

EFFECTIVE TEACHING

Dr. (Mrs.) J.K.PILLAI

Publications Division

MADURAI KAMARAJ UNIVERSITY



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FOREWORD

The Department of Education of our University took up the task of studying in depth a case study of the art of "effective Teaching" since the year 1977 and the book is the outcome of four such studies conducted over a period of eight years. The main purpose of the study is to prove that a mere excellence in one's field of study alone cannot be adequate to be a good teacher. Efficiency in teaching demands, the capacity of the individual to identify clearly the objectives and evolve proper techniques for attaining them. The book provides a vivid account of the courses conducted and also the manner of participation of the teachers subjected to several tests at every stage from the beginning to the end with a view to objectively assess their achievements in fulfilling their aims. The adequate information on materials provided, learning experiences offered and the teaching techniques taught to the participants during the course indicate the masterly manner in which the course was conceived and also conducted with success. The course also made a provision for continuous performance assessments and feed back for making it purposeful. The book provides him with the benefit of being introduced to modern approaches to teaching and also get familiarised with taxonomy of educational objectives, teaching models, curriculum planning, group dynamics, innovative trends in motivational techniques, teaching strategies and testing procedures.

The book comprehensive as it is, shall prove to be useful to Departments of Education in Universities, Teachers' colleges and to all College teachers. I compliment the author in bringing out this useful book based on her experiences in conducting the courses on the subject.

J. RAMACHANDRAN

Vice-Chancellor

Madurai Kamaraj University
Palkalainagar, MADURAI - 21.

PERFACE

This is a case study of a course in 'Effective Teaching' for college teachers – experiential outcome of having conducted four such courses since January 1977 soon after the inception of the Department of Education, Madurai Kamaraj University. College teachers doing 'M.Phil.,' degree course in various disciplines in Madurai Kamaraj University take this course to meet the requirements of one of the five papers prescribed. This course is first of its kind in this part of this country, thanks to Prof.S.V.Chitti Babu, the then Vice-Chancellor of Madurai Kamaraj University for having initiated and implemented such an orientation for college teachers in 'Education. Participants had their own reservations at the advent of the course. Gradually but inevitably we found a change in their reaction and response. This change was largely due to the unique modus operandi of the course. At the end of the course the reaction of the participants was very encouraging positive and favourable. They felt that they had developed skills, attitudes and knowledge that would keep them in goodstead in their profession.

We hope this book will be useful to University Departments of Education or any other competent agencies thinking of designing and implementing orientation as well as intensive courses on pedagogical skills for college teachers, to research scholars working on related themes, to students and teachers of 'Education' and also to all college teachers in general as a first exposure to 'Education.

I am grateful to all the college teachers for their enthusiastic participation in the course and the staff of the Department of Education for their co-operation in conducting the course-which made this case study possible.

J.K.PILLAI

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PROLOGUE

“Most teaching at the college level has followed a convention known as ‘talking tradition’. For some reason it is assumed that a college Professor, well prepared in a discipline, can walk into a class room, start talking and as day follows night, something educational will just happen effective teaching doesn’t just happen; to the contrary, effective teaching depends in large part upon the instructor’s having a clear set of goals and a sufficient strategy for reaching those goals”.

Teaching is an intricate, complex, conscious, deliberate activity. If teaching is earnestly undertaken it will challenge the best efforts of the best teachers. But we find that most college teachers do not have any exposure to any course on Pedagogical skills; they learn some skills by trial and error usually at the cost of the first few batches of students.

An orientation course for college teachers in teaching has been a long felt need in Indian Universities. This course exactly meets this demand – a first exposure to education. It is a one semester course of 66 instructional hours - 2 sessions of 2 hours each per week. Hence four objectives have always been modest.

“Teaching is an activity - a unique Professional, rational and human activity in which one creatively and imaginatively uses himself and his knowledge to promote learning and welfare of others

Teaching is an activity with four phases: a curriculum planning phase, an instructing phase, a measuring phase and an evaluating phase”. Curriculum of the course is based on sound theories of teaching; in other words it has a sound conceptual frame work and further it is also need - based in the sense that

these are exactly the areas in which most college teachers seem to seek guidance as evidenced in their expectations of the course."

To sensibly structure a *curriculum* for teaching one must have both, some understanding of the goals of education and clear formulation of specific objectives. One must also select subject matter appropriate to achieving these ends. Actual *instruction* involves creating, using and modifying instructional strategies and tactics to help students learn. To *measure* learning outcomes, one must select or structure appropriate measuring devices and then organize and analyze the resulting data. Finally to make an evaluation of the whole teaching episode or some selected part of it one must stand back with measurement data in hand and make rational, humane judgments. These include judgments about the appropriateness of objectives and subject matter, the effectiveness of actual instruction and validity and reliability of the measuring devices used to test learning.

Themes of the sessions are selected and structured to follow the sequential components of Glaser's Basic Teaching model. Besides general course objectives specific instructional objectives are framed for each session and the modus operandi of each session is outlined. The structured exercises, unstructured experiences and the workshop sessions are indicated. Three sessional tests adequately spaced are administered, the Principles of teaching and learning discussed in the course are thoroughly analysed and synthesized in follow-up workshop sessions in the respective departments.

-
1. James R. Davis (1976) Teaching Strategies for the college class Room West view Press Colorado PP12,13.
 2. Hough - Duncan (1970) Teaching: description and analysis Addition -Wesley P.C. Massachusetts PP2,3.

COURSE OBJECTIVES *

Cognitive:

1. To Provide background information on the fundamentals of teaching - learning process.
2. To expose the participants to the objectives of education with special reference to Bloom's taxonomy.
3. To make them aware of human behaviour with special reference to behaviour of adolescents.
4. To introduce them to the principles and techniques of motivation.
5. To introduce them to the concept of curriculum development and the principles of curriculum construction.
6. To introduce them to the recent trends in teaching strategies.
7. To furnish basic information in principles of evaluation and experiences in test construction, scoring and interpretation.

Attitudinal:

1. To enable the participants to develop a positive and favourable attitude towards themselves, their Profession and their fellow - teachers.
2. To sensitize them to develop a positive attitude of understanding, sympathy and empathy towards their students and their problems.

* A copy of the course objectives is given to the each participant on the date of commencement of the course.

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3. To enable them to translate the sound principles of mental health into action.
4. To enable them to be happy in their profession and thereby make others around them (Superiors, peers, subordinates, and students) happy.
5. To inspire them to teach for self-actualization.

SCHEDULE OF THE SESSIONS

Sessions

No.	Theme	Methodology
1.	Induction-Entry Behaviour Assessment - Cognitive - Profession perception Introduction by participants Sharing Expectations. Objectives of the course Demands of the course	Self exploration - Structured exercise Self exploration - Unstructured exercise consensus seeking - a group exercise Knowledge input - Lecturette
2.	Teaching - Learning process Basic teaching model.	- Knowledge input lecture-discussion
3.	Educational objectives- System approach to Education	Application of concept Workshop session Individual assignments.
4.	The adolescent learner- his intelligence and personality and his entering behaviour	Knowledge input lecture discussion
5.	Exposure to aptitude tests, interest inventories, per- sonality inventories, attitude scales etc.,	Workshop - administration, scoring and interpretation.
6.	Motivation - Maslow's hierarchy of needs - con- cept of self- actualization Educational implications of Maslow's theory	Self exploration - exercises- discussion lecture - discussion

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No.	Theme	Methodology
7.	Maclelland's theory of Achievement Motivation Motivational functions of Teachers	Self exploration- protective experience lecture - discussion
8.	Performance assessment I	Mastery test
9.	Curriculum Development- Principles of curriculum construction	knowledge input lecture discussion
10.	Developing a unit plan	Application of concepts Workshop - group exercise - individual assignment.
11.	Analytical Approach to teaching Micro teaching	Demonstration by participants. Analysis of Micro lessons
12.	Interaction analysis (FIACS)	Exercises - Coding
13.	Teaching strategies Lecture - discovery - discussion - panel- seminar- symposium - Debate - Role Playing - Brain storming.	Knowledge input
14.	A seminar theme: Equality of educational opportunities	Application - Large group presentation group discussion.
15.	a) A panel discussion by participants Theme: Education as an instrument of change	Large group presentation. Question - answer.

No.	Theme	Methodology
	b) A symposium by participants Theme: Education for international understanding	Large group presentation Group discussion.
16.	Debate by participants Theme: Is teaching a profession?	Debate
17.	a) A problem in Educational administration b) A case study on implementation of Educational Innovation c) A brain storming session	Problem skill-Role play Case analysis. Problem solving-free wheeling exercise.
18.	Performance assessment II	Comprehension test
19.	Individualization of instruction - modular scheduling programmed instruction	Knowledge input lecture - discussion.
20.	a) Human behaviour (psycho logical laboratory of Harvard with Prof.B.F.Skinner demonstrating some experiments b) Frame writing	- Film - analysis discussion Application of concepts, - workshop session-assignment.
21.	Technology of teaching	Knowledge input lecture-demonstration

No.	Theme	Methodology
	Effective use of A.V. aids Handling a-v equipment - versatility of overhead projector.	Slide - tape lecture demons- tration - discussion.
22.	Basic Principles of Measurement and evaluation - Formative, Summative- Principles of Test construction - Criteria of effective tests - Item analysis - Difficulty value - Discriminative index.	- Knowledge input lecture - - discussion.
23.	Item writing	Application of concepts - Workshop session - Group exercise - individual assignment
24.	Basic statistical concepts - Measures of central tendency and variability - correlation- normal curve- raw score - Educational significance of the concepts discussed above	Knowledge input lecture discussion
25.	Problems involving statistical concepts	Application of concepts work- ing out problems workshop
26.	Psychology of being a teacher	discussion
	Mental Health of teachers	Lecture-discussion

No.	Theme	Methodology
27.	Teacher as a class room leader - Leadership styles of Teachers - Dimensions of leadership behaviour leadership and morale group dynamics, class room climate	Lecture - discussion Self exploration - structured exercise discussion - interpretation of scored Lecture - discussion.
28.	Principles of Guidance and counselling - organising guidance - services - vocational guidance, educational guidance.	Knowledge input lecture - discussion.
29.	Performance assessment III	Mastery, Comprehension & essay .
30.	Post test - Course evaluation - feed back	Discussion
31. 32. 33.	Developing curriculum for a unit in their respective subjects	Application of the basic pedagogical principles to the teaching of specific subjects.

A pre-test is structured and administered to the participants. The content of the Pre-test is based on the basic concepts on which the course is based. Items were taken from an Item Bank on Education. Concepts tested are:

1. Education

2. Teaching

A copy to the schedule of the sessions is given to each participant on the day of commencement of the course. Details regarding the date and time of the sessions are not furnished in the table because of year to year variation.

SCHEME OF END EXAMINATION *

External		100 Marks.
Multiple Choice	20 items	20 Marks
Essays	2 items	30 Marks
One page Questions	10 items	50 Marks
		100 Marks

Internal		
Book Review		15 Marks
Assignment		25 Marks
Participation in the class interaction		10 Marks
Sessional Test		50 Marks
		100 Marks

A copy to the schedule of the sessions is given to each participant on the day of commencement of the course. Details regarding the date/time of the sessions are not furnished in this table because of year to year variation.

SESSION - 1

Theme – INDUCTION

Objectives:-

1. to assess the entering behaviour of the participants, cognitive and professional perception.
2. to enable the participants to feel at home, by some introductory exercises.
3. to enable the participants to share their expectations of the course.
4. to identify the common expectations of the whole group.
5. to expose the participants to the course schedule, and what is expected of them by the facilitators.

The first and the foremost task of the Director or the chief facilitator of any course is to Induct the participants to the course by employing effective strategies such as assessment of entering behaviour - Both cognitive and attitudinal, creation of an atmosphere of 'at home'ness, sharing their expectations of the course and exposing them to the objectives and demands of the course.

Pre-test:

A pre-test is structured and administered to the participants. The content of the Pre-test is based on the basic concepts on which the course is based. Items were taken from an item Bank, on Education. Concepts tested are:

1. Education
2. Teaching
3. Learning

4. Motivation
5. Curriculum
6. Intelligence
7. Personality
8. Mental Health
9. Audio- Visual Aids
10. Evaluation

The Pre-test/Post-test structured and administered has a high cognitive loading. To be an effective teacher one must have a positive and favourable perception of teaching Profession. To study the Profession perception the "Teaching Profession perception scale" structured by G.M.Patted is also administered on the date of the commencement of the course. Both the tests are repeated towards the end of the course to assess the learning gains.

Introductory Exercise-structured:

The mode of introducing each participant to the rest of the group is unique in our course. Each participant is given a copy of an introductory exercise and requested to fill in and hand it over to his/her neighbour. Thus every participant has the filled in form of his neighbour which he/she peruses for a few minutes. Now the introduction begins. Each participant introduces his/her neighbour not only by 'designation, but by 'person' - mentioning at least two positive aspects of his/her personality as revealed in the filled in Proforma. Further the linguistic tone with which one introduces the other is also noted - 'I Introduce' — 'I am happy to introduce— 'I am pleased to introduce——'I have the pleasure / privilege of introducing — 'and so on. We find such an exercise creates an atmosphere of 'at home'ness among the participants and break the ice by surmounting communication

barrier. This 'at home'ness usually pays rich educational dividends throughout the course since interaction is effective in the sessions that follow.

Expectation Sharing:

Participants taking a course are bound to have their own expectations of the course. They are likely to compare their expectations with the content of the course by the time they complete it. If the participants are made to feel that most of the expectations are going to be met by the course they are motivated and actively participate in the sessions. Thus the objectives of the course, to a large extent, are realised. In other words a 'need based' curriculum is often effective.

Each participant is requested to write about five of his major expectations of the course. The whole group is divided into five sub groups. The sub groups discuss the expectations of the members and arrive at a consensus on two major expectations. Each sub group presents its two major expectations to the whole group. Consensus is arrived at on two major expectations. It is found that these two expectations are met by the curriculum already structured and analytically presented in the form of course schedule.

Preliminary Information

A Proforma for collecting some preliminary information of the participant is given to each for filling in and handing it over to the Department. These sheets are collected and stored in the Department for future reference.

Course Assessment Form:

The facilitators must know the reaction of the participants to the; major aspects of the sessions. Each session is

anonymously rated through a structured course assessment form by all the participants. Such an assessment gives the facilitator concerned a feedback to modify or redefine the modus operandi of the session.

1. G.M. Patted (1974) : Perceptual factors and success in teacher education course; unpublished Ph.D. thesis M.S. University, Baroda.
2. Mouly and Walton (1962) : Test items in Education Schaum's outline series, MCG.

PRE-TEST/ POST-TEST

(COGNITIVE)

(Time:15 minutes)

Select the most appropriate response and put its corresponding letter (A, B, C, D or E) in the brackets provided for the purpose.

1. The best definition of education is that it is
 - A. Preparation for life
 - B. Synonymous with schooling
 - C. Acquisition of knowledge
 - D. Learning from books
 - E. Growth resulting from experiences()
2. Education can be defined best as
 - A. development of intellectual growth
 - B. the appropriation of others' ideas
 - C. an experience of civilized people
 - D. a process of bringing about changes in people
 - E. learning obtained through the aid of a teacher()
3. The primary responsibility for determining the aims of education should be vested with the
 - A. teacher
 - B. administrator
 - C. text book writer
 - D. Society
 - E. parents.()

4. Teaching can be classified as:
 - A. clerical
 - B. managerial
 - C. professional
 - D. service
 - E. skilled ()
5. The best evidence of the professional status of teaching is the
 - A. publication of journals
 - B. fixing of salary schedules
 - C. enforcement of high standards
 - D. establishment of associations
 - E. sponsoring of state conventions ()
6. The most valid criterion on the basis of which to judge whether teaching is a profession of the teachers'
 - A. love of students
 - B. thorough knowledge of the subject
 - C. exemplification of cultural values
 - D. observance of professional ethics
 - E. thorough grasp of pedagogical theory and practice ()
7. The most important element in instruction is the
 - A. Variety of instructional materials
 - B. teaching techniques
 - C. subject matter covered
 - D. relationship between the teacher and the student
 - E. evaluation of learning ()

8. The basic function of the democratic teacher is to
 - A. fit the students to the curriculum
 - B. outline rules students are to obey
 - C. guide students towards greater competence and self direction.
 - D. locate and develop student leaders
 - E. make sure that the students have learnt their lessons. ()
9. The first step in constructing a test is to
 - A. select a variety of items from which to choose
 - B. define objective of the course
 - C. delimit the content to be covered by the test
 - D. draw up a table of specifications
 - E. decide what kind of test to use ()
10. The primary aim of educational psychology is
 - A. to contribute to an understanding of sound educational practice
 - B. to provide the teacher with a greater appreciation of his role.
 - C. to provide academic background essential for effective teaching
 - D. to provide the teacher with specific rules and procedures upon which he can depend.
 - E. to provide a theoretical frame work for educational research. ()
11. All behaviour is caused by a need and is oriented towards
 - A. the solution of a problem
 - B. the attainment of a goal

- C. the reorganization of experience
- D. the enhancement of self
- E. the overcoming of obstacles ()

12. Motivation is best defined in terms of
- A. internal forces within the individual
 - B. external forces applied upon the individual by his peers and teachers.
 - C. attempts on the part of individual to avoid anxiety
 - D. punishment and other compulsions placed upon the individual
 - E. those disciplinary measures used to promote learning ()

13. The most important single factor in teaching success is the
- A. student's preparation
 - B. teacher's personality
 - C. size of the classes
 - D. teacher's knowledge
 - E. Maintenance of order. ()

14. The best way to 'motivate' a student to learn is
- A. to appeal to his sense of pride and self-respect
 - B. to tempt him into praise
 - C. to make liberal use of positive incentives
 - D. to rechannel the motives he already has
 - E. to threaten him with failure and punishment. ()

15. Which alternative has the forms of motivation arranged from greatest to least in effectiveness?
- A. praise, reproof, no attention
 - B. praise, no attention, reproof

C. reproof, no attention, praise

D. no attention, praise, reproof

E. reproof, praise, no attention

16. Good discipline should focus upon

A. deterring misbehavior

B. punishing infractions

C. encouraging conformity

D. promoting order

E. promoting student growth

17. Which of the following definitions of intelligence is most adequate?

A. innate capacity for intellectual development

B. ability to profit from experience

C. ability to perform well on I.Q.test

D. predisposition to academic success

E. rate of mental development

18. Which of the following is the most adequate definition of learning?

A. acquisition of knowledge

B. development of skills

C. delving of problems

D. modification of behaviour

E. development of effective stimulus - Response bonds.

19. Which of the following is not a product of learning?
- A. attitudes
 - B. concepts
 - C. knowledge
 - D. motivation
 - E. skills
20. The primary purpose served by audio-visual aids is to
- A. provide variety from too exclusive a use of a verbal approach
 - B. permit meaningful student participation in actual learning experiences.
 - C. fill in details overlooked in the verbal or text book presentation.
 - D. clarify certain aspects of the learning experience
 - E. quiet down a class whenever it gets restless and noisy
21. The greatest single hazard to teachers' mental health is
- A. social isolation
 - B. restrictions upon his personal life
 - C. community criticism
 - D. low prestige and salary
 - E. professional incompetence
22. The most basic factor influencing the morale of the students in a classroom is
- A. the group cohesiveness
 - B. the similarity of the characteristics of the group
 - C. the emotional climate promoted by the teacher
 - D. the goals towards which the group is proceeding
 - E. the emotional maturity of the members

23. Good mental health implies
- A. ability to avoid conflicts
 - B. ability to ignore personal and social conflicts
 - C. ability to accept oneself and one's problems as natural and normal
 - D. ability to solve personal conflicts as they arise
 - E. ability to compensate for one's weakness ()
24. Probably the greatest satisfaction in teaching is
- A. monetary rewards and job security
 - B. a sense of service to society
 - C. a sense of contribution to student growth
 - D. a sense of status and power as leader and master of students
 - E. a feeling of love for and by students ()
25. Modern concept of education is based upon the belief that
- A. teaching, in the final analysis, must remain an art
 - B. students must adapt their needs to the curriculum
 - C. all round development of the individual has minimized the importance of academic competence
 - D. education, to be effective, must synchronize with the motives, purposes and goals of the students
 - E. education, to be effective, must rely upon concrete experiences. ()
26. The main purpose of evaluation of academic growth is
- A. to appraise the effectiveness of the teacher
 - B. to compare students with national norms
 - C. to compare students with local norms
 - D. to improve instruction
 - E. to measure the extent to which objectives are realised ()

27. Which of the following is an important instructional function of tests?
A. classification (ie) promotion and retention
B. diagnosis
C. guidance
D. grading and reporting
E. prognosis. ()
28. Most educators agree that the most influential non- school educative agency is the
A. Religious group
B. press
C. Home
D. Radio/T.V.
E. Movies ()
29. Guidance is a process of
A. doing something for student
B. giving advice to the student
C. aiding student total growth
D. telling the students what to do
E. telling the students what not to do ()
30. The chief objective of guidance is to bring about in students
A. increased responsibility for self direction
B. the development of their major weak points
C. the attainment of mastery of the subject matter
D. the achievement that is within their capacity
E. an ability to compete successfully with peer. ()

Teaching Profession Perception Scale

Read each stimulus word and put a cross mark (x) in the appropriate column depending upon your reaction as to how precisely the work describes teaching profession.

S.No.	Stimulus work	very much like this	Much like this	Uncer- tain	Not at all like this
1.	Noble				
2.	Monotonous				
3.	Attractive				
4.	Tiresome				
5.	Responsible				
6.	Miserable				
7.	Unrewarding				
8.	Challenging				
9.	Humiliating				
10.	Distinguished				
11.	Mechanical				
12.	Annoying				
13.	Dignified				
14.	Wholesome				
15.	Unskilled				
16.	Time - honoured				
17.	Lively				
18.	Un-Productive				

INTRODUCTORY EXERCISE

My name is —

The reason I am here is —

Right now I am feeling —

When I am in a new group I —

Two of my strengths are —

When I enter a room full of
people I usually feel —

I am the happiest when —

The thing that concerns me
most about joining a
group is —

In crowds I —

In a group I usually get most
involved when —

Most of the students
I know are —

What students expect most
from us is —

I feel this course will be —

My contribution to this
course will be —

EXPECTATION SHARING

A. Individual Expectations: (5 minutes)

1.

2.

3.

4.

5.

B. Small Group Expectations: (10 minutes)

1.

2.

C. Total Group Expectations: (10 minutes)

1.

2.

Name :

Designation :

Address :

PRELIMINARY INFORMATION

Now that all of you know each other we would like you to jot down a few things for us in the format given below. The points which we would like you to mention are:

1. Your name, designation, institution and the number of students whom you come in contact with
2. The problems which confront you with a very brief description of each problem
3. Your expectancy from this course, again in brief.

PROFORMA

Name:

Designation:

Institution:

Number of students with whom you come in contact with:

Yours is a Government/Aided

PROBLEMS:

EXPECTATION FROM THE COURSE:

COURSE ASSESSMENT FORM

You are requested to complete, with frankness, the following evaluation in respect of each of the sessions of the course by putting score 1- 4 in each of the columns provided.

1. Poor 2. Moderate 3. Good 4. Excellent

You need not mention your name in the Assessment Form

Date	Time	Was information new?	Was it well presented?	Will it be useful to you?
------	------	----------------------	------------------------	---------------------------

SESSION - 2

Theme - Concepts about Teaching - Learning Process

On completion of this unit, the participants should be able to :

- define 'teaching' in their own words.
- identify the functions of teachers.
- define 'learning' in their own words,
- distinguish between associationist approach and Gestalt Field approach.
- Critically appraise the model presented.
- identify the major principles of learning.

