. From a wide range of content a selection has to be made on the basis of certain criteria with a view to choosing only appropriate contents. Selection of content may be based on all or any one of the following criteria.

5.10.3.1 Criterion of Validity. It is important that content should meet the criterion of validity. Content is valid when it is true and

authentic. Due to rapid changes subject matter can quickly become obsolete. It may not be only the facts, but concepts, theories and principles also become obsolete. There is another aspect of validity that applies to content as well as method. Content and methods are valid if it is possible to achieve objectives through their use.

5.10.3.2 Criterion of Significance. Another important consideration in selection of content is that of significance. Schools have frequently been concerned that pupil should learn large bodies of facts. Yet facts are least significant. They are only important as they contribute to basic ideas, concepts and principles of subjects. Contents should be based on concepts, principles and basic ideas, and only those facts be selected, which help in achieving them. This will reduce the problem of learning large bodies of facts. Another aspect of content significance is to make a choice between breadth and depth, which rarely go together.

5.10.3.3 Criterion of Interest. Students' interests is an important criterion in the selection of content but it is frequently misunderstood and carried to excess. Curriculum based purely on pupils' interest is likely to be found limited and restricting. On the other hand to ignore pupils' interest is to lose a strong motivational force and to run the risk of little or no learning taking place. But we know that curriculum cannot be based solely on pupils' interests, who tend to ignore ultimate and more distant goals of education in favour of their immediate needs/interests. The answer to this question is that curriculum be developed in a manner that it should widen and enrich the students' interests with a view to making use of motivation force without limiting the scope of the curriculum.

5.10.3.4 Criterion of Learnability. It simply means whatever is included in curriculum should be learnable by students but despite being a simpler criterion it is not always satisfied as the curriculum is not adjusted to the pupil abilities. Criterion can be satisfied if different contents are selected for different groups of pupils. Content should also be linkable with what has already

be learned by students which varies from student to student.

5.10.3.5 Child Centered vis-à-vis Subject-Centered Curriculum. If child centered curriculum means that the child is allowed to choose what he wants to study, and how he wants to study, the results will be disappointing. If subject-centered curriculum means the content is selected without any reference to needs, interests, abilities and other characteristics of pupils, the result will again be disappointing. In practice neither extreme is likely to operate. The answer to the question is a balanced approach.

5.11 Contents and Methods

5.11.1 Relationship between contents and Methods. It is very difficult to separate contents from methods and to say where one ends and the other begins. For instance, if a pupil is discussing some pictures; pictures and what pupils and teacher say or ask about them can be regarded as contents, while the discussion might be regarded as method, though both are closely integrated and intertwined.

5.11.2 Learning Opportunity. Content and method are always present together with pupil and teacher in a learning opportunity which is describes as, “a planned and close relationship between pupils, teacher, materials, equipment and environment in which it is hoped this desired learning will take place. The method aspect of learning opportunity involves relations between pupils, teachers and materials, or of content, its manner of presentation of content”.

5.11.3 Role of Teacher. Experimentation of new methods may create problem for some teachers, particularly where methods are being tried out for the first time. One of these problems is the understanding and willing acceptance of the changed role of the teacher in relation to different method. For instance if a teacher has been accustomed to traditional method of teaching in which he has always occupied a central position by leading, controlling and directing the student he may find it little

difficult to adjust his behaviour to a method that involves, individual work, independent study and group working. It may not be all that easy for a teacher to change his role from a leader, controller and director to an advisor, consultant and guide.

5.11.4 Grouping. Another kind of process related to the use of different methods is the grouping of students. To achieve certain objectives, methods may themselves suggest appropriate grouping. Size is one consideration in grouping. Group may consist of only two students or the entire class depending upon the objective and method. Most groups are formed horizontally i.e. containing students from the same class, but vertical grouping may best serve other objectives like the members of school societies and clubs that draw students from different classes. Another aspect of grouping is that it may be flexible or stationary.

5.11.5 Organisation of Learning Opportunity. Organising learning opportunities in such a way that desired learning takes place in an effective manner is a crucial task in curriculum development.. The attainment of objective is a slow and gradual process. A single learning experience may have a little effect on students, learning opportunities should, therefore, be arranged in such a way that they support and reinforce each other. For example if what is learned in geography in first year may be learned in geography in second year it is called vertical relationship and what is learnt in geography in first year may be related in some appropriate way to what is learned in history in first year it is called horizontal relationship.

5.12 Role of Evaluation in Curriculum Development

Curriculum development is defined as planning of learning opportunities intended to bring about certain changes in pupil and the assessment of the extent to which these changes have taken place. This definition clearly indicates that evaluation forms an internal part of Curriculum development.

5.12.1 Scope of Evaluation. Evaluation includes the assessment of students' performance to judge the effectiveness of curriculum as a means of attaining desired objectives. To achieve this end following aspects must be borne in mind while evaluating students' performance:

- Evaluation of students' ability to understand and apply knowledge should be given more weightage than their ability to recall.
- The marks obtained by the students, which are general given in percentages should be supplemented by other techniques/ devices of evaluation to get a clear picture about students' achievements.
- The evaluation should also involve the assessment of long term objectives i.e. the performance of learner in real life situation.

5.12.2 Objectives as Criteria for Assessment. According to some writers relative importance of each objective should be determined and they should also be reflected for in assessment. For example a course of study may consist of six objectives and the emphasis could be objective one 25%, objective two 25%, objective three 15%, objective four 15%, objective five 10% and objective six 10%.

5.12.3 Abilities as Criteria of Assessment. According to another approach, abilities should be tested. The abilities have been grouped under six headings:

- Knowledge
- Comprehension
- Appreciation
- Evaluation and investigation
- Expression
- Experimental skills

CHAPTER 6

Guidance and Counselling

- ➔ 6.1 Meaning and Significance of Educational Psychology
- ➔ 6.2 Guidance - Definitions
- ➔ 6.3 Principles of Guidance
- ➔ 6.4 Functions of Guidance
- ➔ 6.5 Counseling
- ➔ 6.6 Information Services
- ➔ 6.7 Characteristics of Effective Guidance Programme



6.1 Meaning and Significance of Educational Psychology

6.1.1 Introduction. The purpose of studying Educational Psychology is to understand the phenomena of education with a view to making the process of teaching and learning more effective. The word Psychology, derived from Greek words Psyche (soul) and Logos (science), literally means Science of Soul. Psychology is also defined as:

- Science of Mind
- Science of immediate experience and consequence i.e. overt behaviour only.
- Universally accepted definition is that Psychology is the scientific study of behaviour and mental processes.

6.1.2 Definition. Education is defined as the process that aims at modification of behaviour and mental process of an

individual according to the national needs, ideals, goals and aspirations. Educational Psychology is defined as the scientific study of human behaviour and mental process in an educational setting.

6.1.3 Fields of Educational Psychology:

- Teaching Learning Process.
- Educational Administration.
- Curriculum Development.
- Guidance & Counseling.
- Measurement and Evaluation.
- Special Education .

6.1.4 Contribution of Educational Psychology:

6.1.4.1 Determination of Educational Objectives. Educational Objectives pertain to cognitive, psychomotive and affective domains, which are equivalent to knowing, doing and feeling.

6.1.4.2 Finding out Students' Characteristics. What they like or dislike. Their capabilities/limitations and mutual difference.

6.1.4.3 Learning Process. Educational Psychology explains how learning goes on e.g. Stimulus-Response-Reinforcement

6.1.4.4 Methods of Teaching. Educational Psychology helps select appropriate methods like lecture, discussion, etc.

6.1.4.5 Evaluation:

- **Pre-teaching.** To determine students needs.
- **During Teaching.** To know whether learning is taking place or not.
- **Post Learning.** To find out whether educational objectives have been achieved or not.

6.2. Guidance - Definitions:

- Guidance involves personal help given to someone. It is designed to assist a person to decide where he wants to go, what he want to do, and how best he can accomplish his purpose. It assists him to solve problem that arises in life (Jones).
- Guidance is the activity of assisting students in establishing goals, solving problems and making wise decision (Peter).
- Guidance is a means of helping individuals understand and use available educational, vocational personal opportunities they may have or can develop (Miller).

6.3 Principles of Guidance:

- Guidance is assistance offered to an individual in the process of development.
- Guidance is based on the recognition of the dignity and worth of the individual and his right to choose.
- Guidance is assistance given to an individual for making wise choices, plans interrelation adjustments.
- Guidance rests upon comprehensive study of individual in the society.
- Guidance exists to help the student realise and actualise his best self.

6.4 Functions of Guidance

6.4.1 Distributive. The counselor seeks to aid the pupil in formulation of the goals he has set for himself in vocational, social, civic and recreational pursuits. This requires assisting the students to know himself in his environment.

6.4.2 Adjustive. The counselor helps the students to adjust when he has been unable to integrate knowledge about himself and his environment in accordance with his goals.

6.5 Counseling

Counseling is learning process carried on in simple one to one social environment. Counseling demands purposeful relationship between two people in which procedures vary with the nature of students' needs.

6.5.1 Characteristics of a School Counselor:

- Understanding
- Sympathetic attitude
- Sense of humor
- Stability
- Objectivity
- Sincerity
- Tact
- Fairness
- Tolerance
- Calmness
- Broad mindedness
- Kindness
- Pleasantness
- Social intelligence

6.5.2 Attributes of School a Counselor:

- Social sensitivity
- Ability to work in harmony with colleagues
- Wrath in interpersonal religious
- Acceptable personal appearance
- Self respect
- Integrity

6.6 Information Services

6.6.1 Purpose of Information Services:

- Assure students of success.
- Enable students to evaluate their choices.
- Force students to explore their potential.
- Provide requisite information base to students.
- Motivating students to remain with counselor till the achievement of desired objectives.
- Make students capable of correct decisions.
- Enabling students to conform to accepted norms.

6.6.2 Principles of Information Service:

- Information Service is essential part of guidance programme.
- Its focus is on self study, future trends, etc.
- It aims at conveying information for the purpose of interaction.
- Information Services must contain provision of evaluation.

6.7 Characteristics of Effective Guidance Programme

6.7.1 Qualified Counselor. Minimum qualification should be laid by the curriculum developers a teacher can absorb a counselor if he is well versed with counseling procedure.

6.7.2 Maintenance of Record. Record of counselee's family background, general conduct, medical history, academic performance sports/co-curricular activities, hobbies, etc. should be properly maintained.

6.7.3 Information Material. All types of information that a counselor may require to guide the client, like information about job opportunities vocational institutions, etc. should be available with him

6.7.4 Appraisal Data. Data required for assessing the personality, behaviour of counselees should also be available to the counselor.

6.7.5 Attitude of Guidance Personnel. The attitude of personnel involved in counseling be closely observed evaluated to inform their performance.

6.7.6 Comprehensive Programme. Counseling should be all inclusive to deal with all types o categories o student such as handicapped slow learner, maladjusted, aggression, etc

6.7.7 Physical Facilities. Required facilities such as proper accommodation, tools, apprentice, etc. should be available in the counseling cell.

6.7.8 Financial Support. Financial resources required to purchase information material, etc. should be available.

CHAPTER 7

Educational Research

- ➔ 7.1 Introduction to Educational Research
- ➔ 7.2 Classification of Research
- ➔ 7.3 Research Problem
- ➔ 7.4 Review of Related Literature
- ➔ 7.5 Formulation and Statement of a Hypothesis
- ➔ 7.6 Research Plan
- ➔ 7.7 Selection of a Sample
- ➔ 7.8 Instruments
- ➔ 7.9 Historical Research: Definition and Purpose
- ➔ 7.10 Descriptive Research: Definition, Purpose and Process



7.1 Introduction to Educational Research

7.1.1 General. Educational research findings significantly contribute to both educational theory and educational practice. It is important for every professional educationist/educator to not only keep himself abreast of latest findings by the researches in the field of education but also be aware of ways and means of carrying out investigation/research to solve educational problems that may confront him in day to day life.

7.1.2 Research and the Scientific Method. As research is the formal, systematic application of scientific method to the study

of problems, its meanings cannot be fully comprehended unless we have a fair idea about the goal and execution of scientific method. The purpose of all scientific endeavours is to understand, explain, predict and /or control phenomena. This goal of scientific endeavours presumes that all happenings are orderly and the effects of causes that can be discovered. Scientific method is not only a means of realistic investigation, but it is also the most reliable source of knowledge. Compared to other sources of knowledge such as experience, authority, inductive reasoning and deductive reasoning, scientific method is most dependable. Like experience and authority both inductive and deductive reasoning are of limited value, particularly when used exclusively. However, when used together as integral components, they can be effective tools of scientific method.

7.1.3 Scientific Method Entails following Sequential Steps:

- Reorganisation and definition of problem.
- Formulation of hypothesis.
- Collection of data.
- Analysis of data.
- Statement of conclusions regarding confirmation or disconfirmation of the hypothesis.

(It may be noted here that these steps are or may be applied informally or unknowingly in the solution of problems we come across in everyday life).

7.1.4 Application of the Scientific Method in Education.

As noted above research is the formal, systematic application of scientific method to the study of problems, educational research is the formal, systematic application of scientific method in the study of educational problems. The goal of educational research is same as the goal of science viz to explain, predict and control educational phenomena. The major difference between educational research and other type

of scientific research is the nature of phenomena studied. It is far more difficult to explain, predict and control situations involving human beings who are the most complex of all known organisms. There are also so many variable existing in an educational environment that it is extremely difficult to generalise findings. The steps involved in conducting research should seem quite familiar for being identical and parallel to those of scientific method:-

- Selection and definition of a problem.
- Execution of research procedure (collection of data).
- Analysis of data.
- Drawing and stating conclusions.

7.2 Classification of Research

7.2.1 Classification by Purpose:

7.2.1.1 Basic Vs Applied Research:

- Basic research, in its purest form, is conducted solely for the purpose of theory development or refinement.
- Applied research, as the name applies, is conducted for the purpose of applying or testing theory and evaluating its usefulness in solving educational problems.

7.2.1.2 Evaluation Research. The purpose of evaluation research is to facilitate decision making regarding the relative worth of two or more alternative actions/ options.

7.2.1.3 Research and Development (R & D). The major purpose of R & D efforts is not to formulate or test theory, but to develop effective products or use in schools.

7.2.1.4 Action Research. The purpose of action research is to solve classroom problems through the application of scientific method.

7.2.2 Classification by Method

7.2.2.1 Historical Research:

- Historical research involves studying, understanding and explaining past events.
- The purpose of historical research is to arrive at conclusions concerning past events that may explain present events and anticipate future events.
- Primary source of data constitute first hand knowledge, secondary sources constitute second hand information.
- External criticism assesses the authenticity of the data, internal criticism evaluates their worth.

7.2.2.2 Descriptive Research:

- Descriptive research involves collecting data in order to test hypotheses or answer questions concerning the current status of the subject of study.
- Descriptive data are collected through questionnaire survey, interview or observation.
- Since one is generally asking questions that have not been asked before, instruments usually have to be developed for specific studies.
- A major problem further complicating the descriptive research is the lack of response.

7.2.2.3 Co-relational Research:

- Co-relational research attempts to determine whether and to what extent a relationship exists between two or more quantifiable variable.
- The purpose of establishing a relationship or lack of it is to make prediction.
- From the fact that two variables are highly related, one cannot conclude that one is the cause of the other, there may be a third factor which causes both of the related

variables.

- Regardless of whether a relationship is a cause-effect relationship, the existence permits prediction.

7.2.2.4 Causal – Comparative and Experimental Research:

- The activity or characteristic believed to make a difference is referred to as the cause or treatment and more generally the “independent variable.”
- The difference or effect which is determined to occur or not occur is referred to as the dependent variable.
- In experiment research the researcher manipulates one independent variable and observes the effect on one or more dependent variables.
- Ideally in experiment study the groups to be studied are randomly formed before the experiment, a procedure not adopted in other types of research.
- The essence of experimentation is control.
- In causal-comparative study the independent variable is not manipulated it has already occurred.
- In cause-comparative research, the difference between the GROUPS (the independent variables) is not, was not or could not be determined by the researcher.
- Due to the lack of manipulation and control cause-effect relationship established through causal-comparative research are tentative.

7.3 Research Problem

7.3.1 Selection and Statement:

- The first step in selecting a problem is to identify a general area that is related to one's area of expertise and of particular interest to him.
- The next step is to narrow down general problem area to specific, researchable problem.

7.3.2 Sources:

- The most meaningful problems are generally derived from theory.
- A major source of non-theoretical problems is the researcher's personal experiences.
- Related literature is also a good source of research problems in addition to overviews and summaries specific studies often indicate 'next step' studies that need to be investigated.
- It is generally not a good idea to simply replicate a study as it was originally conducted; it is always good to develop and exceed one's own study.

7.3.3 Characteristics:

- A basic characteristic of a research problem is that it is researchable i.e. it can be investigated through collection and analysis of data.
- A good problem has theoretical or practical significance; its solution should contribute to educational process.
- A good problem should be good problem for the researchers. It must be a problem that the researcher can adequately investigate keeping in mind his peculiar position (1) current level of research skill (2) available resources and (3) time and other restrictions.

7.3.4 Statement:

- A well written statement of a problem generally indicates the variable of interest to the researcher and specific relationship between these variable which is to be investigated.
- A well written problem statement defines all relevant variables, either directly or operationally.
- Since the problem statement gives direction to the rest of the plan or report, it should be stated as soon as possible.

- Statement of the problem should be accompanied by the presentation of the background of the problem, indicating a justification for the study in terms of the significance of the problem.

7.4 Review of Related Literature

7.4.1 Definition, Purpose and Scope:

- The review of related literature involves the systematic identification, location and analysis of documents containing information related to the research problem.
- The major purpose of reviewing the literature is to determine what has already been done that relates to the problem.
- Another important function of the literature review is that it points out research strategies and specific procedures and measuring instruments that have and that have not been found to be productive in investigating the problem.
- Being familiar with previous research also facilitates Interpretation of the results of the study.
- A smaller, well-organised review is definitely to be preferred to a review containing many studies that are more or less related to the problem.

7.4.2 Sources:

- A primary source is a description of a study written by the person who conducted it, a secondary source is generally a near briefer description of study by some one other than the original researcher.
- You should not be satisfied with only information contained in secondary sources; the corresponding primary sources will be considered more detailed and may be more accurate.

7.4.3 Abstracting:

Abstracting references involves locating, reviewing

summarising and classifying the references.

Most recent research is likely to have profited from previous research, also recent references may contain references to preceding studies you may not have identified. A suggested procedure for abstracting is as follows:

- Read abstract/summaries first to determine relevance of the article.
- Skim the entire article, making mental notes of the main points.
- Write the complete bibliographic reference.
- Classify and code the article according to some system.
- Abstract or summarize the references.
- Write down any thoughts that come to your mind concerning the problem.
- Identify direct quotations.

An alternate strategy to taking notes on index cards is to photocopy references whenever possible.

7.4.4 Analysing, Organising and Reporting:

- All notes should be read, this will refresh memory and enable you identify some references which no longer seen sufficiently related.
- The following guidelines should be helpful:
 - Make an outline.
 - Sort out references in terms of outline and arrange them into appropriate piles.
 - Take all the references identified for e given subheading and analyse relationship and differences between them.
 - The review should flow in such a way that the references least related to the problem are discussed first and the most related references are discussed last

just prior to the statement of hypothesis.

- The review should conclude with brief summary of the literature and its implication.

7.5 Formulation and Statement of a Hypothesis

7.5.1 Definition and Purpose:

- A hypothesis is a tentative explanation for certain behaviours, phenomena or events that have occurred or will occur.
- The researcher does not set out to prove his hypothesis but rather collect data that either support the hypothesis or do not support it.
- Hypothesis is formulated following the review of the related literature and prior to execution of the study. The hypothesis logically follows the review and it is based on the implications of previous research, it precedes the study proper because the entire study is determined by the hypothesis including subjects, instruments, design, procedures, analysis and conclusions.

7.5.2 Characteristics of a Hypothesis:

- A major characteristic of a good hypothesis is that it is consistent with previous research.
- A good hypothesis is tentative, reasonable explanation for the occurrence of certain behavioural phenomena or events.
- A good hypothesis states as clearly and concisely as possible, the expected relationship (or difference) between two variables and defines those variables in operational, measurable terms.
- A well-studied and defined hypothesis must be testable.

7.5.3 Types of Hypothesis:

- An inductive hypothesis is generalisation based on observation.

- Deduction hypothesis derived from theory contribute to the science of education by providing evidence that supports, expands or contradicts a given theory.
- Research hypothesis are stated in declaration form and statistic hypothesis are stated in null form.

7.5.4 Stating the Hypothesis:

- A general model for stating hypothesis for experimental studies is as follows:- Xs who get Y do better on Z, than Xs who do not get Y.
- In the model, Xs are the subjects, Y is the treatment (or independent variable) and Z is the observed outcome/behaviour (or dependent variable).

7.5.5 Testing the Hypothesis. In order to test a hypothesis, the researcher determines the sample, measuring instruments, design and procedure that will enable him to collect the data and analyse the same to determine the validity of Hypothesis.

7.6 Research Plan

7.6.1 Definition and Purpose:

- A research plan is a detailed description of a proposed study designed to investigate a given problem, it includes justification for the hypothesis to be tested, a detailed presentation of the research steps that will be followed in collecting and analysing required data and projected time schedule for each major step.
- A research plan may be relatively brief and informal or very lengthy and formal.
- Since a study is designed to test a hypothesis, it must be completed/developed before study is begun. The nature of hypothesis determines the subsequent steps involved to conduct a study.
- Research plan facilitates evaluation of study by the researcher and others.

- It reduces probability of costly mistakes and generally results in higher quality research.
-

7.6.2 Cooperation:

- The key to gaining approval and cooperation is good planning. The key to good planning is a well designed study.
- Discuss your study with all concerned in detail to gain the cooperation of all concerned. Explain the potential benefits to be derived from your study to them.

7.6.3 Components of Research Plan:

7.6.3.1 Introduction. The introduction includes statement of the problem, a review of the related literature and statement of the hypothesis.

7.6.3.2 Method:

- **Subject.** The description of subjects should clearly define the population, from which to sample will be selected, indicating its size and major characteristics.
- **Instruments.** It is important to provide a rationale for selection of the instruments to be used with their description. If you are going to develop your own instrument, then describe how the instrument will be developed and what it will measure, and how you plan to measure its validity and reliability.
- **Design.** The description of design indicates basic structure or anatomy of the study.
- **Procedure.** The description of design includes all steps that will be followed to conduct study from the beginning to the end.

7.6.4 Data Analysis. The research plan must include a description of the statistical techniques that will be followed to analyse study data. The hypothesis of study determines design, which in turn determines statistical analysis.

7.6.5 Time Schedule. Basically, a time schedule includes listing of major activities or phases of the proposed study and corresponding expected completion time for each step/activity.

7.6.6 Budget. Applicable only to formal proposals.

7.6.7 Evaluation of a Research Plan:

- Having research plan permits it to be scrutinised by researcher and by others.
- Allows others to offer useful suggestions.
- It should be reviewed by at least one skilled researcher and one subject/study expert.
- Formal evaluation involves a pilot study and “full Dress Rehearsal” in which entire study is conducted as per the actual procedure.
- Research plan will almost always be modified as a result of a pilot study and in some cases it may be completely overhauled.

7.7 Selection of a Sample

7.7.1 Sampling: Definition and Purpose. Sampling is the process of selecting a number of individuals for a study in such a way that the individuals represent the large group from which they were selected. The purpose of sampling is to use a sample to gain information about a population.

7.7.2 Definition of a Population. A population is the group to which a researcher would like the results of a study to be generaliseable. A defined population has at least one characteristic that differentiates it from other groups. The population that the researcher would ideally like to generalise the results to is referred to as the target population, the population that the researcher realistically selects from is referred to as the accessible or available population.

7.7.3 Methods of Selecting a Sample:

- Regardless of the specific techniques used, steps in sampling include identified of the population, determination of the sample size and selection of the sample.
- The degree to which the selected sample represents the population is generaliseable.

7.7.4 Random Sampling

- Random sampling is the process of sampling in such a way that all individuals in the defined population have an equal and independent chance of being selected for the sample.
- Random sampling is the best single way to obtain a representative sample.
- Random sample involves defining the population, identifying each member of the population and selecting individuals for the sample on a completely chance basis.
- Random sampling is generally selected using a table of random number.

7.7.5 Stratified Sampling:

- Stratified sampling is the process of selecting a sample in such a way that identified sub-groups in the population are represented in the sample in the same proportion that they exist in the population.
- The steps in stratified sampling are very similar to those in random sampling except that selection is from sub-group in population rather than the population as a whole.

7.7.6 Cluster Sampling:

- Cluster sampling is sampling in which groups, not individuals, are randomly selected.
- Any intact group of similar characteristics is a cluster.
- Steps in cluster sampling are similar to those in random sampling except that the groups, not individuals, are randomly selected.

7.7.7 Systematic Sampling

- Systematic sampling is sampling in which individuals are selected from list by taking every Kth name. $K = \text{Number of individuals on list} \div \text{Number of desired sample}$.
- Even though the chores are not independent, a systematic sampling can be considered a random sample if the list of population is randomly ordered.

7.7.8 Sample Size

- Should be as large as possible.
- Recommended size for various types of research is: Descriptive 10 % of population, Co-relational 30 subjects Causal-comparative 30 subjects per group and Experimental 15 subjects per group.

7.7.9 Avoidance of Bias. Two major sources of bias are: use of volunteers and use of available group. Any bias present should be mentioned in final research report.

7.8 Instruments

7.8.1 Purpose and Process.

- The time and skill required to select an appropriate standardised instrument are invariably less than the time and skill required to develop an instrument that measures the same thing.
- Selection of an instrument for a particular research purpose involves identification and selection of the most appropriate one from among the alternatives.

7.8.2 Characteristics of a Standardised Test:

- A test is a means of measuring the knowledge, skills, feelings, intelligence or aptitude of an individual or group.
- Objectivity, validity and reliability are the three most important characteristics of a test.

- **Objectivity.** means that an individual's score is not affected by the persons who score/mark the test.
- **Validity.** is the most important quality of any test. Validity is concerned with what a test measures and for whom it is appropriate.
- **Reliability.** refers to the Consistency with which a test measures whatever it is supposed to measure.

7.8.3 Types of Validity

7.8.3.1 Content Validity. It is the degree to which a test measures an intended content area.

7.8.3.2 Item Validity. It is concerned with whether the test items represent measurements in the intended content area; sampling validity is concerned with how well the test samples represent total content area. Content validity is of prime importance for achievement test.

7.8.3.4 Construct Validity. It is the degree to which a test measures an intended hypothesis construct. Construct is the non-observable trait such as intelligence which explains behaviour.

7.8.3.5 Concurrent Validity. It is the degree to which scores on a test are related to the scores on another already established test administered at the same time. The relationship method of determining concurrent validity involves determining relation between the scores on 2 different tests. The discrimination method of establishing concurrent validity involves determining whether test scores can be used to discriminate between persons who possess certain characteristics and those who do not.

7.8.3.6 Predictive Validity. It is the degree to which a test can predict how well an individual will do in a future situation, e.g. the degree to which an entrance test score can predict the performance of a student in final examination.

7.8.4 Types of Reliability:

7.8.4.1 Test-retest Reliability is the degree to which scores are consistent over time. Types of reliability are:

- **Equivalent-Forms Reliability:** Equivalent forms of tests are two tests that are identical in every way except for actual items included. Equivalent forms reliability is determined by establishing the relationship between scores resulting from the administration of two different forms of same test to the same group at the same time.
- **Split-half Reliability.** Split-half reliability is determined by establishing the relationship between scores on two equivalent halves of a test administered to a total group at one time.
- **Rational Equivalence Reliability.** Rationale equivalence reliability is not established through correlation but rather estimates internal consistency by determining how all items on a test relate to all other items and to the test.
- **Scorer/Rater Reliability.** Inter-judge reliability refers to the reliability of two (or more) independent scorers; intra-judge reliability refers to reliability of scoring of individual scorer/rate. For inter-judge reliability same test is marked by 2 or more scorers at the same time, for intra-judge same test is marked by the same scorer after an interval.

7.8.4.2 Reliability Co-efficient. A co-efficient over 90 would be acceptable for any test. If a test is composed of several sub-tests then reliability of each sub-test must be evaluated.

7.8.5 Standard Error of Measurement. It is an estimate of how often you expect errors of a given size. Smaller standard error indicates higher reliability and vice versa. It allows the researcher to estimate the difference between persons obtained/test scorer and true score.

7.9 Historical Research: Definition and Purpose:

Historical research is the systematic collection and objective

evaluation of data related to past occurrences in order to test hypothesis concerning causes, effects or trends of these events that may help to explain present events and anticipate future events.

Steps involved in conducting historical research study are essentially the same as for other types of research; definition of a problem, formation of the hypothesis (or question to be answered) systematic collection of data confirmation or disconfirmation of the hypothesis.

7.9.1 Definition of a Problem:

- Purpose of historical research should be to explain or predict, not to review.
- Historical research is limited to whatever data is already available.
- It is much better to study in depth a well defined problem with one or more specific well-stated hypothesis than to investigate too broadly stated problem with fuzzy hypothesis.

7.9.2 Data Collection:

- In historical research, the review of related literature and study procedures are part of the same process.
- Collection of data involves study of documents such as minutes, records, letters, legal documents as well as interviews with persons who participated/witnessed the events under investigation.
- Primary sources constitute first hand information such as original documents or statements of persons who actually participated, secondly sources constitute second hand information such as reference books, etc. Research should not exclusively rely upon secondary sources.

7.9.3 Data Analysis:

- All sources of historical data must be subjected to rigorous scientific analysis to determine both their authenticity

(external criticism) and accuracy (internal criticism).

- In determining the accuracy of documents there are at least four factors that must be considered: (1) Knowledge and competence of the author. (2) The time lapse between occurrence and reporting. (3) Bias motives of the author. (4) Consistency of the data.

7.9.4 Data Synthesis:

- As with a review of related literature, historical data be organised and synthesised and conclusions and formulations formulated.
- Since summarization of historical research data involves logical analysis rather than statistical analysis, researcher must take care to be as objective as possible.

7.10 Descriptive Research: Definition, Purpose and Process

- Descriptive research involves collecting data in order to test hypothesis or answer to question concerning the current states of the subject of study.
- Sample selection and data collection should be given special attention.
- Descriptive research requires careful development of instrument because one seeks to ask questions which have not been asked before and information which is not already available.
- Descriptive research is classified into two categories viz Self Report Study and Observation Study.

7.10.1 Types of Self Report Research:

7.10.1.1 Survey Research. A survey is an attempt to collect data from members of a population in order to determine the current status of that population with respect to one or more variables. Survey reports are of following types:

- **Sample Survey.** The researcher infers information about a population of interest based on the responses of the

selected sample drawn from that population. Sample surveys are sometimes referred to as cross-sectioned as information is collected at some point in time from a sample which hopefully represents all relevant sub-groups in the population.

- **Census Survey.** In a census survey attempt is made to acquire data from each and every member of a population. Census survey is conducted when a population is relatively small and readily available.
- **School Survey.** School survey may involve the study of a particular school or of all the schools in a particular system. The purpose of school survey may either be internal/external evaluation or the assessment of projected needs of a particular school.
-

7.10.1.2 Developmental Studies. Development studies are primarily concerned with behavioural variables that differentiate children at various levels of age, growth or maturation. Developmental study can be conducted adopting either cross-sectional or longitudinal method.

7.10.1.3 Follow-up Studies. A follow-up study is conducted to determine the status of a group of interest after some period of time. Like school survey, follow-up studies are often conducted by educational institutions for the purpose of internal or external evaluation of their instructional programme; they may also be conducted solely for research purposes.

7.10.1.4 Socio-metric Studies (Mutual Assessment). Socio-metric study is the assessment and analysis of the interpersonal relationship within a group. The basic socio-metric process involves asking each member to indicate with which other member he would like to engage in a particular activity. The choices made by the group member are graphically depicted in a diagram called socio-gram.

7.10.2 Conducting Questionnaire Study. In comparison to the use of an interview procedure, a questionnaire is much more

efficient in that it requires less time, is less expensive and permits collection of data from a much larger sample. Questionnaires may be administered to subjects but are usually mailed.

7.10.2.1 Statement of the Problem. Problem must be of sufficient significance to native subjects to respond. It must be defined in terms of specific objectives concerning the kind of information needed and every item on the questionnaire should directly relate to the specific objectives.

7.10.2.2 Subjects. Must be selected using appropriate sampling techniques or entire population may be used. Identified subjects must have the desired information and be willing to give it.

7.10.2.3 Construction of the Questionnaire:

- Should be as attractive, brief and easy as to respond as possible.
- Items not related to objectives should not be used.
- Structured/closed-form items (multiple choice questions) should be used if possible. Structured items, in addition to facilitating response, facilitate data analysis.
- Unstructured items are sometimes defended on the grounds that it permits insight reasons for response.
- Each question should deal with simple concept.
- Avoid leading question.
- Do not ask questions that assume fact not an evidence.

7.10.2.4 Validation of the Questionnaire. Questionnaire must be validated to determine whether it is capable of measuring when it was developed to measure.

7.10.2.5 Preparation of Covering Letter:

- Every mailed Questionnaire should be accompanied by a cover letter that explains what is being asked a why.

- It should be brief neat and specifically addressed.
- It should explain the purpose of study and emphasise the significance to ensure respondents cooperation.
- Specific deadline for questionnaire to be returned should be given.
- A stamped addressed returned envelope be included to may return painless.
- In case of threatening/embarrassing questions (items dealing with sex attitude) anonymity/confidentially be assured.

7.10.2.6 Pre-testing the Questionnaire. The questionnaire should be tried out in the field (like Pilot Study Plan) for the same reason.

7.10.2.7 Follow-Up Activities:

- If return of questionnaire is less than 70%, validity of conclusions will be weak.
- Send out reminder, post card after the given data.
- If response rate is less than 70%, try to determine if non-responders are different from responders in some systematic manner.

7.10.3 Analysis of Results:

- The simplest way to present the results is to indicate the percentage of responders who selected each alternative for each item.
- Relationship between variables can be investigated by comparing responses on one item with responses on other items.

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PART TWO

Management Process

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CHAPTER 1

Organisation

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1.1 Introduction to Organisation

An organisation is a social arrangement which pursues collective goals, controls its own performance, and has a boundary separating it from its environment. The word is derived from the Greek word *organon*, which is itself derived from the better-known word *ergon*. In the social sciences, organisations are studied by researchers from several disciplines, the most common of which are sociology, economics, political science, psychology, management, and organisational communication. The broad area is commonly referred to as organisational studies, organisational behaviour or organisation analysis. Basically, an organisation in its simplest form (and not necessarily a legal entity, e.g., corporation) is a person or group of people intentionally organised to accomplish an overall, common goal or set of goals. Business organisations can range in size from one

person to tens of thousands. There are several important aspects to consider about the goal of the business organisation. These features are explicit (deliberate and recognised) or implicit (operating unrecognised, "behind the scenes"). Ideally, these features are carefully considered and established, usually during the strategic planning process.

1.2 Organisational Factors

The four internal organisational factors, explained below, are variables that differ from time to time and from one organisation to the other.

1.2.1 Tasks. An organisation exists for the purpose of achieving a set of goals. It seeks to do this by accomplishing certain tasks.

1.2.2 Structure. In order to achieve tasks, an organisation must have a structure that gives the organisation order, system and its distinctive characteristics.

1.2.3 Technology. It refers to the "tools of trade" or all types of resources processed by an organisation to accomplish tasks.

1.2.4 People. Finally an organisation must have people. Their contribution to the task achievement is reflected by their acts.

1.3 Essential Ingredients of an Organisation

Vision, mission, values. strategic goals and strategies are the ingredients without which an organisation cannot justify its existence. The ingredients of an organisation are briefly discussed below.

1.3.1 Organisation's Vision. Members of the organisation often have some image in their minds about how the organisation should be working, how it should appear when things are going well.

1.3.2 Organisation's Mission. An organisation operates according to an overall purpose, or mission.

1.3.3 Values. All organisations operate according to overall values, or priorities in the nature of how they carry out their activities. These values are the personality, or culture, of the organisation.

1.3.4 Strategic Goals. Organisational members often work to achieve several overall accomplishments, or goals, as they work toward their mission.

1.3.5 Strategies. Organisations usually follow several overall general approaches to reach their goals.

1.4 Organisations as Systems

It helps to think of organisations as systems. Simply put, a system is an organised collection of parts that are highly integrated in order to accomplish an overall goal. The system has various inputs which are processed to produce certain outputs that together, accomplish the overall goal desired by the organisation. There is ongoing feedback among these various parts to ensure they remain aligned to accomplish the overall goal of the organisation. There are several classes of systems, ranging from very simple frameworks all the way to social systems, which are the most complex. Organisations are, of course, social systems.

Systems have inputs, processes, outputs and outcomes. To explain, **inputs** to the system include resources such as raw materials, money, technologies and people. These inputs go through a **process** where they are aligned, moved along and carefully coordinated, ultimately to achieve the goals set for the system. **Outputs** are tangible results produced by processes in the system, such as products or services for consumers. Another kind of result is **outcomes**, or benefits for consumers, e.g., jobs for workers, enhanced quality of life for customers, etc. Systems can be the entire organisation, or its

departments, groups, processes, etc.

Feedback comes from, employees who carry out processes in the organisation, customers/clients using the products and services, etc. Feedback also comes from the larger environment of the organisation, e.g., influences from government, society, economics, and technologies.

Each organisation has numerous subsystems, as well. Each subsystem has its own boundaries of sorts, and includes various inputs, processes, outputs and outcomes geared to accomplish an overall goal of the subsystem. Common examples of subsystems are departments, programmes, projects, teams, processes to produce products or services, etc. Organisations are made up of people -- who are also systems of systems of systems -- and on it goes. Subsystems are organised in a hierarchy needed to accomplish the overall goal of the overall system.

The organisational system is defined by, its legal documents (articles of incorporation, by laws, roles of officers, etc.), mission, goals and strategies, policies and procedures, operating manuals, etc. The organisation is depicted by its organisational charts, job descriptions, marketing materials, etc. The organisational system is also maintained or controlled by policies and procedures, budgets, information management systems, quality management systems, performance review systems, etc.

One of the common ways that people manage systems is to work backwards from what they want the system to produce. This process is essentially the same as the overall, standard, basic planning process. This process typically includes:

- a) Establishing overall goals (it is best if goals are defined in measurable terms, so they usually are in terms of outputs); the overall impacts of goals are outcomes, a term increasingly used in nonprofits
- b) Associating smaller goals or objectives

(or outputs) along the way to each goal c) Designing strategies/methods (or processes) to meet the goals and objectives d) Identifying what resources (or inputs) are needed, including who will implement the methods and by when.

1.5 Key Functions of Organisations

In order to produce and sell their product or service most organisations will need to undertake six key functions:

- Design and Production
- Finance
- Human Resources
- Sales and Marketing
- Administration
- Research and Development

Each of the functions will need to work together so that the whole of the organisation has the same aims and objectives. To achieve this communication across the various functions is key activity. A starting point for this type of communication is the creation of a clear set of company objectives which each function is aware of. These objectives then need to be further broken down into specific objectives for each function. Regular reviews of firstly how each function is performing against it's objectives and secondly how the company is performing against it's overall objective should ensure that the whole company is pulling in the same direction.

1.6 Factors of Production

To generate a product or service an organisation will need to combine labour, capital, energy, materials and information.

1.6.1 Labour. Labour is the mental and/or physical effort of employees and can take a variety of forms including filing, lifting, data processing, decision making, and line

management. In fact labour is any effort/task an employee needs to undertake in order to produce the product or service.

1.6.2 Capital. Capital is the machines and tools needed to produce the product or service. This physical capital is purchased through financial capital such as loans, sale of shares in the organisation and use of profit generated by the organisation.

1.6.3 Energy. Energy is provided through the use of gas, electricity, solar power and steam. Energy is needed to light up the premises, make the machinery work and to ensure that the organisation is a comfortable place for the employees to work in.

1.6.4 Materials. Materials in their raw form are needed to produce the product or service. For example a restaurant will need ingredients to make the food that they serve to their customers.

1.6.5 Information. Information is the knowledge and expertise needed to produce the end product. For example a restaurant will need to know what ingredients are necessary for each dish, what quantity of ingredient to use, how to mix each ingredient and how long (if at all) to cook each dish.

NB Factors of production have also been classified into land, labour, capital and enterprise. In this type of classification natural resources such as water, coal and farm land are grouped together as land. Whilst enterprise, are all the factors which bring together land, labour and capital to produce the end product.

1.7 Organisational Functions

Following are some of the major functions each organisation has to perform to accomplish its professed mission and aims.

1.7.1 Finance Function. The financial section of the

organisation will keep manual/electronic records of money received and paid out by the organisation. This information will then be used to produce various financial statements for tax purposes and to comply with legal requirements. The information will also be used to produce management accounts to enable senior managers to plan and review business strategy. The finance department or unit may also be responsible for administering employee expenses and salaries. For payment of wages the finance department will need to take into account statutory deductions such as tax, and employee contributions such as pension or loan repayments.

1.7.2 Human Resources Function. The human resource or personnel function's main responsibility is the recruitment, selection, training and development of staff. This will involve developing staff to maximise their potential in a manner that furthers the organisation's objectives. Human resources may also need to comply with legislation applicable to the country in which they are based. For example in the UK employers will need to maintain accurate personal records in a manner that is compliant with the UK Data Protection Act 1984. Human resources often adopt a welfare role which includes looking after employees whilst they are at work. They may also create policies that balance organisational needs with those of the employee. They will also interpret employee welfare legislation and ensure that the organisation is complying with the applicable legislation.

1.7.3 Sales and Marketing Function. The marketing department will research customer needs to develop a strategy and product to satisfy a specific customer need. In its research, the marketing department will investigate the market they are aiming at; the type of consumer making up the market (age, background, sex, etc.) and the preferences of the consumer within that market. The marketing department will then need to produce a products that needs consumer preferences and is profitable. Once the product has been designed by the production department, marketing will then

need to package, advertise, and promote the product. Sales are responsible for persuading the consumer to purchase the end product, manufactured through marketing's research. The Sales Department's selling strategy could involve mail shots, travelling sales representatives, telephone sales and devising sales interviews.

1.7.4 Administrative (or Facilities Management) Function.

This involves dealing with all administrative tasks including mail handling, dealing with enquiries/complaints, catering, and computer services. The administrative function also produces documents (eg forms, stationery, and newsletters) for the organisation and maintain the organisation's premises and equipment. This function, although not always recognised, is vital, as it is the glue that holds the organisation together. Without an administrative department, customer complaints would not be resolved, customer orders would not be processed, and the workforce would not have the tools they need to complete their tasks.

1.7.5 Research and Development Function. The aim of research and development is to improve existing products, create new and better products, improve production methods, and create effective processes. This will enable the organisation to reduce costs, increase profitability and remain ahead of the competition. As not all research will lead to new/improved products/processes, companies will need to allocate a specific portion of their budget to research and development activities.

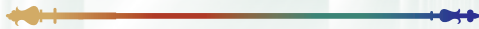
1.8 Hybrid Organisations

A hybrid organisation is a body that operates in both the public sector and the private sector, simultaneously fulfilling public duties and developing commercial market activities. As a result the hybrid organisation becomes a mixture of both a government and a private corporation.

CHAPTER 2

Management

- ➔ 2.1 Introduction to Management
- ➔ 2.2 The Four Management Functions
- ➔ 2.3 Management by Objectives (MOB)



2.1 Introduction to Management

Management (from Old French, *ménagement* – “the art of conducting, directing”, from Latin, *manu agere* – “to lead by the hand”) characterises the process of leading and directing all or part of an organisation; often a business, through the deployment and manipulation of resources (human, financial, material, intellectual or intangible).

This definition of management is interesting because it traces the word back to the Latin phrase meaning “to lead by the hand”. Leading by the hand implies giving direction that is stronger than just a passing suggestion yet still fairly gentle in approach. Leading by the hand also implies that the person doing the leading is first going where the follower is being lead. The leader is not asking the follower to do something he is not willing to do himself.

2.1.1 Every individual is either involved in some sort of organised activity or at least being benefited by organised activities by making use of products, which are the outcome of such activities. Management is a process that ensures the coordination, participation and involvement of people to achieve desired results/objectives. Management and

administration are one and the same things having a very minor difference i.e. administration is employed in non-profit activities, whereas management is used in profit making activities. Management can be defined as:

2.1.2 Definitions of Management:

- Management is the process undertaken by one or more individuals to coordinate the activities of other people to achieve results, which are not attainable by one individual alone.
- Management is the process, which is used to achieve certain goals through the utilisation of resources i.e. people, money, energy, etc.

2.1.3 Manager. Keeping in view the definition of management, a manager can be considered as a person placed in a position from where he has to ensure changes in other people's behaviour for the purpose of achieving objectives entrusted to him. In other words we may say that manager is the person who ensures that every individual performs the job to the best of his ability, either by motivation or authority.

2.1.4 Significance of Management

- All societies depend upon specialised institutions/ organisations (for the provision of required goods and services), which are guided and directed by managers.
- Almost every member of a society is either a manager or affected by the decisions of a manager.
- Many individuals, not trained as managers, often find themselves in a managerial position.

2.2 The Four Management Functions

Planning, organising, leading and controlling; the major management functions are explained in the succeeding paragraphs.

2.2.1 Planning. It is the first tool of the four functions in the management process. The difference between a successful and unsuccessful manager lies within the planning procedure. Planning is logically thinking through goals and deciding what needs to be accomplished in order to reach the organisations' objectives. Managers use this process to plan for the future, like a blueprint to foresee problems, decide on actions to evade difficult issues and to beat competition. (Bateman, Snell, 2007). Planning is the first step in management and is essential as it facilitates control, and is valuable in decision making and the avoidance of business ruin.

2.2.2 Organising. In order to reach the objective outlined in the planning process, structuring the work of the organisation is a vital concern. Organisation is a matter of appointing individuals to assignments or responsibilities that blend together to achieve one purpose, to accomplish the goals. These goals will be reached in accordance with the company's values and procedures. Managers must know their subordinates and what they are capable of, in order to organise the most valuable resources a company has – its employees. (Bateman, Snell, 2007). This is achieved through management staffing the work division, setting up training for employees, acquiring resources, and organising the work group into a productive team. The manager must then go over the plans with the team, break the assignments into units that one person can complete, link related jobs together in an understandable well-organised style and appoint the jobs to individuals. (Allen, G., 1998).

2.2.3 Leading. Organisational success is determined by the quality of leadership that is exhibited. "A leader can be a manager, but a manager is not necessarily a leader," says Gemmy Allen (1998). Leadership is the power of persuasion of one person over others to inspire actions towards achieving the goals of the company. Those in the leadership role must be able to influence/motivate workers to an elevated goal and direct themselves to the duties or responsibilities assigned

during the planning process. (Allen, G., 1998). Leadership involves the interpersonal characteristics of a manager's position that include communication and close contact with team members. (Bateman, Snell, 2007).

2.2.4 Controlling. The process that guarantees plans are being implemented properly is the controlling process. Gemmy Allen stated that 'Controlling is the final link in the functional chain of management activities and brings the functions of the management cycle full circle.' This allows for the performance standard within the group to be set and communicated. Control allows for ease of delegating tasks to team members and as managers may be held accountable for the performance of subordinates, they may be wise to extend timely feedback of employee accomplishments. (Allen, G., 1998).

2.3 Management by Objectives (MBO)

The concept of Management by Objectives, considered to be an effective method of management is explained below.

2.3.1 Goal Setting Goal setting being a tremendous source of clarity and motivation should be given top priority by all organisations and establishments. In addition to being an area of motivation goal setting has the following characteristics:

- Criterion for performance.
- Source of satisfaction and improved performance.
- It is cognitively based with an inbuilt purpose.
- The phrase “do your best” can be used only after the setting of goals.
- Unrealistic or overambitious goals may be a cause of pressure on workers and decrease their efficiency.
- People tend to perform in an attempt to achieve difficult goals.
- Goals are an effective tool for Human Resource Management (HRM) i.e. goals help manage and direct the

abilities/potential of people.

- MBO is derived from the Overall Performance System Approach.