TEACHING - LEARNING PROCESS

1. Teaching:

Whether one is a teacher of technical subjects, commercial subjects, physical sciences, mathematics or humanities, whether one is teaching at the school level or higher level, every classroom teacher has certain functions to perform. Answers to the following questions may give us some clues regarding the major functions of teachers and teaching.

- What do we do when we teach?
- Is teaching an art? science? or skill?
- can the teaching act be analyzed into teacher activities? or teaching skills?
- is teaching mere exposition?
- a mere 'pouring in' process?
- is teaching training of emotions?
- is teaching equal to instruction?
- is teaching causing to learn?
- is teaching facilitation of learning?

Teaching is derived from the root work 'taikjon' which means 'show how:'. "Teaching is a most difficult, most complex series of functions; it is indeed a profession in terms of its demands upon its practitioners, it is probably even more difficult than medicine itself" says Mills. Though teaching is one of the oldest professions, as old as mankind, and has been with us for a long time, a unified conception of teaching acceptable to all has not been arrived at as yet.

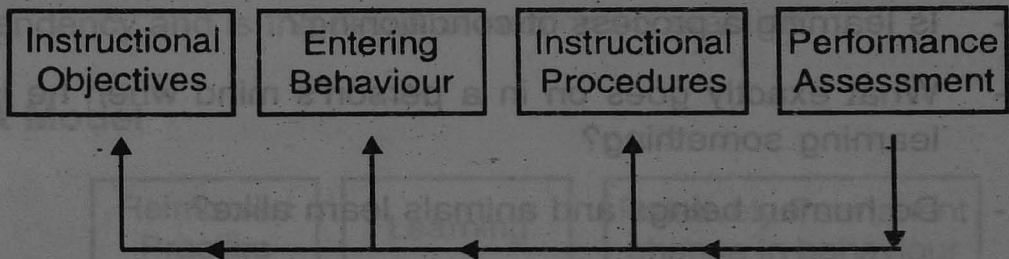
Teaching is an art, a science and skill. The teacher has to have the creative proficiency of an artist, precise attitude of a Scientist and perfected skill of a craftsman.

According to Gage, "Teachers engage in explaining activities, guidance activities, demonstration activities, order maintaining activities, mental hygiene activities, record keeping activities, assignment making activities, curriculum planning activities, testing and evaluation activities, and many other kinds of activities". Refining the concept of teaching activities, researchers have identified, isolated and have come up with a variety of teaching skills the teacher must possess.

2. Basic Teaching Model:

Behaviourally considered, learning is the tendency to have permanent change in behaviour. The effect of learning can be known by understanding the difference between the behaviours before and after the learning. While a learner learns, the new knowledge of experience is built into his repertoire of experience. This building in procedure is called instruction, which is the technical core of the process of teaching. Thus, teaching encompasses instruction and extends itself beyond the limits of instruction. In spite of the evolution of useful laws of learning and applicable theories of teaching, technological description of teaching has not been empirically made. However, the systems analysis approach to teaching tends to identify the various components of the process and to suggest the interrelationships between them. A symbolic representation of the system being studied is labeled 'a model' which is an abstraction and an analogue of the reality, emphasizing structure, relationship and process by incorporating components crucial to a particular system and specifying the various patterns of relationship between the factors in the system. Several models of teaching, psychological

as well as historical have been proposed over the years. It was Robert Glaser who, after examining a number of models evolved a basic teaching model the components and organization of which were in agreement with most other models. This dynamic creation of teaching model with evolutionary potential on activation leads to predictions and assistance in the better understanding of 'teaching' and provides a promising direction for curriculum and other professional activities.



The above model has four major components:

- 1) Instructional objectives
- 2) Entering behaviour
- 3) Instructional procedures and
- 4) Performance assessment.

They are structured into the system in a linear sequence, with feedback loops between any two of them. Teaching begins with the identification of instructional objectives and the occurrence of learning is displaced during and after the performance assessment.

3. Learning:

- Is learning a mere acquisition of subject matter?
- Is learning a pot - filling process?
- Is learning a mere neural connection?
- Is learning an association of ideas?

- Is learning a connection of stimulus
- Response bounds? or Is learning a fire
- lighting process?
- Does learning occur by trial and error?
- Does learning occur by insight?
- Is learning a unitary process?
- Is learning a process of conditioning?
- What exactly goes on in a person's mind when he is learning something?
- Do human beings and animals learn alike?
- Are there ways of learning more effective than others?
- Are there conditions which make learning more permanent than others?

The study of the process of learning has a long distinguished history. Aristotle enunciated the famous laws of association namely, law of contiguity, law of similarity and law of contrast.

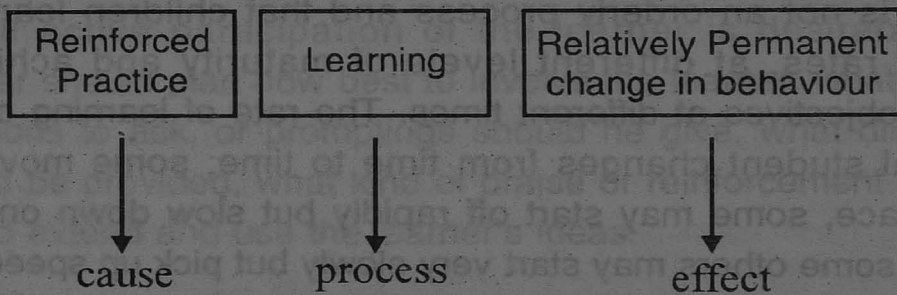
The two important approaches of to-day are, associationist approach and the Gestalt Field Psychology approach. The central ideal of the first approach is that learning takes place through the establishment of connections among stimuli and responses and it looks for conditions necessary for the formulations of connections and what determines the strength of the connections. The second approach emphasize perception in the learning process rather than the response, and maintains that learning is determined by the patterns or configuration or gestalt of the stimuli.

Learning is some kind of internal change that occurs in human dispositions or capability which can be retained and

which is not simply ascribable to the process of growth. The change cannot be observed but has to be inferred. It can be a change in behaviour or increased capability for some kind of performance or altered disposition of the sort called attitude, interest or value. It is usually the result of practice as distinct from psychological reflexes.

Kimble and Germaz (1963) define Learning “as a relatively permanent change in behaviour or behavioural tendency and is the result of reinforced practice”.

A Model



Learning is a dynamic and continuous process of change in behaviour in all its aspects, namely knowing, feeling and acting. The most important or the only thing that goes on in the classroom is learning. Teaching is useful only to the extent that it facilitates learning - “a teacher can no more teach unless some one learns than a seller can sell unless some one buys” says Dewey. The ultimate criterion against which the efficiency of the teaching skill is to be assessed is thus the change in behaviour of the learner.

Psychology of learning has very clearly pointed out that the child must do his own learning — no one can do it for him. It is something personal and private. Thus all education is self education. But this does not mean that teachers have outlived their usefulness; they have now a different function to perform; they are no more the mere dispensers of information. Theirs is

the task of stimulating and guiding the learners to assure the attainment of the desired objectives in the most efficient way possible.

Thus the teacher's task centres on:

- 1) motivating the learner towards desirable objectives.
- 2) facilitating his attainment of these objectives through providing suitable learning experiences.

4. Principles of learning:

Modern knowledge of child development points out that learning is not an orderly process and that children learn at different rates, at different levels of maturity and achieve learning objectives at different times. The rate of learning of an individual student changes from time to time; some move at steady pace, some may start off rapidly but slow down on the way and some others may start very slowly but pick up speed on the way and thus the difference in readiness to learn varies from individual to individual.

If the primary responsibility of the teacher is to motivate and facilitate learning, he has to be imaginative, creative and skilled, one who can devise new ways to meet the new situations and challenges.

Some of the accepted principles of learning are:-

- 1) active participation of the learner is desirable for optimal learning to occur.
- 2) Motivated learner learns easily.
- 3) Meaningful materials and tasks are desirable for effective learning
- 4) Learning under control of reward is preferred.

- 5) Learning is more effective in real life situations.
- 6) Appealing to many senses relieves boredom of the learner and heightens attention.
- 7) Transfer of learning is better effected if relationships are perceived by the learner.
- 8) Spaced distributed recalls are advantageous.
- 9) Repetitive practice is necessary for overlearning of skills.
- 10) Knowledge of results or information about performance aids the learner.

If active participation of the learner is desirable, the teacher should plan how best to involve the learner, what kind of questions to ask, or promptings should he give, what directions should be provided, what kind of praise or reinforcement to give, how to extend and use the learner's ideas.

If motivated learner learns easily, the teacher should devise ways and means of inciting the learners, interest, arousing their curiosity.

To conclude, teaching is useful only to the extent it facilitates learning. Incidental and casual approach to teaching must be replaced by a planned and conscious approach.

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1. DeCecco John. P. (1970) - Psychology of Learning and Instruction, Prentice Hall of India, New DELHI.
2. Edwards Allen J. and Dak P.S. Camul (1975) - Educational Psychology - The teaching - learning process Allied publishers, Bombay.
3. Gagne, Robert M. (1965) - Conditions of Learning, Holt, Rinehart and Windsor, New York.

BASIC TEACHING MODEL

On completion of this unit, the participants should be able to:

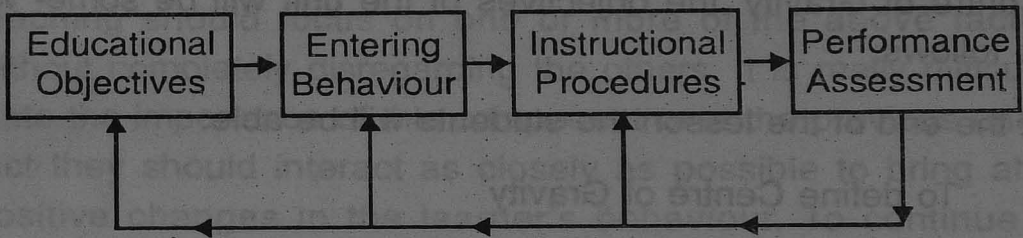
- State the need for a teaching model
- identify the four components of the model
- state the purpose of each component
- relate the components to one another; and,
- compare the model with other instructional systems

Need for a Teaching Model

Behaviourally considered, learning is the tendency to have permanent change in behaviour. The effect of learning can be known by understanding the difference between the behaviours before and after the learning. While a learner learns, the new knowledge or experience is built into his repertoire of experiences. This building in procedure is called instruction, which is the technical core of the process of teaching. Thus, teaching encompasses instruction and extends itself beyond the limits of instruction. In spite of the evolution of useful laws of learning and applicable theories of teaching, technological description of teaching has not been empirically made. However, the systems analysis approach to teaching tends to identify the various components of the process and to suggest the interrelationships between them. A symbolic representation of the system being studied is labeled 'a model' which is an abstraction and an analogue of the reality, emphasizing structure, relationship and process by incorporating components crucial to a particular system and specifying the various patterns of relationship between the factors in the system. Several models of teaching psychological as well as historical have been proposed over the years. It was Robert Glaser who

after examining a number of models evolved a basic teaching model, the components and organization of which were in agreement with most other models. This dynamic creation of teaching model with evolutionary potential on activation leads to predilections and assistance in the better understanding of 'teaching' and provides a promising direction for curriculum research and other professional activities.

Basic Teaching Model:



The above model has four major components:

- 1) Educational objectives
- 2) Entering behaviour
- 3) Instructional procedure, and
- 4) Performance Assessment.

They are structured into the system in a linear sequence, with feedback loops between any two of them. Teaching begins with the identification of educational objectives and the occurrence of learning is displaced during and after the performance assessment.

Educational Objectives:

The first step in the design of any teaching lesson unit or module is to identify the knowledge, the skill or the experience that is to be attempted in the process. It can be stated broadly first and specifically thereafter so as to provide opportunities that help to scientifically proceed with the other components of the

model. Objectives should be differentiated from aims and goals, intents and purposes and scope. While goal is ultimate and broad, aim is the process connecting the learner with the goal; while intents are urges from within purposes are external in nature; and while scope is a perspective view of the matter, objectives are usually written in terms of observable behaviour to make teaching system oriented.

Objectives are stated from the point of view of the learner, what the learner is expected to perform after the learning has taken place. For instance, if the topic for learning in Physics is 'Centre of Gravity' the objectives of the unit will be some- what as follows:

At the end of the lesson the students will be able:

1. To define Centre of Gravity
2. To find the centre of gravity of
 - a) a thin uniform rod
 - b) a thin lamina in the form of a parallelogram
 - c) a thin uniform circular ring
 - d) a thin triangular lamina
3. To apply the concept of centre of gravity in chosen practical problems.

The objectives will be considered as achieved if at the end of the lesson the students 'define', 'find' and 'apply', Centre of Gravity.

Entering Behaviour:

In order to achieve the objectives set as the first component of our teaching model, we should know whether the necessary previous experience is already available in the learners. Any new experience has to be based on some related

past experience; if the required past experience is not already provided, there is a need to change the objectives set for the unit. Hence at this stage, the teacher has to apply a test to identify the level of knowledge, skill or experience. As the entering behaviour of several learners may differ from one another, the lesson may have to be individualized in order to achieve maximum results. The factors that contribute to the entering behaviour of a learner are his cultural background, social milieu, mental make-up, physical development and intellectual attainment. Depending on the type of learning the teaching should focus on one or more of the above factors, without completely disregarding the others. It is really difficult to state the importance of this component over the previous one; in fact they should interact as closely as possible to bring about positive changes in the learner's behaviour. To continue the above example of Centre of Gravity, the entering behaviour required will be the knowledge various objects chosen for the determination of Centre of Gravity. It is also useful to elicit from them some practical problems which can be used for creating a good state of motivation for learning the unit on Centre of Gravity.

Instructional Procedures:

While the first component is heavily reliant on the teacher and the second on the learner, it is this third component which takes up both the strings and forms the most crucial part of the process. This is the methodology part. Various methods of approaches and techniques and strategies of teaching together with necessary aids for learning may have to be considered for selective use for effective instruction. The selection of the techniques useful in the procedure depends on the classification of learning and the conditions on which learning depends. Besides the three domains of cognitive, affective, and psychomotor learning which are further sub divided by Bloom,

there is another eightfold classification by Gagne - Signal, S-R, Motor, Verbal, Concept, Principle and Problem-solving. It has been shown that each of these categories can be learnt effectively under certain specific internal and external conditions. Internal conditions required for any type of learning are those available in the entering behaviour. External conditions have to be provided during the instructional procedures. This provision of suitable conditions helps to select the proper procedure of instruction. For instance, the Learning of Centre of Gravity falls in Bloom's Cognitive domain and can be classified as Gagne's concept learning. Under Cognitive domain we may have to include 'application' as the essential level of learning as per the objectives chosen. The internal conditions required have been ascertained under Entering Behaviour. The external conditions to be provided must be decided to make the instructional system efficient. Selection of appropriate examples and rejection of non-examples associating the concepts with 'Centre of Gravity', statement of its definition, conduct of the concerned experiments for verification and suggestion of further practical situations for application will all form part of this component.

Performance Assessment:

This component of model provides for judgment of the success or otherwise of the process. If the objectives are precisely stated in behavioural terms, if the entering behaviour is found adequate and if the procedures adopted for instruction of the new learning have been appropriate, the performance of the learner at the end of the learning unit can be assessed accurately. Suitable test items should be constructed to check whether they were followed correctly. In accordance with the assessed level of the learner's achievement of objectives, the three previous components have to be suitably adjusted, i.e., the information provided by performance assessment feeds back to each component. For example, the three objectives in the learning of Centre of Gravity, can be tested by giving a small test consisting of a few test items for each part of the objectives.

stated earlier. Strictly speaking one precise objective will need only one well constructed test item. In this case, the following items may be useful.

1. Define Centre of Gravity
2. Find the Centre of Gravity of the thin uniform rod given.
3. State why the standing passengers in a moving bus have to spread their feet apart.

Advantages of the Model:

The model does not give primary importance to the personality of the teacher. It makes the system activity - oriented and fool-proof. Technological devices and other educational innovations were made possible by the identification of the components and their relationship. Without completely ruling out the presence of a teacher, the model highlights the need for adjustments and re adjustments on his part to suit the needs of individual students. Excellent feedback is provided for good satisfaction of both the learner and the teacher. The peg of the entire system is the competence of the teacher as well as the relevance of learning.

Various historical models have now yielded place to new psycho-technological models such as Computer model, Interaction model and time-based model. For comparison one may use the U.S. Naval instructional Systems Models too.

References;

1. De Cecco John,P.(1970) - Psychology of Learning and Instruction, Prentice-Hall of India Ltd., New Delhi.
2. U.S. Army Security Agency Training Center & School The Development of Instructional System. Procedures Manual Fort Devans, Mass, USA.
3. Gagne Robert (1965) - Conditions of Learning, Holt, Rinehart, and Windsor, New York.

SESSION - 3

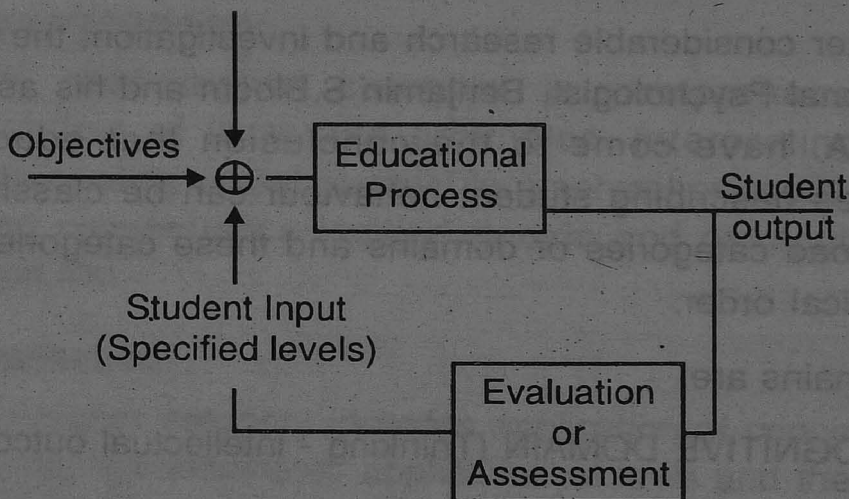
Theme - Objectives of education - Systems approach to education.

Objectives:

1. To expose the participants to systems approach to education.
2. To introduce them to taxonomy of educational objectives, cognitive, affective and psychomotor dimensions.
3. To enable the participants to differentiate between General objectives and Specific objective.
4. To analyze general educational objectives into a few specific instructional objectives.
5. To apply Mager's criteria and Gronlund's rules for stating instructional objectives.

TAXONOMY OF EDUCATIONAL OBJECTIVES

If education is to be meaningful and is to achieve the goals laid down by its planners not only should it have clearly defined objectives, but it should also have suitably designed methods for and comparing the achievement levels with the stated objectives. Only then will it be possible to identify deficiencies and take suitable remedial action to improve the system performance. This, in essence, is the philosophy of the modern "systems Approach" to Education. The block diagram for an Educational system as per this approach is shown below:



From the block diagram it becomes obvious that 'objectives' serve a sort of "reference point" to the whole system and it is therefore vitally important that as a first step in the design of any educational system the "Course objectives" have to be spelt out in unambiguous and measurable terms.

Behavioural Objectives:

Education is chiefly concerned with producing or modifying the patterns of behaviour in human beings. It uses subject matter areas to bring about these changes. But education is

essentially a mental process and unfortunately there are no direct means for ascertaining whether one possesses knowledge or not. We therefore have to rely essentially on the identification of the kind of behaviour which a person possessing the specified knowledge exhibits on completion of the learning process. It is, therefore, necessary that the objectives are known as "Behaviour a student will exhibit after acquiring the knowledge or simply what he will be able to do on completion of the learning, which he will not be able to do before he has learnt it".

The three Domains of Educational Objectives:

After considerable research and investigation, the eminent Educational Psychologist, Benjamin S. Bloom and his associates of U.S.A. have come to the conclusion that educational objectives describing student behaviour can be classified into three broad categories or domains and these categories are in hierarchical order.

The domains are:

1. **COGNITIVE DOMAIN** (Thinking - intellectual outcomes)
2. **AFFECTIVE DOMAIN** (Feelings, Attitudes, emotions, sentiments etc.,)
3. **PSYCHOMOTOR DOMAIN** (Acting or Doing; motor skills)

These domains are hierarchical because when learning takes place, the first activity is a mental process trying to understand, analyse synthesize and link up or associate the information with something already known. This thought process comes under the cognitive domain.

In the second stage, the knowledge acquired begins to produce changes in the interest, attitudes and feelings of the individual and objectives describing these changes are categories belonging to the affective domain.

Besides the above classification, each domain can be further split up into major categories which are also in a hierarchical order and these categories are described below:

Categories in the cognitive domain (B.S. Bloom . 1956)

a) Knowledge:

This is the lowest category and implies mere remembering of previously learned material. It includes knowledge of common basic terminology, specific facts, methods and procedures, fundamental concepts and principles, etc.,

b) Comprehension:

The next higher category is comprehension or understanding of facts and principles, interpreting learnt material, translating verbal material to graphical or equation form, estimating consequence implied in data and extrapolation of information, etc.,

c) Application:

This higher category includes application of concepts and principles to new situations, application of laws and theories to practical situations, solving problems, constructing charts and demonstrating correct usage of a method or procedure, etc.,

d) Analysis:

This category includes the abilities to recognize assumptions and logical fallacies in reasoning and analyse organizational structure or identify components part of a whole problem, etc.

e) Synthesis:

This includes ability to write an essay, well organized thesis, giving a properly co-ordinated speech or talk, proposing a plan for an experiment, integrating learning from various areas into a plan for solving a problem, formulations of a new scheme, etc.,

f) Evaluation:

This highest category in the cognitive domain includes ability to make judgments after evaluating knowledge, judging adequacy, judging values and efficiency with respect to internal as well as external criteria.

Categories in the Affective Domain (Krathwohl, 1964)

A) Receiving:

The lowest category in this domain refers to a student's willingness to attend to classroom activities or stimuli and is denoted by acts such as (1) listening attentively, (2) showing sensitivity to human needs and social problems, etc.,

B) Responding :

This refers to active participation on the student and is characterized by (1) completion of assigned work (2) obeying rules and regulations (3) participating in discussions (4) showing interest in the subject (5) enjoying helping others, etc.,

C) Valuing:

This refers to the value or worth a student attaches to a subject, phenomenon or work and can vary from a mere acceptance to (1) a demonstration of belief (2) an appreciation of the role of science and technology (3) showing concern for the welfare of others (4) demonstrating problem solving attitude, etc.,

D) Organization:

This category is concerned with a bringing together different values, resolving conflicts between them and development of an internally consistent value system. This ability is characterized by (1) recognizing the role of planning in solving problems (2) accepting responsibility for own behaviour (3) understanding and accepting strengths and weakness, etc.,

E) Characterization by a value or value complex:

This final category denotes the development of a characteristic 'life style' with consistent and predictable behaviour based on a value system that the individual has developed. This is characterized by demonstration of self-reliance, punctuality and self discipline, etc.,

Categories in the Psychomotor Domain (Dave, 1969)

R.H.Dave (1969) has proposed the following hierarchical classification of psychomotor behaviour for initiating thinking in the proper direction, based on the concept of co-ordination:

1.0 Imitation	2.0 Manipulation	3.0 Precision
1.1 Impulsion	2.1 Following Direction	3.1 Reproduction
1.2 Overt Repetition	2.2 Selection	3.2 Control
	2.3 Fixation	
4.0 Articulation	5.0 Naturalization	
4.1 Sequence	5.1 Automation	
4.2 Harmony	5.2 Interiorization	

Finally although all three domains are fairly important, as for as classroom instruction is concerned, we can limit ourselves to each area of subject matter what level of abilities have to be developed and prepare a set of objectives at that level.

General Instructional Objectives and Specific Instructional objectives:

General Instructional objectives: are general statements which describe in implicit term the overall aims of the total instructional process - say an entire course of instruction offered in a particular subject. e.g.,

- 1) The student UNDERSTANDS the meaning of the new words in the lesson;

- 2) The student KNOWS how to write an essay on a given topic.

These objectives are not explicit and it is the job of the teacher to convert these general educational objectives into Specific Instructional objectives i.e., brief clear statements that describe instruction in terms of the Desired Learning outcomes. These statements describe the terminal behaviour the students are to demonstrate, i.e. in terms of changes in students behaviour - i.e. in terms of changes in their thinking, feeling and action.

Objectives, specified in behavioural terms, identify the end product of instruction in terms of observable performance, which is the outcome of behaviours.

E.g.

- 1) The student is able to Write in his own words the meaning of the new words introduced.
- 2) The student is able to MAKE some sentence using the new words introduced.
- 3) The student is able to MATCH the new words with their meanings given in the table.
- 4) The student is able to DESCRIBE the context in which the new words have occurred.

General rules for stating Instructional Objectives:-

Mager's Criteria

- 1) Terminal Behaviour - What the students will be able to do at the end of the instruction.
- 2) Conditions - the conditions under which the Behaviour is expected to occur
- 3) Standards - What is the minimum acceptable level of performance.

Gronlund's rules for stating Instructional Objectives:

- 1) Instructional objectives should be stated in terms of student's performance and not teacher's performance.
- 2) Learning outcomes should be specified and not the learning process.
- 3) should not be mere description of subject matter.
- 4) should not consist of more than one outcome.
- 5) Verbs having proper level of generality should be used.

Bloom's Taxonomy (1956) guides in identifying and defining instructional objectives. Bloom's method of classification of objectives attempts to arrange the different classes of behaviours in hierarchical order, from simple to complex. Behaviour in one class makes use of and builds on behaviour in the preceding class.

A List of SUGGESTED BEHAVIOUR FOR Bloom's category of objectives in the cognitive domain:

1.00 Knowledge

1. recalls
2. recognises
3. repeats
4. recollects

2.00 Comprehension:

1. sees relationships
2. translates
3. transforms
4. rearranges
5. illustrates

6. interprets
7. discriminates
8. classifies
9. relates
10. compares
11. identifies
12. estimates
13. concludes
14. determines
15. extends
16. interpolates
17. extrapolates

3.00 Application

1. gives reasons
2. infers
3. predicts
4. formulates hypotheses
5. establishes relationships

4.00 Analysis

1. categories
2. deduces
3. detects

5.00 Synthesis

1. originates
2. modifies
3. summarises / integrates
4. elaborates
5. refines

6. designs
7. proposes
8. produces

6.00 Evaluation

1. Judges
2. Validates
3. argues
4. assesses
5. considers possibilities
6. appraises.

TABLE OF SAMPLE INFINITIVES AND EXAMPLES OF DIRECT OBJECTS FOR USE WITH THE BLOOM'S TAXONOMIC CLASSIFICATION OF COGNITIVE OBJECTIVES

	Taxonomy Classification (1)	Examples of Infinitives (2)	Examples of Direct Objects (3)
1.00	Knowledge		
1.10	Knowledge of specifics		
1.11	Knowledge of terminology	to define, to distinguish to acquire, to identify to recall, to recognize	vocabulary, terms, terminology, meaning(s) definitions, referents, elements
1.12	Knowledge of specific facts	to recall, to recognize to acquire, to identify to repeat	facts, factual informa- tion, (sources) (names) (dates) (events) (persons)(places) (time - period), properties, examples, phenomena
1.20	Knowledge of ways and means of dealing with specifics		
1.21	Knowledge of conventions	to recall, to identify, to recognize, to acquire	form(s) conventions, uses, usage, rules, ways, devices, symbols, representation, style(s), format(s).
1.22	Knowledge of trends, sequences	to recall, to recognize, to acquire, to identify	action(s), processes, movements(s), continuity, development(s), trend(s), sequence(s), causes, relationship(s), faces, influences.

	(1)	(2)	(3)
1.23	Knowledge of classifications and categories	to recall, to recognize, to acquire, to identify	area(s), type(s) feature(s), class(es), set(s), divisions(s), classification(s), category/categories.
1.24	Knowledge of criteria	to recall, to recognize, to acquire, to identify	criteria, basics, elements.
1.25	Knowledge of methodology	to recall, to recognize, to acquire, to identify	methods, techniques approaches, uses, procedures, treatments
1.30	Knowledge of universals and abstractions in a field		
1.31	Knowledge of principles, generalizations	to recall, to recognize, to acquire to identify	principle(s), generalizations(s), fundamentals, laws, principal elements, implication(s)
1.32	Knowledge of theories and structures	to recall, to recognize, to acquire to identify	theories, bases, interrelations, structure(s), organization(s), formulation(s)
2.00	Comprehension		
2.10	Translation	to translate, to transform, to give in own words, to illustrate, to prepare, to read, to represent, to change, to rephrase to restate	meaning(s), sample(s) definitions, abstractions, representations, words, phrases.

	(1)	(2)	(3)
2.20	Interpretation	to interpret, to reorder, to re-arrange, to differentiate, to distinguish, to make, to draw, to explain, to demonstrate.	relevances, relationships, essentials, aspects, new view(s), qualifications, Conclusions, methods, theories, abstractions.
2.30	Extrapolation	to estimate, to infer, to conclude, to predict, to differentiate, to determine, to extend, to interpolate, to extrapolate, to fill in, to draw	consequences, implica- tions, conclusions, factors, ramifications, meanings, corollaries, probabilities.
3.00	Application	to apply, to generalize, to relate, to choose, to develop, to organize, to use to employ, to use, to employ, to transfer, to restructure, to classify.	principles, laws, conclusions, effects, methods, theories, abstractions, situations, generalizations, processes, phenomena, procedures.
4.00	Analysis		
4.10	Analysis of elements	to distinguish, to detect, to identify, to classify to discriminate, to recognize, to categorize to deuce.	elements, hypotheses/ hypotheses, conclusions assumptions, statements (of fact) statements (of intent), arguments, particulars.

	(1)	(2)	(3)
4.20	Analysis of relationships	to analyse, to contrast, to compare, to distinguish to deduce	relationships, inter- relations, relevance, themes, evidence, fallacies, arguments, cause - effect(s), consistency/ consistencies, parts, ideas, assumptions.
4.30	Analysis of organizational principles.	to analyse, to distinguish, to detect, to deduce.	form(s), pattern(s) purpose(s), point(s) of view(s), techniques, bias(es), structures, theme(s), arrange- ments(s) organization(s),
5.00	Synthesis		
5.10	Production of a unique communication	to write, to tell, to relate, to produce, to constitute, to transmit, to originate, to modify, to document, to refine	structure(s), patter(s) product(s), perfor- mance(s) design(s) work(s), communications, effort(s), specifics, composition(s).
5.20	Production of a plan, or proposed set of operations	to propose, to plan, to produce, to design, to modify, to specify	Plan(s), objectives, specification(s). schematic(s), operations, way(s), solution(s), means.
5.30	Derivation of a set of abstract relations	to produce, to derive, to develop, to combine to organize, to synthesize, to classify, to deduce, to develop, to formulate, to modify	phenomena, taxonomies, concepts, scheme(s), theories, relationships, hypothesis/hypotheses, perceptions, ways, discoveries.

	(1)	(2)	(3)
6.00	Evaluation		
6.10	Judgments in terms of internal evidence	to judge, to argue, to validate, to assess, to decide	accuracy/ accuracies, consistency consistencies, fallacies, reliability, flaws, errors, precision, exactness.
6.20	judgment in terms of external criteria	to judge, to argue, to consider, to compare, to contrast, to standardize, to appraise	ends, means, efficiency, economy/economics, utility, alternatives, courses of action, standards, theories, generalizations.

References

1. Bloom B.S. - Taxonomy of Educational Objectives (cognitive) Hand Book 1 Longmans.
2. Bloom B.S. - Taxonomy of Educational Objectives (Affective) Hand Book 11 Longmans.
3. Mager RoBert - Preparing Instructional Objectives
4. Gronlund N.E. - Stating behavioural Objectives for class room instructional, Macmillan & co.
5. Teaching strategies - A system Approach -Open University Publication U.K. 1972.

WORKSHOP SESSION

Objectives:

- i) To enable the participants to have more practice in distinguishing between General Educational Objectives and Specific Instructional Objectives.

- ii) To enable the participants to work discipline-wise and carry out a group assignment to identify a unit of interest, to write one or more GEO (s) and analyse each GEO into a few SIO's.

EXERCISE

An exercise similar to the following is given to the participants to give them an intensive practice in identifying GEO's/SIO's before they start their group assignment to be done discipline-wise.

EDUCATIONAL OBJECTIVES

EXERCISE I

State whether each of the following statements is a General Educational Objective (EGO) or Specific Instructional Objective (SIO) by making a tick in the appropriate box.

- | | GEO | SIO |
|---|--------------------------|--------------------------|
| 1. The student understands the use of a thermometer. | ☐ | ☐ |
| 2. The student is able to state the laws of thermodynamics. | ☐ | ☐ |
| 3. The student is able to draw a circuit diagram. | ☐ | ☐ |
| 4. The student knows the methods of preparing Hydrogen. | ☐ | ☐ |
| 5. Given a screw gauge, the student is able to measure the thickness of a wire. | ☐ | ☐ |
| 6. The student appreciates the message of the poem. | ☐ | ☐ |
| 7. The student gains knowledge of the theorem of Pythagoras. | ☐ | ☐ |
| 8. The student explains the effect of heat on materials. | ☐ | ☐ |

9. The student is able to demonstrate the working of the exhaust pump. ☐ ☐
10. The student is able to state Boyle's Law. ☐ ☐
11. The student is able to master the concept of entropy in Thermo-Dynamics. ☐ ☐
12. The student learns the basic symbols used in the diagram. ☐ ☐
13. The student names the parts of the diagram given. ☐ ☐
14. The student grasps the principle behind construction of questions. ☐ ☐
15. The student prepares a diagram for the circulatory system. ☐ ☐
16. The student writes the common rules for structuring questions. ☐ ☐
17. The student gives the properties of light and the related laws. ☐ ☐
18. The student is able to comprehend the meaning of the given passage. ☐ ☐
19. The student is able to describe the language style of the author. ☐ ☐
20. The student is able to compute loss of heat occurred in the laboratory experiment. ☐ ☐
21. The student uses the correction formula while valuing the multiple choice type of tests. ☐ ☐
22. The student prepares a lesson plan based on the instructions given by the teacher. ☐ ☐
23. The student learns the principles of transfer of training. ☐ ☐

24. The student is able to recognise the appropriate Bloom's level in a given question. ☐ ☐
25. The student gives a brief summary of a given passage. ☐ ☐
26. The student identifies null sets in the classroom situations. ☐ ☐
27. The student distinguishes between Thorndike's theory of Identical Elements and Judd's theory of Generalizations. ☐ ☐
28. The student develops scientific attitude. ☐ ☐
29. The student appreciates rich literature. ☐ ☐
30. The student gives illustrations of conditioning in life situations. ☐ ☐

Following is a sample list of group assignments prepared discipline-wise in the Workshop session:

1. ENGLISH

Unit : Shelley's 'Ode to the West Wind'

General Objectives:

1. To enable the students to understand the Poem.
2. To enable the students to appreciate the Poem.

Specific Objectives:

- i) To enable the students to state the background of the poem.
- ii) To enable the students to state the meaning of the poem in simple words.
- iii) To enable the students to draw out the imagery and metaphor in the poem.

- iv) To enable the students to identify some autobiographical touches of the poet in the poem.
- v) To enable the student to react to the poem. (to attempt a critical appreciation).
- vi) To enable the students to compare the poem with the other poems of Shelley.

2.MATHEMATICS

Unit : Set Theory - Basic concepts and related symbols.

General Education Objective:

To expose the students to the basic concepts and symbols of set theory.

Specific System Serial Objectives :

To enable the students:

- i) to identify sets in life situations.
- ii) to identify elements of well defined sets.
- iii) to distinguish between well defined sets and others.
- iv) to use the symbols for 'belongs to' 'does not belong to' in appropriate situations.
- v) to identify subsets.
- vi) to use the symbols for 'is a sub set of' , 'is not a subset of' in appropriate situations.
- vii) to use 'Roster notation' to notify sets.
- viii) to distinguish between equal sets and equi-value sets.
- ix) to use the symbols for 'equality' and 'equi - values' in set relationship.
- x) to identify null sets in life situations.
- xi) to use the symbol for null sets.

3. PHYSICS

Unit : Resonance

General Objective:

To enable the students to understand the phenomenon of resonance and its related concepts.

Specific Objectives :

- i) To enable the students to define the term 'resonance'
- ii) To enable them to compare forced vibration with resonance.
- iii) To enable them to illustrate a few cases of resonance.
- iv) To enable them to relate selection of frequency in radio with the phenomenon of resonance.

4. CHEMISTRY

Unit : Metallurgy

General Objective:

To enable the students to understand the process of Metallurgy and its related process.

Specific Objectives:

- i) To enable the students to define the term, 'Metallurgy'
- ii) To enable the students to distinguish among different kinds of ores and ore-dressings.
- iii) To enable the students to name the chief ores of iron.
- iv) To enable the students to summarise the process of extraction of iron from the oxide ore of iron.
- v) To enable the students to distinguish between cast iron and wrought iron.

- vi) To enable the students to explain how steel is manufactured.
- vii) To enable the students to name different alloys of steel and their uses.
- viii) To enable the students to state all the stages from ore-dressing to the manufacture of steel and to enable them to draw a flow chart (as group activity) outlining these stages.

5. ANIMAL PHYSIOLOGY

Unit : Digestive System

General Objectives:

To enable the students to understand the anatomy and physiology of digestive system.

- i) To enable the students to state the different parts of the digestive system.
- ii) To enable the students to state the need for digestion.
- iii) To enable the students to draw the structure and state the functions of enzymes.
- iv) To enable the students to explain the digestive process of cellulose.

6. ECONOMICS

Unit : Theory of Monopolistic Competition

General Objectives:

- i) To enable the students to understand the theory of Monopolistic competition and how price is determined under monopolistic Competition.

- ii) To enable them to appreciate the relevance and significance of the theory of monopolistic competition in economic analysis.

Specific Objectives:

Knowledge:

To enable the students to define terms, concepts, assumptions of monopolist competition - group, equilibrium, excess capacity, product variation, and selling cost.

Comprehension: To enable the students:

- i) to explain how price is determined, how a firm achieves maximum profit in monopolistic competition.
- ii) to explain the verbal statements by means of a graph.
- iii) to interpret relationship between selling costs and demand for commodity.
- iv) to distinguish between short run equilibrium of the firm and the long run equilibrium of the firm.

Application:

To enable the students to relate the theory of monopolistic competition to a particular case in the real world.

Analysis:

To enable the students to identify the dependence of various firms in a group.

Evaluation:

To enable the students to appraise the theory and compare it with a competitive market.

SESSION - 4

Theme - The adolescent learner and his entering behaviour

Objectives:

- (i) to expose the participants to the needs of 'the adolescent learners' - the general characteristics and corresponding and developmental tasks.
- (ii) to introduce the participants to the concept of 'intelligence', its types, structure, 'I.Q. ' and uses of Intelligence tests.
- (iii) to introduce the participants to the concept of 'personality', its theories, assessment of attitude, aptitude and sentiments.
- (iv) to provide the participants the experience of self awareness of some of the personality factors.

THE ADOLESCENT LEARNER

Development implies orderly change.

Development is the product of the interaction between the major forces: maturation and learning.

Maturation refers to changes which are primarily the result of growth and learning refers to changes which are primarily the result of experience.

Adolescence is a period of transition from childhood to adulthood. Stanley Hall was the first to draw vivid and striking picture of this stage of life - splendid portrayal as "Storm and Strife" "Stress and Strain"

Adolescence - teen-age - the in-between years-flapper(yet in the nest and vainly attempting to fly while its wings have only pin feathers)

Adolescent characteristics

A. Physical

- i) Most students reach physical maturity and virtually attain puberty.

Tremendous variations in the rate of maturation and in height and weight.

- ii) likelihood of certain amount of adolescent awareness- Clumsy appearance and behaviour - a great deal of concern about personal appearance - take pains with grooming.

- iii) establishment of sexual maturity - sex drive.

Developmental Tasks:

Physical exercises and nutritious diet.

B. Social

- i) The peer group dominates- conflict between the peer code and the adult code. Pressures to conform - the most obvious sign of this being fads in dress.

- ii) The most pervasive pre-occupation for many students is the opposite sex
- iii) Girls are more mature socially than boys of the same age.

Developmental tasks:

- i) To gain acceptance from the opposite sex
- ii) To accept one's sex role
- iii) To develop a proper attitude towards the opposite sex (sex education is advocated)
- iv) To prepare for marriage and family life.

C. Emotional

- i) The adolescent revolt is an expression of the universal change - over from childhood to adulthood - In our Society we do not have any clearly prescribed forms of behaviour for making this difficult change.
- ii) Because of their increasing independence, many adolescents are in frequent conflict with their parents; they may turn to the teacher for sympathy and advice.
- iii) Day - dreaming about their future goals and attainments. Most students either under - estimate or over - estimate their abilities.

Developmental Tasks:

To achieve independence of parents and other adults.

D. Mental

- i) At this age young people are close to maximum intellectual efficiency but lack of experience limits both their knowledge and their ability to use what they know.
- ii) they develop a theory of life - a philosophy of life - hero - worship.

Opportunity for guided discussion.

Developmental Tasks

- i) To realise and accept one's own abilities and talents.
- ii) To select and prepare for an occupation.
- iii) To develop civic competence.
- iv) To acquire values and an ethical system.

Intelligence:

Weschler:

"intelligence is the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his environment".

Thorndike - Types of Intelligence

- (1) Abstract - ability to deal with verbal, mathematical symbols and to play with thoughts and ideas.
- (2) Concrete (mechanical or practical) - ability to understand and deal with things and scientific appliances.
- (3) Social - ability to understand and deal with others.

Structure of Intelligence:

(1) Spearman's two factor theory

All intellectual activity depends primarily upon and is an expression of a general factor common to all mental activity designated by "g". In addition every intellectual activity is also found to involve a specific factor pertaining to the particular activity referred to as:

(ii) Thurstone's Primary mental abilities: (NVW SMPR)

- N - numerical ability
- V - verbal comprehension - ability to define and understand words

- W - word fluency - ability to think rapidly of words
- S - space factor - spatial relationships - ability to draw a design from memory or to visualize relationships.
- M - memory
- P - Perceptual speed - ability to grasp perceptual details and to see differences and similarities among objects.
- R - Reasoning (inductive and deductive) - ability to find rules, principles, concepts, for understanding and solving problems. (Binet - Simon)

Intelligence Quotient

Intelligence tests - age scale for each year level there is a series of tests (usually 6) - from 3 year level to 14 year level

$$\text{Intelligence Quotient} = \frac{\text{Mental Age}}{\text{Chronological Age}} \times 100$$

$$\text{I.Q.} = \frac{\text{M.A.}}{\text{C.A.}} \times 100$$

How a child is tested and scored

Age of the child = 8 years

C.A. = $8 \times 12 = 96$ months

M.A. in Months

5-year-level - all tests passed

6-year-level - all tests passed

7-year-level - all tests passed

(Basal year) - $7 \times 12 = 84$

8-year-level - 3 tests passed - $3 \times 2 = 6$

9-year-level - a test passed - $1 \times 2 = 2$

10-year-level-No test passed

(Terminal year)- $0 \times 2 = 0$

$$\text{I.Q.} = \frac{\text{M.A.}}{\text{C.A.}} \times 100 = \frac{92}{96} \times 100 = 95.8$$

Distribution of I.Q. among population

Normal : 50% of the population between 90 and 110

Above normal : 16% of the population between 110 and 120

Superior : 7% of the population between 120 and 130

Very superior : 1.9% of the population between 130 and 140

Genius : 0.1% of the population above 140

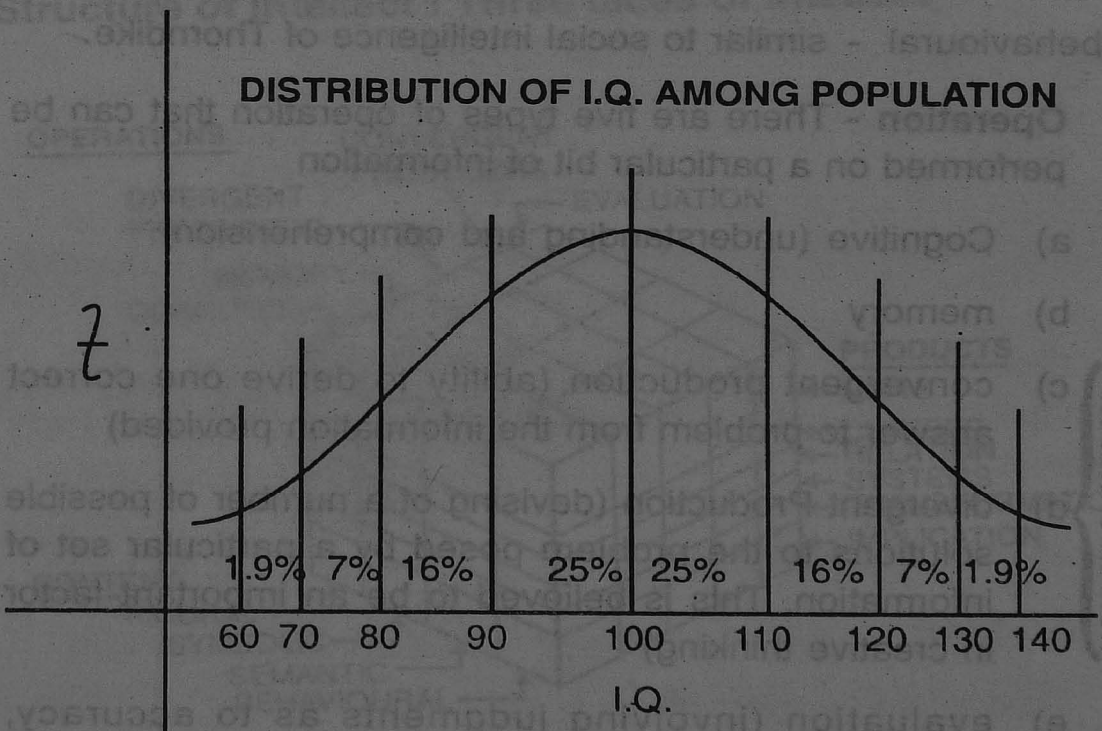
Below normal : 16% of the population between 80 and 90

Dull : 7% of the population between 70 and 80

Near feeble minded : 1.9% of the population between 60 and 70

Feeble minded : 0.1% of the population below 60

DISTRIBUTION OF I.Q. AMONG POPULATION



Guilford : Structure of intellect

A series of studies conducted have classified all intellectual abilities into a systematic frame work called the structure of intellect (Guliford, 1961). According to this model, human intelligence can ultimately be broken into 120 factors. Not all of these have been discovered as yet.