2.3.2 Process of MBO

2.3.2.1 Setting Overall Objectives:

- **Identification of Key Result Areas in Organisations.** A key result area is one that has the greatest impact on the overall performance of the organisation.
- **Determination of Measures of Performance.** Objectives are stated with a view to measuring the performance of the organisation, objectively.
- **Agreement on Actual Objectives.** These Objectives are:
 - Result-oriented and stated in objective terms
 - Measurable
 - Time bound
 - Accompanied by action plan that proposes how the objectives will be accomplished.

2.3.2.2 Developing Organisation for MBO System. After overall objectives have been formulated, it is vital that the organisation now be prepared to implement the system downward, which may, at times involve complete re-organisation.

2.3.2.3 Setting Individual Objectives. Once the overall objectives have been set and the organisation is developed to the point of accommodating an MBO system, individual goals are set. Individual goals should:

- Be determined by the area supervisor-subordinate pair.
- Be in line with the overall objectives of the organisation.
- Be measurable.
- Involve open give and take.

- Include action plans.

2.3.2.4 Appraisal by Results. It involves following steps:

- Inform individuals about their performance in the light of objectives.
- Information should be diagnostic rather than purely evaluative.
- Periodic review be conducted to evaluate progress towards the attainment of objectives.
- In the light of periodic reviews, individual objectives may be revised.
- During the annual review, an overall diagnosis and evaluation is made according to results attained and the system starts over again.

2.3.3 Positive Characteristics of MBO

- Goal Setting. This may contribute towards improved long-range and short-range planning.
- Feedback. This is possible due to the inbuilt system of periodic and annual reviews.
- Participation in Decision Making. Particularly at the level of setting individual goals, which are determined by the mutual consultation of superior and subordinates.
- Open Two-way Communication. Especially upward, horizontal and diagonal.
- Self-Control. It is assured by work progress and results.

CHAPTER 3

Planning

- ➡ 3.1 The Planning Process
- ➡ 3.2 Principles of Planning Process
- ➡ 3.3 Characteristics of Planning
- ➡ 3.4 Types of Plans
- ➡ 3.5 Types of Planning
- ➡ 3.6 Steps in Planning
- ➡ 3.7 Strategic and Operational Planning
- ➡ 3.8 Approaches to Planning
- ➡ 3.9 Fiscal Planning
- ➡ 3.10 Formats of Budgets



3.1 The Planning Process

The more widely accepted description of the management process was provided by Henri Fayol in the early 1900s. According to Fayol the basic functions of management are:

- Planning
- Organising
- Leading
- Controlling

Although there is much debate as to which of these functions is most important in determining management success, there is

more agreement that planning is the function upon which the other functions rest.

3.1.1 Definition. Planning can be defined as selecting and relating knowledge, facts, images and assumptions regarding the future for the purpose of visualisation and formulation of desired outcomes to be achieved, sequential activities necessary to achieve those outcomes, and limits on acceptable behaviour to be used in their accomplishment.

3.1.2 Importance of Planning. The four functions of management; planning, organising, leading and controlling, assume a great worth in the success of businesses every day. Planning is determining in advance the objectives to be accomplished and the means by which these objectives are to be attained. It means deciding what to do, when to do, how to do it, and who is to do it. It bridges the gap from where we are and where we want to be in the future. The purposes of planning can be summarised as under:

- ? To provide a bridge between useful knowledge and performance-based action.
- ? To gain control of the future through current acts.
- ? Anticipate events; prepare for contingencies i.e. formulate directions, map out activities and provide an orderly sequence for achieving goals.

3.1.3 Benefits of Planning. Change is the rule not an exception. It may be sudden and extensive or it may be slow and almost imperceptible. However, things do not remain constant and changes often give rise to problems that confront administrators. For administrators, who are ready to meet all types of eventualities, planning has the following benefits.

3.1.3.1 By anticipating the future, administrators can prepare for needed changes to mitigate some outcomes that might be considered undesirable.

3.1.3.2 Planning helps the administrator to be better prepared to deal with both foreseen and unforeseen problems.

3.1.3.3 Planning is a tool for adapting to new innovations for resolving conflicts, improving old approaches, upgrading existing quality, improving communication and achieving many other desired outcomes.

3.1.3.4 Planning promotes the use of measures of performance.

3.1.3.5 Appropriate planning procedures make it possible to identify mal adjustments that may solve organisational problems and enable decision makers to determine in advance what adjustments are necessary.

3.1.3.6 Planning also offers significant opportunities for developing and maintaining human growth.

3.1.3.7 Planning enables administrators to visualise the whole operation and make adjustments, accordingly.

3.2 Principles of Planning Process

- ?** Flexibility and adaptability.
- ?** Planning, an integral part of organisation and administration, must be an inbuilt mechanism of the organisation.
- ?** Human factor should not be ignored.
- ?** Planning is a measure of performance or the standard of achievement of an organisation.

3.3 Characteristics of Planning

The essential nature of planning is highlighted by following four major characteristics.

3.3.1 Contribution to Purpose and Objectives. The main aim of

every major and all derived plans is to facilitate the accomplishment of the enterprise purpose and objectives.

3.3.2 Primacy of Planning. Since managerial operations in organising, staffing, leading and controlling are designed to support the accomplishment of enterprise objectives, planning logically precedes the execution of all other managerial functions.

3.3.3 Pervasiveness of Planning. Planning is the function of all managers, though the character and breadth of planning varies with the authority they enjoy and the policies outlined by their superiors. Unless they have some planning responsibility, it is doubtful that they are truly managers.

3.3.4 Efficiency of Plans. The efficiency of plans is measured by the amount it contributes to purpose and objectives vis-à-vis the cost or input. A plan can contribute to the attainment of objectives, but at too high a cost. The concept of efficiency implies normal or even better than normal ratio of input to output.

3.4 Types of Plans

On the basis of time, plans are classified into long term plans, intermediate plans and short term plans. On the basis of function or role however, plans are classified into following types:

3.4.1 Purpose or Mission. Every kind of organised operation has a purpose or mission, which requires clear definition in order to formulate meaningful objectives

3.4.2 Objectives. Objectives are the ends towards which activity is directed. They represent not only the end point of planning, but the end towards which organising, staffing, leading and controlling are aimed at. Where the enterprise objectives constitute the basic plan of a firm, a department may also have objectives which naturally contribute towards the

attainment of enterprise goals.

3.4.3 Strategies. Strategies reflect overall concepts of an enterprise operation. They denote general programmes of action and an implied employment of resources to attain objectives.

3.4.4 Policies. Policies are also plans in that they are general statements which guide thinking and actions in decision making. One can hardly refer to all policies as statements, for they are often implied by the actions or practices of managers.

3.4.5 Procedures. Procedures are plans in that they establish a customary method of handling future activities. They outline the exact manner in which a certain activity must be accomplished. Their essence is the chronological sequence of required actions.

3.4.6 Rules. Rules are plans which like other plans, are chosen from among the alternatives. They are usually the simplest types of plans. Rules are frequently confused with policies or procedures. A rule requires a specific type of action to be taken or not to be taken with respect to a situation. As a matter of fact, the procedure could be looked upon as a sequence of rules.

3.4.7 Programmes. Programmes are a combination of goals, policies, procedures, rules, tasks assigned, steps to be taken, resources to be employed and other essential elements necessary to carry out given actions.

3.4.8 Budgets. A budget as a plan is a statement of expected results expressed in numerical terms. As a matter of fact, the financial budget is often called a profit plan. It may be expressed in financial terms or in terms of labour hours, machine hours on any numerically measurable terms.

3.5 Types of Planning

Generally planning is classified into following two types.

3.5.1 Reactive Planning. Organisations are often forced by unforeseen events to move from one crisis to another and to what is called reactive planning. In reactive planning the administrator solves one crisis after another in much the same way a fireman fights fire. Each crisis creates new directions, new activities come to the forefront and others are usually ignored till they reach a crisis point.

3.5.2 Proactive Planning. Proactive planning involves anticipation of future, and preparing to deal with both foreseen and unforeseen problems. The decrease in organisational efficiency can be reduced through proactive planning. The number of crises decrease and the quality of adjustments increase as proactive planning is improved.

3.6 Steps in Planning

Although following steps in planning are presented here in connection with major programmes, essentially the same steps are followed in any type of planning:

3.6.1 Being Aware of Opportunities. Being aware of opportunities is the real starting point of planning. It includes a preliminary look at possible future opportunities and the ability to see them clearly, as well as knowledge of where we started in the light of our strengths and weaknesses. Setting realistic objectives depends on awareness. Planning requires realistic diagnosis of opportunities.

3.6.2 Establishing Objectives. The second step in planning is to establish objectives for the entire enterprise and then for each subordinate unit. Objectives indicate the end points of what is to be done, where primary emphasis is to be laid and what is to be accomplished by the network of strategies, policies, procedures, rules, budgets and programmes.

3.6.3 Premising. Premises include forecast data of a factual nature, applicable policies, and existing company plans. Premising them, are planning assumption or the expected

environment of plans in operation.

3.6.4 Determining Alternative Courses. The fourth step in planning is to search for and examine alternative courses of actions, especially those not immediately apparent. There is seldom a plan for which alternatives do not exist, and quite often an alternative that is not obvious proves to be the best.

3.6.5 Evaluating Alternative Courses. Having sought out the alternatives courses and examined their strong and weak points, the fifth step is to evaluate them by weighing various factors in the light of premises and goals – one course may appear the most profitable but requires more financial resources and offers slow payback, another may be less profitable but involves less risk, still another may better suit the company's long-range objectives.

3.6.6 Selecting a Course. The sixth step, selecting the course of action, is the point at which a plan is adopted. Occasionally, analysis and evaluation of alternative courses will disclose that two or more are advisable, and the manager may decide to follow several courses instead of one.

3.6.7 Formulating Derivate Plans. At the point where a decision is made, planning is seldom complete, as another step is indicated i.e. formulation of derivate plans required to support the basic plan.

3.6.8 Numbering Plans by Budgeting. After decisions are made and plans are set, the final step, to give them meaning, is to number them by converting them to budgets. The overall budget of an enterprise represents the sum total of income and expenses with resultant profit or surplus.

3.7 Strategic and Operational Planning

Two major types of planning are: strategic planning and operational planning. Strategic planning is seeing that the

organisation is doing the right things, operational planning is ensuring that the organisation is doing things, rightly.

3.7.1 Strategic Planning. Strategic planning is defined as the process of deciding objectives for the organisation, changes in the objectives, resources required to obtain objectives, and policies that are to govern the acquisition, and use as well as the disposition of the resources. Strategic objectives are directed towards:

- Long term survival.
- Future resources.
- Future potentials.
- Flexibility (modifications in case of unforeseen eventualities).
- Adaptability to changing conditions.
- Future directed.
- Client oriented.
- External needs i.e. the needs of society.
- eds i.e. the needs of society.

3.7.2 Operational Planning. Operational planning is the process by which administrators ensure that resources are obtained and used effectively and efficiently to accomplish strategic objectives. Operational planning focuses on:

- Present resources.
- Operational problems and stability.
- Measurable and variable objectives
- Programmes, projects and staff.
- Internal activity and outcomes.
- Efficient use of resources.
- Using methods within policy constraints.

Operational Planning vis-à-vis Strategic Planning

Operational Planning	Strategic Planning
<ul style="list-style-type: none">• Focus. On operational problems and realities.• Objectives. Present performance.• Constraints. Present resources.• Rewards. Efficiency, flexibility.• Organisation. Bureaucratic• Leadership. Conserves past success.• Problem Solving. React; rely on past experience; low risk.	<ul style="list-style-type: none">• Long term survival and development.• Future performance and success.• Future resources/system-wide environment• Development of future potential, flexibility.• Entrepreneurial/flexible.• Inspires change for future needs.• Anticipate; find new approaches; creative ideas to meet future challenges; high risk.

3.8 Approaches to Planning

Following are the two types of planning approaches, adopted by the management of an organisation.

3.8.1 Bottom-up Planning. Bottom-up planning is initiated at lower level and coordinated, modified and adjusted to strategic parameters at a higher level. This approach has following disadvantages:

- Narrow interests of organisation are given more weightage than the interest of those who receive services.
- It caters for self-serving venture.
- Does not elicit cooperation from units.
- Resorts to inconsistent planning process.

3.8.2 Top-down Planning. Strategic planning initiated by top level administrators is called top-down planning. The approach has following advantages:

- Is less likely to be viewed cynically by the people involved in its implementation.

- Eliminates the need for major modification.
- Ensures quicker and more efficient planning process.
- Coordination is best achieved when strategic plans, made at top level, are used to guide plans developed at sub-unit level.

3.9 Fiscal Planning

It is impossible to discuss planning without discussing budgeting. A “budget is an expression of a plan in fiscal terms”. A goal budget will present a proposed plan for expenditure necessary to support such a plan, and anticipated revenue to cover such expenditure. These three parts are referred to as the strategic plan, the expenditure plan and the revenue plan. The budget performs following functions:

- It provides linkage between strategic and operational plan.
- Defines fixed commitment and expectations.
- Results in specification of framework.
- Evaluates success of plan.
- Determines scope of objectives/activities.
- Determines quality and quantity.
- Establishes dimensions of feasibility.
- Provides guidance system.

3.9.1 Role of Budgeting. The budget provides that moment of truth, when administrators learn which plans will be accepted, modified or rejected. It plays following additional roles:

3.9.1.1 Framework for Future Activities. Budget is the framework of all future operational activities. It adds dimensions of future realities to strategic plans.

3.9.1.2 Pre-determination of Achievement Level. The level of achievement can be determined by allocation of resources needed to accomplish strategic objectives.

3.9.2.3 Specification of Financial Limits. Budgeting is done in order to ensure that required resources will be available at the right time and in the right amount. It forces the management examine in detail the economic conditions of the organisation. In this sense, budget specifies the limits within which the planned action of the organisation must be considered.

3.9.1.4 Picture of Expected Outcomes vis-à-vis Means. Plans and budgets together provide a picture of the expected outcomes and the means by which they are to be achieved.

3.9.1.5 Ensures the Success of a Plan. The budget is a very powerful tool in the planning process. Plans seldom succeed unless they are financially supported by the budget.

3.9.1.6 Lifeblood of an Organisation. The surest way to determine the effectiveness of planning is to see how well it is funded. If the budget does not support a plan, the organisation has little chance of accomplishing it; the planning effort remains on paper without life-blood.

3.10 Formats of Budgets

Following are more commonly known formats of budgets.

3.10.1 An Object/Activity Budget. It is a programme budget, which displays costs on a programme-by-programme basis; it does not say anything about the need for the objects of expenses, their use or their efficiency with regard to planned objectives.

3.10.2 Programme-by-Programme Base System (PPBS). “PPBS” relates the output-oriented programmes, required to achieve the objectives of an organisation, to specific resources that are then stated in terms of budget. Basic ingredients of PPBS are:

- Budgetary planning with emphasis on outputs.
- Programme activities and accomplishments.

- Planning for and attaching resources to programmes rather than to link items.

3.10.3 Merits of PPBS

- Displays costs on a programme by programme basis rather than by items/objectives.
- Provides method for determining the cost of programme goals and objectives.
- Represents the appropriation of fixed sum of money to achieve a specific objective.
- Outputs oriented.
- Selects cost effective programmes.
- Maximises outputs by minimum resources.

3.10.4 Zero Base Budgeting. The most recent concern regarding the use of budgetary process is that it perpetuates ineffective, unnecessary and outdated objectives and related activities. Cyert and March were probably the first to identify the problem. Past budgets become precedents for present situation; a budget becomes a precedent for future budget. This budgetary concern has fostered a new concept called Zero-Base Budgeting (ZBB). Since 1970 ZBB has become a popular phrase if not yet an established budgeting tool. Zero Base budgeting is a term and technique introduced by Peter Pyhrr (1970) to deal with such a problem. Zero Base Budgeting is based on a ground-up approach in which all programmes and activities, whether old or new, must be re-justified in budgeting, each year.

3.10.5 Characteristics of Zero Base Budgeting

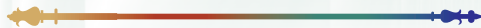
- Zero-based i.e. virtually no base.
- Ground-up approach i.e. starting from ground level.
- Re-justification of previous activities.
- Application of analytical process.
- Identification of unwanted activities.

- Ranking process i.e. prioritising activities.
- Base package i.e. minimum requirements must be catered for.
- Determination of basic requirements.
- Identification of evaluation of different levels.

CHAPTER 4

Organising

- ➔ 4.1 Organising
- ➔ 4.2 Organisational Theories
- ➔ 4.3 Theory in Relation to Research
- ➔ 4.4 Organisational Structure - The Axiomatic Theory
- ➔ 4.5 Organisational Process - General System Theory
- ➔ 4.6 Power within Organisations - Bureaucracy Theory
- ➔ 4.7 Reciprocal Influence - Compliance Theory
- ➔ 4.8 Concepts Relevant to Organising



4.1 Organising

Organising is the establishing of relationship between the activities to be performed, the persons to perform the activities and physical factors that are needed.

4.1.1 Process of Organising. The process of organising involves following actions.

- Identification and classification of the activities to accomplish the plan.
- Grouping jobs or items of work into an orderly organisational structure.

- The assignment of each grouping to a manager with necessary authority.
- The provision of coordination both horizontally and vertically in the organisational structure.

4.2 Organisational Theories

4.2.1 Nature of Empirical Theory. The term empirical theory has been defined in a variety of ways by scholars in academic disciplines and philosophers of science. For our purpose we may define empirical theory as:

- A unique way of perceiving reality.
- An expression of someone's profound insight into an aspect of nature.
- A thought system that reaches beyond superficial experience to reveal a deeper dynamic than people usually perceive.
- A different and fresh perception of an aspect of the world we inhabit.

4.2.2 A Ladder of Abstraction in Perceiving Reality. “A theory is the transformation of sensations or concrete experiences into abstractions.” Concepts, constructs and propositions are steps or phases a sensation passes through before assuming the shape of a theory. Each of the steps of this ladder of abstraction is briefly explained in the succeeding paragraphs.

4.2.2.1 Sensations. If we had no minds at all, we would probably experience a stream of raw sensations; nameless, undifferentiated sensory, physical events. We, being accustomed to thinking, naming and interpreting physical happenings cannot even imagine such mindlessness. Nevertheless, these sensations or events constitute the concrete world, the raw material of which experience is made and the first step of the ladder that leads us to theory which is the pinnacle of man's mental faculties.

4.2.2.2 Concepts. During very early infancy we start learning words that represent raw experiences or sensations. We learn to interpret concrete reality by assigning certain words to certain types of events. In brief, we learn “concepts” which can be defined as:

- A concept is a kernel of an idea; the smallest unit in the thought process.
- A concept is a mental device for interpreting a unit in the stream of sensations we experience.

4.2.2.3 Constructs. Most of us function at the level of concepts most of the time. We join them together in sentences and paragraphs to express what we are experiencing mentally and physically. Often, however, concepts cluster and merge into a higher-order unit of thought called “construct”. For example we define the concept of intelligence as the knowledge one possesses and the concept of age as the amount of time one has lived. The notion of Intelligence Quotient (IQ) represents the merging of these two concepts. IQ refers to one's knowledge-in-relation-to-age. IQ is an example of a construct. A construct can be defined as:

- A blend of concepts into a higher-order unit of thought e.g. IQ.
- A mental representation of a cluster or blend of concepts.

4.2.2.4 Propositions. On rare occasions an individual conceives a pattern of relationships among several constructs and can articulate their relationship clearly, logically and convincingly. “The expression of relationships among constructs is called a proposition”. The following definitions have been offered.

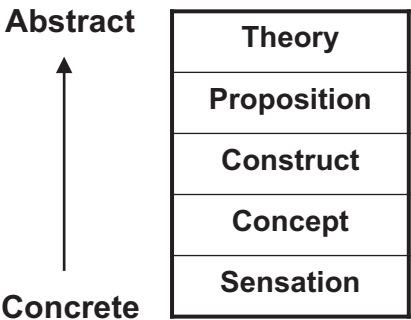
- A proposition represents a unique conceptualisation of reality.
- Propositions are an integration of constructs which are a blend of concepts that represent events in the real world of experience.

4.2.2.5 Theory. One proposition is usually insufficient to

explain fully a creative thinker's new insight about an aspect of reality. Most often the complete articulation of this new theory requires that the series of propositions be logically related to each other i.e. a theory which can be defined as:

Theory is a set of logically interrelated propositions. A theory is a distinctive way of perceiving reality.

The ladder of abstraction in perceiving reality, explained above, can be described with the help of the figure below:



Maslow's Motivation Theory in Relation to the Ladder of Abstraction

Ladder of Abstraction	Maslow's Theory
Theory	Behaviour is an expression of one's drive to reduce deficiencies by gratifying prepotent (most salient) types of needs.
Propositions	The five types of needs are hierarchically ordered from the most basic (physiological) to the least basic (self-actualisation).
Constructs	Types of needs (physiological, security, affiliation, etc.)
Concepts	Needs (need for food, safety, human contact, etc.)
Sensations	Experience (pangs of hunger, fear of failing, urge to talk, etc.)

4.3 Theory in Relation to Research

We need demonstration, verification, and proof that theory does explain reality before we can accept it as truth. We need stronger evidence than merely our own individual perceptions that the generalisations in theory do apply to real, concrete events. This is why we conduct research. Much scientific research involves the collection and analysis of evidence for the purpose of determining the validity of a theory. To understand the nature of scientific research we can start with our understanding of theory and move down the ladder of abstraction.

4.3.1 Conceptual Framework. Theory being used as the basis for selecting the events to be studied must be described and linked logically to the particular problem being investigated. The theory seeks to clarify the perspective or conceptual framework to be used as the foundation of the empirical study.

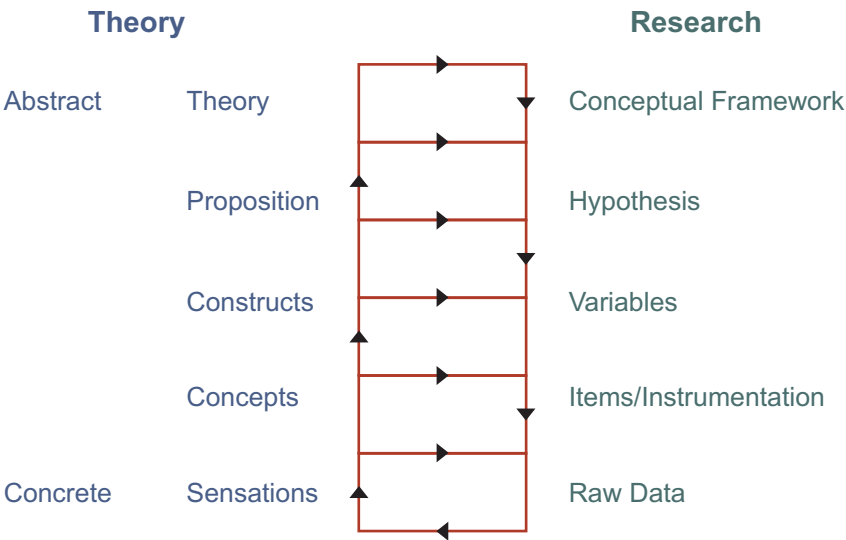
4.3.2 Hypothesis. A proposition is a statement that is a part of a theory and asserts a relationship between or among constructs. This suggests that the proposition of interest to a researcher is contained within the framework. In linking the abstract proposition to a specific study being conducted, the researcher converts the proposition into a statement of relationship between or among variables, factors to be studied empirically. This statement is called a hypothesis. A hypothesis can be defined as: The transformation of a proposition from the general to the particular – a translation of abstract terms into terms that refer to specific, measurable instances e.g.

- **Proposition.** People vary in the prepotency of their needs.
- **Hypothesis.** Teachers within a school vary with respect to their prepotent job-related needs.

4.3.3 Variables. A variable is a quality or characteristic by which individuals, groups or things of interest differ from each other. Height, weight and need level are examples of variables.

4.3.4 Instruments. The device for gathering information for research is called an instrument. More precisely, an instrument in research is a tool for measuring variables i.e. for ascertaining the degree to which a characteristic is present or absent in the objects being studied. The information gathered for research by means of research instruments is called “data”. One piece of information is called “datum”, several pieces are called “data”.

Theory and Research in Relation to a Ladder of Abstraction



4.4 Organisational Structure - The Axiomatic Theory

One can easily contemplate the structure of a bridge, a building, a machine or a living cell. In case of such tangible physical entities one thinks of the structure as the nature and shape of the constituent parts and the relationships the parts bear to each other. But can an organisation – a collectivity of people – be thought of having a structure in the same way?