• Guilford classifies intellectual factors in three different ways : 1) Content 2) Operation and 3) Product.

(i) **Content** refers to the kind of information involved.

Four different types have been identified.

- a) figural - involves concrete objects
- b) symbolic - information represented by means of symbols, as in Mathematics.
- c) semantic - meanings, verbal comprehension and general reasoning.
- d) behavioural - similar to social intelligence of Thorndike.

(ii) **Operation** - There are five types of operation that can be performed on a particular bit of information

- a) Cognitive (understanding and comprehension)
- b) memory
- c) convergent production (ability to derive one correct answer to problem from the information provided)
- d) divergent Production (devising of a number of possible solutions to the problem posed by a particular set of information. This is believed to be an important factor in creative thinking)
- e) evaluation (involving judgments as to accuracy, goodness, suitability or workability)

Production of
new Information

(iii) **Products** There are six different forms which each type of content may take, referred to as products.

- | | | |
|--|---|--------------------|
| a) A single item of information | } | – a unit |
| b) A group of units with common properties | | – class |
| c) Information may also come in the form of | } | – relation |
| d) Between two things, or involving a number of parts | | – a complex system |
| e) Information involving some sort of change | } | – transformation |
| f) Involving possibilities offered by a piece of information | | – implication |

Structure of Intellect : Three faces of Intellect.

OPERATIONS

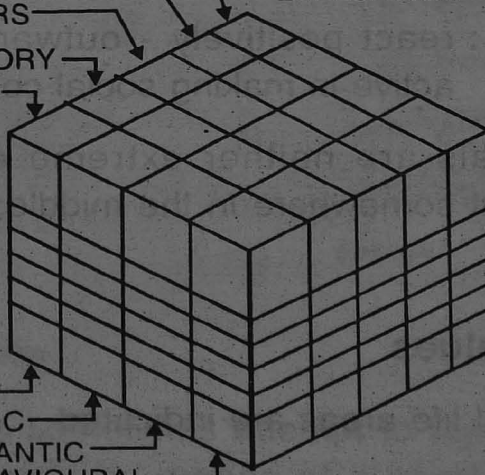
CONVERGENT PRODUCERS
DIVERGENT PRODUCERS
EVALUATION
MEMORY
COGNITIVE

PRODUCTS

← UNITS
← CLASSES
← RELATION
← SYSTEMS
← TRANSFORMATION
← IMPLICATION

CONTENT

FIGURAL
SYMBOLIC
SEMANTIC
BEHAVIOURAL



Uses of intelligence Tests

- 1) Educational guidance
- 2) Vocational guidance
- 3) Study of personality - Intelligence is an important component of one's personality
- 4) Modern Intelligence tests have also helped us to discard old ideas that the male sex is superior to the female in intelligence and that a particular race or a community as a whole is superior to the other races or communities in intelligence.

(*Sex differences:- Boys and girls differ significantly in certain specific abilities. In overall intelligence both are equal, the average I.Q. of boys is the same as the average I.Q. of girls).

Personality

Allport : "personality is the dynamic organization within an individual of psycho - physical system which determine his unique adjustments to his environment".

Jung: Typology - Introverts, extroverts

Introverts: react negatively to situations or try to withdraw inwardly - reflective

Extroverts : react positively - outwardly expressive active in making social contacts

Most individuals are neither extreme extroverts, nor extreme introverts but somewhere in the middle; they are called ambiverts.

Allport - Vernon values

Six fundamental life areas are indicated

- 1) Theoretical (intellectual pursuits)
- 2) Economic (pragmatic and practical)

- 3) Aesthetic (form and beauty)
- 4) Social (love of people)
- 5) Political (power over others)
- 6) Religious (human life in the light of religious and moral values)

CATELL 16PF

A	reserved.....	outgoing
B	less intelligent.....	more intelligent
C	affected by feelings.....	emotionally stable
D	submissive.....	dominant
F	Serious	happy-go-lucky
G	expedient.....	conscientious
H	timid	venturesome
I	tough minded.....	sensitive
L	trusting	suspicious
M	practical	imaginative
N	forthright	shrewd
O	self- assured.....	Apprehensive
Q1	Conservative	experimenting
Q2	group - dependent.....	self -sufficient
Q3	uncontrolled.....	controlled
Q4	relaxed.....	tense

Personality Profile

Psychologists sometimes attempt to represent personality integration graphically by means of a chart or profile. It is a picture of the personality organization of an individual.

Aptitude :

It is potential; it is revealed in performance. Aptitude has future reference in that it sets the limits of what a person will achieve when given the opportunity and training. Achievement, on the other hand, is actual performance; it is what a person does, regardless of his capabilities. Aptitude often exceeds achievement.

Attitude:

It is an inner state rather than an overt expression; it is basically a tendency to act; it is a mental set or readiness to act. It is an implicit response towards or away from an individual or social values. It is rated usually on a 5 point scale. (very favorable - favorable - indifferent - unfavourable - very unfavourable). Attitudes cannot be studied directly. In attitude scales we normally elicit opinion. Opinion is the verbal expression of attitude.

Sentiments:

When attitudes are given an emotional colouring they become sentiments. Sentiments are complex. They differ from physical needs in that they arise in social interaction; they are learned rather than innate. Unlike attitudes which are subject to change, sentiments are powerful foci of concern for the individual and may last for a life time.

Sentiment of self-esteem:

The integrating sentiment in all normal people is the sentiment of self-regard or self-esteem. This sentiment gives rise to the manner in which an individual responds to the image held of him by others. Self-esteem is present in the personality make up of every individual. A sentiment extends beyond itself to include all those values important to the individual - family, nation, profession, friends. Whatever the person values as being part of himself will be loved, protected and defended, for in these attitude the person is, in effect, defending himself.

ENTERING BEHAVIOUR

Entering behaviour is where the instruction must begin.

Terminal behaviour is where the instruction concludes.

ENTERING BEHAVIOUR

as depicted by entering
performance

TERMINAL BEHAVIOUR

as tested by terminal
performances

Two characteristics of statements of entering behaviour

- 1) It refers to specific observable performance
- 2) Its general comprehensible nature

Related concepts of entering behaviour are - readiness, maturation, individual differences and personality.

1. readiness — the adequacy of the students' existing capacity in relation to some instructional objectives e.g.- reading readiness
2. maturation — refers to the biological growth which occurs largely under the influence of heredity, i.e. capabilities occurring without the benefit of training. (readiness is a product of both training or learning and maturation)
3. individual differences — knowledge about individual differences helps the teacher to locate areas of entering behaviour in which students may be deficient. e.g. I.Q. for predicting academic success.
4. Personality — knowledge of personality structures and processes, when tied to observable behaviour, may help the teacher define his instructional responsibilities or functions.

Classification of entering behaviour which have relevance to and practical application in the design of instruction are -

- 1) learning sets
- 2) learning abilities and
- 3) learning styles

(1) Learning sets - 2 types

- 1) learning to learn
- 2) learning set and learning structure

Gagne defines learning sets as the capabilities the student possesses at any given stage in the learning of a given task - they are directly measurable as performances.

The most basic and general capabilities the student requires are the capabilities in learning to learn.

1) **Learning sets** are more specific and are defined in relation to particular instructional objective and when they are hierarchically related, they are learning structures.

2) **Learning abilities** - the various processes by which the individual acquires new performances are learning abilities. Students may differ in pace of learning and in their susceptibility to factors which cause forgetting like retroactive inhibition, proactive inhibition and response competition (Jonson 1965).

3) **Learning styles** - are personal ways in which individuals process information in the course of learning new concepts and principles. Two types of learning styles are conceptual tempos and selection strategies.

Conceptual tempos - some have impulsive fast tempo and others show reflective tempo.

The study on reflection - impulsivity dimension by Kagan (1965) reports:

- 1) reflection tends to increase with age as does accuracy.
- 2) The tendency to display fast or slow decision times stays relatively stable upto 20 months
- 3) The tendency towards reflection or impulsivity shows in the performances of many tasks - selecting responses or providing correct response.
- 4) the disposition seems to be linked to some basic aspects of the child's personality.

The impulsive children can be trained to be reflective under two specially designed conditions. a) normal nurturant condition i.e. tutor comments positively. b) adult identification condition, i.e. getting the child to identify himself with tutor, who is reflective.

Implication of Kagen's studies :

- 1) The teacher should adjust his procedure and tempo to accommodate the two different modes of teaching.
- 2) The teacher should avoid the tendency of viewing the reflective child as slower and should not punish the impulsive child who gives incorrect answers.
- 3) The tempo of the teacher should be tailored to the tempo of the child.

Selection strategies:

James Bruner and associates (1956) describe various ways in which individuals can learn concepts - these methods, called selection strategies, control the order in which examples and non examples of a concept appear.

Purposes :

- 1) they maximize the opportunity to obtain useful information about the concept,
- 2) they reduce the strain of assimilating and keeping track of information
- 3) they regulate the amount of risk we take in reaching a solution.

Selection strategies - Travers (1963)

- 1) **Conservative focusing** - the individual uses an example of the concept as a focus and changes one attribute of the examples at a time to find those attributes which are essential.
- 2) **Focus gambling** - The individual uses a focus example but changes more than one attribute at a time.
- 3) **Simultaneous scanning** - formulating several hypothesis and deciding which one to keep and which one to drop as he comes across examples.
- 4) **Successive scanning** - testing a single hypothesis at a time. The teacher should adjust the selection strategy to the ability of the child, for e.g., simultaneous scanning needs more ability than conservative focusing. Impulsive students with fast tempo are attracted by strategies involving higher risk like focus gambling and simultaneous scanning.

The instructional use of entering behaviour-

Different entering behaviour is required for different learning, for e.g. concept learning requires an entering behaviour in previous learning of verbal association and discrimination.

Principle learning requires previous learning of concepts.
States your objective - determine and assess entering behaviour
- if student lacks the necessary entering behaviour, either

- 1) increase entry behaviour by review exercises or
- 2) begin at an earlier point in instruction or
- 3) change instructional objective by lowering the standard.

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SESSION - 5

WORKSHOP

Objectives

To expose the participants to

- (i) Aptitude tests
- (ii) Interest inventories
- (iii) Attitude scales
- (iv) Personality inventories;
- (v) 'self- exploration' exercise by using the '12PTI'.

The following standard materials are distributed among the participants for their perusal and a brief note of explanation on their mode of administration, scoring and interpretation given. The purpose, as already stated, is only an exposure which is likely to motivate the participants to know more about such materials.

- 1) DAT (Differential Aptitude Tests - Verbal numerical , abstract, spatial, mechanical, clerical, language usage)
- 2) Minnesota Teacher Aptitude Inventory
- 3) Money's Problem check list
- 4) SSHA (survey of study Habits and attitudes)
- 5) Thurstone's interest Schedule
- 6) Minnesota Vocational Interest Inventory
- 7) Edwards Personal Preference Schedule

For 'self - exploration ' of their own personality traits a personality inventory (12 PTI) is administered. The method of scoring is briefly explained. The participants themselves score their Inventories. On the basis of the scores obtained by them in each of the 12 traits analysed they draw their profiles.

12PTI (Personality Trait Inventory)

Method of scoring

I Items with odd numbers (1, 3, 5, 47)

scoring scale :- 3,2,1,0 for encircled A,F,O,Respectively

II Items with even numbers (2,4,6,...48)

scoring scale :- 0,1,2,3,for encircled A,F,O,N, respectively

TRAITS AND CORRESPONDING ITEMS

S.No.	Trait	Positive items (corresponding numbers)	Negative items (corresponding numbers)
1.	Self - Confidence	1,13	26,38
2.	Persistence	25,37	2,14
3.	Co-operativeness	3,15	28,40.
4.	Emotional Stability	27,39	4,16
5.	Emotional control	5,17	30,42
6.	Sense of Responsibility	29,41	6, 18
7.	Courtesy	7,19	32,44
8.	Sociability	31,43	8,20
9.	Leadership	9,21	34,46
10.	Initiative	33,45	10,22
11.	Attitude to life	11, 23	36,48
12.	Attitude to self	35,47	12,24.

Here is a list of 48 statements. Read each statement and encircle the appropriate letter which approximates your situation

A = Always

F = Frequently

O = Occasionally

N = Never

1. I trust my ability
2. I give up my task at the first difficulty
3. I am willing to put aside personal benefit to join group work
4. I feel my emotions under control
5. I keep my emotions under control
6. I do not accept responsibility of any kind
7. I am polite to others irrespective of age
8. I feel uncomfortable when people are around me
9. I am willing to take the lead on the task in which I am proficient
10. I am dependent on others
11. I am hopeful of my future

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 12. | I am ashamed of myself when I do something wrong | — | A | F | O | N |
| 13. | I feel at home in new situations | — | A | F | O | N |
| 14. | I feel restless when I encounter difficulty in the execution of a task | — | A | F | O | N |
| 15. | I participate in groupwork overlooking personal inconveniences | — | A | F | O | N |
| 16. | I feel elated at the slightest measure of success | — | A | F | O | N |
| 17. | I have a refined way of expressing emotions | — | A | F | O | N |
| 18. | When I am compelled to accept responsibility I put the blame on others for failure— | — | A | F | O | N |
| 19. | I am polite to others irrespective of status | — | A | F | O | N |
| 20. | I feel I am avoided by others | — | A | F | O | N |
| 21. | I get co-operation from others | — | A | F | O | N |
| 22. | I imitate others even when it is not necessary | — | A | F | O | N |
| 23. | People ironed me are good and kind | — | A | F | O | N |
| 24. | I feel myself worthless when others blame me | — | A | F | O | N |
| 25. | I persist in my task till it is completed inspite of difficulties | — | A | F | O | N |
| 26. | I am nervous in the presence of strangers | — | A | F | O | N |
| 27. | I am cool and calm when I receive happy news | — | A | F | O | N |
| 28. | I do group work unwillingly | — | A | F | O | N |
| 29. | I accept responsibility willingly and discharge it to the best of my ability | — | A | F | O | N |

- | | | | | | | |
|-----|--|---|---|---|---|---|
| 30. | I give expression to my emotions violently | N | O | F | A | — |
| 31. | I find pleasure in company | N | O | F | A | — |
| 32. | I am impolite even to those superior to me in age | N | O | F | A | — |
| 33. | I show originality and independence in thought | N | O | F | A | — |
| 34. | I avoid all leadership | N | O | F | A | — |
| 35. | I know my strengths | N | O | F | A | — |
| 36. | I feel others exploit my services | N | O | F | A | — |
| 37. | I am not distracted when I am preoccupied with a task | N | O | F | A | — |
| 38. | I am different even in familiar situations | N | O | F | A | — |
| 39. | I am cool and calm even when I receive sad news | N | O | F | A | — |
| 40. | I do group work only when compelled | N | O | F | A | — |
| 41. | I accept blame for failure to carry out the duty allotted to me | N | O | F | A | — |
| 42. | In an emotional situation gestures and bodily behaviour overwhelm me | N | O | F | A | — |
| 43. | I am sought after by others | N | O | F | A | — |
| 44. | I am impolite even to those superior to me in status | N | O | F | A | — |
| 45. | I show originality and independence in action | N | O | F | A | — |
| 46. | I am content to be an ordinary member of a group | N | O | F | A | — |
| 47. | I know my weaknesses | N | O | F | A | — |
| 48. | I feel others deceive me | N | O | F | A | — |

SESSION - 6

THEME - MOTIVATION - MASLOW 'S HIERARCHY OF NEED

Objectives :

On completion of this unit the participants should be able to

- state the various need levels in Maslow's hierarchy
- state how these levels are interrelated and structured hierarchywise
- state the definition of motivation with this hierarchy as a frame of reference
- find where they stand in each of the five hierarchical needs of Maslow on the systems of analysis of the results of 'Motivation Feedback Opinionnaire' administered.
- state the implications of Maslow's need - gratification theory.

At the commencement of the session the Motivation Feedback Opinionnaire is administered to the participants. They also score their opinionnaire and draw their profiles - indicating their position in each level of Maslow's hierarchy and thereby pinpointing their strengths and weaknesses. The participants develop self awareness of not only their motivation techniques but their degree of fulfillment of the five hierarchical needs. Only after this exposure, lecturette on Maslow's theory and subsequent discussion follow.

MOTIVATION FEEDBACK OPINIONNAIRE

Part I

Directions

The following statements have seven possible response:

Strongly agree	Agree	Slightly agree	Don't know	Slightly disagree	Disagree	Strongly disagree
+3	+2	+1	0	-1	-2	-3

Please mark one of the seven responses by circling the number that corresponds to the response that fits your opinion. For example: if you 'strongly Agree', circle the number '+3'.

Complete every item; You have about 10 minutes to do so.

1. Special increments should be given to employees who do their jobs very well. +3 +2 +1 0 -1 -2 -3
2. Better job descriptions would be helpful so that employees will know exactly what is expected of them. +3 +2 +1 0 -1 -2 -3
3. Employees need to be reminded that their jobs are dependent on the Institution's ability to compete effectively. +3 +2 +1 0 -1 -2 -3
4. A supervisor should give a good deal of attention to the physical working conditions of his employees. +3 +2 +1 0 -1 -2 -3
5. The supervisor ought to work hard to develop a friendly working atmosphere among his people. +3 +2 +1 0 -1 -2 -3.
6. Individual recognition for above standard performance means a lot to employees. +3 +2 +1 0 -1 -2 -3

7. Indifferent supervision can often bruise feelings +3 +2 +1 0 -1 -2 -3
8. Employees want to feel that their real skills and capacities are put to use on their jobs. +3 +2 +1 0 -1 -2 -3
9. The Institution's retirement benefits and stock programs are important factors in keeping employees on their jobs. +1 +2 +3 0 -1 -2 -3
10. Almost every job can be made more stimulating and challenging. +3 +2 +1 0 -1 -2 -3
11. Many employees want to give their best in everything they do. +3 +2 +1 0 -1 -2 -3
12. Administration could show more interest in the employees by sponsoring social events after - hours +3 +2 +1 0 -1 -2 -3
13. Pride in one's work is actually an important reward +3 +2 +1 0 -1 -2 -3
14. Employees want to be able to think of themselves as 'the best' at their own jobs. + 3 +2 +1 0 -1 -2 -3
15. The quality of relationships in the informal work is quite important to the group. +3 +2 +1 0 -1 -2 -3
16. Individual incentives would improve the performance of employees +3 +2 +1 0 -1 -2 -3
17. Visibility with upper management is important to employees +3 +2 +1 0 -1 -2 -3
18. Employees generally like to schedule their own work and to make job related decisions with a minimum of supervision. +3 +2 +1 0 -1 -2 -3

19. Job security is important to employees. +3 +2 +1 0 -1 -2 -3
20. Having good equipment to work with is important to employees. +3 +2 +1 0 -1 -2 -3

MOTIVATION FEEDBACK OPINIONNAIRE

Part II

Scoring

1. Transfer the numbers you circled in Part 1 to the appropriate places in the chart below;

Statement No.	Score	Statement No.	Score
10	—	2	—
11	—	3	—
13	—	9	—
18	—	19	—
Total	—	Total	—
(Self - Actualization Needs)		(Safety Needs)	
Statement No.	Score	Statement No.	Score
6	—	1	—
8	—	4	—
14	—	16	—
17	—	20	—
Total	—	Total	—
(Esteem needs)		(Basic needs)	

Statement No.	Score
---------------	-------

5	—
---	---

7	—
---	---

12	—
----	---

15	—
----	---

Total	—
-------	---

(Belonging Needs)

2. Record your total scores in the chart below by marking an 'X' in each row next to the number of your total score for that area of needs motivation.

	-12	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12
Self-Actualisation													
Esteem													
Belonging													
Safety													
Basic													
	Low use											High use	

Once you have completed this chart, you can see the relative strength of your use of each of these areas of needs motivation.

There is of course, no 'right' answer. What is right for you is what matches the actual needs of your employees and that, of course, is specific to each situation and each individual. In general, however, the "experts" tell us that today's employees are best motivated by efforts in the areas of Belonging and Esteem.

Acknowledgment to University associates, Publisher and Consultants, Lajolla , California.

Hierarchy of Needs:

All who have studied motivation all but one, have approached and studied motivation in the same way. They have taken non-producers (negative situation) and attempted to change them into producers (positive situations)

Oddly enough, most of the motivational work of these men has been modified by the one man who was different, Dr. Abraham Maslow. He was so different that he was and still is today the single, most influential man in motivation, over 30 years after he advanced his profound concept on the Hierarchy of Needs.

Dr. Maslow's approach to motivation is different from all others because he studied only fully motivated people in his research people who were already achieving success. Instead of trying to determine how to persuade non-producers to change and become producers (as others before him had done), he studied thousands of happy, positive - thinking, highly motivated people going about their normal daily routines on and off the job. He spent years finding out why these people were so highly motivated, what made them tick, how they got that why, and how they maintained this high state of motivation day in and day out.

His reasoning was this; if we could find how and why motivated people achieve this condition on their own steam, we should be able to analyse their attitudes and interpersonal techniques and achieve this same high state of motivation ourselves.

The result of his research startled the world of motivation and learning.

Maslow's Motivation Theory:

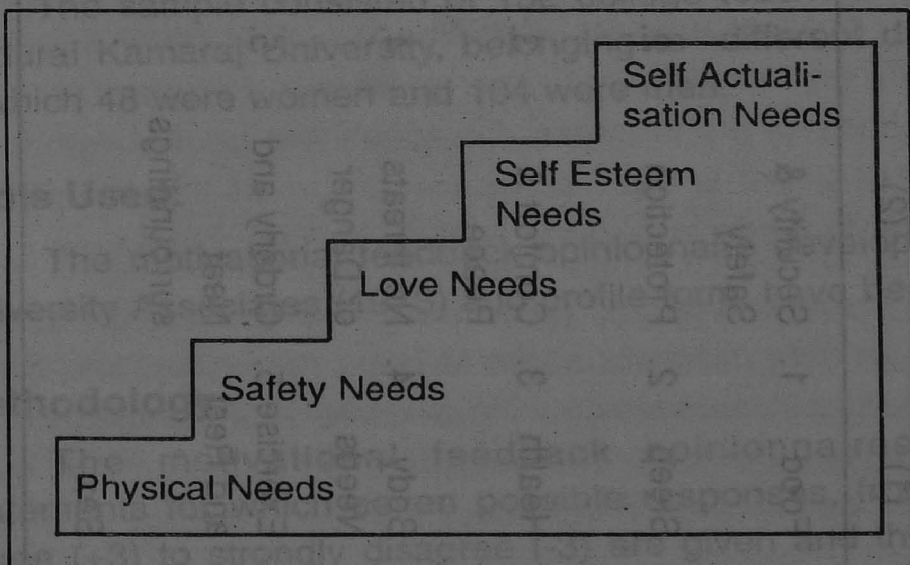
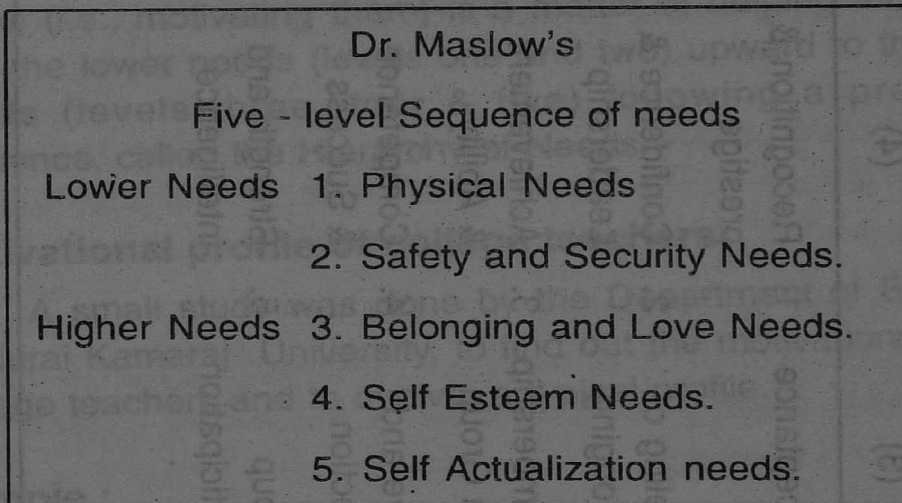
Dr. Maslow's research with these happy , highly motivated subjects showed that every endeavor or thought they had was acted out to gratify a combination of five major physical and or emotional needs. More importantly, his research showed three extremely significant points about these physical and emotional needs:

1. Some of the needs were stronger than others and thus more difficult to fill or gratify.
2. The filling of these needs had a very definite order of sequence; that is, some needs had to be dealt with before others could be filled.
3. As each need in the sequence become filled, a person would automatically seek out gratification of the next highest level, until the fifth and final level had been attained.

Persuading or forcing others to fill these needs "out of order" he concluded, was a major reason why some people were poor motivators and always encountered frustration, hostility, indifference, and a host of other negative reactions when they asked people to help them. On the other hand, if these physical and emotional needs were filled in the order indicated by his highly motivated' subjects, a person - any

person - would cooperate , follow positive ways of conductive himself, and move toward the high state of motivation as described by the fifth and final level.

Dr. Maslow arranged these physical and emotional needs into five level sequence,like a stair case (see the illustration below). The needs grouped on the first level have the greatest intensity and must be filled before you can step up to the next level. The needs on the second level must be dealt with before the needs on the third level will become important, and so on up the staircase to the needs on the fifth and final level.



PHYSICAL	SAFETY	LOVE	SELF ESTEEM	SELF ACTUALIZATION NEEDS
(1)	(2)	(3)	(4)	(5)
1. Food	1. Security & Safety	1. Acceptance	1. Recognition & prestige	1. Self fulfillment of Potential
2. Sleep	2. Protection	2. Feeling of Belonging	2. Confidence & Leadership	2. Doing things purely for challenge
3. Health	3. Comfort & Peace	3. Membership in a Group	3. Achievement & Ability	3. Intellectual Curiosity & Fulfillment
4. Body Needs	4. No threats or Danger	4. Love and affection	4. Competence & Success	4. Creativity & Aesthetic Appreciation
5. Exercise and Rest	5. Orderly and Neat surroundings	5. Group participation	5. Strength and intelligence	5. Acceptance of Reality
6. Sex				

The needs grouped on the first level have the greatest intensity and must be filled before you can step up to next level.

Here's another interesting discovery that Dr. Maslow made. He observed that his highly motivated subjects showed greater satisfaction and interest in helping others. And interestingly enough, less motivated people showed much less concern and interest for others, were more self-centered, and tended to use negative and socially unacceptable means in filling their needs. From these observations, Dr. Maslow made this conclusion:

Getting people to cooperate, work together, and help others (i.e., motivating them) is a matter of helping them move from the lower needs (levels one and two) upward to the higher needs (levels three, four & five) following a prescribed sequence, called the Hierarchy of Needs.

Motivational profile of college teachers

A small study was done by the Department of Education, Madurai Kamaraj University, to find out the motivational level of college teachers and to evolve a typical profile.

Sample :

The sample consisted of 152 college teachers affiliated to Madurai Kamaraj University, belonging to different disciplines, of which 48 were women and 104 were men.

Tools Used:

The motivational feedback opinionnaire developed by the University Associates (1973) and profile form, have been used.

Methodology:

The motivational feedback opinionnaires has 20 statements for which seven possible responses, from strongly agree (+3) to strongly disagree (-3) are given and the teachers

were asked to encircle the number that corresponds to the response that fits their opinion. Each need system has been spelt out by four statements. After marking, the teachers were asked to find their total scores for each need system by adding statement scores and the total scores of each need system was recorded in the given profile form (Page 90)

Each teacher completed the chart and could read from the chart the relative strength of his/her use of each of these areas of needs motivation.

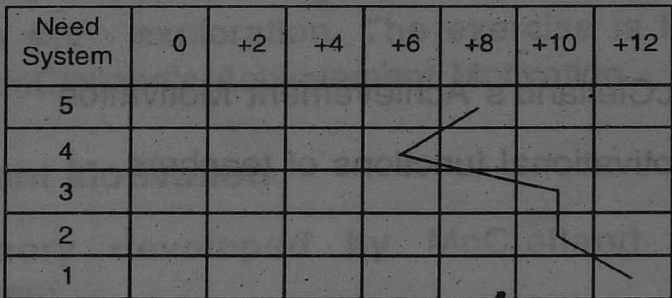
Findings.

An analysis of the profile forms of the college teachers shows that:

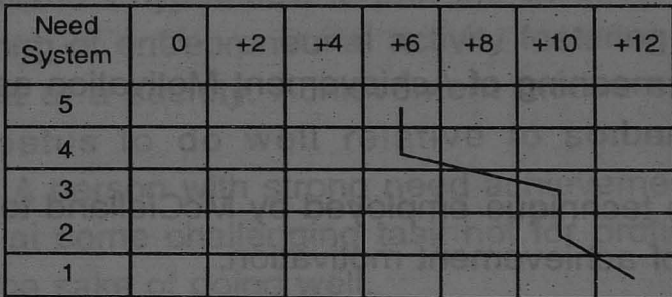
1. The college teachers seem to be quite satisfied to the first three levels, viz. (i) basic needs, (ii) security and protective rules, and (iii) friendship, group membership, etc.,
2. The typical profile of men teachers is different from that of the typical profile of women teachers in that women teachers seem to be better self - actualized in teaching than men teachers.
3. The typical profiles also show all teachers have high need in the area of esteem. Fulfillment at this level depends greatly on the ability of other to respond appropriately to the efforts of the teachers. Obviously the trouble seems to be that there is lack of appreciation of the individual teacher's efforts to perform well by his/her colleagues.
4. Though there seems to be some lack of satisfaction at this level, women teachers seem to have moved up and have succeeded to some extent to become more actualized or self- fulfilled persons. The interpretation could be that they do get appreciation at least from a section of their clientele.

Typical Profiles:

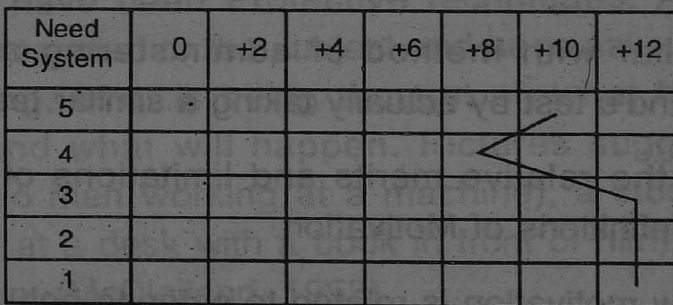
ALL



MEN



WOMEN



Significance of the Study:

The sample of college teachers studied in this project were all teacher candidates who came to the university to do their M.Phil. They seem to be quite satisfied regarding their physical needs, security needs and belonging needs. Their perception is that there is lack of appreciation and recognition of their efforts and merits and that they do not have prestige. It is up to the administrators and heads of departments to take note of this and help the teachers move up in the need hierarchy.

SESSION - 7

Themes:

- (i) McClelland's Achievement Motivation
- (ii) Motivational functions of teachers

Objectives:

On completion of this unit the participants should be able to

- give the meaning of Achievement Motivation as defined by McClelland.
- state the technique employed by McClelland to assess the degree of achievement motivation.
- state the reasons for employing the technique—state the educational significance of his theory.
- be familiar with method of administering and scoring McClelland's test by actually taking a similar test.
- discuss the relative merits and limitations of some well known definitions of Motivation.
- state how motivation is related to entering behaviour
- identify the motivational functions of teachers.
- suggest ways and means of increasing motivation in the class room.

At the commencement of the session the participants are given a test similar to McClelland's - a Projective test consisting of three pictures each exhibited separately for a few minutes and requiring the subjects to write a very short story by way of answering the leading questions which accompany the exhibition of the pictures.

When the participants have finished with their stories they are given the sheet outlining method of scoring. This is an exercise on self - exploration. The exercise is followed by a lecture on McClelland's Achievement Motivation.

Achievement Motivation

A theory developed by McClelland (1961) and Atkinson(1965)

McClelland's hypothesis is that the achievement motive is the mainspring of entrepreneurial activity fostering the economic development of a society. Achievement motive can be defined as the impetus to do well relative to some standard of excellence. A person with strong need achievement wants to be successful. at some challenging task not for profit or status but merely for the sake of doing well.

The most popular methods for measuring achievement motivation have been Protective techniques. An ambiguous picture is presented to the subject and he is asked to write what is happening, what is being thought of, what has led to this situation and what will happen. Pictures suggested a work situation(two men working at a machine), a study situation (a boy seated at a desk with a book in front of him) and a father - son situation. (McClelland, 1953)

McClelland found that "too much pressure or too much perceived pressure may result in low achievement motivation; other variables which are influential are sex of the child, size of the family and occupation of father; achievement motivation depends upon culture".He further observed that high achievers had developed an expectation of mastering, challenging and difficult performances. On the basis of his experiments with businessmen in India in 1965, he found the attempts to develop the motive to achieve are most likely to succeed if the individual meets the following conditions:

1. Understands that developing the new motive is realistic and reasonable.
2. Can describe and clearly conceive the various aspects of the motive.
3. Can link the motive to related actions and to events in his everyday life.
4. Sees the motive as an improvement of his self-image.
5. Commits himself to achieving concrete goals related to the newly formed motive.
6. Keeps record of his progress towards goals.
7. Works in an atmosphere in which he feels supported and respected.

Implication for education:

Motivation can be increased by increasing need for achievement; motivation can be developed in stages, through training programmes.

Training in behaviour such as how to take moderate risks, how to develop self confidence in one's own ability to solve long range problems, how to be challenged by moderately difficult tasks, how to look for feedback in one's long range performance, and how to defer gratifications would help to develop a high need for achievement.

ACHIEVEMENT MOTIVATION EXERCISE

SCORING

By achievement goal is meant success in competition with some standard of excellence ie. the goal of some individual in the story is to be successful in terms of competition with some standard of excellence.

We find three types of stories:

1. Competition with a standard of excellence

- a) One of the characters is ACTUALLY stated to be concerned with winning or doing well in competition with others.
- b) One of the characters is engaged in competitive activity and his feelings of concern are not stated, but his emotions are described.
- c) Although there is no competition, the story describes a self imposed requirement for good performance.

2. Long term Involvement

One of the characters is working toward the attainment of a long term achievement goal.

3. Unique Accomplishment

One of the characters is involved in accomplishing other than a common daily task, one that will mark him a personal success.

Write a summary (sheet attached).

SUMMARY SHEET

No. of words in the story as written down ()

No. of need - achievement contained in the story ()

Achievement of the following kind(s) ()

1. Competition with a standard of excellence ()

2. Long term involvement ()

3. Unique accomplishment ()

Write a summary (sheet attached).

MOTIVATIONAL FUNCTIONS OF TEACHERS

Definitions of motivation:

"Motivation refers to those factors which increase and decrease the vigour of an individual's activity"

JOHN DECECCO

"By human motivation we mean, the drive, energy or degree of activity that an individual displays",

K.LOVELL

"Motivation is a factor which sensitizes and activates the organism towards an excitation"

DAVID RYAN

Motivation in learning:

In education parlance, vigour is often called effort. In terms of effort, the study of student motivation searches for those factors which increase the students' efforts to make desirable responses.

Motivation is related to learning itself. The amount of effort, energy and vigour the student invests in any performance will be one factor in determining how well he performs.

Motivation and Entering behaviour:

Any procedure a teacher may use to increase student motivation must account for the students' entering behaviour. Students differ in their needs, desires, capacities, abilities, aspiration, expectancies, valences, anxiety etc, that there are no universal prescriptions and universal procedures for increasing student motivation. One man's meat may be another man's poison. Four concepts, namely, arousal, expectancy, incentives and punishment have been identified by research as factors which account for motivation.

Arousal describes the general state of excitability of an organism- the general level of alertness, responsiveness, wakefulness or vigilance. Optimum levels of arousal avoid the extremes of monotony and intense stimulation.

Expectancy is a momentary belief that a particular outcome will occur; it is a cognitive anticipation usually aroused by cues in a situation that performance of some act will be followed by a particular consequence. (if I study, I will pass the exam)

Incentives are good objects which become associated with certain stimuli and responses. The associated stimuli trigger off anticipations and these learned anticipations motivate our behaviour.

Punishment may effectively suppress undesirable responses. Deviant behaviour can be controlled by use of rewards and punishment.

Motivational functions of the teacher:

In terms of the factors referred to, a teacher has four motivational functions to perform - arousal function, expectancy function, incentive function and disciplinary function.

arousal function- To energize the students in their learning behaviour, teachers should guard against momentary boredom or sleepiness among the students, as well as prevent the students from becoming frantic or over - anxious. Teachers should provide enough stimuli to think about and do.

Educational experimentation has brought to light the finding that low anxiety or cool students perform better when they are facing a task with the prospect of assessment whereas high anxiety students perform better when they are not

threatened with evaluation following a difficult learning task. The point to remember here is that anxiety has both facilitating as well as retarding effects on individual behaviour. Hence proper regulation of degree of anxiety and not its total elimination from the learning situation is suggested. Frustration is also related to arousal; certain level of frustration is actually stimulating and energizing. A student who can do 90% of test items well, is actually stimulated by the 10% items which initially fail and frustrate him. The educational significance of frustration is that the teacher should carefully determine the difficulty level of the problems and the projects he assigns to his students.

Teachers can use a variety of ways to increase levels of arousal and maintain the attention of the class; by providing free conditions of learning - like Montessori method where absolute freedom is given to the child to learn by himself, methods of observation, discovery approach in learning - it is possible to get better response. Research by Torrance and Flanders point out that in learner-centred system, students are more task oriented, have less anxiety and are less emotional whereas in teacher-centred system, students are more hostile, aggressive, and more emotionally disturbed.

In Programmed Instruction, we have one of the most controlled teaching sequences and situations. It has been found that students with high achievement motivation profit from the immediate knowledge of results provided by the Programmed learning system. High anxiety students feel that the highly structured teaching like Programmed instruction is less anxious than loosely structured classroom teaching. A teacher should practice a variety of techniques in structuring and pacing the learning situations to increase or decrease the levels of arousal of individual students.

Expectancy function

A belief that a particular outcome will occur.

In all goal directed effort, there is this matter of expectancy. Remote goals represent the students' long range expectancies for career, continuing education etc. The course guide provides with definite expectancies and the specific objectives of the teaching units provide him with the much needed immediate expectancies. Students' level of expectancy is related to their aspiration levels in the following ways;

- 1) Post - success conditions the students to more realistic increases in their expectancies.
- 2) Post- failures over a time conditions the students to lower expectancies.
- 3) Some unrealistically raise expectancies almost as if the hope of success itself would bring success.

The expectancy function of the teacher requires him to relate intermediate expectancies to immediate and remote goals of the students to energize the students' full effort in learning. The teacher must some times change expectancies and deliberately mismatch them to increase behavioural vigour. Incongruity, complexity and surprise have been found to be very good in stimulating students.

Incentive function

Incentives are actually goal objects. They may be concrete or symbolic. The vigour of an activity is affected by the effect of the incentive provided. Teacher's praise, prize, merit certificates etc., provide satisfaction and therefore positive incentives. The negative ones provide a sense of relief for e.g., submitting home assignment in time to avoid teacher's rebuke or punishment.

Competition can be used as an incentive especially for students of higher ability. The teachers should use incentive function judiciously to suit the ability of the students. Praise, encouragement, grades, competition, co-operation, feedback of test results - all these have incentive value if properly used.

Disciplinary function

Punishment is a stimulus the individual seeks to escape or avoid. Suppression of the undesired response and the provision of an alternately rewarded response may be the most effective procedure. Artful combination of punishment and reward as a disciplinary technique is called restitution. As punishment has a ripple effect, non-threatening techniques should be used. Just as we include use of anxiety, frustration, incentives and competition, we should include punishment also in teachers repertory.

Increasing motivation in the class room

The best type of motivation is intrinsic motivation i.e. when the incentive is internalised, when the immediate goal is - wanting to participate in the activity for the intrinsic value it has for the individual - the individual is motivated best. If the teacher can incite in the students a desire to learn, i.e. motivate them towards learning for its own sake, more than half the battle is over.

By providing a 'facilitating set'- willingness or readiness to learn by making learning meaningful - by basing learning on previous experience, presenting the logical relationship of materials, pointing out the probable application of learning and by providing an over view of the material to be learned at the beginning - it is possible to increase the motivation of the students.

interests, attitudes and purposes should be developed; the teacher should not only take advantage of present motives but should direct the development of others through problem method, project method etc.,

Definite instructional objectives are necessary if motivation is to be effective. The goals should not be too distant and assignments should not be vague. In terms of standards, length and time allotted, assignments should be adequate to the capacity of the students

Rewards and praise may be affective incentive for some students in certain learning situations. Commendation, personal attention and recognition of progress are good incentives. Care should be taken in not using praise too often or undeserved.

Students work harder at tasks if the tasks measure their real worth as person. Ego involvement or self concept of the students can be effectively used as powerful motives.

Punishment has limited value in motivating learning. A judicious use of reprimands and punishments may serve as aids to learning if they are appropriate.

Teacher's personality traits also play an important role in motivation. Teachers who are liked and respected contribute directly to pupil learning, as pupils seek to obtain teacher's approval and to identify themselves with the teacher.

More inclusive and broader aspects of experience like extra - curricular activities should also be taken into account in applying motivation.

Recent research by Atkinson and McClelland has developed the theory of achievement motivation. According to their theory, two major ways of increasing motivation are (1) to increase the need for achievement or lower the fear of failure (2) to increase the expected probability of success. The theory

denotes how a person can learn to take moderate risks, how to develop self confidence in one's long range performance, and how to defer gratification, in short, how to have a high need for achievement.

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SESSION - 8

PERFORMANCE ASSESSMENT - I

Part A

(Time: 15 mts)

Directions :

Following you will find 25 items. Each item has four responses; choose the most appropriate or the best response and encircle the corresponding letter (A,B,C or D) in the Response sheet. Do NOT write anything in this booklet. This is reusable. Return this booklet along with your Response Sheet soon after you have finished answering all items.

Do not guess. Marks will be deducted for wrong answers. For every three wrong answers you stand to lose one mark. Now go ahead.

1. Educational Psychology is best defined as
 - A. Scientific study of human learning
 - B. Systematic analysis of teachers' behaviour
 - C. Application of psychology to the field of education
 - D. Study of psychological aspects of educational situations.
2. The first and foremost focal area in a teaching - learning situation is
 - A. the teacher
 - B. the learner
 - C. the subject matter
 - D. the method

3. Education is the dynamic side of Philosophy and Philosophy is the — side of Education
 - A. static
 - B. contemplative
 - C. sceptical
 - D. none of the above
4. Teaching is
 - A. an art
 - B. a science
 - C. a skill
 - D. all of the above
5. Behavioural objectives must be spelt out in
 - A. observable terms
 - B. unambiguous terms
 - C. unequivocal terms
 - D. precise terms.
6. The domain of human behaviour which deals with 'attitudes' is
 - A. affective
 - B. cognitive
 - C. psychomotor
 - D. all of the above
7. Which one of the performances given specifies the level of Evaluation in Bloom's Taxonomy?
 - A. translating verbal materials into graphic form.
 - B. critically appraising the content of a document
 - C. predicting an event following a trend
 - D. summarising the judgment stated

8. A teacher attempts to motivate his students by matching problem difficulty with student ability. On which principle is he employing his method?
 - A. increasing the arousal level
 - B. increasing the probability of success
 - C. offering incentives
 - D. increasing aspiration level
9. Self-actualization is almost synonymous with
 - A. achievement of status
 - B. fulfillment of potential
 - C. recognition of self - competence
 - D. self - acceptance
10. When a student is capable of designing a course of action in an organised and systematic way, he is said to have reached this level of Bloom's Taxonomy.
 - A. Synthesis
 - B. Analysis
 - C. Comprehension
 - D. Application
11. Adolescence refers to
 - A. the period between '13' and '19'
 - B. transition from childhood to youth
 - C. ten years before adulthood
 - D. the period of 'storm' and 'strife'
12. A major need of an adolescent is
 - A. freedom from the adult world
 - B. economic self - sufficiency
 - C. rich diet and vigorous exercises
 - D. an effective teacher

13. 'I.Q.' is an index of
 - A. intellectual attainments
 - B. degree of intelligence
 - C. one's creativity
 - D. the content of intellect
14. The ability to understand and deal with people is called
 - A. abstract Intelligence
 - B. social Intelligence
 - C. Creative Intelligence
 - D. Concrete intelligence
15. One who is inwardly reflective is identified as an
 - A. extrovert
 - B. introvert
 - C. ambivert
 - D. Pervert
16. Aptitude of an individual refers to his
 - A. achievement
 - B. Potential
 - C. motivation
 - D. learning readiness
17. Attitude means
 - A. mode of behaviour
 - B. cluster of opinions
 - C. tendency to act
 - D. overt expression

18. Personality profile refers to the picture of
 - A. the attitude of an individual
 - B. the achievement of an individual
 - C. the organization of one's individuality
 - D. the opinion held by the individual of himself
19. The best way to modify the behaviour of an individual is
 - A. to appeal to his self-esteem
 - B. to reward his good actions
 - C. to punish his bad actions
 - D. to prevent him from bad company
20. Which among the following is the best use of Intelligence Tests?
 - A. Criterion for promotion
 - B. Criterion for detention
 - C. Criterion for guidance
 - D. Criterion for achievement
21. In what way was Maslow's study basically different from previous studies?
 - A. He identified need hierarchies.
 - B. He studied highly motivated people
 - C. He was the first to hit upon the concept of self - actualization.
 - D. He was humanistic in his approach.
22. 'Learning ' can be best defined as the process of effecting
 - A. change in behaviour
 - B. acquisition of knowledge
 - C. reinforced practice
 - D. development of skills

23. No teacher motivates his students; students are motivated by their
- A. Peers
 - B. Parents
 - C. needs
 - D. achievements
24. To energize students in learning is a/an — of the teacher
- A. arousal function
 - B. expectancy function
 - C. incentive function
 - D. disciplinary function
25. To undertake a task for its own sake is called
- A. extrinsic motivation
 - B. achievement motivation
 - C. intrinsic motivation
 - D. affiliation motivation

PERFORMANCE ASSESSMENT

Part - A

RESPONSE SHEET (Key)

Name :-

Subject :-

1.	A	B	C	D	2.	A	B	C	D
3.	A	B	C	D	4.	A	B	C	D
5.	A	B	C	D	6.	A	B	C	D
7.	A	B	C	D	8.	A	B	C	D
9.	A	B	C	D	10.	A	B	C	D
11.	A	B	C	D	12.	A	B	C	D
13.	A	B	C	D	14.	A	B	C	D
15.	A	B	C	D	16.	A	B	C	D
17.	A	B	C	D	18.	A	B	C	D
19.	A	B	C	D	20.	A	B	C	D
21.	A	B	C	D	22.	A	B	C	D
23.	A	B	C	D	24.	A	B	C	D
25.	A	B	C	D					

Part - B

(Time 30mts)

Answer EACH of the following questions in a paragraph not exceeding half a page (about 75 words)

1. 'Incidental and Casual approach to teaching must be replaced by a planned and conscious approach. Why?
2. What is the educational implication of Maslow's Motivation Theory?
3. State one general educational objective in a unit of your interest and split it into 3 Specific instructional objectives.
4. Identify three primary; mental abilities (of Thurstone) with which your discipline is loaded.
5. Identify three areas in the life of an adolescent learner where there is likely to be conflict between peer - code and adult code.