4.4.1 Definition of Organisation. An organisation can be defined as a “social unit” within which people have achieved somewhat stable relations amongst themselves in order to facilitate obtaining a set of objectives or goals.

4.4.2 Definition of Organisational Structure. The idea of organisational structure is analogous to the idea of the structure of a tangible physical entity. Since the focus of interest in an organisation is people, the parts of the organisation are the people it comprises, and the structure of the organisation is: “the pattern of relationships among the people who constitute the organisation”.

4.4.3 Axiomatic Theory. In 1965, Jerald Hage published a synthesis of the research on aspects of the patterns of relationships among people in organisations. This synthesis was in the form of a concise set of logically interrelated generalisations.

4.4.4 The Essence of Axiomatic Theory. The ways in which people in organisations are intended to relate to each other can be regarded as the “organisational means” through which organisations accomplish their purposes. The purposes or outcomes for which the organisation was designed can be regarded as the “organisational ends”. Although this means-ends continuum seems to imply that the structural properties (means) cause the outcomes (ends), it must be borne in mind that the ends might cause the means as well. That is, the particular purpose for which an organisation is formed might well influence the particular structure of the organisation.



Major Constructs in the Axiomatic Theory

4.4.5 Organisational Means. “Organisational means or structural attributes are dimensions of the patterns of relationships among people in organisations”. These dimensions and properties are; complexity, centralisation, formalisation and stratification. Each of these dimensions is explained below:

4.4.5.1 Complexity. Complexity refers to the diversity of specialisations of employees in the organisation and the expertise required to fulfill these specialisations. The indicators of complexity suggested by Hage are:

- Number of occupational specialties in each organisation
- Level of training required for the specialties.

4.4.5.2 Centralisation. Centralisation refers to the extent to which decision making within the organisation is done at the highest level. The indicators of centralisation would be:

- The proportion of jobs that participate in decision making.
- The number or areas in which decisions are made by employees at each level in the organisational hierarchy.

4.4.5.3 Formalisation. Formalisation, another name for standardisation, refers to the relative absence or presence of latitude in doing work. The indicators of formalisation suggested by Hage are:

- The proportion of jobs codified (with complete written specifications).
- The range of variations allowed within jobs.

4.4.5.4 Stratification. Stratification refers to the number of status differences that exist among employee jobs in the organisation or the number of levels in the organisational hierarchy. Suggested indicators of stratification are:

- Differences in income and prestige among jobs.
- Rate of mobility between high and low status jobs.

4.4.6 Organisational Ends. The purposes or outcomes for which the organisation was designed can be regarded as organisational ends. Organisational ends or outcomes are of four types as explained below:

4.4.6.1 Adaptiveness. Adaptiveness or flexibility refers to the organisation's responsiveness to changes in its environment.

The two indicators of adaptiveness suggested by Hage are:

- Number of programmes per year.
- Number of new techniques introduced per year.

4.4.6.2 Production. Production is a reflection of an organisation's effectiveness in terms of the quantity and the quality of output it generates. Two suggested indicators of production are:

- Number of units of output per time period.
- The rate of increase in units of output per time period.

4.4.6.3 Efficiency. Efficiency refers to the cost effectiveness of the organisation's operations. Suggested indicators of efficiency:

- Cost per unit of output for a given period.
- Amount of idle or slack resources per time period.

4.4.6.4 Job Satisfaction. Job satisfaction or morale refers to the employees' attitude towards their organisation and their work. Suggested indicators of job satisfaction are:

- Employees' attitude towards various aspects of their work and work setting.
- Rate of employees' turnover per year or rate of short-term absenteeism per unit of time.

4.4.7 Relationship among Constructs in the Axiomatic Theory.

The relationships between means and ends are specified as Axioms (or propositions), number 1, 2, 4 and 6 below. In addition, the structural attributes or means are related to each other as well. These relationships are specified in Axioms 3 and 7 below. The seven axioms take into consideration all major constructs in the theory. Therefore, it is possible to derive a complete set of propositional statements from the seven axioms by purely logical, deductive means to generate complete statements of the theory. For example, Axiom-1 states: "The higher the centralisation, the higher the

production.” Axiom-3 states, “The higher the centralisation, the higher the formalisation.” Straightforward logic indicates that, the higher the formalisation, the higher the production.” These derived statements, which Hage (1965) called corollaries, are listed, following the axioms. Major propositions in Axiomatic Theory are:

- I The higher the centralisation, the higher the production
- II The higher the formalisation, the higher the efficiency
- III The higher the centralisation, the higher the formalisation
- IV The higher the stratification, the lower the job satisfaction
- V The higher the stratification, the higher the production
- VI The higher the stratification, the lower the adaptiveness
- VII The higher the complexity, the lower the centralisation

4.4.8 These seven axioms can be interpreted as meaning that organisations in which decision making is centralised are more likely to be highly formalised, relatively non complex and highly productive and efficient. Similarly organisations that are highly stratified are more likely to be productive but inflexible and have less satisfied employees. An additional major proposition is: VII Production imposes limits on the other seven elements.

From the first seven axioms can be derived 21 corollaries, or logically deduced propositions which have been enumerated by Hage as follows:

- + formalisation + production
- + centralisation + efficiency
- - job stratification + production
- - job stratification – adaptiveness
- + production – adaptiveness
- + complexity – production
- + complexity – formalisation

- + production + efficiency
- + stratification + formalisation
- + efficiency – complexity
- + centralisation – job satisfaction
- + centralisation – adaptiveness
- + stratification – complexity
- + complexity + job satisfaction
- - complexity – adaptiveness
- + stratification + efficiency
- + efficiency – job satisfaction
- + efficiency – adaptiveness
- + centralisation + stratification
- + formalisation – job satisfaction
- + formalisation – adaptiveness

Propositions

+ centralisation	+ production + formalisation
+ formalisation	+ efficiency
+ stratification	+ production - job satisfaction - adaptiveness
+ complexity	- centralisation

4.5 Organisational Process - General System Theory

Ludwig von Bertalanffy, a biologist with broad interests beyond his own discipline, was among the first to recognise the General System Theory in such diverse fields as biology, psychology, mechanical engineering, physics and sociology.

Scholars were developing generalisations, pertaining to the systems of their disciplines, which had striking similarities. The main reason for the similarities in these generalisations is that scholars were beginning to emphasise the importance of relationships among parts of the phenomena being studied rather than the analysis of the parts individually.

4.5.1 The Essence of General System Theory. General System Theory is partly dependant on defining systems and their elements with sufficient generality for application to phenomena that are studied in various physical and social sciences. System can be defined as:

4.5.1.1 A complexity of elements standing in interaction (Bertalanffy 1968). Systems exchange matter with their environment; that is they import from and export to their surroundings.

4.5.1.2 A set of components interacting with each other and a boundary which possesses the property of filtering both the kind and the rate of flow of inputs and outputs to and from the system.



4.5.2 Purposes of System. The system's outputs are always, in some detectable characteristics, different from the inputs. The discernable changes produced by the system can be regarded as the purpose of the system.

4.5.3 Components of the System. "Components of a system are the parts that interact with each other and fulfill the purpose of the system." The structure of parts determines how they can interact with each other. In a very complex system such as a school, the components are individual people, teachers,

administrators, counsellors, etc. and materials like books, film projectors, chalk boards, etc. We can define components as: "The smallest meaningful units that interact with each other to fulfill the purpose of the system."

4.5.4 The Boundary of a System. "The boundary of a system is the component that separates the system from the environment and filters the inputs to and the outputs from the system." The boundary may be a physical component such as the skin of an organism. But in case of a social system, the boundary can be regarded as the outer limits of the role each person plays.

4.5.5 Closed System. A closed system is one with impermeable boundary. Such a system imports few elements from its environment and the inputs are relatively uniform in type.

4.5.6 Open System. An open system is one with highly permeable boundary. Such a system imports many diverse elements at a rapid rate from its environment and uses those inputs for the interactions among components in the production of diverse outputs.

4.5.7 Inputs. All the elements that enter the system across its boundary and cause or enable the components to interact in fulfilling the system's purposes.

4.5.8 Energy Inputs. Energy inputs are physical forces or materials imported into the system that enable the components to move and therefore interact physically.

4.5.9 Information Inputs. Information inputs are signals that enter the system and indicate to the components how and when they are to interact.

4.5.10 Storage Units and Memory Units. Inputs cannot often be used precisely as they are available in the environment, but

they must be retained within the system until they are used. Energy inputs are retained in tanks, etc. called storage units and information inputs are retained in minds, files, etc. called memory units.

4.5.11 Maintenance and Production Units. Maintenance inputs are those simply required to sustain the system, while production inputs are those needed for growth of the system and goal attainment.

4.5.12 Outputs. Are all the energy and information that a system expels into its environment or to adjacent systems. A systems output always entails altering the inputs and often altering something that is treated by the system.

4.5.13 Throughput. That which passes through the system and is changed in some way by the system is often called the throughput, although the changes in throughput are the systems outputs. In addition to performing the work of using inputs for purposeful interaction and transforming throughputs, systems always produce some energy and information other than that related to the system's purpose. These might be the by-products of the interaction among components. Non-useful energy outputs are called **waste**, and non-useful signal outputs are called **noise**.

4.5.14 Purpose. The purpose of a system is the functions it performs in relation to adjacent systems or a larger system of which it is a part.

4.5.15 Feedback. Self regulating and self adjusting systems adjust themselves by means of a process called feedback. This process entails drawing some of the outputs back into the system as information inputs so that possible discrepancies between the intended and actual output can be measured. Positive feedback is the information that indicates no discrepancy between the intended and actual output. Negative feedback is the information that indicates discrepancies and necessitates adjustments for the fulfillment of the system's

purpose.

4.5.16 Subsystem. A subsystem is a system that exists within a larger system. It is a set of components interacting within a boundary, for a purpose that relates to the purposes of the larger system. For example, the human body is composed of a number of subsystems.

4.5.17 Supra-system. A supra-system is a larger system of which a particular system is a part. It is a set of systems interrelating (within a boundary) to fulfill a broad purpose that includes the purposes of particular systems. For example, a school district is a supra-system which is composed of a number of schools (systems consisting of components interacting within a boundary).

4.5.18 Equilibrium. Is a state of stability or balance such that the inputs are processed as they enter the system and the components (or subsystems) are providing inputs to each other (in interaction) at a rate that enables processing as they are received.

4.5.19 Disequilibrium. Is a state of instability or imbalance such that the inputs are being admitted too rapidly or slowly and with too much or too little diversity, to be processed by the system.

4.5.20 FA & GNS. Human groups such as organisations have the dual purpose of effecting changes of some sort and fulfilling the psychological needs of the human components. Bersien (1968) distinguished between formal achievements (FA) and group needs satisfaction (GNS). FA is the successful completion of products or delivery of services that the group was intended to accomplish. GNS is the fulfillment of human needs that are characteristic of the participants in the group.

4.5.21 Relationship among Constructs in the General System Theory. The constructs are all intrinsic to the definition of a system. As elements of one phenomenon, all constructs are integrally related to and determined by each other. For example, the structure of the components determines the

possible interactions among them and the components in interaction determine the boundary as well as what inputs can be used and what outputs can be produced.

4.6 Power within Organisations - Bureaucracy Theory

According to Max Weber, bureaucracy is the organisation that achieves the epitome of efficiency and rationality while at the same time resting on a bedrock of legitimacy.

4.6.1 The Core of Weber's Theory of Bureaucracy. Max Weber was concerned with the issue of social dominance – with how a small number of people particularly in government and industry, achieve dominance over a huge number of people. Although he recognises that there are many bases of power, including coercion and persuasion, he was most interested in authority – “the form of dominance that is contingent on voluntary obedience by others.” Three types of authority identified by Weber are explained below:

4.6.1.1 Charismatic Authority. It is social dominance in which the leader's personal magnetism and exceptional attractiveness draws masses of followers.

4.6.1.2 Traditional Authority. It is a form of dominance inherent in a position that is passed to individuals from one generation to the next.

4.6.1.3 Legal Authority. It is a form of dominance created by legislation and upheld by the full legal machinery of the society.

4.6.1.4 The important feature of these three types of authorities is that subordinates comply with their superior's orders without questioning the legitimacy or desirability of those orders. Each of these authorities gives rise to different types of organisations. Charismatic authority is most prevalent in mass movements and voluntary associations. Traditional authority can be seen in small family enterprises, those that have been founded by an individual and passed on to the oldest offspring.

Organisations in which legal authority is the most predominant form of influence are called bureaucracies.

4.6.2 Major Constructs in Bureaucracy Theory

4.6.2.1 Hierarchy of Offices. Each administrative function in the organisation is assigned an office, a position entailing a specific set of rights and responsibilities. These offices are arranged in a pyramid form, such that office holders at each level are responsible to those at the next higher level.

4.6.2.2 Rules and Regulations. These are routine procedures dealing with recurring situations that affect each office in the organisation. They are standards of behaviour for all participants which are often printed in a manual. Generally, these rules are unambiguous, reasonable and limited in number so that all participants can learn them.

4.6.2.3 Specialisation of Tasks. All the work performed within an organisation is divided among offices and each office is associated with one type of work. This enables employees to become proficient at particular tasks and acquire specialised training to enhance their expertise.

4.6.2.4 Impersonality. Interactions within the organisation or between officials and clients are conducted uniformly in a non-individualistic manner rather than with emotional overtones and personal biases. The rules apply to all individuals impartially and decisions are based on efficient goal attainment rather than impulse or personal preferences.

4.6.2.5 Written Records. All transactions, both within the organisation and with clients are recorded in documents that are filed and kept for future reference, for decision making and for reporting to auditors.

4.6.2.6 Salaried Personnel. The supervisory and administrative officers are full-time, salaried employees who depend on the organisation for income. Their job is their source

of income and a means of career advancement, and their major focus for practising the work for which they were specially trained.

4.6.2.7 Control of Resources. Although the organisation must acquire its resources from the external environment, the resources once acquired are controlled and allocated by the organisation's officers.

4.6.3 Relationships among Major Constructs in Bureaucracy Theory.

The characteristics or constructs of the pure bureaucracy are bounded by the principles of rationality and efficiency, which are explained below:-

4.6.3.1 Rationality. Rationality refers to the goal-directedness of the organisation. Each activity undertaken within the organisation is explicitly related to organisational goals, this goal-directedness provides the only legitimate justification for any pattern of actions.

4.6.3.2 Efficiency. Efficiency refers to the cost-effectiveness of the organisation, when cost is the expenditure of organisational resources and effectiveness is the organisation's attainment of its goals. When alternative plans are considered, cost-effectiveness provides the basis for selecting a plan to be pursued. Each characteristic or construct of bureaucracy enhances the rationality and efficiency of the organisation. For example, a hierarchy of offices ensures that decisions affecting the organisation's operations are made by those in the best position to weigh all the relevant factors. In addition, each characteristic of the pure bureaucracy reinforces and facilitates implementation of the other features.

4.6.4 Major Propositions in Bureaucracy Theory.

4.6.4.1 Organisations based on legal authority (bureaucracies) are more efficient and more rational than those based on

charismatic or traditional authority.

4.6.4.2 The more nearly an organisation approximates a pure bureaucracy, the more efficient and rational it is.

4.6.4.3 The presence of any one characteristic of bureaucracy in an organisation increases the likelihood that other characteristics of bureaucracy will be present in that organisation.

4.6.5 Types of Bureaucracies and Bureaucrats

4.6.5.1 Leonard Riesman (1949) interviewed 40 state civil employees and was able to identify 4 types of bureaucrats:

- **The Functional Bureaucrat:** Who identifies himself with the profession rather than organisation.
- **Specialist Bureaucrat:** Who is profession oriented but also identifies with the organisation.
- **The Job Bureaucrat:** The loyal and obedient organisation-oriented worker.
- **Service Bureaucrat:** Who identifies with the clients and seeks to do public good.

4.6.5.2 Ben David (1958) Interviewed 78 Israeli physicians and identified for 2 types of bureaucrats:-

- Sc-Oriented Physician who would be equivalent to Reissman's Functional Bureaucrats.
- Svc-Oriented Physician who would be equated with Reissman's Service Bureaucrats.

4.6.5.3 Hoy and Miskel (1978) Suggested a typology of bureaucrats based on two separate dimensions: Formal Dimension which they call bureaucratic (hierarchy, rules, standardisation, impersonality) and the Professional Dimension (expertise, specialisation). Thus they derived 4 types of bureaucracies:-

- Weberian. High formalism and high professionalism.

- Authoritarian. High formalism and low professionalism.
- Professional. Low formalism and high professionalism.
- Chaotic. Low formalism and low professionalism.

Professional Dimensions

Formal Dimension	Type-1 Weberian	Type-2 Authoritarian	High
	Type-3 Professional	Type-4 Chaotic	Low

4.7 Reciprocal Influence - Compliance Theory

Societies and nations vary in many ways. They differ in the kinds of social order they maintain, i.e. in the nature of relationship between those who hold power and those who are subjected to that power. People often think of social power as a one way relationship: some have power and others are subjected to it. Recently, however, theorists have come to recognise that power is a reciprocal relationship: Power is attributed to some individuals by people who are influenced by those individuals. Social Power can, thus be defined as; “a relationship, not a quality, that some have and others lack”. Amitai Etzioni (1961-75) emphasised this reciprocity in his analysis of organisations, noting that they differ in the nature of reciprocal relationship. Like a social order, “a compliance pattern” is a relationship between the uses of power by high officials and the perceptions or psychological orientations of those subject to control. It must be emphasised that compliance, as a term used in this theory, does not refer to obedience, conformity, docility or any other behavioural response; it refers to relationship.

4.7.1 The Core of Compliance Theory. The compliance theory is largely a taxonomy __ a theoretical classification system or typology __ that offers insights about the nature and functioning of organisations. This taxonomy is derived from

two key elements: the type of power used by those in influential positions, and the types of orientations towards that power held by persons in subordinate positions.

4.7.2 Major Constructs in Etzioni's Theory

4.7.3.1 Power Has been defined as, “an actor's ability to induce or influence another actor to carry out his directions or any other norms he supports (Etzioni 1975). The three types specified in this theory are:

- **Coercive Power.** “Coercive power is that in which physical force is used as the means of control.” Prisons are the most striking examples of organisations in which coercive power is used.
- **Remunerative Power.** “Remunerative power is that in which material resources are granted or withheld as the means of control.” Profit making business and households with domestic employees are the examples of organisations that rely on remunerative power.”
- **Normative Power.** “Normative power is that in which symbolic means are granted or withheld in the exercise of control.” Normative punishment could include disapproval and withholding of status symbols, etc. Normative rewards would include granting praise and status symbols, etc. Religious sects and voluntary service organisations are examples of organisations using normative power.

N.B. A distinctive feature of Etzioni's power typology is that each type of power is a continuum with a positive and a negative end.

4.7.3.2 Involvement. Refers to the orientation of lower participants toward the organisation and its uses of power.” This orientation is both affective (emotional) and cognitive (evaluative); that is involvement encompasses both feelings and thoughts. The three types of involvements specified by Etzioni's are:

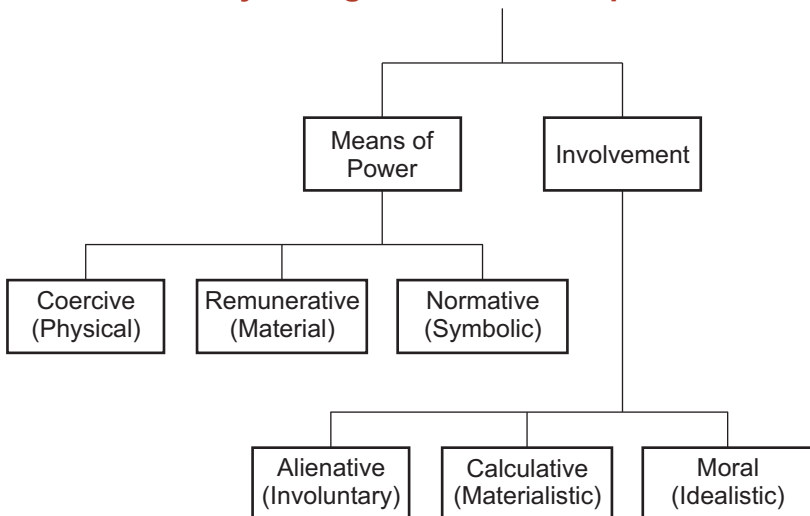
- **Alienative Involvement.** “Alienative involvement is an

orientation characterized by intensely hostile or negative feelings and involuntary presence by the lower participants.” Prisoners of war, political prisoners and slaves can be expected to have alienative involvement.”

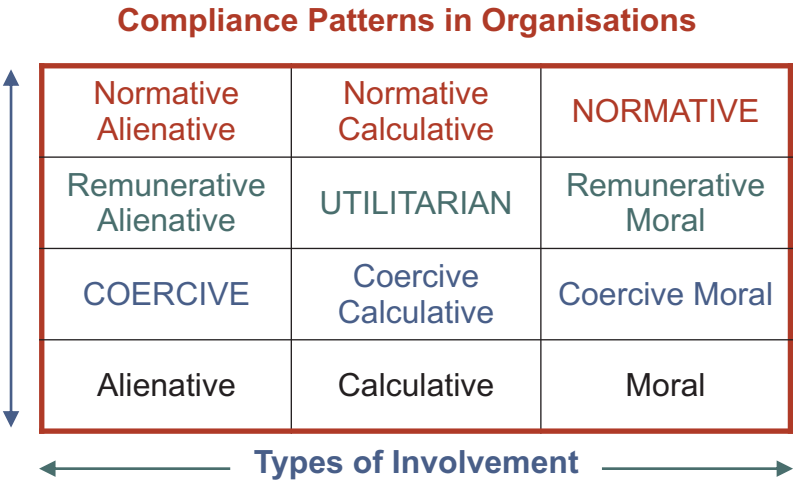
- **Calculative Involvement.** “Calculative involvement is an orientation characterised by neutral feelings (positive or negative, but not intense) and by an intention to gain material benefits by participation and obedience.” Salespersons, domestic employees and unskilled workers are some examples of participants having calculative involvement.
- **Moral Involvement.** “Moral involvement is an orientation in which the participants' feelings are intensely positive and in which the reason for participation is a strong belief in the values for which the organisation stands. Religious zealots, followers of gang leaders and political workers are examples of participants having moral involvement.

N.B. A distinctive feature of Etzioni's involvement typology is that it incorporates both the cognitive and affective elements of participants' orientation - both motives and feelings.

Taxonomy of Organisational Compliance



4.7.3 Relationships among Constructs in Compliance Theory. Having reviewed the substance and subclasses of power and involvement, we can now consider the blending of two typologies to generate a taxonomy of compliance patterns. As illustrated in the figure below, the 3 types of powers combined with 3 types of involvement yield 9 patterns of compliance. Three of these types are found more frequently than the other six. These 3 are the Congruent Types i.e. organisations in which the kind of power used is appropriate for the kind of involvement lower participants have.



4.7.4 Congruent Compliance Types. Although examples of incongruence can also be found, the most numerous and stable organisations are those having congruent power-involvement patterns. These organisations are:-

4.7.5.1 Coercive Organisations. Organisations in which the power used is coercive (physical) and the lower participants' involvement is predominantly alienative (hostile).

4.7.4.2 Utilitarian Organisations. Organisations in which the power used is mainly remunerative (material) and lower participants are calculative (materialistic).

4.7.5.3 Normative Organisations. Organisations in which the power base is mainly normative (symbolic) and the lower participants; involvement is primarily moral (committed).

4.7.5 Major Propositions of Compliance Theory:

4.7.5.1 Organisations that differ in the means of control they apply also differ systematically in the involvement of their lower participants:

- Organisations applying coercive control generally have alienative lower participants.
- Organisations applying remunerative control generally have calculative lower participants.
- Organisations applying normative control generally have committed lower participants.

4.7.5.2 Deviations from the congruence of power and involvement are unstable.

- Organisations tend to shift their compliance from incongruent to congruent.
- Organisations having congruent compliance pattern resist factors that push them toward incongruent compliance pattern.
- The three congruent types of organisations are found more frequently than the other 6 incongruent types of organisations.