(5 X 3 = 15 Marks)

The Dictionary of Education gives the following definitions

SESSION - 9

- Themes :** Curriculum development
Principles of Curriculum construction
Planning for teaching
- Objectives :** (i) To introduce the participants to the modern meaning of Curriculum Development.
(ii) To expose them to a basic model of curriculum Design process.
(iii) To enable them to develop course plans, units plans and lesson plans.

CURRICULUM PROCESS

The concept of curriculum is not that new or unfamiliar to us. What is perhaps not familiar is the right connotation which it carries. People often use the terms Syllabus and Curriculum synonymously without realising the significant difference between them.

The concept 'curriculum' is so flexible that it is possible to have different definitions.

Definitions of curriculum

Descriptive Those aspects of schooling which have been deliberately Planned comprises the curriculum.

Prescriptive A curriculum is a sequence of content units arranged in such a way that the learning of each unit may be accomplished as a single act, provided the capabilities described by specified prior units in the sequence have already been mastered by the learner. Curriculum is a judiciously organised subject matter. It is an organized set of processes, procedures, programmes and the like which are applied to learners in order to achieve certain kind of objectives.

Scientific Curriculum is purely and simply a teaching strategy. A teaching strategy is, in turn, concerned of as being a series of goal-oriented activities or procedures to be carried out in the context of a syllabus or a body of subject matter.

The Dictionary of Education gives the following definitions.

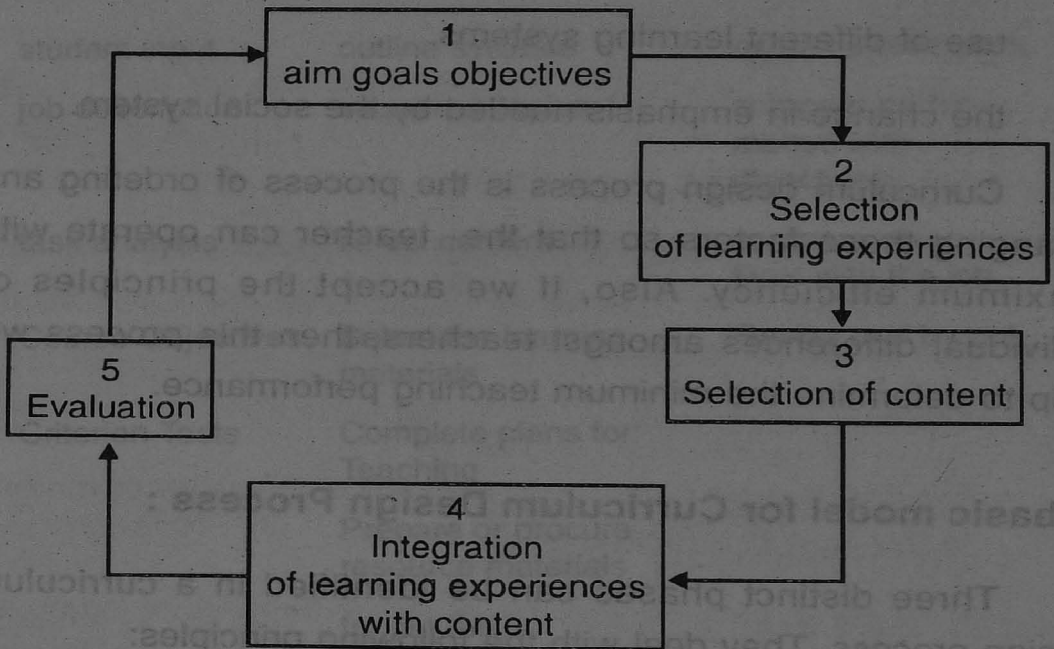
- Curriculum is** (i) a systematic group of courses or new sequence of subjects required for graduation or certification in a major field of study;
- (ii) a general overall plan of the content or specific materials of instruction that the school should offer the student by way of qualifying him for graduation or certification or for entrance into a professional or vocational field;
- (iii) a body of prescribed educative experiences under school supervision, designed to provide an individual with the best possible training and experience to fit him for the society of which he is a part or to qualify him for a trade or a profession.

All of these definitions, we can see, show common attributes a curriculum contains.

1. a statement of an assumption of the aims of one's education, of the kind of youngsters and adults one is trying to produce.
2. a statement of the context of what the students are to learn and experience.
3. a statement of the methods that one must employ to achieve these aims.
4. a statement of how the work should be evaluated.

Curriculum Design process

Curriculum process can be depicted as :-



The determinants of the curriculum are: the society served by the curriculum, the nature of the learner and the intellectual structure of the subject. No change in the curriculum will have any meaning unless the teacher understands it and accepts it. A good curriculum should be flexible enough to give the ablest teachers freedom to experiment and blaze the trail and yet rigid enough to give the average teachers the guidance and support they need.

Some of the factors which need to be considered for curriculum development process are:

- 1) the number of students entering the educational system
- 2) improved abilities of students entering the system.

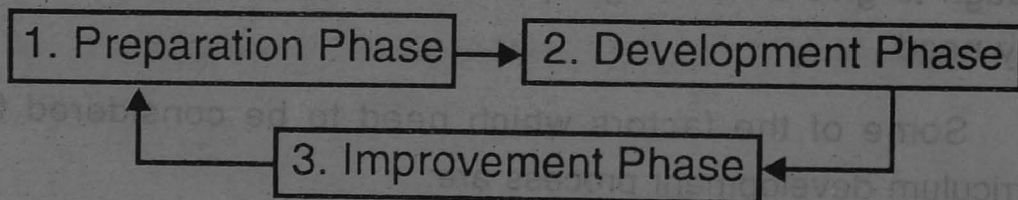
- 3) the need to adapt to meet the ever increasing technological changes.
- 4) integration of subjects of study.
- 5) use of different learning systems.
- 6) the change in emphasis needed by the social system.

Curriculum design process is the process of ordering and arranging these factors so that the teacher can operate with maximum efficiency. Also, if we accept the principles of individual differences amongst teachers, then this process will help to determine the minimum teaching performance.

A basic model for Curriculum Design Process :

Three distinct phases can be identified in a curriculum design process. They deal with the following principles:

- identification of what one wants to achieve.
- Developing that, which is necessary to achieve the desired result.
- Verifying whether one has succeeded in achieving what one has set out to do.



The different steps involved in curriculum Design Process are further elaborated as indicated below:

Preparation phase	Development phase	Improvement phase
(i) student input	outline syllabus	examine feed back
(ii) job description	sequence topics	compare performance with objectives
(iii) task analysis	select content	compare objectives with the job
(iv) Course Objectives	Select the learning materials	Revise and try out
(v) Criterion Tests	Complete plans for Teaching	
(vi)	Prepare or procure resource materials	
(vii)	try out the curriculum	

An organisational procedure for designing a given curriculum using the philosophy of the curriculum design process is as follows:-

Survey of chosen Curriculum area by a panel of teachers, curriculum specialists and employers (industries, business, commerce etc.,) drawing on all available resources to survey the student input data and job descriptions. Perform job analysis based on this information and draft course objectives.

Analysis of these objectives by the same panel and outlining subjects, content, sequencing of topics relevant to the realisation of the objectives. As uniform job descriptions in the employing agencies may not be existing, the panel members will have to use their

judgment and discretion based on their experience, in selecting and sequencing the content.

- Circulation of these draft materials to all teachers and employers and revising the draft objectives and content based on their suggestions.
- Selection of teams of volunteer teachers for each subject area and preparation of draft object curriculum materials appropriate to the stated objectives.
- Briefing and workshop session with teachers from institutions where these curriculum materials will be tried out as a pilot- project.
- Trials in Institutions.
- Feedback information and revision of these draft materials in the light of effective evaluation.
- May be a second trial on a more expensive scale and further revision (This depends on the urgency with which the materials are to be adopted).
- Publication of these material and intensive and widespread programmes of training teachers.
- Continuous evaluation and feedback with needed modifications.

Curriculum Design Process is not a simple one of outlining the content of the subject matter taught. It involves the analysis of important social needs and problems of the nature, capacities and needs of the students, and understanding of the behaviour characteristics of the students. Education must be a dynamic process and should be geared to change. Curriculum design process is an attempt to identify, implement and control this change so that it is meaningful and relevant. The success of any curriculum design process depends mostly on the intensive

teacher involvement and active teacher - participation. It may not achieve the desired results unless the teachers are available and willing to participate.

References:

1. D.K. Wheeler Curriculum process (University of London Press) 1971
2. Edward Krug Curriculum planning, 1957
3. Geoffrey Howson (Ed). Developing a new curriculum (1972)
4. H. Taba Curriculum Development - Theory & Practice (Harcourt Brace, New York),1962
5. Open University (U.K.) Teaching strategies - A systems approach publication (1972)
6. Phillp H. Taylor How teachers plan their courses (NEER Publicashing company, U.K.)
7. C.V Good Dictionary of Education (Mcgraw Hill), 1955

PLANNING FOR TEACHING

Efficient and wise planning is the basis of successful teaching. Planning begins with the goals of teaching - learning situation, for the time block under consideration, carried through planned means achieving these goals and ends with plans for evaluating the efforts of all persons involved.

So plans should be made in terms of goals to be achieved. The stages in planning, therefore should be.

1. Course planning which could determine the general objectives, specific objectives and accordingly select the course to be taught.
2. Organization of the selected material into meaningful segments of activity and experience.
3. Plan the daily work around a device known as 'lesson plan'.

Course Plan - Teaching Scheme

1. The syllabus is analysed and the topics are listed.
2. The topics are further analysed into sub- topics.
3. An overall plan is prepared in terms of nature of approach, available facilities and resources and estimated time.

Unit Plan - Teacher Analysis Sheet

1. Each subtopic or the unit is analysed and the general instructional objectives are stated.
2. Each general instructional objective is further analysed and stated as specific instructional objective i.e, in terms of terminal behaviour of the learner.
3. Abilities to be developed in the learner are identified and the teaching points are arrived at.

4. Teaching aids are identified.
5. Method of evaluation is selected.
6. Teaching aids are chosen.
7. Resource material for further learning (as reference books, films film strips etc) are listed.
8. Time needed for each instructional objective is estimated and allocated.

Lesson Plan :

Bossing defines lesson plan as the title given to a statement of the achievements to be realized and the specific means by which these are to be attained as a result of the activities engaged in during the period the class spends with the teachers.

Thus the focus is on:

1. learning outcome in terms of the learner,
2. definite processes and procedures with a recognition of activity as the basis of learning.
3. the learner in the foreground, and teacher in the background as guide and director of the learning activity.

Lesson plan is an experience in anticipated teaching. It is living through in advance, mentally and emotionally the classroom experiences as the teacher visualizes it the questions that may arise, the problems the students may encounter and the difficulties which the teacher and the class may experience - all these the teacher will experience in imagination.

How vividly the teacher can imagine classroom situation would be the classroom experience.

For an effective anticipation experience, the pre-requisites are:

- a) a mastery of subject matter, the materials and activities that would provide the class experience.
- b) intimate knowledge of the environmental forces of situation i.e. previous knowledge and experience of the learners.
- c) comprehension of psychology of mental process and laws of learning, and
- d) understanding of teaching techniques - to be clear about goals, aims, purposes of the lesson, and familiarity with a large number of techniques namely questioning technique, discussion, dramatics, roleplay, experiments, using anecdotes, dramatization, construction, model building, illustration, drawing etc.;

Kinds of Lesson Planning

Memoriter Plan is more for a very experienced person. A beginner in teaching must have a written plan; he needs to write it down, to enable him to clarify his thinking, and plan for later improvement.

Essentials of a Good Lesson Plan

1. Well formulated aims - general and specific
2. teaching aids, how and when to be used
3. motivation techniques
4. evaluation techniques
5. inclusion of pivotal questions
6. inclusion of illustrations
7. attention to consolidation process

8. rough allocation of time to each phase of the lesson.
9. a good summary
10. a good assignment
11. review, closure
12. provision for individual differences
13. relevance to actual situations with particular reference to the institution, its philosophy, practices - syllabus, time - table and socio - economic cultural background of the learners.

Defects to be avoided

1. Over completeness or too many details or rigidity of the plan
2. fragmentary plan
3. repetition of the same techniques
4. too much dependence on books

In short, the lesson plan must be used as a guide and not as a crutch; it should be a slave and not the master.

References:

- 1) Bossing Nelson - Progressive methods of Teaching in secondary school
- 2) Mursell - Successful teaching (1954)
- 3) Shipley - A Synthesis of teaching Methods (1970)

COURSE PLAN

No.	Topic	Sub topics	Nature of approach	facilities & resources	Time

UNIT PLAN

Unit:

General Educational objectives: 1.

2

3

specific instructional Objectives	teaching points	abilities to be developed	teaching aid	learner resources	time

LESSON PLAN

Name of the teacher : Class :

Subject : Age of students :

Unit : Date :

Sub topic : Time :

Entering Behaviour : Objectives:

Teaching aids : to provide opportunities for the participants to prepare a notepad

content in terms of concept & skill	Learning outcome specification	Learning experience			Evaluation items
		Teachers-activities	Pupil activities	Aids/ resources	

Review:

Assignment:

SESSION - 10

WORKSHOP SESSION

Theme - Preparation of unit plans.

Group assignment

Objectives:

- 1. to provide opportunities for the participants to work discipline - wise and carry out a group assignment of preparing a unit plan.
- 2. to enable the participants to have practice in identifying the specific objectives, sequencing the teaching - learning experiences and budgeting time for a unit chosen by the group.

Following are the samples of unit plans prepared by the discipline - wise groups in the workshop session.

UNIT PLAN

Subject :- Economics

Unit :- Population Problem in India

Need :- Knowledge and Understanding of a big problem facing the country to - day.

General Educational Objectives: 1) To enable the learners gain knowledge of the problems due to population explosion in India.

2) To help them understand the causes for the rapid growth of population and its effects on Indian Economy.

3) To help them identify the remedial measures to stop or check the rapid growth of population in India.

Specific Instructional Objectives	Teaching points (concepts)	Abilities to be developed	Teaching Method	Teaching Aids	learner's Resources	Time
a) The students should be able to recall information about the present rate of growth of population in India	To introduce them to the basic concepts and definitions like rate of growth census etc. Information on growth of population since 1951 (census 1951)	To be able to explain the rate of growth of population since 1951	lecture and discussion	chalk board charts, posters, cartons, graphs picture cards etc.	Reference (Census Report 1951, 1961, 1971)	75mts

(1)	(2)	(3)	(4)	(5)	(6)	(7)
b)	to identify the causes for population explosion in India	1. Climatic conditions 2. illiteracy 3. Poverty 4. lack of knowledge on family planning and other socio economic factors	to be able to explain the causes for the rapid growth of population in India	lecture, discussion film strips and seminar	films, film strips slides flannel board etc.	books on population by Dr.Chand
c)	To analyse the impact of population growth on the economic development of India	Impact on : 1) national income 2) percapita income 3) employment 4) poverty 5) food Problem 6) rise in Prices etc.	to identify the impact of the population growth on economic development of India	discus- sion,brain storming lecture seminar	charts, data in- formation and boards, graphs diagrams etc.	books on poverty and Popula- tion by Dandekar Minnas Bharathar etc.
d)	To identify the remedial measures to check the growth of population	1) family planning 2) increase in production 3) education 4) health, medical & homing facilities	to analyse the measures which are effective to check the growth of population	discus- sion lecture role play demons- tration	films, radio T.V.recor- ding, slides pictures, boards etc.	- do -

(1)	(2)	(3)	(4)	(5)	(6)	(7)
II	To state the causes for rapid growth of population and measures taken to check it.	recalling and reflecting on the points mentioned earlier	to be able to discuss the causes and measures in connection with population growth.	discussion, lecture	a.v. aids, Charts, graphs etc.	- do- 30 mts
III	To compare the rate of growth of population and employment opportunities	Population growth and employment opportunities and educational opportunities	to be able to analyse the inter relationship between population growth and employment	lecture discussion	-do-	-do-
IV	to explain whether the governmental measures are a success or a failure in controlling population growth.	Critical evaluation of family planning population policy-production policy & employment policy.	to be able to discuss and analyse the measures taken by the govt. in solving population problem	lecture discussion seminar debate	a.v. aids, charts graphs etc.	books on poverty and population by Dandekar Minnas Bharathan etc.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
V.	a) define the rate of growth of population.	to test the knowledge of the students on this particular topic	test, questions, quiz, paper	a.v. aids, charts, graphs etc	books on poverty and population by Dandekar Minnas Bharathan etc.	30mts
b)	discuss the causes for the rapid growth of population in India		presentation			
c)	analyse the impact of population growth & economic development in India		report readings etc.			
d)	Critically examine the steps taken by the Govt. for the above problems					
e)	explain the obstacles faced by the Govt. in solving the above problem.					

UNIT PLAN

Class :- B.Sc. IIIrd Year Major

Time: 3hrs

SUBJECT : BIOLOGY

UNIT: Genetics - Principles and its application

NEED :- The understanding of the principles of Genetics is helpful in increasing the quality and productivity of plants and animals.

GENERAL OBJECTIVES:- 1) To enable the students to understand the principles of inheritance.

2) To enable the students to apply the principles in practical situations.

Specific Instructional Objectives	Teaching points (concepts)	Abilities to be developed	Teaching Method	Teaching Aids	learner's Resources	Time
1. a) The students should be able to explain, Mendel's laws of inheritance	law of segregation law of independent assortment	defining the laws solving simple problems	telling method assignment of simple problems quizzes	Chalk board felt boards model specimen	library books additional problems visiting research centres	45mts
b) The students should be able to recognise the inheritance of blood groups	Multiple allelism Blood groups & Kernel colour of maize.	finding out his own blood group and of others in the class	telling demonstration of A, B	Chalk board felt boards	library books Problems	45mts

(1)	(2)	(3)	(4)	(5)	(6)	(7)
		finding out the differences in colour in Kernel maize	AB, O groups in the class showing specimens with variation	Field trials		
2	a) The students should be able to determine the blood groups in human beings	Antigen-Antibody RH. factor M.N. Groups	Interpreting the blood groups in blood transfusion solving problems of disputed per centage	Chalk board films showing	books & Journals visiting blood banks & hospital for direct purposeful exper-ences	45mts

(1)	(2)	(3)	(4)	(5)	(6)	(7)
b)	The students should be able to correlate the production of high yielding disease resistant variation of grains	1. hibridisation 2. selection 3. mutation	1. field operation of Emasculation Hibridisation using mutagens such as colchicine etc.	explana- tion chalk board	film strips books & periodicals showing visiting research operations station for further informa- tion.	45mts

அலகுத் திட்டம் (Unit Plan)

காலம் : 4 மணி நேரம்

வகுப்பு : இளங்கலை இரண்டாம் ஆண்டு - பொதுத் தமிழ்

மாணவர் : எண்ணிக்கை - 60

அலகு : ஜெயகாந்தன் சிறுகதைகள்

பொதுக்கல்விக் குறிக்கோள்கள் : 1) சிறுகதைகளை இரசித்து உணர்தல்

2) அவை உணர்த்தும் நீதிகளை அறிதல்

3) சிறுகதைகளில் பயன்படுத்தப்படும் உத்திகளைக் கற்றல்

திட்டவட்டமான கற்பித்தலின் குறிக்கோள்கள்	பேர்தனை குறிப்புகள்	வளர்க்க வேண்டிய திறமைகள்	கற்பித்தலின் முறைகள்	கற்பித்தலுக்கு துணை செய்யும் கருவிகள்	மாணவர் அறிவு
1. சிறுகதையின் தோற்றம் வளர்ச்சி விளக்க	1933 முதல் 'மணிக் கொடி' என்ற இதழ் வாயிலாகத் திகுதி யாக வெளிவரல். விடுதலைக்கு முன் காந்திய யுகத்தை கள் விடுதலைக்குப் பின் சமுதாய ஏற்றத் தாழ்வுகளையும் பால் உணர்வுகளையும்	சிறுகதையின் தோற்றத்தையும் வளர்ச்சியையும் விளக்குதல்	உரையாட லோடு கூடிய விரித் துறைக்கும் முறை (Lecture method with dis-cussion)	எழுதும் பலகை யில் (Chalk board) வெவ்வேறு கால கட்டத்தில் சிறு கதையின் வளர்ச்சியை விரிவாக எழுதுதல்	நூலகத்திலுள்ள மேற்கோள் நூல்கள் : (Reference books) தமிழ் சிறுகதை பிறக்கிறது. சி.க.செல்லப்பா தமிழில் இலக்கிய விமர்-சனம் -சி.க.செல்லப்பா இலக்கியத் திறனாய்வு -டாக்டர்.க.பாலசுந்திரன் தமிழ்ச் சிறுகதை முன்னோடிகள் -இரா.தண்டாயுதம்

அடிப்படையாகக்
கொண்ட சிறுகதைகள்
பெருகுதல்
சிறந்த சிறுகதை
ஆசிரியர்கள்
பெயரைக் குறிப்பிடுதல்

2. சிறுகதை
இலக்கணங்
களைக் கூற
(Concept
Learning &
Principle
learning)

குறிப்பிட்ட ஒரு
நிகழ்ச்சி அல்லது
ஒர் உணர்வு
அடிப்படையில்
அமைதல் சொற்சிக்
கனம் நிகழ்ச்சித்
தொடர்ச்சி
வலியுறுத்தப்படுதல்
இடப் பொருத்தம்,
காலப் பொருத்தம்
உடையதாக இருத்தல்
குறைந்த அழுத்தம்
உடையதாக இருத்தல்

ஃபிளானல்
பலகையில்
சிறுகதை
இலக்கணங்கள்
எழுதிய
தாள்களை
ஒட்டிக்
காட்டுதல்

தமிழில் சிறுகதையில்
தோற்றமும், வளர்ச்சியும்
-கா. சிவத்தம்பி
இருபதாம் நூற்றாண்டுத்
தமிழ் இலக்கியம்
- எழில் முதல்வன்
இருபதில் சிறுகதைகள்
-பியூலா மெர்சி சிறுகதை
செல்வம் - சாலை இளந்-
திரையன் இருபது
நூற்றாண்டுகளில் தமிழ்
- சோம. இளவரசு
இலக்கிய மரபு - முவரதா-
னார் இலக்கிய விமர்சனம்
-இரகுநாதன்