4.8 Concepts Relevant to Organising

4.8.1 Soundness of Organisation. Soundness of an organisation implies the following:

- **Efficiency.** It is measured in relation to the energy and activity within the organisation. Its indicators are: (1) Cooperation (2) Motivation (3) Procedures (4) Supervision
- **Effectiveness.** It is the quality of service, which has an impact on the external world, served by the organisation.

Factors to measure it are: (1) Quality of Service (2) Accomplishment of Objectives

- **Continuity.** It means the existence of an organisation till the accomplishment of the task. Its indicators are: (1) Adequate financial resources (2) Satisfying the consumers.

4.8.2 Authority. It is the right to do something i.e. assign tasks, command subordinates, make decisions, etc.

4.8.3 Power It is ability to do something i.e. ability to change the behaviour of people. Bases of power are:-

- Legitimate Power
- Expert Power
- Referent Power
- Reward Power
- Coercive Power

4.8.4 Responsibility. It is the obligation to do something.

4.8.5 Accountability. Obligation to report to a higher authority about the manner in which one has used authority delegated to him.

N.B Unlike authority, responsibility cannot be delegated.

4.8.7 Decentralisation. It is the tendency to disperse decision-making authority in an organisation structure.

4.8.8 Process of Delegation of Authority:

- Determination of Results.
- Assignment of tasks.
- Delegation of authority.
- Holding people responsible.

4.8.9 Principles of Delegation:

- Delegation by results expected.
- Authority level principle.
- Unity of command.
- Absoluteness of responsibility.
- Parity of authority and responsibility.

4.8.10 Factors Determining Degree of Decentralisation:

- Costliness of Decision.
- Uniformity of Policy.
- History of the Enterprise.
- Management Philosophy.
- Availability of Manager.
- Control Techniques.
- Environmental Influence.

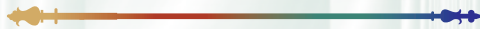
4.8.11 Factors Determining Effective Span of Control:

- Subordinate Training. In case of professionally sound/trained subordinates, span of control or number of subordinate can be increased.
- Clarity of Delegation of Authority. If subordinates have authority and they clearly understand their powers and limitations, they would be able to take certain decisions without referring to managers which will resultantly increase the span of time.
- Clarity of Plans. Clearly defined plans contribute towards efficient span of plan.
- Rate of Change. Both of policies as well as personnel.

CHAPTER 5

Leading

- ➔ 5.1 Leadership in Organisations
- ➔ 5.2 Theories of Leadership
- ➔ 5.3 A Behavioural Approach to Leadership
- ➔ 5.4 A Situational Approach to Leadership
- ➔ 5.5 Leadership in Informal Organisations
- ➔ 5.6 Decision Making



5.1 Leadership in Organisations

Leadership has always been a topic of interest to thinkers. Before 1960s research and efforts were directed towards identifying the traits or personality characteristics of effective leadership. Since the trait approach failed to reveal a set of characteristics consistently associated with effective leadership, this approach was supplemented with systematic analyses of behaviour patterns of leaders. Hundreds of studies conducted in 1960s and 1970s used the behavioural approach. Recognition that leaders' behaviour may vary in accordance with situations, scholars' attention shifted to situational or contingency approach to leadership. The contingency approach takes into consideration the interactive effects of a variety of factors, for example, nature of group and types of tasks performed.

5.1.1 A leader is a person who influences a group of people towards a specific result. It is not dependent on title or formal authority. Leaders are recognised by their capacity to care for

others, clear communication, and a commitment to persist. An individual who is appointed to a managerial position has the right to command and enforce obedience by virtue of the authority of his position. However, she or he must possess adequate personal attributes to match his authority, because authority is only potentially available to him. In the absence of sufficient personal competence, a manager may be confronted by an emergent leader who can challenge her/his role in the organisation and reduce it to that of a figurehead. However, only authority of position has the backing of formal sanctions. It follows that whoever wields personal influence and power can legitimise this only by gaining a formal position in the hierarchy, with commensurate authority.

5.1.2 Leadership versus Management. Over the years the philosophical terminologies of “management” and “leadership” have, in the organisational context, been used both as synonyms and with clearly differentiated meanings. Debate is fairly common about whether the use of these terms should be restricted, and generally reflects an awareness of the distinction made by Burns (1978) between “transactional” leadership (characterised by e.g. emphasis on procedures, contingent rewards, management by exception) and “transformational” leadership (characterised by e.g. charisma, personal relationships, creativity).

5.1.3 Leadership by a Group In contrast to individual leadership, some organisations have adopted group leadership. In this situation, more than one person provides direction to the group as a whole. Some organisations have taken this approach in hopes of increasing creativity, reducing costs, or downsizing. Others may see the traditional leadership of a boss as costing too much in team performance. In some situations, the maintenance of the boss becomes too expensive - either by draining the resources of the group as a whole, or by impeding creativity within the team, even unintentionally. A common example of group leadership involves cross-functional teams. A team of people with diverse

skills and from all parts of an organisation assembles to lead a project. A team structure can involve sharing power equally on all issues, but more commonly uses *rotating leadership*. The team member(s) best able to handle any given phase of the project become(s) the temporary leader(s). Additionally, as each team member has the opportunity to experience the elevated level of empowerment, it energizes staff and feeds the cycle of success.

5.2 Theories of Leadership

The leader of a group may well be an officeholder in the organisation's hierarchy or he may also be unofficial; voluntarily granted considerable power by the members of a group. Unofficial leaders, who have authority thrust upon them, are different from the official leaders, who have authority vested in them and have the legitimate right to command. However, official and unofficial leaders are not necessarily exclusive. For example, a university dean having legal authority often enjoys the support and respect of faculty members.

5.2.1 Fielder's Theory. Fielder pointed to certain motivational characteristics of the leader interacting with the following three variables:

5.2.1.1 Relationship between Leader and Follower. Effective leadership depends upon harmonious relationship.

5.2.1.2 Structure of Tasks. For effective leadership, structure should be understandable as a complicated/complex structure gives birth to difficulties.

5.2.1.3 Position Power of the Leader. The greater the power of a leader, the more effective leadership will be.

5.2.2 Vroom and Yetton's Theory. Vroom and Yetton emphasised the need for involving others in decision making. They considered participation, in the process of decision

making, as the central issue in leadership. The taxonomy of five leadership styles developed by Vroom and Yetton is as follows:

5.2.2.1 Autocratic Process:

- A-I Leader makes the decision, using whatever information is available.
- A-II Leader seeks new information from members of the group and then makes the decision.

5.2.2.2 Consultative Process:

- Leader shares the problems with relevant members on one to one basis then makes the decision.
- Leader shares the problem with members of a group at a meeting and then decides.

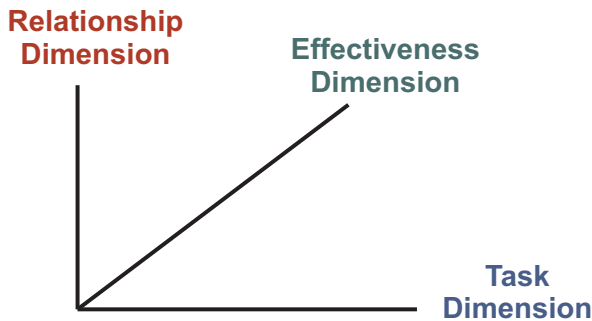
5.2.2.3 Group Process. Leader, acting as a chairperson at a meeting of the group, shares the problem with the group and facilitates efforts of the group to reach consensus on a group decision.

5.2.3 Reddin's 3-D Theory of Leadership. In analysing the leadership styles, Reddin described following dimensions:

5.2.3.1 Task Dimension. Task dimension or task orientation (TO) is “the extent to which a leader is likely to direct his own and subordinates' efforts towards goals attainment”

5.2.3.2 Relationships Dimension. Relationships dimension or orientation (RO) is “the extent to which a leader is likely to have highly personal job relationships characterised by mutual trust, respect for subordinates ideas, and consideration of their feelings”.

5.2.3.3 Effectiveness Dimension. “The extent to which the manager achieves the goals for which his position is responsible”



5.2.4 Effective Styles

5.2.4.1 Executive. These leaders are both Task Oriented and Relationship Oriented. They are good motivators, set high standards, recognise individual differences and utilise team management.

5.2.4.2 Developer. Maximum concern to RO and minimum to TO. Leader using this style has trust in people and tries to develop them well.

5.2.4.3 Benevolent Autocrat. Maximum concern to TO and minimum to RO. Leader using this style knows exactly what he wants and how to get it without causing resentment.

5.2.4.4 Bureaucratic. Minimum concern to both TO and RO. Leader using this style is mainly interested in roles and wants to maintain and control the situation.

5.2.5 Ineffective Styles:

5.2.5.1 Compromiser. Maximum concern to both TO and RO. Leaders using this style is poor decision maker, and is easily affected by pressure.

5.2.5.2 Missionary. Maximum concern to RO and minimum to TO.

5.2.5.3 “Do Gooder”. Values harmony as an end in itself.

5.2.5.4 Autocrat. Maximum concern to TO and minimum to RO. Has no confidence in others, is unpleasant, and interested in immediate jobs.

5.2.5.5 Deserter. Minimum concern to both TO and RO. Is uninvolved and passive.

5.3 A Behavioural Approach to Leadership

Leadership research work done at Ohio State University in 1950s provides conceptual framework for thinking about leaders' behaviour pattern systematically. According to Ohio State researchers, there are two major categories of actions by which leader's behaviour pattern can be described. These categories are system-oriented actions and people-oriented actions. These categories of behaviour are independent of each other, i.e. a leader may often perform system-oriented acts, and he may also perform person-oriented acts frequently. Knowing how often one performs system-oriented actions does not help to predict frequency of his person-oriented actions and vice versa.

5.3.1 The Essence of Leader Behaviour Frame Work. Numerous social psychologists have noted two key elements in interpersonal behaviour. These dimensions of human interpersonal behaviour have been given many names.

- Control Dimension and Cathectic Dimension----- Brown 1967
- Instrumental Dimension and Expressive Dimension----- Parsons 1951 and Bales 1953
- Nomothetic Dimension and Idiographic Dimension----- Gatzels and Guba 1957
- Task-Oriented and Relationship-Oriented Dimensions----- Fielder 1967

- Initiating Structure Dimension and Consideration Dimension-----Ohio State University Halpin 1966

5.3.2 Major Constructs in Leader Behaviour Framework. According to Ralph Stogdill (1963), a leading member of Ohio State Researcher Group, each of these, two major dimensions of behaviour comprises six subsets of behaviour. In all, there are 12 basic dimensions of leader behaviour that can be classified into two broad categories.

5.3.2.1 System-Oriented Behaviour. “Behaviour directed towards fulfilling the goals and accomplishing the tasks of the social system or organisation.” System-Oriented behaviour includes:

- **Production Emphasis.** “Actions that are intended to increase productive outputs of the group.”
- **Initiating Structure.** “The establishment and clarification of roles and interaction patterns within the organisation. It refers to those actions whereby leaders define their own roles and let the followers know what is expected of them.”
- **Representation.** “The category of behaviours that entails acting as the spokesperson for the group.”
- **Role Assumption.** “Active exercise of leadership position as opposed to surrender of leadership to others.”
- **Persuasiveness.** “Having firm convictions and convincing others of one's point of view.”
- **Superior Orientation.** “Actions that serve to maintain cordial relations with superiors, exercise influence with them and increase the leaders' status within the organisational hierarchy.”

5.3.2.2 Person-Oriented Behaviour. “Behaviours directed primarily towards satisfying the needs and preferences of the idiosyncratic individuals within the organisation. This dimension of leadership refers to actions that are intended to express concern for and interest in the group members to

acknowledge their unique needs, talents and interests to increase their comfort and satisfaction within the organisation. These behaviours include:

- **Tolerance of Uncertainty.** It refers to actions that show the leader's ability to accept postponement and indefiniteness without becoming anxious or upset.
- **Tolerance of Freedom.** It allows follower's scope for their own initiative, decision making and action.
- **Consideration.** It is a category of behaviour that demonstrates the leader's regard for the comfort, well-being, status and consideration of followers.
- **Demand Reconciliation.** It is the class of actions that serve to reconcile conflicting demands on leader's time and to reduce disorder within the organisation.
- **Integration.** It is the type of action that serves to maintain a closely knit group and to resolve conflicts among participants.
- **Predictive Accuracy.** Set of behaviours that exhibits leader's foresight and ability to anticipate outcomes.

5.3.3 Relationship among Leader Behaviour Constructs. As noted earlier the two major classes of leader behaviour are independent of each other. At the same time, no individual action can be solely system-oriented or solely person-oriented. And interpersonal action can be directed primarily toward one or other major factors but it will always have some connotations of other factors. Thus the categories of behaviour defined here are predominantly, but not exclusively either system-oriented or person-oriented.

5.3.4 Major Propositions

5.3.4.1 I Leader's actions can be classified within two broad categories: System-oriented actions and Person-oriented actions.

5.3.4.2 II The system-orientation category comprises six

specific sub-categories as follows:

- System-oriented actions include; production emphasis, initiating structure, representation, role assumption, persuasiveness and superior orientation.
- These types of behaviours range from the most predominantly system-oriented to the least system-oriented in the order listed above.

5.3.4.3 III The person-oriented category comprises six specific subcategories, as follows:

- Person-oriented actions include tolerance of uncertainty, tolerance of freedom, consideration, demand reconciliation, integration and predictive accuracy.
- These types of behaviours range from the most predominantly person-oriented to the least person-oriented in the order listed above.

5.3.4.4 IV Leader exhibits one of the following three styles in their pattern of behaviour over time:

- **System-Oriented Style.** Leaders who exhibit system-oriented actions more frequently than person-oriented actions.
- **Person-Oriented Style.** Leaders who exhibit person-oriented actions more frequently than system-oriented actions.
- **Transactional Style.** Leaders who engage in system-oriented and person-oriented behaviour with approximately same frequency. This style is considered to be the most effective.

5.4 A Situational Approach to Leadership

The unique perspective of contingency theory of leadership effectiveness is its focus on the dynamic interaction between leader and-situation as they both affect group performance. Fred Fiedler (1967) is a theorist whose conceptualisations are

based on a body of research he himself conducted. He found that neither situational characteristics nor leader characteristics alone accounted for group productivity but both elements in interaction did.

5.4.1 Contingency Theory of Leadership Effectiveness. It maintains that a group's success in accomplishing its tasks depends upon appropriate matching of leader and situation.

5.4.1.1 Group. A set of people who interact with each other for accomplishment of tasks. Or groups are interacting sets of people engaged in a task.

4.4.1.2 Tasks. The tasks on which this theory focuses are specifically those activities that constitute the group's primary reason for being; other activities of the group are not relevant to the theory. Leadership is regarded as an unequal power relationship in which one person, the leader, has more influence on a group member's behaviour than any other group member has.

5.4.2 Definition of Contingency Theory. As expressed by Fielder (1967), the theory states, "The appropriateness of the leadership style for maximising group performance is contingent on the favourableness of the group task situation."

5.4.3 Major Constructs

5.4.3.1 Leadership Style. "Leadership style is defined in terms of the understanding need structure that motivates the leader's behaviour in various interpersonal situations." The types of underlying needs that motivate the leader are:

- **Relationship-Orientation.** Relationship-oriented leaders are those in whom need for good interpersonal relationships is dominant and the need for task accomplishment is secondary.
- **Task-Orientation.** Task-oriented leaders are those in whom the need for successful task completion is dominant and

the need for good personal relationship is secondary.

5.4.3.2 Maximising Group Performance. Maximising group performance refers to increasing group task completion towards its highest possible level, both quantitatively and qualitatively.

5.4.3.3 Group-Task Situation. The group-task situation is the interpersonal setting, in which leadership takes place. It is described in terms of the extent to which it facilitates the exercise of influence by the leader. Three factors that determine influence are:

- **Leader-Member Relations** can be defined as the feelings group members have for the leader ---- the degree of friendliness, cooperativeness, supportiveness, etc.
- **Task Structure** refers to the degree to which the group's tasks are well defined. It includes the clarity of goals, the measureability of outcomes, etc.
- **Leader's Position Power** is the extent to which the leader's position itself enables him to exercise influence on group members.

5.4.3.4 Situation Favourableness is the composite of three group-task situation factors:

- The leader-member relations are considered either good or moderately poor.
- The tasks performed by the group are either highly structured or low in structure.
- The leader's position power in relation to the group is either strong or weak.

5.4.4 Relationship among Constructs. Whether a relationship-oriented leader or task-oriented leader is more effective depends on the degree of favorability of the work setting. In sum, contingency theory emphasises the notion that there is no particular leadership style that is the most effective in all situations; rather the effectiveness of one's leadership style is

contingent on the work situation. One's leadership style can be either relationship-oriented or task-oriented. Each group situation, having the three dimensions of leader-member relations, task structure and leader position power can be seen having one of the eight degrees of favorableness to the leader.

5.4.5 Major Propositions

- In favorable and unfavorable group-task situations, a task-oriented style is more effective.
- In moderately favorable group-task situations, a relationship-oriented style is more effective.

5.5 Leadership in Informal Organisations

In contrast to the appointed head or chief of an administrative unit, a leader emerges within the context of the informal organisation that underlies the formal structure. The informal organisation expresses the personal objectives and goals of individual membership. Their objectives and goals may or may not coincide with those of the formal organisation. The informal organisation represents an extension of the social structures that generally characterise human life — the spontaneous emergence of groups and organisations as ends in themselves.

In prehistoric times, man was preoccupied with his personal security, maintenance, protection, and survival. Now man spends a major portion of his waking hours working for organisations. His need to identify with a community that provides security, protection, maintenance, and a feeling of belonging continues unchanged from prehistoric times. This need is met by the informal organisation and its emergent, or unofficial, leaders.

Leaders emerge from within the structure of the informal organisation. Their personal qualities, the demands of the situation, or a combination of these and other factors attract followers who accept their leadership within one or several

overlaid structures. Instead of the authority of position held by an appointed head or chief, the emergent leader wields influence or power. Influence is the ability of a person to gain cooperation from others by means of persuasion or control over rewards. Power is a stronger form of influence because it reflects a person's ability to enforce action through the control of a means of punishment.

5.6 Decision Making

Decision making is the activity which is undertaken by every one of us almost every moment and daily. Decision may be quite insignificant or important, which requires deliberation, brainstorming and we may be required to take the opinion of others. It is the process of choosing among the possible alternative solutions to the given problem. Decision making is the most vital function undertaken by leaders, within the organisations.

5.6.1 Types of Decisions

5.6.1.1 Programmed/Structured Decisions. These are routine decisions taken in the light of existing programmes/procedures or orders/rules.

5.6.1.2 Non-Programmed/Non-Structured Decision. These are innovative decisions taken by managers there and then to settle unforeseen eventualities.

5.6.2 Process of Decision Making

5.6.2.1 Premising / Specifying the Problem. It implies that the 'musts and wants' of a decision must be put up to the decision maker by the decision preparer.

5.6.2.2 Division of Alternative Solutions. After having known the purpose of decision making, the first real step in decision making is the division of alternatives. It is rare for alternatives to be lacking for any course of action. If a course of action seems

to have only one way of doing it, that way is probably wrong and must not be adopted.

5.6.2.3 Choosing from among Alternatives. In choosing from among alternatives, the more an individual can recognise the critical factors which help in limiting the choice, the more clearly and accurately, he or she can select the most favourable alternative. For example if a company is not in a position or does not want to take risk, it will not select a project which involves risk despite relatively high profit margin. Risk, then is a limiting factor in this example which excludes the selection of alternatives involving risks.

5.6.2.4 Evaluation of Alternative. Once appropriate alternatives have been isolated, the next step in decision making is to evaluate them and select the one that will best contribute to the goal. The procedure recommended for evaluating the alternatives is explained below:-

- **Experience.** Reliance on past experiences probably plays a more significant part than it deserves in decision making. To some extent, experience is the best teacher. The very fact that managers have realized their position due to their seniority seems to justify the role of experiences in decision making. Relying on our past experiences as guide for future actions can be dangerous; however, in the first place, the lessons of experiences may not be applicable to new problems. Secondly good decisions must be evaluated against future events, while experiences belong to the past. An obvious way to decide among the alternatives is to try one of them and see what happens. According to certain people it is the only way a manager can make sure some alternatives are right or wrong, especially in view of intangible factors but it is considered to be an expensive and time consuming process.
- **Research & Analysis.** The most generally used and certainly most effective technique for selecting from alternatives, when major decisions are involved, is research and analysis. This approach entails problem

solving by first comprehending it. It thus involves a search for relationships between the more critical variables and constraints that bear upon the goals sought. In a real sense it is a pencil and paper or computer and print out approach to decision making. It has many advantages over other approaches for weighing alternative courses of action.

5.6.3 Problems in Decision Making

- Delay in decision making.
- Unsound decision.

5.6.4 Causes of Problems in Decision Making

- Organisational Inadequacy. It implies confusion about the duties/responsibilities of staff members and lack of staff and administrative resources.
- Problem of Data and Information. No decision can be taken in the absence of required data/information.
- Difficulty in Problem Specification. Decision cannot be made unless the decision maker is aware of the musts/wants of a decision.
- Technical Incapacity of Decision Maker. Either due to incompetence or lack of qualification.

CHAPTER 6

Controlling

- ➔ 6.1 Controlling in an Organisation
- ➔ 6.2 Process of Controlling
- ➔ 6.3 Kinds of Control
- ➔ 6.4 Problems of Control
- ➔ 6.5 Management Control Strategies
- ➔ 6.6 Designing Effective Control Systems
- ➔ 6.7 Elements of Control
- ➔ 6.8 Power and Politics in Organisations



6.1 Controlling in an Organisation

Control is one of the managerial functions like planning, organising, leading, etc. It is an important function because it helps to check the errors and to take corrective action so that deviation from standards are minimized and stated goals of the organisation are achieved in a desired manner.

According to modern concepts, control is a foreseeing action whereas earlier concept of control was used only when errors were detected. Control in management means setting standards, measuring actual performance and taking corrective action. Thus, control comprises these three main activities. According to Henri Fayol, control of an undertaking consists of seeing that everything is being carried out in accordance with the plan which has been adopted, the orders

which have been given, and the principles which have been laid down. Its object is to point out mistakes in order that they may be rectified and prevented from recurring.

Also, control can be defined as "that function of the system that adjusts operations as needed to achieve the plan, or to maintain variations from system objectives within allowable limits". The control subsystem functions in close harmony with the operating system. The degree to which they interact depends on the nature of the operating system and its objectives. Stability concerns a system's ability to maintain a pattern of output without wide fluctuations. Rapidity of response pertains to the speed with which a system can correct variations and return to expected output.

A political election can illustrate the concept of control and the importance of feedback. Each party organises a campaign to get its candidate selected and outlines a plan to inform the public about both the candidate's credentials and the party's platform. As the election nears, opinion polls furnish feedback about the effectiveness of the campaign and about each candidate's chances to win. Depending on the nature of this feedback, certain adjustments in strategy and/or tactics can be made in an attempt to achieve the desired result.

From these definitions it can be stated that there is close link between planning and controlling. Planning is a process by which an organisation's objectives and the methods to achieve the objectives are established, and controlling is a process which measures and directs the actual performance against the planned objectives of the organisation. Thus, planning and controlling are often referred to as Siamese twins of management.

6.1.1 Characteristics of the Control Process. The control process is cyclical which means it is never finished. Controlling leads to identification of new problems that in turn need to be addressed through establishment of performance standards,

measuring performance etc. Employees often view controlling negatively. By its very nature, controlling often leads to management expecting employee behaviour to change. No matter how positive the changes may be for the organisation, employees may still view them negatively. Control is both anticipatory and retrospective. The process anticipates problems and takes preventive action. With corrective action, the process also follows up on problems. Control is thus said to have following characteristics:

- Control is a continuous process.
- Control is a management process.
- Control is embedded in each level of organisational hierarchy.
- Control is forward looking.
- Control is closely linked with planning.

6.2 Process of Controlling

- Setting performance standards.
- Measurement of actual performance.
- Comparing actual performance with standards.
- Analysing deviations.
- Correcting deviations.

6.3 Kinds of Control

Control may be grouped according to three general classifications: (1) the nature of the information flow designed into the system (that is, open- or closed-loop control), (2) the kind of components included in the design (that is man or machine control systems), and (3) the relationship of control to the decision process (that is, organisational or operational control).

6.3.1 Open and Closed-Loop Control. A street-lighting system controlled by a timing device is an example of an open-loop system. At a certain time each evening, a mechanical device

closes the circuit and energy flows through the electric lines to light the lamps. Note, however, that the timing mechanism is an independent unit and is not measuring the objective function of the lighting system. If the lights should be needed on a dark, stormy day the timing device would not recognize this need and therefore would not activate energy inputs. Corrective properties may sometimes be built into the controller (for example, to modify the time the lights are turned on as the days grow shorter or longer), but this would not close the loop. In another instance, the sensing, comparison, or adjustment may be made through action taken by an individual who is not part of the system. For example, the lights may be turned on by someone who happens to pass by and recognises the need for additional light.

6.3.1.1 If control is exercised as a result of the operation rather than because of outside or predetermined arrangements, it is a closed-loop system. The home thermostat is the classic example of a control device in a closed-loop system. When the room temperature drops below the desired point, the control mechanism closes the circuit to start the furnace and the temperature rises. The furnace-activating circuit is turned off as the temperature reaches the pre-selected level. The significant difference between this type of system and an open-loop system is that the control device is an element of the system it serves and measures the performance of the system. In other words, all four control elements are integral to the specific system.

6.3.1.2 An essential part of a closed-loop system is feedback; that is, the output of the system is measured continually through the item controlled, and the input is modified to reduce any difference or error toward zero. Many of the patterns of information flow in organisations are found to have the nature of closed loops, which use feedback. The reason for such a condition is apparent when one recognises that any system, if it is to achieve a predetermined goal, must have available to it at all times an indication of its degree of attainment. In general,

every goal-seeking system employs feedback.

6.3.2 Man and Machine Control. The elements of control are easy to identify in machine systems. For example, the characteristic to be controlled might be some variable like speed or temperature, and the sensing device could be a speedometer or a thermometer. An expectation of precision exists because the characteristic is quantifiable and the standard and the normal variation to be expected can be described in exact terms. In automatic machine systems, inputs of information are used in a process of continual adjustment to achieve output specifications. When even a small variation from the standard occurs, the correction process begins. The automatic system is highly structured, designed to accept certain kinds of input and produce specific output, and programmed to regulate the transformation of inputs within a narrow range of variation.

6.3.2.1 For an illustration of mechanical control, as the load on a steam engine increases and the engine starts to slow down, the regulator reacts by opening a valve that releases additional inputs of steam energy. This new input returns the engine to the desired number of revolutions per minute. This type of mechanical control is crude in comparison to the more sophisticated electronic control systems in everyday use. Consider the complex missile-guidance systems that measure the actual course according to predetermined mathematical calculations and make almost instantaneous corrections to direct the missile to its target.

6.3.2.2 Machine systems can be complex because of the sophisticated technology, whereas control of people is complex because the elements of control are difficult to determine. In human control systems, the relationship between objectives and associated characteristics is often vague; the measurement of the characteristic may be extremely subjective; the expected standard is difficult to define; and the amount of new inputs required is impossible to quantify. To illustrate, let us refer once more to a formalised

social system in which deviant behaviour is controlled through a process of observed violation of the existing law (sensing), court hearings and trials (comparison with standard), incarceration when the accused is found guilty (correction), and release from custody after rehabilitation of the prisoner has occurred.

6.3.2.3 The speed limit established for freeway driving is one standard of performance that is quantifiable, but even in this instance, the degree of permissible variation and the amount of the actual variation are often a subject of disagreement between the patrolman and the suspected violator. The complexity of our society is reflected in many of our laws and regulations, which establish the general standards for economic, political, and social operations. A citizen may not know or understand the law and consequently would not know whether or not he was guilty of a violation.

6.3.2.4 Most organised systems are some combination of man and machine; some elements of control may be performed by machine whereas others are accomplished by man. In addition, some standards may be precisely structured whereas others may be little more than general guidelines with wide variations expected in output. Man must act as the controller when measurement is subjective and judgment is required. Machines such as computers are incapable of making exceptions from the specified control criteria regardless of how much a particular case might warrant special consideration. A pilot acts in conjunction with computers and automatic pilots to fly large jets. In the event of unexpected weather changes, or possible collision with another plane, he must intercede and assume direct control.

6.3.3 Organisational and Operational Control. The concept of organisational control is implicit in the bureaucratic theory of Max Weber. Associated with this theory are such concepts as "span of control", "closeness of supervision", and "hierarchical authority". Weber's view tends to include all levels or types of organisational control as being the same. More recently,

writers have tended to differentiate the control process between that which emphasises the nature of the organisational or systems design and that which deals with daily operations. To illustrate the difference, we "evaluate" the performance of a system to see how effective and efficient the design proved to be or to discover why it failed. In contrast, we operate and "control" the system with respect to the daily inputs of material, information, and energy. In both instances, the elements of feedback are present, but organisational control tends to review and evaluate the nature and arrangement of components in the system, whereas operational control tends to adjust the daily inputs.

6.3.3.1 The direction for organisational control comes from the goals and strategic plans of the organisation. General plans are translated into specific performance measures such as share of market earnings, return on investment, and budgets. The process of organisational control is to review and evaluate the performance of the system against these established norms. Rewards for meeting or exceeding standards may range from special recognition to salary increases or promotions. On the other hand, a failure to meet expectations may signal the need to reorganise or redesign.

6.3.3.2 In organisational control, the approach used in the programme of review and evaluation depends on the reason for the evaluation — that is, is it because the system is not effective (accomplishing its objectives)? Is the system failing to achieve an expected standard of efficiency? Is the evaluation being conducted because of a breakdown or failure in operations? Is it merely a periodic audit-and-review process?

6.3.3.3 When a system has failed or is in great difficulty, special diagnostic techniques may be required to isolate the trouble areas and to identify the causes of the difficulty. It is appropriate to investigate areas that have been troublesome before or areas where some measure of performance can be quickly identified. For example, if an organisation's output backlog builds rapidly, it is logical to check first to see if the problem is

due to such readily obtainable measures as increased demand or to a drop in available man hours. When a more detailed analysis is necessary, a systematic procedure should be followed.

6.3.3.4 In contrast to organisational control, operational control serves to regulate the day-to-day output relative to schedules, specifications, and costs. Is the output of product or service the proper quality and is it available as scheduled? Are inventories of raw materials, goods-in-process, and finished products being purchased and produced in the desired quantities? Are the costs associated with the transformation process in line with cost estimates? Is the information needed in the transformation process available in the right form and at the right time? Is the energy resource being utilised efficiently?

6.3.3.5 The most difficult task of management concerns monitoring the behavior of individuals, comparing performance to some standard and providing rewards or punishment as indicated. Sometimes this control over people relates entirely to their output. For example, a manager might not be concerned with the behavior of a salesman as long as sales were as high as expected. In other instances, close supervision of the salesman might be appropriate if achieving customer satisfaction were one of the sales organisation's main objectives.

6.3.3.6 The larger the unit, the more likely that the control characteristic will be related to some output goal. It also follows that if it is difficult or impossible to identify the actual output of individuals, it is better to measure the performance of the entire group. This means that individuals' levels of motivation and the measurement of their performance become subjective judgments made by the supervisor. Controlling output also suggests the difficulty of controlling individuals' performance and relating this to the total system's objectives.

6.4 Problems of Control

The perfect plan could be outlined if every possible variation of input could be anticipated and if the system would operate as predicted. This kind of planning is neither realistic, economical, nor feasible for most business systems. If it were feasible, planning requirements would be so complex that the system would be out of date before it could be operated. Therefore, we design control into systems. This requires more thought in the systems design but allows more flexibility of operations and makes it possible to operate a system using unpredictable components and undetermined input. Still, the design and effective operation of control are not without problems.

The objective of the system is to perform some specified function. The purpose of organisational control is to see that the specified function is achieved; the objective of operational control is to ensure that variations in daily output are maintained within prescribed limits. It is one thing to design a system that contains all of the elements of control, and quite another to make it operate true to the best objectives of design. Operating "in control" or "with plan" does not guarantee optimum performance. For example, the plan may not make the best use of the inputs of materials, energy, or information — in other words; the system may not be designed to operate efficiently. Some of the more typical problems relating to control include the difficulty of measurement, the problem of timing information flow, and the setting of proper standards.

6.4.1 Measurement of Output. When objectives are not limited to quantitative output, the measurement of system effectiveness is difficult to make and subsequently perplexing to evaluate. Many of the characteristics pertaining to output do not lend themselves to quantitative measurement. This is true particularly when inputs of human energy cannot be related directly to output. The same situation applies to machines and other equipment associated with human involvement, when output is not in specific units. In evaluating man-machine or human-oriented systems, psychological and sociological

factors obviously do not easily translate into quantifiable terms. For example, how does mental fatigue affect the quality or quantity of output? And, if it does, is mental fatigue a function of the lack of a challenging assignment or the fear of a potential injury?

Subjective inputs may be transferred into numerical data, but there is always the danger of an incorrect appraisal and transfer, and the danger that the analyst may assume undue confidence in such data after they have been quantified. Let us suppose, for example, that the decisions made by an executive are rated from 1 to 10, 10 being the perfect decision. After determining the ranking for each decision, adding these, and dividing by the total number of decisions made, the average ranking would indicate a particular executive's score in his decision-making role. On the basis of this score, judgments — which could be quite erroneous — might be made about his decision-making effectiveness. One executive with a ranking of 6.75 might be considered more effective than another who had a ranking of 6.25, and yet the two managers may have made decisions under different circumstances and conditions. External factors over which neither executive had any control may have influenced the difference in "effectiveness".

Quantifying human behaviour, despite its extreme difficulty, subjectivity, and imprecision in relation to measuring physical characteristics, is the most prevalent and important measurement made in large systems. The behavior of individuals ultimately dictates the success or failure of every man-made system.

Another problem of control relates to the improper timing of information introduced into the feedback channel. Improper timing can occur in both computerized and human controlled systems, either by mistakes in measurement or in judgment. The more rapid the system's response to an error signal, the more likely it is that the system could overadjust; yet the need for prompt action is important because any delay in providing corrective input could also be crucial. A system generating

feedback inconsistent with current need will tend to fluctuate and will not adjust in the desired manner.

The most serious problem in information flow arises when the delay in feedback is exactly one-half cycle, for then the corrective action is superimposed on a variation from norm which, at that moment, is in the same direction as that of the correction. This causes the system to overcorrect, and then if the reverse adjustment is made out of cycle, to correct too much in the other direction, and so on until the system fluctuates ("oscillates") out of control.

One solution to this problem rests in anticipation, which involves measuring not only the change but also the rate of change. The correction is outlined as a factor of the type and rate of the error. The difficulty also might be overcome by reducing the time lag between the measurement of the output and the adjustment to input. If a trend can be indicated, a time lead can be introduced to compensate for the time lag, bringing about consistency between the need for correction and the type and magnitude of the indicated action. It is usually more effective for an organisation to maintain continuous measurement of its performance and to make small adjustments in operations constantly (this assumes a highly sensitive control system). Information feedback, consequently, should be timely and correct, to be effective. That is, the information should provide an accurate indication of the status of the system.

6.4.2 Setting Standards. Setting the proper standards or control limits is a problem in many systems. Parents are confronted with this dilemma in expressing what they expect of their children, and business managers face the same issue in establishing standards that will be acceptable to employees. Some theorists have proposed that workers be allowed to set their own standards, on the assumption that when people establish their own goals, they are more apt to accept and achieve them.

Standards should be as precise as possible and communicated to all persons concerned. Moreover, communication alone is not sufficient; understanding is necessary. In human systems, standards tend to be poorly defined and the allowable range of deviation from standard also ill defined. For example, how many hours each day should a professor be expected to be available for student consultation? Or, what kind of behavior should be expected by students in the classroom? Discretion and personal judgment play a large part in such systems, to determine whether corrective action should be taken.

Perhaps the most difficult problem in human systems is the unresponsiveness of individuals to indicated correction. This may take the form of opposition and subversion to control, or it may be related to the lack of defined responsibility or authority to take action. Leadership and positive motivation then become vital ingredients in achieving the proper response to input requirements.

Most control problems relate to design; thus the solution to these problems must start at that point. Automatic control systems, provided that human intervention is possible to handle exceptions, offer the greatest promise. There is a danger, however, that we may measure characteristics that do not represent effective performance (as in the case of the speaker who requested that all of the people who could not hear what he was saying should raise their hands), or that improper information may be communicated.

6.5 Management Control Strategies

Managers can use one or a combination of three control strategies or styles: market, bureaucracy and clan. Each serves a different purpose. External forces make up market control. Without external forces to bring about needed control, managers can turn to internal bureaucratic or clan control. The first relies primarily on budgets and rules. The second relies on employees wanting to satisfy their social needs through feeling

a valued part of the business. Self-control, sometimes called adhocracy control, is complementary to market, bureaucratic and clan control. By training and encouraging individuals to take initiative in addressing problems on their own, there can be a resulting sense of individual empowerment. This empowerment plays out as self-control. The self-control then benefits the organisation and increases the sense of worth to the business in the individual.

6.6 Designing Effective Control Systems

Effective control systems have the following features:

- Control at all levels in the business
- Acceptability to those who will enforce decisions
- Flexibility
- Accuracy
- Timeliness
- Cost effectiveness
- Understandability
- Balance between objectivity and subjectivity
- Coordinated with planning, organising and leading
- Achieving organisational activities

6.7 Elements of Control

6.7.1 The Four Basic Elements in A Control System. The four basic elements in a control system — (1) the characteristic or condition to be controlled, (2) the sensor, (3) the comparator , and (4) the activator — occur in the same sequence and maintain a consistent relationship to each other in every system.

The first element is the **characteristic or condition of the operating system** which is to be measured. We select a specific characteristic because a correlation exists between it and how the system is performing. The characteristic may be the output

of the system during any stage of processing or it may be a condition that has resulted from the output of the system. For example, it may be the heat energy produced by the furnace or the temperature in the room which has changed because of the heat generated by the furnace. In an elementary school system, the hours a teacher works or the gain in knowledge demonstrated by the students on a national examination are examples of characteristics that may be selected for measurement, or control.

The second element of control, the **sensor**, is a means for measuring the characteristic or condition. The control subsystem must be designed to include a sensory device or method of measurement. In a home heating system this device would be the thermostat, and in a quality-control system this measurement might be performed by a visual inspection of the product.

The third element of control, the **comparator**, determines the need for correction by comparing what is occurring with what has been planned. Some deviation from plan is usual and expected, but when variations are beyond those considered acceptable, corrective action is required. It is often possible to identify trends in performance and to take action before an unacceptable variation from the norm occurs. This sort of preventative action indicates that good control is being achieved.

The fourth element of control, the **activator**, is the corrective action taken to return the system to expected output. The actual person, device, or method used to direct corrective inputs into the operating system may take a variety of forms. It may be a hydraulic controller positioned by a solenoid or electric motor in response to an electronic error signal, an employee directed to rework the parts that failed to pass quality inspection, or a school principal who decides to buy additional books to provide for an increased number of students. As long as a plan is performed within allowable limits, corrective action is not necessary; this seldom occurs in practice, however.

Information is the medium of control, because the flow of sensory data and later the flow of corrective information allow a characteristic or condition of the system to be controlled. To illustrate how information flow facilitates control, let us review the elements of control in the context of information.

6.7.2 Relationship between the Elements of Control and Information

6.7.2.1 Controlled Characteristic or Condition. The primary requirement of a control system is that it maintains the level and kind of output necessary to achieve the system's objectives. It is usually impractical to control every feature and condition associated with the system's output. Therefore, the choice of the controlled item (and appropriate information about it) is extremely important. There should be a direct correlation between the controlled item and the system's operation. In other words, control of the selected characteristic should have a direct relationship to the goal or objective of the system.

6.7.2.2 Sensor. After the characteristic is sensed, or measured, information pertinent to control is fed back. Exactly what information needs to be transmitted and also the language that will best facilitate the communication process and reduce the possibility of distortion in transmission must be carefully considered. Information that is to be compared with the standard, or plan, should be expressed in the same terms or language as in the original plan to facilitate decision making. Using machine methods (computers) may require extensive translation of the information. Since optimal languages for computation and for human review are not always the same, the relative ease of translation may be a significant factor in selecting the units of measurement or the language unit in the sensing element.

In many instances, the measurement may be sampled rather than providing a complete and continuous feedback of information about the operation. A sampling procedure

suggests measuring some segment or portion of the operation that will represent the total.

6.7.2.3 Comparison with Standard. In a social system, the norms of acceptable behaviour become the standard against which so-called deviant behaviour may be judged. Regulations and laws provide a more formal collection of information for society. Social norms change, but very slowly. In contrast, the standards outlined by a formal law can be changed from one day to the next through revision, discontinuation, or replacement by another. Information about deviant behaviour becomes the basis for controlling social activity. Output information is compared with the standard or norm and significant deviations are noted. In an industrial example, frequency distribution (a tabulation of the number of times a given characteristic occurs within the sample of products being checked) may be used to show the average quality, the spread, and the comparison of output with a standard.

If there is a significant and uncorrectable difference between output and plan, the system is "out of control." This means that the objectives of the system are not feasible in relation to the capabilities of the present design. Either the objectives must be reevaluated or the system redesigned to add new capacity or capability. For example, drug trafficking has been increasing in some cities at an alarming rate. The citizens must decide whether to revise the police system so as to regain control, or whether to modify the law to reflect a different norm of acceptable behaviour.

6.7.2.4 Implementer. The activator unit responds to the information received from the comparator and initiates corrective action. If the system is a machine-to-machine system, the corrective inputs (decision rules) are designed into the network. When the control relates to a man-to-machine or man-to-man system, however, the individual(s) in charge must evaluate (1) the accuracy of the feedback information, (2) the significance of the variation, and (3) what corrective inputs will restore the system to a reasonable degree of stability. Once the

decision has been made to direct new inputs into the system, the actual process may be relatively easy. A small amount of energy can change the operation of jet airplanes, automatic steel mills, and hydroelectric power plants. The pilot presses a button, and the landing gear of the airplane goes up or down; the operator of a steel mill pushes a lever, and a ribbon of white-hot steel races through the plant; a worker at a control board directs the flow of electrical energy throughout a regional network of stations and substations. It takes but a small amount of control energy to release or stop large quantities of input.

The comparator may be located far from the operating system, although at least some of the elements must be in close proximity to operations. For example, the measurement (the sensory element) is usually at the point of operations. The measurement information can be transmitted to a distant point for comparison with the standard (comparator), and when deviations occur, the correcting input can be released from the distant point. However, the input (activator) will be located at the operating system. This ability to control from afar means that aircraft can be flown by remote control, dangerous manufacturing processes can be operated from a safe distance, and national organisations can be directed from centralised headquarters.

6.8 Power and Politics in Organisations

6.8.1 Power. Power means the ability to affect and control anything that is of value to others. A manager must be powerful:

- To order.
- To tell others to do or change.
- To motivate others.
- To reward or punish.
- To accomplish organisational goals.

6.8.2 Politics. Politics is derived from Latin word “politic”, meaning acting wisely. Politics as a discipline means the science of government (ruling). Politics is getting ahead pragmatically in an organisation. Politics may be of help to managers to find answers to the following questions:

- How to procure resources?
- How to make decisions?
- How to use technology?
- How to effect changes?
- How to change external environment?
- How to devise strategies for power acquisition?
- How to achieve goals?

6.8.3 Distinction between Politics, Power, Authority and Influence

6.8.3.1 Politics

- The structure and process of the use of authority and power to affect the determination of goals.
- Pragmatic ways of getting ahead in an organisation.
- Political perspective of power in an organisation in terms of resources, decision making, goals and structures of acquiring power.

6.8.3.2 Power. Power can be defined as an ability to get an individual or group to do something or to get person or group to change in some way.

6.8.3.3 Authority. Authority legitimises power, it is the right to manipulate or change others.

6.8.3.4 Influence. Influence involves the ability of a person to alter another person or group in specific ways.

6.8.4 Sources/Types of Power

6.8.4.1 Reward Power. This source of power depends upon the person having ability and resources to reward others. In addition the target of this power must value these rewards. In organisations, managers have many political rewards such as pay increase, promotion, praise and recognition etc.

6.8.4.2 Coercive Power. This source of power depends on fear. The person with coercive power has the ability to inflict punishment as an aversive consequence on other persons.

6.8.4.3 Legitimate Power. This source of power stems from where others feel the obligation to accept this power due to cultural values, social structure or lawful authority of a person.

6.8.4.4 Referent Power This type of power comes from the feeling or desire on the part of other people to identify with the agent wielding power. The others grant the person power because he is attractive and has desirable personal characteristics.

6.8.4.5 Expert Power. This source of power is based on the extent to which others attribute knowledge and experience to the power seeker.

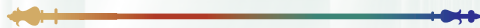
6.8.5 Strategies for Power Acquisition

- Maintain Alliance with Powerful People - such as with members of other departments or with members of upper level management.
- Embrace or Demolish - Machiavellian principle.
- Divide and Rule – military and political strategy.
- Manipulation of Classified Information - obtaining and disseminating information of interest to gain control.
- Make a Quick Showing - look good on a task right away.

CHAPTER 7

Human Resource Management (Staffing)

- ➡ 7.1 Introduction to Educational Research
- ➡ 7.2 Classification of Research
- ➡ 7.3 Research Problem
- ➡ 7.4 Review of Related Literature
- ➡ 7.5 Formulation and Statement of a Hypothesis
- ➡ 7.6 Research Plan
- ➡ 7.7 Selection of a Sample
- ➡ 7.8 Instruments
- ➡ 7.9 Historical Research: Definition and Purpose
- ➡ 7.10 Descriptive Research: Definition, Purpose and Process



7.1 Staffing

7.1.1 Meaning of Staffing. Staffing is a process through which competent employees are recruited; selected, properly trained, effectively developed, suitably rewarded and their combined efforts are harmoniously integrated and directed towards achieving the desired results/objectives of the organisation. Human Resource are undoubtedly an active sensitive and essential factor of production.

According to the Peter Drucker, “without human factor all the

factors of production are useless". That means the human factor, activates other factors. In this way management of an enterprise cannot ignore Staffing as an important function. The process of staffing involves the following:

- Assessment of manpower requirement.
- Recruitment and selection of competent personnel.
- Proper training and development of personnel.
- Placement of selected personnel.

On the basis of the above, it can be said that Staffing is a managerial function that brings people with required skills into the organisation and develop them into valuable organisational resource. The characteristics of Staffing are:

- It is the function of management.
- It is an integral part of management process.
- It is continuous activity function of management.
- It is concerned with human resources of an organisation.
- It is an persuasive function of management.
- It is separate from physical factors, because it is difficult and tactful function.
- It is concerned with the maximum utilization of human resources such as direction, coordinate and control.

7.1.2 Need and Importance of Staffing in Organisations. The success of organisations, to a greater extent, depends upon the right selection, training and development of the staff. Thus, competent, cooperative and dedicated staff is the most precious asset of an organisation. The following grounds justify the need and importance of Staffing:

- Facilitating discovery of competent staff.
- Ensuring maximum productivity.
- Developing personnel for shouldering greater responsibilities.

- Meeting future requirements of talented person.
- Job satisfaction due to proper placement.
- Maximum utilization work force.
- Supplying information regarding transfer, promotion, recruitment, death, demotions etc.

7.1.3 Staffing as a Means of Organisations' Development. The importance of staffing within the management is to make sure that you are able to create a plan or organisational chart of who is working where at what time, and the levels that report to the different people. You will need to have an appropriate schedule and flowchart for this means in order to know where and which level people stand.

Staffing has been an important aspect in all types of organisations' development. More and more companies have noticed a good Staffing plan could increase productivity and reduce operation costs in terms of lower turnover rate and transition costs. Good Staffing could be able to minimise cost in order to maximise profit, because it could assist the company to stay more competitive within the industry. According to the definition by Dr. Green, "Staffing is the process of identifying work requirements within an organisation; determining the number of people and the skills necessary to do the work; and recruiting, selecting and promoting the qualified candidates. It is the selection process of screening and hiring new employees, which includes functions like resume reviewing, interview, drug testing, assessment testing, and background check" (Green, 2003). Different companies have different strategies in how to select their candidates depending on the size, geography, industry, etc. Therefore, one specific staffing plan might work for one company, but it might not work for another.