(1)	(2)	(3)	(4)	(5)	(6)
	கதைக்கு (Theme) ஒருமைப்பாடு உடைய- தாக உடையதாக இருத்தல் காட்சிக் கற்பனை உடையதாக இருத்தல் விரிவான வர்ணனை கூடாது தனிமனிதர் நெருக்கடி இலை மறைகாயாக இருத்தல். தொடக்கம், வளர்ச்சி உச்சநிலை முடிவு, முரண், சிக்கல், பேராட்டம், பின்னோக்க, நன் வோடை இயற்கைத் தன்மைத்தாதல் (Naturalism) உண்மையுடையதல் (Realism)	சிறுகதை களில் ஆசிரியர் பயன் படுத்திய உத்திகளை இனங் காணுதல்	அடியிற்கண்ட வற்றுக்கு பட விளக்கங் கள் (charts) 1. முரண் (contrast) 2. சிக்கல் (Problem) 3. பேராட்டம் (Conflict)		
2	சிறுகதை உத்திகள் பலவற்றை எடுத்துரைக்க				

(1)	(2)	(3)	(4)	(5)	(6)
1. ஜெயகாந்தன் 'யுகசந்தி' பகுத்தாயத் தெரிந்து கொள்ளல்	ஆய்வுமுறை:1. கரு (Theme) பாத்திரப் படைப்பு கதைப் பின்னல் (Plot) பின்னணி	யுகசந்தி போன்ற சிறு கதைகளைப் பகுத்தாய்தல்	உரையாடல் முறை (Discussion Method)	அட்டைப்பட விளக்கம் 2. ஜெயகாந்தன் சிறு கதைகள் பொருளாய்வுக் கட்டுரைகள் 3. ஜெயகாந்தன் சிறு கதைகள் ஒரு மதிப்பீடு -இளம்பாரதி	1. ஜெயகாந்தன் விமர்சனம் - தோதாத்ரி 2. ஜெயகாந்தன் சிறு கதைகள் பொருளாய்வுக் கட்டுரைகள் 3. ஜெயகாந்தன் சிறு கதைகள் ஒரு மதிப்பீடு -இளம்பாரதி
2. சிறுகதைகளை மதிப்பிட (Value Judgement)	முன்னர்க் கற்ற சிறுகதை, இலக் கணங்கள். உத்திகளைஎளப் பொருத்திக காணல்	சிறுகதை இலக்கணங்கள் உத்திகளைஎளப் பொருத்திப் பார்த்துச் சிறந்த சிறு கதையா என மதிப்பீடு செய்தல் ஜெயகாந்தன் சிறுகதைகளை	குறிப்பு: தொ-தொடக்கம் மு-முடிவு த-தடை (argument) சி-சிக்கல் ஃபிளானல் பலகை: தொடக்கம் வளர்ச்சி உச்சநிலை	குறிப்பு: தொ-தொடக்கம் மு-முடிவு த-தடை (argument) சி-சிக்கல் ஃபிளானல் பலகை: தொடக்கம் வளர்ச்சி உச்சநிலை	குறிப்பு: தொ-தொடக்கம் மு-முடிவு த-தடை (argument) சி-சிக்கல் ஃபிளானல் பலகை: தொடக்கம் வளர்ச்சி உச்சநிலை

(1)	(2)	(3)	(4)	(5)	(6)
		ஆர்வத்தோடு படித்தல்		முடிவு பற்றிய எழுதிய தாள்களில் எழுதியதை ஒட்டுதல்	
		ஜெயகாந்தன் சிறந்த சிறுகதை ஆசிரியர்களுள் ஒருவர் எடை மதித்தல் ஜெயகாந்தன் சிறு கதைகளில் உள்ள குறை நிறைகளைத் திறனாய்வு செய்தல் நடிப்புத் திறமையை வளர்த்தல். உரையாடும், திறமை வளர்த்தல், பகுத்தாயும் திறமை வளர்த்தல் மதிப்பீடு செய்யும் திறமை வளர்த்தல் சிந்திக்கும் ஆற்றல் பெருகுதல் கற்பனை வளம் பெறல்		விளையாட்டு முறைக்கல்வி (Play-technique method) தனித்தனியாகக் கற்பதக்குரிய வாப்பப்பினை அளிக்கும் கற் பித்தல் முறை (Individualized Instruction) பங்கு நிலை	1 மணி
3.	ஜெயகாந்தன் சிறுகதை அக்கினிப் பிரவேசம் குறைநிறை கண்டு பிடிக்க	ஆசிரியர் ஒவ்வோர் அறையிலும் நடைப் பெறப் போகும் மாணவர் செயல் முறை (activity) பற்றி அறிமுகம் செய்தல்			

UNIT PLAN

Subject:- ENGLISH

UNIT:-Poem DAFFODILS'-by Wordsworth

NEEDS :- At the end of the session, learners should be capable of reading and enjoying simple poems that appeal to their sense of beauty.

GENERAL EDUCATIONAL OBJECTIVES :-

1. to enable the students to understand the theme of the poem
2. to raise the level of the poetic taste of the students so that they are able to appreciate the artistic beauty of the poem.
3. to inculcate in the students a love and understanding of Nature that will enhance his enjoyment of similar poems.

Specific Instructional Objectives	Teaching points (concepts)	Abilities to be developed	Teaching Method	Teaching Aids	learner's Resources	Time
1) the student is able to recall other Nature poems he has studied	Wordsworth's love of Nature	To be able to write sentences making use of the various phrases in the poem	lecture	Chart showing a lake and a Crowd of daffodils	to help the students read the other Nature poems of words worth like the "Lucy poems" the 'Cuckod' songs etc.	3 hrs

(1)	(2)	(3)	(4)	(5)	(6)	(7)
2)	he is able to identify the various objects of Nature described in the poem.	description of the lake and the daffodils	to be capable of reading the poem	group discussion	a portrait of the poet	to give the students an opportunity to listen to one of the 'taped' Nature poems of Wordsworth
3.	the student is able to write a few lines comparing the poem "Daffodils" - with the other Nature poems known to him.	to show how Nature acts as a source of cheer and inspiration in moments of mental despondency the special message of the poem the poem as an illustration of the poetic theory of wordsworth "Emotion recollected in tranquillity".	to explain important lines in the poem.	a recitation	a map of the lake district	

UNIT PLAN

Subject: PHYSICS

Topic: Electronics

Unit : Rectification of A.C. DIODE

General Educational Objectives: 1) The student develops logical thinking,

Time : Five Hours

2) experiments and draws out conclusion,

3) identifies cause - effect relationships, 4) applies the theories to new situations.

Specific Learning Objectives	Teaching points (concepts/Principles)	Learning experiences	Teaching Method/Aids Resources	Evaluation	Time
Categorises elements according to their physical properties	glass blowing, preparing an evacuated glass tube, construction of cathode & Plate; use of a value manual to identify the parts of a given diode.	observes the chart containing the parts of a diode examines the parts of a broken (or a model) valve diode supplied to each set of two students. note the mode of coil winding at the filament, winds up a connection wire round a pencil with same pitch and with draws the pencil.	a standard value manual; broken (or a model) diode valve; black board diagram, connection wire & pencil.	1. What are the essential parts of a diode? 2. Explain the action of a cathode in the diode valve 3. List the essential properties of the material to be used for cathode coating.	44 mts

(1)	(2)	(3)	(4)	(5)	(6)
recollects the Principal steps involved in various experiments	hooking up a circuit consisting of a diode and a High Tension. Relation between the applied voltage and the diode current. The role of the nature of the Cathode surface applied voltage & the space charge of the current.	Makes a circuit from the circuit diagram; applies various High Tension. Measures current in each case using milliammeter. Interprets the relation between the High Tension and the current.	Valve manual, black board & Chart.	1. Explain why there is no current when the wire of H.T. is connected to the plate? 2. Investigate the variation of current with applied voltage in a diode.	1. Explain why there is no current when the wire of H.T. is connected to the plate? 2. Investigate the variation of current with applied voltage in a diode.
demonstrates manipulation skills and detects deviations	how to draw a graph by taking proper scales. tabulating voltage against current. theoretical relations versus experimental result of E_p and I_p.	draws the voltage current graph; understands the occurrence of saturation	model graph theoretical curve	3. Determine the resistance of the given diode valve. 1. Given a H.T.; explain how you would prepare a voltage divider? 2. Which ammeter milli-ammeter micro-ammeter or ordinary ammeter would you use in the plate circuit.	3. Determine the resistance of the given diode valve. 1. Given a H.T.; explain how you would prepare a voltage divider? 2. Which ammeter milli-ammeter micro-ammeter or ordinary ammeter would you use in the plate circuit.

(1)	(2)	(3)	(4)	(5)	(6)
applies physical principles of life situations.	Phenomenon of rectification of A.C. The use of rectification in radio receivers and D.C. power supplies method of obtaining half wave rectification	Converts A.C. to D.C. using a diode rectifier, learns that only one half of the A.C. cycle is available as the output. Studies the resistance of the primary and secondary of a power transformer. Finds the centre tapping of the Secondary. Assembles a double diode connection. Applies A.C. and measures D.C. output as a full wave. Occurance of ripples is watched for with a C.R.O.	film Strips epidiascope; halfwave rectifier unit plug points and extension board; cathode Ray Oscillo-graph (C.R.O.) epidiascope, full wave rectifier unit Plug points and extension board Cathode Ray Oscillo-graph.	3. Explain the nature of the voltage current graph of a diode valve. 1. Why is a rectifier used in a radio receiver set? 2. Explain why only half of the A.C. is available as the output after rectification. 3. Design a rectifier unit and find its period. 1. What type of rectifier unit must be used in X-ray bulbs? why? 2. Explain how full wave rectification is effected by using duo diode circuit. 3. Suggest a method by which the ripple factor of the output voltage can be measured. How can the ripple be removed?	

UNIT PLAN

Subject :- Chemistry

Unit :- Isolation of natural products from plant sources in a state of purity

General Education Objectives : 1) to enable the students to know the methods of isolating natural products B.Sc. class from plants;

2) to identify the various techniques of purification on of the compounds.

Specific Instructional Objectives	Teaching points (concepts)	Abilities to be developed	Teaching Method	Teaching Aids	learner's Resources	Time
1) to be able to list and describe the methods of a) isolation and b) purification.	to enlist the different methods available for a) isolation : i) expression ii) solvent extraction iii) steam distillation iv) enflourage b) purification:- i) crystallisation ii) distillation iii) sublimation iv) chromatography of various forms.	to be able to describe the various methods available for a) isolation b) purification	explanation	Charts showing different experiments	I.L.Finar organic chemistry Vol. I	One hour

(1)	(2)	(3)	(4)	(5)	(6)	(7)
2)	to be able to a) isolate any natural product from plants and b) to purify it	to describe the experimental details of isolating the product from plants, conditions, precautions to be followed.	to develop the ability of isolating natural product from flowers, leaves, roots, barks, and fruits.	demonstration	Separating funnel on isolation and Soxhlet's apparatus purification techniques. distillation set up, filtration set, air oven	text books four hours
3)	to apply these methods to a particular type of natural product - say purins such as caffeine from tea	to explain the methods available for isolation and purification of purins	to be able to select a proper method for isolating caffeine and purify it	explanation and demonstration	distillation A text set, filtration set Organic Chemistry Bahl.	two hours
4)	to be able to apply the latest techniques in isolation and purification	to explain the techniques involved in column, paper and then layer chromatography	to be able to isolate the pure one from a mixture of products using the techniques described	demonstration explanation nation seminar	charts, graphs, column chromatographic plates. sprayer chromatographic	two hours

chamber,
whatmann
filter paper

Need for teaching the unit:

The valuable materials available in nature should not be allowed to go waste. These methods will help the learner to isolated the available chemicals which can be used as drugs, insecticides, pesticides, essential oils, vitamins, proteins and carbohydrates

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	நடித்தல் (Role Play)		அக்கினிப் பிரவேசம்			
	சிறுகதையை நடித்துக் காட்டல்		Chalk -board			
	சிந்தனைக் கொந்தளிப்பு (Brain storming)		அக்கினிப் பிரசேத்தின் மூலம் அறியப்- படும் ஜெயகாந்தனின் தனித்தன்மை சொற்போர் (debate)		மேலே கூறப்பட்ட மேற்கோள் நூல்கள்	
	பொருள் அக்கினிப்பிர வேசம் சிறுகதை இயற்கைத் தன்மைத்தாதல் (Naturalism)					
	அடிப்படையில்					

(1)	(2)	(3)	(4)	(5)	(6)	(7)
			எழுதப்பட்டது. உண்மையிடைத் தாதல் (Realism) அடிப்படையில் எழுதப்பட்டது. குழு உரையாடல் (Panel Discussion) 'அக்கினிப்பிரவேசம்' - சிறு கதையின் இலக்கணம் அடங்கிய உத்திகள். கருத்தரங்கு (seminar) பாத்திரங்களைப் பற்றிய ஆய்வுக் கட்டுரைகள். அடிப்படையில் விவாதம்-ஐந்து அறைகளில் மேற்கண்ட நிகழ்ச்சிகளை மாணவர் நிகழ்த் துவர். அவரவர்க்கு விரும்பமான அறையில் சென்று மாணவர் பங்கேற்றல்			
	அக்கினிப் பிரவேசம்' சிறு கதையின் கருவை (theme) மையமாகக் கொண்ட ஜெயகாந்தனின் சில நேரங்களில் சில மனிதர்கள் திரைப்படத்தைச் சென்று காணுமாறு கூறுதல்					

SESSION - 11

Theme:- Analytical approach to teaching :

An analysis of teaching skills

Micro - teaching.

Objectives:-

1. To introduce the participants to an analytical approach to teaching.
2. To enable the participants to observe the desirable behaviours that make up the skills of teaching such as explaining, questioning, lecturing and demonstrating.
3. To enable the participants to practise some of the teaching skills in microlabs.

AN ANALYSIS OF TEACHING SKILLS

“Teaching has been ignored too long; it is time to remove it from chance, astrology and the Gods. It is time to teach it”.

Learning to teach is as much a process of Learning as learning any other skill” says Mills. The feeling that anyone who knows his subject can teach it is misleading. Every teacher needs to prepare himself in subject matter as well as in method.

Teaching is not a mystical phenomenon anymore. New ways of conceptualizing teaching has led to a more precise vocabulary for the specifics of teaching. According to Gage, teaching can be analysed according to the types of activities in which a teacher is engaged. Teachers engage in explaining activities, guidance activities, demonstration activities, order maintaining activities, mental hygiene activities, record keeping activities, assignment making activities, curriculum planning activities, testing and evaluation activities and many other kinds of activities. If everything a teacher does is teaching, then teaching consists of many kinds of activities”. Refining the concept of teaching activities, researchers seeking to analyze, identify and isolate have come up with a variety of teaching skills the teacher must possess.

What behaviours or acts the teacher should employ in the interactive situation, how a particular act should be timed and in what sequence or pattern the acts should be used to provide maximum student learning constitute teaching skills.

The ultimate criterion against which the efficiency of the teaching skill is to be assessed is thus the change in behaviour of the learner. The rational behind the component skills approach are the several learning theory commonalities as

- 1) active participation of the learner is desirable for optimal learning to occur.
- 2) meaningful materials and tasks are desirable for optimal learning.
- 3) learning under control of reward is preferred
- 4) knowledge and information about performance aids the learner.
- 5) motivated learner learns easily.
- 6) learning is more effective in real life situations.
- 7) transfer will be better if relationships are perceived by the learner.
- 8) spaced distributive recalls are advantageous.
- 9) repetitive practice is necessary in over - learning skills.
- 10) appealing to many senses relieves boredom of the learner and heightens attention.

Teaching how to teach deals with such things as: if active participation of the learner is desirable, how best to involve the learners? what kind of praise would aid the learner? How to extend and use learner's ideas?

If motivated learner learns easily, what techniques can be used to incite their interest? What stimuli could be used? What examples can be given ? General teaching skills that can be applied at many levels for teaching many different subjects have been identified, isolated, collected and classified from a range of activities such as research studies, classroom interaction analysis, theories of teaching and from observations and experiences of investigators. The broad categories of such classification are motivational skills, communication skills,

questioning skills, classroom management skills, reinforcement skills, demonstration skills and evaluative skills. Each of these broad categories is further analysed into its component skills and the behaviours that make up each component skill. The teacher to be is expected to practise and maximize the desirable behaviours and minimize and avoid the undesirable behaviours. To illustrate, taking the skill of Questioning, recent research has identified many kinds of questions that can be employed during teaching - questions in cognitive memory, convergent questions, divergent questions, questions for defining, describing, designating, stating, reporting, comparing, contrasting, substituting, classifying, opining, valuing, inferring, evaluative thinking, analyzing, synthesizing, problem solving etc.

Some of the components that make up the skill of communication are - explaining, lecturing, reading, elucidating, elaborating, verbal cueing, non-verbal cueing, illustrating, using audio-visual aids, dramatizing, story telling, using chalk board, using graphics, using silence, etc.

The skill of explanation is the essence of instruction. Four undesirable behaviours whose use is to be minimized and four desirable behaviours to be practised and maximised have been identified for effective explanation.

lack of fluency

lack of continuity

vagueness

inappropriate vocabulary

ineffective teacher

behaviour

use of explaining links rule-

example-rule pattern use of

audio - visual aids planned

repetition

effective teacher

behaviour

By using link words and phrases such as - because , therefore, hence, in order that, the cause of, subsequently, consequently - make relationships explicit and therefore contribute towards clarity of explanation. The rule - example - rule pattern, namely, making statement, following by examples and the rephrasing and repeating the original statement make concepts very clear.

Use of audio-visual aids and planned use of repetition, rephrasing and summarising, emphasise and clarify relationships and makes explanation effective. On the other hand unfinished sentences, self interruptions, following a question immediately by another question - all these make up lack of fluency and the teacher should try and avoid such behaviour.

Pausing too often and too long, presenting a new idea without relating this to what has immediately preceded and unsystematic development of the lesson constitute a lack of smooth, even flow or continuous presentation and therefore makes teaching very unsatisfactory. Using words like - you know, actually, of course, probably, perhaps, may be, somewhat, sort of, type of - are examples of frequently occurring vagueness.

Use of appropriate vocabulary is a crucial aspect of explaining. Using uncommon, unknown, bombastic and flowery language, not relevant to the age group contributes to confusion. The component skills approach is used in the technique of micro - teaching. This technique is used primarily to give the trainee teacher a clear idea of the skills and emphasize the practice of those behaviours which are desirable.

To conclude, the time has come to replace incidental and casual approach to teaching by planned and conscious approach if teaching is to become a skilled profession.

MICRO TEACHING - A RECENT TREND IN TRAINING TECHNIQUES

Training is essentially a process of changing people- their knowledge, skills, attitude and behaviour - through instruction, demonstration, practice, planned experience and other techniques. Training is a continuous process of assisting individuals to be more effective in their present or future work. Micro teaching is a process of subjecting samples of human behaviour to 5R's of videotape: recording, reviewing, responding, refining and redoing. This process lends itself to numerous training applications both within and outside the academic areas such as teacher training, leadership training, vocational training, training of medical personnel etc.

The procedure called micro-teaching is an example of the systematic application of micro-training to the improvement of teacher education. Micro-teaching is a training concept that can be applied at various pre-service and in - service stages in the professional development of teachers.

Teaching is not a mystical phenomenon anymore. New ways of conceptualizing teaching have led to a more precise vocabulary for the specifics of teaching. According to Gage, teaching may be analysed according to the activities in which a teacher is engaged such as demonstration activities, guidance activities, curriculum planning activities, testing and evaluation activities. The basic assumptions are that behaviour involved in these teaching activities or skills can be isolated and developed through training and that it is possible for a trainee to define accurately the focus of desirable teacher-behaviour and hence can help modify his own behaviour in the direction of the ideal.

Micro-teaching is a scaled down sample of teaching. It is a controlled practice that makes it possible to concentrate on teaching behaviour. It is essentially an opportunity for either pre-service or in-service teachers to develop and improve their pedagogical skills.

The five essential fundamentals of micro teaching are:

- 1) Micro teaching provides teachers with a practice setting for instruction in which the normal complexities of the classroom are reduced in terms of the dimensions, namely;
 - length of the lesson
 - scope of the lesson
 - number of students and
 - class time.
- 2) Micro teaching focuses on training for the accomplishment of specific tasks like practice of an instructional skill or demonstration of a teaching method, one at a time.
- 3) Micro teaching allows for increased control of practice - factors like time, students, methods of feedback, and supervision can be manipulated and as a result, a high degree of control can be built into the training profession.
- 4) Micro teaching greatly expands the normal knowledge of results into feedback dimensions in teaching;
- 5) and the most dramatic component in the typical micro teaching process is the employment of the new medium of video tape recording for optimal and immediate feedback of the training performance.

Development of Micro Teaching :

The term 'micro teaching' was coined in 1963 in Stanford University. This concept has growth and developed both in focus and in format. The technique has been field - tested and refined. It is being received quite favourably in all countries as it acts as a link between theoretical psychology and practical classroom teaching.

Procedure:

- 1) A Teaching skill is defined to students in terms of a general description of the teaching behaviour considered desirable and of the goals towards which this behaviour is directed.
- 2) Recording: Each trainee teachers a short lesson of about 5-7 minutes to a group of 5 pupils, concentrating on using the defined skill; the lesson is recorded in video tape.
- 3) Reviewing : The video tape of the lesson is viewed by the trainee, a Supervisor and the pupils. The pupils fill in the response sheets.
- 4) Responding : The lesson is discussed in terms of the defined skill and the trainee considers ways in which it might be improved.
- 5) Refining: The trainee replans the lesson modified in the light of his own self-assessment , the Supervisor's suggestions and the response from the pupils .
- 6) Re-doing : The trainee re-teaches the lesson to a second group of 5 pupils.

Micro teaching is intuitively appealing as a way of providing practice in teaching. The curiosity of the trainees to see themselves as others see them is satisfied and when guided practice leads to improvement in the skill, there is a sense of achievement.

Teaching skills classification:

General teaching skills that can be applied at many levels for teaching many different subjects have been identified, isolated, collected and classified from a range of sources - research studies, class -room interaction analysis, theories of teaching and from observations and experiences of investigators. One such classification developed at the suggestion of Australian Advisory Committee on Research and Development in Education is as follows:

THE TEACHING SKILLS CLASSIFICATION

A. Motivational Skills:

1. giving reinforcement to pupil behaviour
2. varying the stimulus / employing variety and variability in teaching
3. set-induction, using effective introduction
4. encouraging pupil involvement and participation
5. accepting and supporting pupil's feelings and contributions/locating and using pupil concerns
6. displaying warmth and enthusiasm
7. recognize and meeting children's needs.

B. Presentation and Communication Skills:

1. explaining
2. dramatizing
3. reading
4. using audio-visual aids
5. using effective concluding procedures / closure
6. employing instructional flexibility / adaptability
7. clarifying pupil ideas
8. sustaining pupil ideas
9. using silence
10. using examples
11. verbal and non-verbal cueing
12. facilitating memorization
13. implementing smooth task progression
14. encouraging pupil - pupil interaction
15. using pupils' ideas

16. formulating, structuring statements
17. encouraging pupil feedback
18. story telling
19. using non - verbal communication
20. using indirect verbal behaviour
21. lecturing
22. clarity of presentation
23. expressiveness
24. organizing the presentation
25. pacing the presentation
26. teacher-pupil planning
27. developing children's oral language
28. using planned repetition
29. ensuring completeness of communication.