7.2 Staffing as a Management Function

After an organisation's structural design is in place, it needs people with the right skills, knowledge, and abilities to fill in that

structure. People are an organisation's most important resource, because people either create or undermine an organisation's reputation for quality in both products and service. In addition, an organisation must respond to change effectively in order to remain competitive. The right staff can carry an organisation through a period of change and ensure its future success. Because of the importance of hiring and maintaining a committed and competent staff, effective HRM is crucial to the success of all organisations. HRM or *Staffing* is the management function devoted to acquiring, training, appraising, and compensating employees. In effect, all managers are human resource managers, although human resource specialists may perform some of these activities in large organisations. Solid HRM practices can mold a company's workforce into a motivated and committed team capable of managing change effectively and achieving the organisational objectives.

Understanding the fundamentals of HRM can help any manager lead more effectively. Every manager should understand the following three principles:

- All managers are human resource managers.
- Employees are much more important assets than buildings or equipment; good employees give a company the competitive edge.
- Human resource management is a matching process; it must match the needs of the organisation with the needs of the employee.

7.3 Major Staffing Functions

Although recruiting is frequently perceived as the initial step in the Staffing function, there are a number of prerequisites. Specifically, before the first job candidate is sought, the HR specialist must embark on Strategic Human Resource Planning (SHRP). This area alone has probably fostered the most change in HR development during the past fifteen years.

One can no longer hire individuals haphazardly. One must have a well-defined reason for needing individuals who possess specific skills, knowledge and abilities that are directly likened to specific jobs required in the organisation. The critical question then becomes, how does one know what jobs are critical? The answer to that question lies in the SHRP process. No longer does the HR Manager exist in total darkness, or for that matter, in a reactive mode. Not until the mission and the strategy of the organisation have been fully developed, can human resource managers begin to determine the human resource needs. Specifically, when a company plans strategically, it determines its goals and objectives for a specific period of time. These goals and objectives often result in structural changes being made in the organisations; that is, these changes foster changes in job requirements, reporting relationships, how individuals are grouped, and the like. As such, these new or revised structures bring with them a host of pivotal job. It is these jobs that HRM must be prepared to fill.

As these jobs are analysed, specific skills, knowledge, and abilities are identified that the job applicant must possess to be successful on the job. This aspect cannot be understood, for herein lies much of the responsibility and success of Human Resource Manager (HMR). Through the job analysis process HRM identifies the essential qualifications for a particular job. Not only is this sound business acumen, for these jobs are critically linked to the strategic direction of the company, but it is also well within the stated guidelines of the major employment legislation. Additionally, almost all activities involved in HRM revolve around an accurate description of the job. One cannot recruit without the knowledge of the critical skills required, nor can one appropriately set performance standards, pay rates, or invoke disciplinary procedures fairly without this understanding.

Once these critical competencies have been identified, the recruiting process begins. Armed with information from SHRP, we can begin to focus on our prospective candidates. When

involved in recruiting, HR specialists should be attempting to achieve two goals. These goals are to obtain a large number of applicants, thereby giving human resources and line managers more choices, while simultaneously providing enough information about the job such that those who are unqualified will not apply. Recruiting, then, becomes an activity designed to locate potentially good applicants, conditioned by the recruiting effort's constraints, the job market and the need to reach members of under-represented groups like minorities and women.

7.4 Steps for Filling Positions

Following some proven guidelines increases the chances of finding and keeping desirable employees. However, no process can guarantee selection success. Even if the seemingly "right" person was hired six months, a year or three years ago, now it may seem that the "wrong" person was hired. The following eight-step process increases the chances of hiring success:

- Determine the business' labour and management needs
- Develop a current job description
- Build a pool of applicants
- Review applications and select those to be interviewed
- Interview
- Check references
- Make a selection
- Hire

7.4.1 Preliminaries to Implementing the Eight Steps. The process for filling a position varies from organisation to organisation. Previous experiences, nature of the positions being filled, expertise of the selection team, budget for the selection process and time made available for selection are examples of the kinds of factors that affect the design of the selection process. Top management answering the following

questions should result in a workable process:

7.4.1.1 To whom, if anyone, is responsibility and authority for filling positions being delegated? Top management, e.g., the owner/operator of the organisation, may retain responsibility and authority for filling positions. On the other hand, it can be delegated to an assistant organisation manager or some other key management person. Someone must have the explicit responsibility and authority. Everyone being responsible often means the task is treated as if not one were responsible.

7.4.1.2 When and how are the persons responsible for selection and hiring to be trained? One cannot expect to do well in selection and hiring of employees without training in how to do it. "Learning by doing" can result in many potentially valuable employees being lost to other employers who do selection and hiring in a more professional manner. "Learning by doing" can also result in being fooled by unqualified applicants who are expert in talking about their skills and experiences.

7.4.2 Step 1: Determine the Organisation's Labour and Management Needs. The labour and management needs of the organisation should guide its hiring decisions. An understanding of the goals for the organisation and its current and long run constraints to progress helps identify desirable employee characteristics. Goals and performance standards should be specifically addressed before the search for a new employee begins. This helps identify those specific things expected to be accomplished through hired employees in general and new employees in particular. Clearly, the management team has the responsibility for addressing the organisation's key problems. These responsibilities cannot be delegated to labour. However, an organisation can benefit a great deal from emphasising complementary of knowledge, skills and abilities in the labour force. It makes little sense to hire new people with unneeded strengths and interests that will cause unproductive competition for favoured tasks.

7.4.3 Step 2: Develop a Current Job Description. Job descriptions help both the employer and employees by answering three questions: What does the jobholder do? How is it done? Under what conditions is it done? The job description has at least four parts:

- Job title,
- A brief one or two sentence summary of the job,
- A detailed listing of the major tasks involved in the job summarised under three to seven general headings, and
- A listing of the knowledge, skills and abilities necessary to do the job.

Job descriptions are typically one page long. The brevity requires a terse, direct writing style. Simple words with single meanings should be used. Action verbs in the present tense should be used in defining the job duties, e.g., milks twice per day five days per week, completes a performance evaluation at least annually for each employee supervised. The specifics of the job should be clear from the job description. The job title, job summary and description of duties should be completely consistent. To illustrate, the job title of assistant manager is inconsistent with a list of job duties that includes only labour tasks. Managers working closely with employees should update job descriptions at least annually. The important tie between job descriptions, performance evaluation and merit pay increases is lost when job descriptions are hid away in a forgotten file.

7.4.4 Step 3: Build a Pool of Applicants. Although there are many methods of getting job applicants, word of mouth and help wanted ads are likely to generate the most applicants. Word of mouth involves current employees, neighbours, contacts and others who come in contact with potential employees. Word of mouth is fast and low cost. However, it limits the scope of the job search because qualified applicants may not hear about the position. Current employees enthusiastic about their jobs can become highly effective

recruiters. Want ads can be placed in newspapers and magazines known to be read by potential employees. Want ads have the potential of expanding the applicant pool beyond the local community. The ads may increase the pool of applicants to the point that screening based on their application forms will be necessary. Only well prepared want ads are likely to be effective. Following a seven-step process should result in an effective want ad:

- Lead with a positive statement or job characteristic that attracts attention.
- Give the job title.
- Say something positive about the organisation.
- Describe the job.
- Explain qualifications necessary for success in the position.
- Provide information on wages and benefits, as appropriate.
- Indicate how to apply for the job.

7.4.5 Step 4: Short-list Applicants. Some applicants will be excluded from further consideration based on the application form. A pre-interview can also be used to help identify applicants to be invited for a formal interview. Having interested people visit the organisation to fill out an application form can provide opportunity for a few general questions about experience and interest in the job. Promising candidates can be given a mini-tour of the organisation providing opportunity for general conversation about the duties and responsibilities. The objective of the pre-selection step is to reduce the applicant pool to the most promising candidates. However, the applicant pool should not be reduced to fewer than three people against a particular position. Interviewing may dramatically change the pre-ranking of applicants you have made. Also, some applicants will withdraw. Most important, the person hired should know that he or she is a winner having been selected over other qualified people.

7.4.6 Step 5: Interview. Employers can lose outstanding

applicants through poor interviewing. On the other hand, they can use excellent interviewing skills to help sell a job opportunity to applicants. Use these questions to guide preparation for interviewing:

- Who will be on the interview team?
- How will we divide time between the formal interview and informal discussion?
- What questions will we ask in the interview?
- How will we record our evaluations of each interviewee?
- Where will we conduct the interview?

N.B. Avoid questions that can be answered yes or no.

7.5 Designing Strategic Staffing/Workforce Planning Process.

Strategic staffing/workforce planning is a process that organisations use to help them identify and address the staffing implications of business plans and strategies. By implementing this process, organisations can ensure that they will have the right number of people, with the right capabilities, in place at the right time. When implemented effectively, the process results in two major outputs or deliverables: staffing strategies (which describe what will be done in the long term, across planning periods, to address critical staffing issues) and staffing plans (which describe specific, short-term tactical plans and staffing actions to be implemented in the near term—within a given planning period).

This strategic staffing process has four steps:

7.5.1 Define Critical Staffing Issues/Areas of Focus. Strategic staffing efforts will be effective only when they focus on a relatively small number of particularly critical staffing issues or job categories—not on entire business units or organisations. The first step of the process, then, is to identify and prioritise your most critical staffing issues and select those for which specific staffing strategies are required.

7.5.2 Define Staffing Gaps and Surpluses. Once you have selected an issue (or an area on which your analysis will focus), the next step is to develop a staffing model to address that issue that defines staffing requirements, forecasts staff availability, compares demand to supply, and calculates staffing gaps and surpluses for each job category for each period in your planning horizon. The design of the model will be specific to the issue that you select.

7.5.3 Develop Staffing Strategies. The next step is to review the preliminary staffing gaps and surpluses, as calculated by your model, across all the planning periods in your planning horizon. Create a series of long term, directional plans of action that describe what your organisation should do to address those critical staffing issues most effectively (i.e., how to best align staffing demand and supply) across all planning periods, throughout the entire planning horizon. At this point, do not focus your efforts on any one planning period.

7.5.4 Define Staffing Plans. After you have developed staffing strategies that span all planning periods, go back and examine the specific staffing needs for each period. Following the concept of the "upside-down T", use the staffing strategies developed in the previous step as a long term context and define the specific staffing actions that will allow you to meet the staffing needs effectively and efficiently in each planning period. Make sure that those actions are consistent with and fully support the staffing strategies that you developed in the previous step.

7.6 Training and Developing

7.6.1 Training. Early training programmes focus on preparation of an employee for specific job and skills necessary for satisfactory performance of that job. However, as modern industrial organisation expanded, specific targets were introduced to teach employees procedures required for functioning of their departments.

7.6.2 Developing. Developing programmes provide opportunity for growth and improvement to employees. They do not focus on skills for specific job but on employee's growth, not only in his occupation but as an individual, as well.

7.6.3 Areas of Training:

7.6.3.1 Induction Training. Regarding tasks to be performed, organisation's rules, employee benefits, etc.

7.6.3.2 New Techniques Training. Aims at refreshing skills that may become obsolete due to changes in responsibility or technology.

7.6.3.3 Remedial Training. Designed for those who have forgotten the basic job or they never really learned them.

7.6.3.4 Training Displaced Employees. Preparing displaced persons with pre-training so that peaceful transfer to new task can begin.

7.6.3.5 Apprenticeship Progress. Designed for skilled tradesman. Trainees can be sent to vocational technical schools.

7.6.3.6 Training for Advancement. It aims at developing understanding of broader areas, acceptance of more responsibility, exercising of more authority, etc.

7.6.4 Learning Theory in Training. Learning process starts with motivation to learn. When the sets of cues confront motivated learner, he establishes a configuration of these cues by considering them so that they become meaningful. This meaningful data is transformed into conceptualisation or overall image. The learner assembles these facts in a way that he understands. After the perception of image learner practises. At this stage he needs reinforcement to know he has learned correctly. Finally learner gains confidence and

reinforcement provides feedback that becomes another cue in the learning process.

7.6.4.1 Motivation. Indifferent trainer can learn little, he must have a need to learn or improve. More anxious trainee is, more he will learn. Over anxiety may impede learning process.

7.6.4.2 Image. When trainee wants to learn, he should be provided instruction (stimuli or cues) which help to sustain motivation. If too many cues are presented he may become unable to cope. Thorough learning is required for image to materialise.

7.6.4.3 Practice-Involvement Use. As trainer absorbs information and creates images, he must become involved in using information by practising. Placing a person in a job without adequate preparation can be disastrous.

7.6.4.4 Reinforcement. Support or praise is necessary. Reinforcement can be developed through a sense of accomplishment and personal progress.

7.6.4.5 Feedback. For reinforcement to be efficient there must be feedback or information about results, this feedback becomes additional cue.

7.7 Training the Employees

7.7.1 Classroom Training. Vocational-technical schools, correspondence course training institutes, can be used to supplement on-the-job-training.

7.7.2 On-the-job-training (OJT). Most frequently used. Supervisor or other trained employee can be detailed as instructors. Very effective for large number of untrained or semi trained workers.

7.7.3 Vestibule Training. Combination of on-the-job and off-the-job used as an introduction to the on-the-job sequence.

Many skills require simulated situation in classroom away from job.

7.7.4 Innovative Training. Use of computer projection, tape recorder, TV and film. Self-teaching techniques free supervisor.

7.7.5 On-the-job-training Methods:

7.7.5.1 Plan a Training Schedule. Plan the complete progress and establish goals that the trainee can be expected to achieve. Plan forces supervisor and trainee to use times to the test advantage.

7.7.5.2 Preparing Written Breakdown of the Job. Knowledgeable people take things for granted but to train new job may contain any unknown uncertainties.

7.7.5.3 Have Right Equipment/Material Available. Simulating and substituting material and work situation are less than adequate.

7.8 Developing the Employee

Besides training employees in specific job, they should be helped to develop skills required for supervisory and administrative tasks and to promote their growth so that they can develop beyond the present job and progress as far as their abilities will permit.

7.8.1 Principles of Employees' Development:

- Development is a personal matter and should be tailored to the individual.
- Self-development is the basis for all development.
- The day-to-day experiences are the most important part of person's development.
- Developing opportunity must be available for everyone.

- The supervisor is directly responsible for the development of people who work under his direction.

NB The supervisor cannot delegate the responsibility for employee development to someone else. Supervisor is the best person to guide, develop, direct and support subordinates' development.

7.8.2 On-the-Job Method of Employees' Development On-the-job methods for development can be very effective. Five techniques of on-the-job method are:

7.8.2.1 Delegation. To a capable employee, you can delegate as much authority and commensurate responsibility as possible. It helps an individual grow freely and develop self-confidence.

7.8.2.2 Coaching. Giving assignment and the personally assisting allows trainee learn by mistakes. Supervisor coach reviews progress and provides constructive criticism.

7.8.2.3 Special Assignments. It increases employee's usefulness, self-confidence and stimulates him. Presenting a plan and helping to develop new product/ideas are examples of special assignments.

7.8.2.4 Job Rotation: Ensures exposure of employee to varied problems/situations.

7.8.2.5 Understanding: Refers to supervisor's choice of subordinate to succeed him when he is promoted. Understudy subordinate must possess skill, intelligence, ability etc.

NB: Off-the-Job Method. It includes education, short courses; company's sponsored programmes, etc.

7.9 Performance Appraisal

Performance appraisal is an ongoing process but requires

formal rating, to find out how well an employee has handle work during the previous period. It serves following purposes:

- Provides feedback to employees about their performance.
- Provides recognition for performance and create a formal record that can be used for promotion, transfer, wage increase, etc.
- Forms basis for supervisor to determine who needs more support, training and closer supervision.
- Provides information base for improved communication and efficient leadership.
- Helps supervisor to become more attentive to performance and needs of subordinates.

NB Performance appraisal is a valuable tool. Supervisors can use it to assist them in evaluating functions of their position. The process provides a means to reconcile and promote organisational and personal goals.

7.9.1 The Performance Appraisal Process. The process begins with company's policy that establishes when performance appraisal will be made. It consists of following four sequential steps:

7.9.1.1 Job Description Objectives Analysis. In the first step supervisor works alone or with each employee to determine the objectives of each job. It is important to consult the subordinate as it provides excellent opportunity to both as it provides excellent opportunity to both supervisor and subordinate to have better understanding of the method of executing a particular job.

7.9.1.2 Means Established to Measure Performance. The second step is to establish/select appropriate means to measure performance in a particular job.

7.9.1.3 End of the Period Evaluation. It is only a formality since evaluation is an ongoing process. At this stage supervisor

evaluates subordinates' attainment in the light of objectives established in first step by using measurement. Techniques/methods selected in the second step.

7.9.1.4 Approval Review with Employee. Fourth and last step, appraisal review, is conducted in an interview called to discuss supervisors rating with the employee. It is a beneficial step since supervisor can make use of this opportunity to praise, recognise, constructively criticise and offer support and suggestions for employee's improvement.

7.9.2 General Performance Appraisal Systems

7.9.2.1 Global Rating Scale. It forces the supervisor to combine all performance of an individual into a single point on the scale. Global rating scale is quick, cheap to develop and universally applicable to all jobs. Its disadvantages outweigh its advantages because the scale does not provide feedback to employees and may force supervisor to rate everyone very high or low or in the middle due to halo effect.

7.9.2.2 Dimensionalised Rating Scale. It is an improvement over global rating scale, which breaks down the job into various dimensions or components. The various dimensions enable the supervisor to indicate/evaluate performance on a number of scales rather than a single scale as in case of global scale. This approach reduces many global rating scale errors and provides feedback to employees. It is also relatively quick and inexpensive to develop. The major problem of this approach is inconsistency. A specific performance may be rated very high by one and very low by another supervisor since the system does not provide general selected definition and set of standards for each rating category.

7.9.2.3 Behaviour-Base Systems. An improvement over dimensional rating scale is the behaviourally anchored rating scale. When each of the performance level is defined by specific statement of observable work behaviour or performance, it encompasses only one dimension at a time,

where seven levels of performance, ranging from excellent to unacceptable, are defined for the rater. It means that a separate form for each dimension with seven defined levels will be required. This system provides greater accuracy and feedback while reducing the rate of error. Provision of a separate form for each level is the greatest disadvantage of this system.

7.10 Management by Objectives (MBO) an Effective Method of Performance Appraisal

7.10.1 Concept of MBO. This technique is based on quantitative measurable goals that are usually set by both the supervisor and the subordinate instead of supervisor rating the subordinate each subordinate is asked to set short term performance goals for himself such as 5% increase in production or completion of project by a given date. The supervisor coordinates goals of each employee to avoid duplication. When planned period is over, subordinate evaluates himself against established goals while supervisor rates performance. This way subordinate-supervisor relationship are also evaluated.

7.10.2 Advantages:

- Creates standard of evaluation for each employee based on special needs/characteristics of particular job.
- Employee knows job/standard and has voice in his future.
- Sets future goals as opposed to rating scales that evaluate potential based on past.
- Role of supervisor transformed from rater to coach supporting subordinate's efforts.

7.10.3 Limitations:

- An employee may not want to be employed in goal setting.
- An employee may set goals which he believed will be self approved by supervisor.

- MBO focuses on objectives, results and productivity rather than efforts, input, personality traits or other non-quantitative measures of performance.
- Failure of one person may affect goal attainment of others that may result in animosity or bad feelings.

7.10.4 Functions of Performance Appraisal Process:

- To inform subordinate of his progress.
- To provide an opportunity to supervisor to counsel subordinate.

7.12.5 Interview Preparations:

- Both subordinate and supervisor should have understanding of the established results/goals.
- Subordinate should be given a rating proforma for self-assessment ahead of interview. Supervisor's rating and subordinate's rating should form basis for interview.
- Supervisor should review subordinate's job description, performance standard and progress. The review of personal record will also help supervisor refresh his memory of subordinate's education, training and past experiences.
- Supervisor should review the result being obtained and functions/areas in which subordinate is performing well.
- Lastly supervisor should determine how and where subordinate's performance can be improved.

7.10.6 Appraisal Interview:

- Establish rapport, encourage subordinate to talk freely.
- Avoid excessive long warm-up.
- Encourage questions while keeping performance appraisal central topic of discussion.
- Questions can suggest areas for development/improvement, supervisor can provoke such ideas by asking

questions: 'How can I help to improve your performance', etc.

- Performance appraisal interview is a form of coaching that can enhance performance results.
- Interview is conducted to judge employee's job competence, promotional status, rewards and merit in order to increase understanding, determine needs, improve communication and find ways to improve performance.

7.11 Dealing with Informal Groups

7.11.1 Nature of Informal Groups. Formal organisation is established in order to accomplish specific tasks or goals. Informal organisations then establish themselves within the formal organisation/structure. The need to gain personal recognition or to improve identification may be met by these groups. However, some social groups are formed simply because employees wish to become better acquainted. Various types of groups are explained in the following paragraphs.

7.11.2 Social Groups. Social groups are usually small. They may assemble for tea breaks, lunch or recreation. These groups provide sympathetic social context for group members. The need to gain personal recognition or job identification may be met by these groups. Members feel free to express private opinions or complaints. However, some social groups are formed because employees wish to be better acquainted.

7.11.3 Work Groups. An informal work group can either be a clique or a social group. The chief distinguishing feature of a work group is that it is primarily concerned with issues related to work itself. Usually, a work group consists of members who are employed in the same department or section.

7.11.4 Cliques. Cliques are informal groups whose members have strong affinity for each other. Cliques tend to enforce a

sense of group identity and to rigorously maintain self-esteem for the members. One of the usual features of a clique is the similarity of members' personalities. The major difference between cliques and social groups is the degree of group identification among the members. Cliques fall into three major categories explained below:

7.11.4.1 Vertical Cliques. Usually occur within the same department between the superior and some of the subordinates. It is an up and down alliance between formal unequals. Vertical cliques can be of following types:

- **Symbiotic Clique.** It is based on give and take between superior and subordinate. A manager protects and aids subordinates by concealing their errors or assigning their relative by mild tasks. The subordinates in turn advise the manager of threats to his authority.
- **Parasitic Clique.** The term parasitic is used because the exchange of services between higher and lower member of clique is unequal. The lower ranked subordinates receive more than give and may also damage the higher ranked. This relationship is the one where subordinate owes his position to the superior.

7.11.4.2 Horizontal Cliques. It runs across departments to include members of various departments. Horizontal cliques can be of following types:

- **Defensive.** Horizontal defensive clique usually occurs because of what its member conceive as crisis, such as the threat of reorganisation or introduction of new, disliked control. Usually this type of clique is strong only for limited time needed to defeat the threat.
- **Aggressive.** The aim of horizontal aggressive clique is to effect change rather than to resist change. The ties of aggressive clique are based on part victories in getting favours or outwitting others.
- **Random Cliques.** Random cliques are named because members usually cannot be classified in term of formal

ranks, duties or departments, although they associate intimately to exchange confidence. The members usually don't have consciously shared goals. The attraction is clearly friendship and social satisfaction. Their interaction with members of functional cliques is superficial. This relatively aimless association is relatively important in organisation affairs as the members moving freely in organisation are the source of leak of information for functional cliques.

7.11.5 Functions of Informal Groups

7.11.5.1 Information Network. Informal groups of all three types can serve as information network or “grapevines.” Because the information transmitted by informal groups is difficult to control, grapevine becomes established:

- When an informal group member seems to be more informed than others about what is going on in the organisation.
- Grapevine is usually the product of situation rather than a personality. Grapevine thrives when excitement or insecurity become prevalent within an organisation.
- Anyone can become active in grapevine given the proper situation and motivation. Thus grapevine thrives when formal organisation does not satisfy the anxieties of members.
- When individuals do not fully understand information passing through grapevine, they will fill in missing parts according to their own assessment.

7.11.5.2 Shaping Attitudes. Attitude formation by informal groups can be extremely important because the attitudes are constantly reinforced. If the attitudes are favourable, the informal group reinforcement is beneficial. When attitudes are unfavourable, the attitude reinforcement can become a serious problem. Unfavourable attitudes may affect work performance, quality of output, morale and organisation's will to achieve and

perform. Following points be borne in mind regarding attitudes formulation by informal groups:

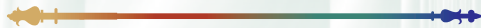
- Informal groups can threaten the formal chain of command.
- A hostile informal group can jeopardise formal group by rebelling against authority or by showing down production.
- Cliques are especially powerful in shaping attitudes.
- Once a supervisor realises that a particular attitude is being formed, he must then determine whether to promote it, work with it or combat it. He can stop the development of negative attitude by changing leadership style or by seeking assistance from superiors. With efficient leadership, the attitude shaping function of groups can become an asset.

7.11.6 Coping with Informal Groups. In addition to leadership abilities, an important requirement for coping effectively with informal groups is the ability to communicate effectively. Rumour mills cannot be stopped, unless the supervisor knows how to convey to subordinates accurate information about his decisions.

CHAPTER 8

Supervisory Management

- ➔ 8.1 Supervision an Overview
- ➔ 8.2 Difference between a Manager and Supervisor
- ➔ 8.3 Supervisor's Role in Modern Organisation
- ➔ 8.4 Supervisory Skills
- ➔ 8.5 Approaches to Supervisory Management
- ➔ 8.6 Training and Developing the Supervisor



8.1 Supervision an Overview

8.1.1 Supervision an Overview. Organisational, personal and employee goals can often conflict. In vast majority of cases, solution to this conflict rests with the supervisors and no one else. The supervisor is in best position to know and understand what is happening in the department or work unit, he has closest contact with those who are actually producing company's products and services. Thus the efficient supervisor must be a student of people, supervisory skills and organisational behaviour.

8.2 Difference between a Manager and Supervisor

Manager is a person who creates and maintains an internal environment called organisation, so that others can work efficiently in it. Managers organise, direct and coordinates this internal environment which consists of four basic elements viz people, jobs positions, technology and capital goods (money

and machines used to generate productivity and profits). Supervisors are managers whose major functions comprise; leading, coordination and directing the work of others in order to achieve group's goals. However, unlike many top-level managers, who focus their efforts around the products and markets, the supervisor focuses efforts around the people under his directions. For example, manager may plan to use/introduce new machines in a production unit but may not consider the people, who will use the machines, as the central element in their planning process. Supervisors, however, belong to the part of management that considers people as the central element in the planning and execution process. Thus supervisors must be good at working with and through people. They must see that subordinates needs are met and department's objectives are also met, and they must try to achieve this coordination with a minimum of distress, and maximum of goodwill and harmony.

8.3 Supervisor's Role in Modern Organisation

Trade unions have become much more powerful since 1930s, employees better educated and production and services operations more sophisticated. Moreover, the establishment and increase in the status of social security and personnel debts in 1930s, served to erode the supervisor's power base. Due to these developments the role of a modern supervisor has been transformed into a leader-motivator who must be skilled in organisational behaviour. The supervisor's role is to understand why things happen and what can be done to obtain the desired results. With the number of constraints imposed on the supervisor, he is no longer a boss who can threaten people with dismissal to get the job done by them. Rather the supervisor must have the ability to lead and motivate his subordinates to accomplish organisational goals. He should, therefore, be well trained, well educated and an efficient leader. No longer is the supervisor the best operator or elevated lead man. Today's supervisor is a specialist in human behaviour as well as the technical aspects of his role.

8.4 Supervisory Skills

The supervisor has become the key-stone in the modern industrial, institutional and governmental organisations. In the past supervisor understood the job requirements and had the ability to work with other employees. In addition to these, the expanded role of supervisor demands that a supervisor must acquire target in the following areas:

8.4.1 Technical Aspects: Structure. The supervisor is responsible for carrying out the assigned technical functions of his job. This means that the supervisor must understand production methods and process, production, job design, budgeting, disciplining and decision making etc.

8.4.2 Human Aspects: Activating. The supervisor, being a leader-motivator, cooperates with employees to maintain motivation required to work well. Success depends upon supervisor's ability to understand and use different leadership techniques to introduce change, motivate, counsel and to interpret and communicate directions, goals and objectives effectively to the group.

8.5 Approaches to Supervisory Management

Among the many approaches to the study and supervisory management, the most well-known approaches are briefly explained below:

8.5.1 How to Do It Approach. This approach describes practical techniques and to some extent suggests methods of developing such techniques which can be applied to various supervisory situations. But this technique ignores the need to understand why these techniques are working or not working. It is analogous to using a mathematical formula without being aware of its rationale or the reason for its application. This approach assumes that all possible problems can be foreseen and formulas devised to solve them. But if a solution formula

does not include all the right variable or the formula itself is not right, the entire procedure is pointless. There are also the chances of applying the right formula at the wrong place or the wrong time. However, the “How to Do It” technique can be quite useful on day-to-day basis.

8.5.2 The Broad Management Theory Approach. Here supervision is treated as an integral part of management; all functions and theory of management are also taught to the supervisor. According to this approach a supervisor must have an understanding of planning, organising, directing and controlling. But Broad Management Theory approach tends to ignore the peculiar and unique position of supervisor as a person who works with and through non management people.

8.5.3 The Behavioural-Organisational Approach. This approach tries to incorporate the precious two approaches but within the framework of supervisory environment/organisation and from leader-manager-human relation perspective. The supervisor is a leader and therefore must understand people and organisational structure. This approach emphasises motivation, communication, counseling and training, and shows the supervisor from behavioural science point of view. The approach tends to minimise “how to do it” and traditional management theory. It also ignores the importance of economic and marketing realities.

8.5.4 A Modified Behavioural Organisational Approach. This approach uses the methods of Behavioural Organisational approach while attempting to incorporate the major advantages of the others approaches. It emphasises that supervisor, first of all, is a human being who has close ties and relationships with his subordinates and superiors. Supervisors must understand and be able to work with and through people. He should also have the ability to reduce cost and meet production schedule.

8.6 Training and Developing the Supervisor

8.6.1 Objectives:

- Improving the supervisor's performance in his present job.
- Preparing supervisor for advancement to higher management level.

8.6.2 Contents of Training Development Programme. The areas commonly covered include: human relations, leadership, communication and motivation. Contents reflect managements' perception of supervisory problem.

8.6.3 People-Central and Technique-Oriented Training Programme.

- **People-Centered.** If a supervisor is concerned about employees as human beings, then they are more productive. Thus people-centered programme or man-management training has become important for supervisor.
- **Technique-Oriented Training.** Seeks to provide an opportunity to learn the necessary skills of supervision such as efficient communication and other leadership skills.

8.6.4 Supervisory Training and Developing Methods:

- **Lecture.**
- **Job Rotation.** For broader experience.
- **Conferences.** Composed of several supervisors, who pool their ideas and experiences.
- **Coaching.** Involves direct personal instruction and guidance. It can be useful depending on the types skills and coaching.
- **Simulation and Role Playing.** Allows the student supervisor to become actively involved in the game of supervision without repercussions.
- **Group Dynamics.** It is a broad grouping of several different

techniques. Participants are permitted active roles in the group.

8.6.5 Self-Development Programmes. Self-improvement of employees means improvement in the following areas:

- Think logically.
- Understand motivation and organisational environment.
- Speak effectively.
- Write effectively.

CHAPTER 9

Organisational Behaviour

- ➔ 9.1 Importance of Understanding Organisational Behaviour
- ➔ 9.2 Frameworks to Understand Behaviour
- ➔ 9.3 Group Dynamics
- ➔ 9.4 Theories of Group Formation
- ➔ 9.5 Committee Organisation
- ➔ 9.6 Organisational Climate
- ➔ 9.7 Organisational Change
- ➔ 9.8 Organisational Health
- ➔ 9.9 Organisation Self-Renewal
- ➔ 9.10 Organisational Conflict
- ➔ 9.11 Approaches to Organisational Conflict



9.1 Importance of Understanding Organisational Behaviour

The aim of understanding Organisational Behaviour as a separate discipline is “seeking practical ways to improve the effectiveness of organisation by applying behavioural science to management, as;

- Behaviour affects performance.
- Change in behaviour is important to improve the quality of work success rate.

- When leaders understand the behaviour of their subordinates it results in an effective control.
- When subordinates understand the behaviour of their superiors it results in better adjustments and improved performance.
- Understanding human problems is a major challenge to the managers.
- Better working conditions/work life leads to better production.
- We can understand human behaviour better in formal setting of an organisation than in any other situation.

9.2 Frameworks to Understand Behaviour

9.2.1 Freudian Psychoanalytic Framework. Freudian approach, which relies on psychoanalytic view of human nature/behaviour, is based on the following questions:

- Human behaviour is unconsciously motivated.
- Sex and aggression are the two motivation factors.

9.2.2 Existentialistic View. Existentialism, broadly understood as the search for meaning, is based on the analysis of existence and being. The existentialistic approach is based on the following assumptions:

- People's potentials rather than behaviour should be explored i.e. existentialists are more interested in exploring the insides of human mind and spirit, people's potential results in the actual behaviour.
- Thus, this type of approach is also called human potential approach.
- Existence precedes essence (i.e. potential proceeds behaviour).
- People shape their own destiny as well as identity and make their existence meaningful and worthwhile to themselves.

- Self-awareness i.e. individuals know their potentials and are able to direct their destiny.
- You are what you chose to be.

9.2.3 Cognitive Framework. Cognitive framework came into being as a reaction to other approaches to human behaviour. Psychologists as Tolman became disenchanted with Psychoanalytical and Behaviourist approaches. They felt Freudian thinking put too much emphasis on negative, irrational and sexually motivated behaviour and the behavioural framework was too scientific and deterministic. The alternative that was proposed gave human much more credit as thinking or knowing being having the capacity for proactive thinking as opposed to reactively thinking.

9.2.4 Behaviourist Framework. The roots of behaviourist framework can be traced to the work of Pavlov and Watson. These pioneering behaviourists stressed the importance of dealing with observable behaviour instead of illusive mind. Modern behaviourism marks its beginning with the work of F.B Skinner. According to both classical and operant conditioning behaviour is environmentally based i.e. behaviourists are concerned with overt (observable) behaviour which is formed by individuals interaction with the environment.

9.2.5 Social Learning Framework. The cognitive approach has been accused of being materialistic and behaviourist approach has been accused of being deterministic. Instead of polarisation and unconstructive criteria on the two approaches, the Social Learning approach tries to integrate the contributions of both the approaches. According to this approach human behaviour can best be explained in terms of continuous reciprocal interaction between cognitive, behaviourant and environmental determinants.

9.3 Group Dynamics

9.3.1 The Nature of Group A Group is an important unit/element of sociological analysis which contributes much to

the understanding of organisational behaviour. Group is defined as “a number of people joined together because of some likeness or common purpose, wherein members are independent, satisfying needs being part of the group and members showing common goals.”

9.3.2 The Group Dynamics. Just as there is no one definition of Group itself, there is no universal agreement on what is meant by Group Dynamics. Although Kurt Lewin popularised the term in 1930, different connotations have been attached through years. Some of the more commonly accepted interpretations of group dynamics are as under:

- Group dynamics refer to the interaction and forces, which bring the GROUP members together.
- Group dynamics is concerned with how a group is organised and conducted.
- Group dynamics is the internal structure of the group.

9.3.3 Reasons for Group Formation:

- Economic
- Security
- Social

9.4 Theories of Group Formation

9.4.1 Propinquity Theory. Why do individuals form into groups? The most basic theory explaining affiliation is propinquity. This interesting word simply means that individual affiliates with one another because of spatial or geographical proximity. For example, students sitting next to one another in a classroom are more likely to form into a group than students sitting at opposite ends of the classroom. A more comprehensive theory of group formation than mere geographical proximity comes from George Homans. His theory is based on activities, interaction and sentiments. These elements are directly related to one another. The more activities persons share, the

more numerous will be their interactions and the stronger will be their sentiments.

9.4.2 Balance Theory. According to the Balance Theory of group formation, proposed by Theodore Newcomb, persons are attracted to one another on the basis of similar attitudes toward commonly relevant objectives and goals.

9.4.3 Exchange Theory. This theory is based upon reward-cost-outcome of interaction. A minimum positive level (rewards greater than cost) of an outcome must exist in order for attraction or affiliation to take place.

9.4.4 Types of Groups:

- Small vs. Large Group
- Primary vs. Secondary Group
- Formal vs. Informal Group

9.5 Committee Organisation

9.5.1 Meaning. Committee organisation is a form of formal group of people who function collectively to accomplish specific task(s). Some of the functions performed by committee organisation are:

- Advisory
- Coordinating
- Informational
- Decision Making (Plural Executive)

9.5.2 Positive Attributes of Committee Organisation

- Perhaps the greatest attribute of committee organisation is the combined and integrated judgment, it can offer (two heads are better than one i.e. members bring with them varied experience, knowledge, ability and personality characteristics).

- Committee can be very effective organisational device to help reduce conflict and promote coordination between departments and specialised subunits by offering the opportunity for horizontal communication.
- From human standpoint, the biggest advantage of committee may be the increased motivation and commitment derived from participation.
- A committee can also be instrumental in human development and growth. The group members, especially the young and inexperienced can take advantage by observing and learning from other members with more experience and knowledge.

9.5.3 Negative Attributes of Committee:

9.5.3.1 Time Consuming and Costly. A committee takes minutes but wastes hours. The nature of committee is that everyone has an equal chance to speak out but this takes time and time costs money.

9.5.3.2 Divided Responsibility and no Accountability. Decisions may be based upon excessive compromise and one person or minority domination.

9.5.3.3 Group Think. Irving James defines group think as “a deterioration of mental efficiency, reality testing a moral judgment that results from the in-group pressures”. Essentially group think results from the pressure on individual members to confirm to group opinion with a view to reaching consensus.

9.6 Organisational Climate

9.6.1 Definition. “Personality is to the individual what organisational climate is to the organisation.” Atmosphere, mood, ethos, tone, culture and feelings are some of the terms used to describe organisational climate. The knowledge of organisational climate contributes towards understanding the human behaviour. It also guides the development of strategies

for improving organisational behaviour.

9.6.2 Basic Concepts:

9.6.2.1 Group Norms. Group norms are rules of behaviour, which have been accepted as legitimate by members of group.

9.6.2.2 Person - Environment Interaction. Any discussion of organisational climate has its roots in the work of Kurt Lewin who demonstrated that understanding human behaviour requires considering whole situation in which behaviour occurs. The term “whole situation” is defined as meaning person and environment. Essentially, the behaviour is the function of the interaction of person and environment.

9.6.2.3 The Interaction-Influence System. The central concept in organisational behaviour, which has been described by Lensis Likert, is the interaction-influence system of an organisation. The interaction between and among people establish the norms that are so powerful in shaping organisational behaviour.

9.6.3 Determinants of Organisational Climate

9.6.3.1 External Determinants:

- Wider Cultural Environment
- Economic Conditions
- Competing Organisations
- Outside Interference i.e. political, economic, judicial, personal, etc.

9.6.3.2 Internal Determinants:

- Goals of organisation that determine the types of efforts
- Structure that is, hierarchy, interdependent relationships
- Rewards, means of reinforcement/motivation
- Size; the smaller the size the more organised, coordinate

and intimate will be Geo Loc

- Physical Setting
- Norms of Behaviour
- Communication System; Open vs. Closed, 1-way vs. 2-way, communication, etc.

9.6.4 Describing and Assessing Organisational Climate. To describe and assess the climate of an organisation, it requires:

- The development of a clean concept of Interaction-Influence System that determine climate.
- Creation of some method of collecting data.
- Development of procedures to analyse data.

9.6.5 Development of Planned Organisational Climate. Those at the higher levels of organisation hierarchy, who establish management philosophy and determine administrative policies exercise greater power to influence organisation climate. Leadership style and motivation, coupled with organisational structure, appear to be the basic building blocks of climate, and these are in our control.

9.6.6 Organisational Climate and Effectiveness. There is substantial evidence indicating that the effectiveness of organisation, such as a school, in terms of students' learning and development, is significantly influenced by the quality and nature organisational climate. The schools that emphasis:

- Supportiveness
- Open Communication
- Collaborative
- Intellectuality
- Reward achievement and success
- Outperform schools that emphasise:
 - o Competition
 - o Constraints

- o Restrictiveness
- o Rules and SoP

9.7 Organisational Change

9.7.1 Natural Change. The change caused by natural course of events is called natural change.

9.7.2 Evolutionary Change. The change caused through the process of evolution

9.7.3 Drawbacks of Natural Change

- Gradual and slow
- Human resources/potential not utilised
- Organisation cannot compete with other organisations
- Natural change cannot be planned, controlled or directed.

9.7.4 Social Change. It is partially effective. Rapid change can be effected, where people are socially effective and resourceful. Organisation is a social system and changes required or thought of should be routed through social influence.

9.7.5 Drawbacks of Social Change. No systematic pattern i.e. varies from organisation to organisation.

9.7.6 Planned-Managed Change. It is a three step procedure involving following phases:

- Inventing new curricula (total learning opportunity provided to students).
- Diffusing knowledge or new curricula widely and rapidly to teacher
- Getting new curricula adopted by schools.

9.7.7 Strategies for Planned Change

9.7.7.1 Empirical-Rational Strategy (Robert Chin). This

approach seeks the scientific production of new knowledge and its use in daily activities as the key to planned change in education. It is referred to knowledge, production and utilisation (KPU).

- **Assumptions:**

- New knowledge perceived as desirable by potential users.
- The adopter being a rational person will accept it as in his interest.

- **Process:**

- Research
- Development
- Diffusion
- Adoption

9.7.7.2 Power-Coercive Strategy. This strategy is based on the concept of using pressure to introduce change. According to this approach rationality, reason and human relations are secondary to the ability to effect change. Assumptions of this strategy are:

- Good ideas are develop outside the organisation.
- Organisation is a target of external forces for change.

9.7.7.3 Normative-Reduction Strategy. This approach is based upon an understanding of organisation and people in them that is quite different from empirical-rational or power-coercive views which are essentially classical and bureaucratic in outlook. Assumptions of this strategy are:

- Change occurs when people possess skill and will to change
- Norms of an organisation's interaction-influence system can be deliberately shifted to more productive use.

9.8 Organisational Health

9.8.1 Meaning of Organisational Health. Organisational health

refers to an organisation's "capacity for effectiveness, stability and change appropriately".

9.8.2 Indicators of Organisation Health:

9.8.2.1 Goal Focus. The extent to which people understand and accept organisational goals.

9.8.2.2 Communication Adequacy. Refers to vertical, horizontal, internal and external communication with environment.

9.8.2.3 Optimal Power Equalisation. An important dimension of this approach is issue of collaboration vis-à-vis coercion in an organisation.

9.8.2.4 Human Resource Utilisation. Implies the effective use of personnel.

9.8.2.5 Cohesiveness. The extent employees like and want to remain in the organisation.

9.8.2.6 Morale. Feeling of well-being and satisfaction.

Innovativeness Tendency to devise new procedures and goals to develop and grow.

9.8.2.7 Autonomy. Capacity to determine its own course, rather than being a "tool of environment".

9.8.2.8 Adaptation. Ability to change and adapt faster than the environment.

9.8.2.9 Problem Solving Adequacy. Ability to sense and solve problems permanently

9.9 Organisation Self-Renewal

9.9.1 Background. The Concept of self-renewed was first

described comprehensively by Rensis Likent in 1961. Organisation self-renewal postulate that, “effective change cannot be imposed on a organisation, rather it seeks to develop an internal capacity for problem solving” The process of renewal includes increased capacity to:

- Sense and identify energy
- Establish goals, objectives and priorities
- Generate valid alternatives
- Implement a selected alternative.

9.10 Organisational Conflict

9.10.1 Background. In the past conflict in organisation was viewed and thought to signal the failure of the organisation. It is being increasingly realised that conflict is normal, legitimate inevitable and stimulating effective solutions to problems. Conflict can be defined as two party clashes resulting from: divergent views or incompatibility of views.

9.10.2 Aspects of Conflict Resolving. Whether or not organisational conflict is destructive or constructive depends largely how it is managed. Healthy organisations are able to identify conflict and deal with it in a way that leaves organisation stronger and more well-developed rather than weakened.

9.10.3 How to Manage Conflicts. Managers instead of running away should face the conflict. Critical phase in the management of conflict is the diagnosis in a given situation as a basis for choosing an appropriate management strategy.

9.10.4 Approaches to Organisation Conflict:

9.10.4.1 Classical Approach. In classical management theory, the existence of conflict is viewed as evidence of breakdown in the organisation, failure on the part of

management to plan adequately or to exercise sufficient control.

9.10.4.2 Human Relations Approach. According to human relations approach conflict is an evidence of failure to develop appropriate norms in the group.

9.10.4.3 Behavioural Approach. Behaviourists believe that the conflicts are the outcome of both managerial/organisational as well as human relations factors.

9.10.5 Types of Conflicts:

- Interpersonal
- Intrapersonal
- Inter group
- Intra group

9.10.6 Effects of Organisational Conflict

- **Psychological.** Withdrawal, alimention, apathy, indifference etc. are the indicators of psychological maladjustment that may well be the outcome of organisational conflict.
- **Physiological.** The Physiological effects of conflict on employees may be reflected by frequent absence, tardiness rapid turn over, etc.

9.10.7 The Dynamics of Organisational Conflict

9.10.7.1 Louis Pondy. Although numerous writers have compiled a long list of causes of organisational conflicts, Louis Pondy, has classified most of them into three basic categories:

- **Insufficient Resources** Subunits may start competing with each other for scarce resources.
- **Interferences** One party seeks to control activities of other party.

- Goal Divergence Disagreement between two parties on how to achieve goals.

9.10.7.2 A Contingency View. Since there are a number of causes of conflict, there is no one best way of managing the conflict.

9.10.7.3 A Structural View of Conflict. Structural view tends to see conflict in terms of conditions that influence behaviour e.g. rules designed to control behaviour, can sometimes be the cause of conflict themselves.

9.10.7.4 An Open System View. Since Organisations are interactive with their environment and much that goes on within them reflects changes in the external environments i.e. there may be external causes of conflict also e.g. political/social dispute may creep into the organisation.

9.11 Approaches to Organisational Conflict

9.11.1 Win-Lose Orientation. The parties to conflict come to believe that the issue can be settled in one of the following three ways:

- Win-Lose
- Win-Win
- Lose-Lose

The general principle is that a win-lose approach tends to be the least productive, while a win-win approach (in which both parties win, though not necessarily equally) tends to be the most productive.

9.11.2 Methods of Dealing with Problems

9.11.2.1 Collaboration. It is a process in which both parties work together to define their problems and then engage in mutual problems solving.

9.11.2.2 Bargaining. Consists of splitting the differences.

9.11.2.3 Avoidance. It can be referred to peaceful withdrawal, coexistence or indifference, and is often employed in dealing with conflicts.

9.11.2.4 Power Struggle. It is the struggle by each party to win regardless of the consequences for the other party.

9.11.3 Contingency Approach (Diagnosis of Conflict). To ascertain whether the conflict actually exists or it only appears to exist. If it has been determined that the conflict actually exists, the next step is to ascertain the way each party to conflict has conceptualised the situation. Following two critical behavioural dimensions shape the way one conceptualises conflict:

9.11.3.1 Cooperativeness. The extent to which one wishes to satisfy the concern of others.

9.11.3.2 Assertiveness. The extent to which one wishes to satisfy his own concerns.

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A Gordonian for four years, Brigadier (Retd) Muhammad Asif Sheikh did his Masters in English (Literature and Linguistics) in 1978, and joined the Pakistan Army the same year. Later he did MA Educational Administration from University the Punjab, and was awarded Gold Medal for securing 1st Position. During service in the Army Education Corps he had the opportunity to serve on teaching, research, publications and administrative appoints. Besides serving at the Pakistan Military Academy, Military Institutes of Languages (Saudi Arabia), Military College Jhelum, College of Army Education and National University of Science and Technology as an instructor/head of department, he had the privilege to serve as the Principal Burn Hall, Abbottabad. Before his retirement in 2009, Brigadier Asif served as the Director of over 350 Federal Government Educational Institutions, located in Cants and Garrisons all over the country. In addition to serving as an editor/chief editor of prestigious Army journals, he has written papers and books on topics of professional and general interest, including A History of the Pakistan Military Academy.



At present, he is working at the Earthquake Reconstruction and Rehabilitation Authority, Islamabad as the Advisor Knowledge Management Cell (KMC), which disseminates knowledge by developing a range of products for diverse audiences in the form of Monthly News Bulletin, Quarterly Newsletter, Annual Review, and preparing Sectoral Case Studies. KMC also ensures knowledge sharing and dissemination with partner organisations using electronic database and ERRA Website as a knowledge portal.

In recognition of his meritorious services and devotion to military duties, Brigadier (Retd) Muhammad Asif Sheikh was awarded Sitara-e-Imtiaz (Military) by the President of Pakistan on March 23, 2009.

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