C. Questioning Skills

1. using effective basic questioning technique (including structuring, posing, single focusing)
2. refocusing and redirecting questions
3. using probing questions
4. using higher-level questions
5. encouraging and responding to pupil's questions
6. using convergent and divergent questions
7. guiding students' participation in discussions
8. asking questions to stimulate pupil' initiative
9. fluency.

D. Skills of Small Group and Individual Instruction

1. Organising small group work / giving guidance and supervision.
2. providing for individual differences through small groups.

3. developing independent learning
4. individualizing instruction
5. organizing independent learning
6. counselling individual pupils and groups
7. encouraging co-operative activity in groups
8. encouraging pupil - pupil interaction in groups.

E. Developing Pupils Thinking

1. fostering inquiry learning
2. guiding discovery
3. stimulating creativity
4. fostering self-direction
5. guiding pupil learning
6. developing concepts
7. using stimulation, role-play and gaming to stimulate thought
8. developing problem - solving skills
9. encouraging children to evaluate and make judgments
10. developing critical thinking / increasing critical awareness

F. Evaluative Skills

1. recognizing and assessing pupil progress
2. diagnosing difficulties
3. providing remedial measures
4. encouraging self - evaluation
5. handling, evaluating discussion

G. Classroom Management and Discipline

1. recognizing attending and non - attending behaviour
2. supervising classgroup to secure maximum pupil involvement

3. displaying task - oriented business like behaviour
4. displaying awareness of pupil behaviour
5. giving directions
6. coping with multiple issues
7. handling disruptive and uncooperative behaviour
securing class room control
8. structuring the classroom environment
9. establishing classroom routines
10. achieving classroom management
11. encouraging attending behaviour
12. maintaining group focus (in contrast to becoming
immersed in one child)
13. maintaining pupils' orientation to a task.

SKILL - Lecture

The 'lecture' or short talk or exploration, inside the class room, is a major speech form which serves as an effective instrument of teaching and learning for most subjects in higher education.

The classroom lecture or better referred to as short talk can be defined as " a presentation by a single speaker, addressing a group of listeners, using relatively continuous discourse for a specifically identified and limited purpose".

Purposes:

The three primary purposes of the short talk are informing, exploring and advocating

Informative speaking includes reports and demonstrations and takes the form of exploration, description or narration.

Exploratory speaking is concerned with the method of inquiry and analysis; it introduces the audience to an experience of discovery by presenting information designed to clarify the understanding of a problem or to open up new ways of looking at a problem. Through this method, it is possible to relate to topical problems.

Advocative speaking is for taking a stand on a specific issue and presenting the case offering a solution to the problem.

Unfortunately, lecture as a mode of communication in the class room has been more frequently abused and misused that it has even been branded as a deterrent to learning.

Qualities of good talks:

Lectures or short talks, if they are to achieve effective communication and foster desired learning, should meet tests of good speaking.

1. The subject of the talk should be compatible with the interests and knowledge level of the class and purposes and content of the problem being studied. It should contribute to the student's understanding and appreciation of the topic. It should be of special interest to the speaker; it should be a subject for which adequate data is available. It should be appropriate to the time allocated.
2. Talks should be appropriately focused and properly delimited. It should contain accurate interesting information. It should be systematically organized and conform to the agreed upon time limits. In short good talks are based upon thoughtful, thorough, responsible preparation.
3. Good talks are characterized by effective delivery i.e., the presentation should be direct, purposeful and conversational in manner.

The voice should be adjusted to the size of the audience and responsive to thought and feeling. Articulation and pronunciation should meet standards of intelligibility and good usage. Ideas should be expressed with clarity, vitality and originality; they should be developed with illustrations, examples, analogy and other such devices. Sentences should be well constructed and grammatically correct. A good talk claims and holds the attention of the listeners. It reflects the best qualities of the speaker's unique personality.

Special values of good talks

The short talk in the class room, is unique among speech forms in its values.

1. It has marked potential for generating enthusiasm for a subject. The communication of knowledge is a secondary aim. If well presented, it ensures not only understanding but also enthusiasm.

2. It can assist pupils in developing the ability to think clearly, and help them form good habits of reading, observing, listening and research.
3. It can be a means of encroaching basic text information by providing opportunities in the classroom for systematic involvement of students in class discussions.
4. It is particularly valuable in conveying factual information not readily available and for explaining little known processes and new interpretations to commonly known facts or concepts.

Guidelines for preparing short talks for class room use.

It is better for a teacher to find answers to the following questions before he begins to prepare his talk.

1. What knowledge aspects do I want to communicate?
 - a) what basic facts?
 - b) What terminology?
 - c) what knowledge of trends and sequences?
 - d) what classification and categories ?
 - e) what criteria?
 - f) what knowledge of method of enquiry?
 - g) what generalization, principles or theories?
2. What intellectual skills and abilities do I want to foster?
 - a) What level of objective - knowledge or application or extrapolation or problem solving?
 - b) what criteria for evaluation do I expect them to have?
 - c) How far do expect them to apply the generalization?

3. What attitudes and values do I want to induce in my students?

a) What is the entering behaviour of my students-what is the state of readiness, motivation, maturation and interest?

b) To what level do I want them to internalize or conceptualize the set values?

c) What incentives can I use to change their attitude?

The do's and don'ts for the preparation and delivery of the talks:

1. know your subject thoroughly.
2. know your audience.
3. Put down the main points you wish to communicate
4. Have well prepared notes.
5. plan for an interesting introduction, a logical development and good summary.
6. Have eye contact with your audience.
7. Watch out for the change in the moods of the listeners.
8. Use short, direct sentences.
9. Develop a conversational style.
10. Do not read your lecture.
11. Do not perambulate about the class room while you talk.
12. Do not whisper; do not mumble, do not splutter.
13. Gesture and movement can be helpful in holding attention and reinforcing a point, provided they are meaningful.
14. A sense of humour is an asset in a lecturer.
15. Clear speech, well modulated voice, an appropriate pace and correct emphasis are important features of good delivery.
16. Learn to listen to yourself as you speak.

All the guidelines that can be given about talks to a teacher can be briefly comprehended in this saying "Lift up your head, look at your class, speak out boldly, teach them what they need to know, watch them continually to see how they are taking it and all the rest will be added on to you".

Evaluating The Short Talk:

The following check list suggests bases for judging the quality of talks and for improvement as a classroom activity. This is based on a three point breakdown, content, organization and presentation on a four point scale.

	Very good	good	satis- factory	not satis- factory
1. Content:				
a) appropriateness	4	3	2	1
b) value of information	4	3	2	1
c) accuracy of information	4	3	2	1
2. Organization:				
a) clarity of aim	4	3	2	1
b) introduction	4	3	2	1
c) logical development	4	3	2	1
d) use of examples & illustrations	4	3	2	1
e) closure	4	3	2	1
3. Presentation :				
a) directness and communicativeness	4	3	2	1
b) lecturer-listener relationship	4	3	2	1
c) use of body, gestures in conveying meaning	4	3	2	1

d) clarity of articulation	4	3	2	1
e) accuracy of pronunciation	4	3	2	1
f) fluency of speech	4	3	2	1
g) delivery pace	4	3	2	1
h) audibility, pitch	4	3	2	1
i) pauses in delivery	4	3	2	1
j) flexibility of voice	4	3	2	1

References :

- Clark and Clark : The art of learning Hafer, Cambridge, 1959.
- Davito A.J. : Communication : Concepts and processes, prentice hall, NY, 1971.
- Monrol, A.H. : Principles and Types of Speech. Scott Foreman, NY, 1955.
- Nelson and La Russo : Oral Communication in the Secondary classroom, Prentice Hall NJ, 1970.
- Wise, A. : Communication in speech, Longmans, London 1965.

OBSERVATION SCHEDULE FOR THE SKILL OF 'EXPLAINING'

Name of the Student teacher:

Topic : Class :

Date : Time / duration :

Instructions:

Mark the tallies for the occurrence of instances for each of the desirable and undesirable teacher behaviours.

Desirable Behaviour	Tallies
explaining links	
beginning statement	
concluding statement	
rule - example - rule	
questions to test pupil's understanding	
using audio visual aids.	
Undesirable Behaviour	Tallies

irrelevant statement

lacking in continuity

inappropriate vocabulary

lack of fluency

vague words, phrases

Comments if any:

Skill - 'fluency in questioning'

Effective teacher behaviour

Structure:

1. correctness of language
2. conciseness
3. relevance
4. specificity

Process:

5. speed and pause
6. suitability of voice
7. repetition
8. modification (refocusing - redirecting)

Avoid :

Yes, no questions

suggestive question

rhetorical questions

elliptical questions

Skill - 'Demonstration'

Effective Teacher Behaviours:

1. ensuring visibility of the various parts
2. pointing to details
3. focusing attention to special features
4. manipulation of the various parts of the equipment
5. clarity of explanation
6. matching explanation with manipulation
7. sequencing the demonstration
8. using precautions

In - effective Teacher Behaviours:

1. ambiguity in explaining
2. using incorrect terminology
3. omission of essential details
4. vagueness of presentation
5. lack of continuity

DEPARTMENT OF EDUCATION**Assessment of micro - teaching**

Name of the trainee _____

Concept _____

Date: _____

	Very good	good	satis- factory	poor	very poor
1. Motivation					
a) relevance	5	4	3	2	1
b) interest aroused	5	4	3	2	1
c) meaningfulness	5	4	3	2	1
2. Development					
a) content	5	4	3	2	1
b) organization	5	4	3	2	1
c) presentation	5	4	3	2	1
3. Consolidation					
a) association	5	4	3	2	1
b) generalization	5	4	3	2	1
c) review	5	4	3	2	1
4. Evaluation					
a) appropriateness	5	4	3	2	1
b) coverage	5	4	3	2	1
c) level	5	4	3	2	1
5. General					
a) questioning	5	4	3	2	1
b) involvement of learner	5	4	3	2	1
c) total effect	5	4	3	2	1

SESSION - 12

Theme - Interaction Analysis

Objectives:

- 1) To make the participants aware of the need for a supportive, positive class room climate.
- 2) To introduce them to Flander's categories of verbal interactions.
- 3) To provide opportunities for analyzing the verbal interactions of a micro lesson in a simulated condition.

TEACHER - STUDENT INTERACTION

Flanders (1954) developed a widely used system for observing, recording and interpreting teacher - student interactions. Though this system analyzes only verbal behaviours, it is considered an adequate sample of the total behaviour. In this system all teacher talk is classified into direct or indirect influence. Indirect influence maximizes student opportunity and direct influence minimizes the opportunity for students to initiate talk and respond. Student talk is classified into two categories, responding and initiating. The last category is silence or confusion; all that cannot be classified either as teacher talk or student talk comes under this. Teacher talk that demonstrates indirect influence includes accepting feelings, praising or encouraging, accepting or using ideas of students and asking questions. The categories of direct influence are lecturing, giving directions and criticising or justifying authority.

CATEGORIES FOR INTERACTION ANALYSIS - FLANDERS

Teacher Talk	Indirect influence	1. accepts Feelings	Response
		2. Praises or Encourages	
		3. accepts or uses Ideas of Students	
		4. asks questions	
Student Talk	Direct influence	5. Lecturing	Initiation
		6. giving directions	
		7. criticizing or Justifying authority	
		8. student Talk	Response
		9. student Talk	Initiation
		10. silence or confusion	

As mentioned, only oral verbal behaviour is categorized. If the teacher is talking, it is assumed that the students are listening and if the pupils are talking the teacher is assumed to be listening.

Every three seconds, the observer decides which of the nine categories of interaction has just occurred and then for every minute of observed instruction, 20 category numbers are recorded. The observation numbers are recorded in a 10 X 10 matrix by listing the numbers, in pairs, the first number of each pair as the row index and second number as column index.

FIACS 10 X 10 MATRIX

	1	2	3	4	5	6	7	8	9	10	total
1			E								
2											
3											
4											
5											
6											
7							F				
8											
9											
10											
Total					(1-4)	(5-7)	(8-9)	(10)			
					A	B	C	D			

Area A which sums categories 1-4 indicates the percentage of time the teacher talks indirectly, in responding to the students. The sum of categories 5-7 is recorded in area - B which indicates the percentage of time the teacher talks directly. The sum of categories 8-9 in area C indicates the percentage of time the students talk and D shows time spent in silence, pauses and confusion. Area E which includes all the tallies falling into categories 1-3 indicates how much the teacher accepts feeling, praises, encourages or uses the ideas of the students. Area F incorporating categories 6&7 indicates how much the teacher gives direction and criticizes.

From this discussion it can be seen that teachers differ in their use of indirect and direct influence and that there is a distinction in the amount of talking done by the teacher and by the class.

One of the emphatic results of Flander's studies is that teachers' indirect behaviours are associated not only with higher student achievement in the subject matter but also with more favorable student attitudes towards the teacher, the subject, and the college. If students are encouraged and given the opportunity to participate actively in the class room activities, the social need satisfaction of the students namely, receiving attention, approval and affection are satisfied in part, and hence favourable attitudes are developed. As the teacher responds to student suggestions, listens to them, accept their friendship, involves them in the teaching-learning process, asks relevant questions, and praises and encourages adequately, a warm supportive positive emotional climate is maintained and this climate enchances emotional security and zest for learning and leads to high student achievement.

SESSION - 13

Theme - Teaching strategies - conventional and unconventional. lecture - discussion - seminar - symposium - simulation gaming - role play - brainstorming - case study.

Objectives :-

1. to equip the participants with the background knowledge needed to use various strategies of teaching.
2. to enable them to select and match strategies with objectives.
3. to expose them to some unconventional techniques such as brain storming, role playing, simulation and gaming.

A LIST OF SUGGESTIONS - A BLUE PRINT FOR EFFECTIVE TEACHING

1. Apply action method of teaching ensuring smooth flow of multiway of communication
2. Introduce the subject interestingly, develop concepts systematically and summarize at stages.
3. Begin with points, simple and known, and then proceed with other points, difficult and unknown.
4. Try to reach the level of the students and talk in a language understandable to them.
5. Make teaching interesting by means of stories, anecdotes, illustrations, etc.
6. Make use of chalkboard and audio - visual aids available.
7. Use your wit and sense of humour in sustaining the interest of the students.
8. Do not bombard the brains of the students with a heavy list of facts and figures.
9. Never impose order but maintain discipline by developing a sense of self discipline among the students.
10. Encourage the students and give credit whenever it is due.
11. Be friendly and develop the attitude of learning in the students.
12. Be ready to own your mistakes and shortcomings, think of yourself as one among the students.
13. Never become desperate, never feel lost; once you feel lost you are lost
14. Have plenty of patience and have faith in your work.
15. Develop a positive attitude towards the students.
16. Interest the slow learner; stimulate the mediocre and challenge the gifted.

METHODS OF TEACHING

Lecture

Essential Ingredients of an effective lecture

1. Set - motivate - draw attention - arouse Curiosity - create a conducive atmosphere - an 'at home'ness - a cordial friendly atmosphere .
2. Clarity - of thought - of expression.
3. Diction - Vocabulary appropriate to the theme - within the comprehension of the audience - tune your frequency in accordance with the wavelength of the audience.
4. Intonation, Stress.
5. Presentation - release information in small doses - let the succeeding idea emerge from the preceeding idea - establish a logical link between and among ideas - explain ideas effectively with meaningful illustrations and telling anecdotes - Present ideas in striking sentences - repeat them, if need be, for emphasis - Fix - relate - consolidate.
6. Sense of humour
7. Informal conversational style.
8. Eye contact with the listeners
9. Natural body movement with meaningful gestures
10. Sum up the theme of your talk - a few summary sentences - an appealing finale - a quotation - short poem - a striking sentence.

Heuristic Method (Discovery Method)

It is the exact anti - thesis of the telling method " The mind of the individual is not a vessel to be filled in but a fire to the kindled". 'Heuristic' stems from the Latin Word. "Heurisco" which

means 'I find'. Prof Armstrong defines this method as one which involve our placing the students, as far as possible, in the attitude of discovers. In this method the student is given only the minimum possible instruction. He is directed to do the experiment, enter in his note book an account of what he has done, record the data collected, reason and infer from his observation the solution of the problem at hand.

A case for 'Heuristics' (discovery) in teaching

A modified form of Heuristic method aims to retain its spirit and merits and at the same time attempts to remove its limitations and shortcomings. In the hands of a trained and skillful teacher this method may be expected to achieve excellent results. As a matter of fact the function of the teacher is to lead the students in the path of discovery by means of several procedures - questioning, giving information if and when necessary, eliciting student participation, explaining, guiding, illustrating, stimulating and evoking interest and curiosity.

Group Discussion

Group Discussion is an organised conversation in which members of a group actively participate and exchange ideas with a purpose. The members examine a problem; they raise questions, make suggestions, place different points of view and finally arrive at a conclusion. It is, thus, a democratic method of education.

It is, thus, a process of joint deliberation, that the members are provided with opportunities to appraise their ideas, absorb ideas of others, and adjust their own, if required

The discussion leader

The success of group discussion as a method of teaching depends upon the capacity of the discussion leader. He is the key man in the whole process.

The duties of a discussion leader are as under;

- i) to plan the discussion
- ii) to initiate the discussion
- iii) to keep the discussion moving
- iv) to conclude the discussion

The following hints may be kept in mind by the leader in order to achieve effective results

- i) Have a small group.
- ii) Choose a topic of interest.
- iii) Have the seating arrangement - U- shaped so that members face each other.
- iv) Study the problem before hand.
- v) Collect relevant facts.
- vi) keep to the point.
- vii) Avoid offending anybody's sentiment.
- ix) Foster group feelings and
- x) Assure freedom of expression to every member.

Seminar:

A seminar is essentially a discussion meeting wherein the participants express their views on a specific subject, The main purpose is to elicit shades of opinion on various aspects of the subjects.

The organisers select a subject of interest; working papers are prepared. The participants are divided into small groups where they discuss working papers. After the working papers have been discussed in groups a report is made on behalf of each group in the general session of the seminar, where opportunity is given for discussion by the members of their groups. It is followed by the summing up of the deliberations.

Symposium:

Symposium is a method of teaching in which persons having specialized knowledge speak and share their thoughts and ideas with others. They may speak on the same subjects from different angles or each one may represent a particular aspect of the same subject. The main purpose is to bring to light the 'expert' views on the subject and thus to enrich the knowledge of a controversial issue.

The purpose of the symposium is to give the audience various aspects of a problem. It is also useful for presenting a fair analysis of several sides of a controversial issue.

The advantage of symposium is that the different views brought out by different persons, experts in their own field enables the participants to realise that every individual has his way of thinking and approach to the problems. In fact the participant gets an insight to the various aspects of the some issue.

Debate:

A debate is a duel of arguments between speakers of opposite views on a particular subject. Usually controversial topic is chosen for this purpose and speakers are invited to speak on either side. They meet under the chairmanship of a distinguished person and before an interested gathering to put forward their arguments. Mere throwing of arguments for and against a subject, however does not constitute a debate. It must be organised in a systematic manner and should be conducted with proper discipline and decorum. The chairman summarizes the arguments of both sides, puts the motion to vote and announces the decision of the house. He concludes the debate by giving, in brief, his views on the subject.

Study Circle:

Study circles may consist of either someone in a group having greater experience and knowledge on a subject presenting a paper for the consideration of the whole group or it might mean study by the whole group. The group itself chooses the subject and its leader (who may or may not be an expert on the subject). The underlying idea is to benefit each participant by the knowledge of other members and to enable everyone of them to go deeper into the subject. It is thus a process of co-operative self education.

Study circles, therefore, may be regarded as an organised form of self - education. They combine the friendly atmosphere of the informal discussion group with a more serious approach to learning. They can be conducted entirely without a ' leader' if the members have some acquaintance with techniques of study, but even such a group would benefit from expert guidance, if available.

Role Playing

Role playing is learning by doing or training through action. It is a simple and informal drama in which the participants act a problem or a situation. Role are allotted and participants are given only general guidance on their respective roles but the actual words to be spoken are usually extempore and not rehearsed. The role players then 'act out' the situation and finally they and the audience discuss the play. The specific situations suitable for practicing role plays are those which need analysis, preparation to meet future situation and which want to stimulate participation and involvement.

A role play passes through the following stages:

- 1) **Choosing a problem :** The success of a role play depends much on the selection of the problem. If the group does not find interest in the problem , the whole effort may fail.

- ii) **Setting up the case :** The case should be set up in consultation with members of the group, so that it becomes realistic to them.
- iii) **defining the roles:** The leader should give the role players general guidance by defining the different roles.
- iv) **allotting the roles :** volunteers to act the roles should be encouraged.
- v) **fixing up responsibilities of non - acting members:** The non-acting members are given the responsibility to observe, report and comment on the role play in the discussion that follows.
- vi) **handling of the actual play:** The leader then should review and introduce the situation. Thereafter the play starts. The leader handles the situation and keeps the play on the track.
- vii) **role play not followed by discussion is incomplete:** role play is one of the best and spontaneous devices of problem analysis. A role play helps the participants to get greater insights into attitudes, motivation and modes of behaviour of others around him.

The Huddle

This method breaks down the main group into small units to facilitate discussion involvement among members. The size of each unit is 4 to 6

The Buzz

This is a further development of the 'Huddle method. Group is divided into small units - each unit having a size of two persons. Hence it is also known as two person discussion groups. It virtually guarantees total participation.

Brain Storming:

It is a type of small group interaction designed to encourage the free introduction of ideas on an unrestricted basis and without any limitations as to its feasibility.

- i) allows for maximum creativity and inter - stimulation.
- ii) makes a clear break from traditional objectives and to explore new possibilities.
- iii) makes possible a look at all courses of action.
- iv) to secure new and dynamic ideas.

The Forum

The term forum, strictly speaking, mean's general audience participation in a public discussion whose purpose may be enlightenment on some important issue or decision on some important issue or decision making. In this sense, the forum is the same as a group discussion. The topic of the forum is presented by the chairman or presiding officer, and immediately thereafter the audience is asked to discuss it. There are no. set speeches or lectures. The role of the chairman is more limited than that of the leader in a group discussion; his job is to recognize those who wish to speak and summarize the discussion. If action is to be taken, then he might put the suggested solution to vote.

The Panel

The Panel is a type of discussion in which four or five persons, usually experts, sit around a table in front of an audience and carry on a discussion. There are no prepared speches; it is all informal and spontaneous. the members are seated and speak in an informal conversational style.

There is a moderator who meets the members of the panel beforehand to plan the courses of discussion. He opens the panel discussion by introducing the topic and the members of the panel. He starts the discussion by posing a question. He does not participate in the discussion but keeps the discussion moving and encourages a free exchange among the panelists. At the end of the discussion he makes a general summary and throws the discussions open to the audience. At this point, the panel becomes a forum.

The case method

The case method involves the presentation of a problem situation. This method is useful in starting a discussion and keeping it moving as well as in creating interest.

The case method

- i) trains the participants in decision making
- ii) teaching them skill in sizing up a situation
- iii) improves their ability to work together.
- iv) enriches and broadens their knowledge.
- v) develops in them a more resourceful attitude towards problems.

The characteristics of a good case for discussion are:

- i) the situation should be interesting and realistic.
- ii) the facts in the case must be specific in details.
- iii) the case must be designed to evoke discussion.
- iv) the case should not contain the solution but permit the group to draw its own.

SESSION - 14

Conducting a Seminar

Theme - Equalization of Educational opportunity

Objectives:-

1. To provide the participants and opportunity of conducting a seminar.
2. To provide them the experience of leading and being members in group discussion.
3. To enable them to discuss the concept of equality of educational opportunity.

TOWARDS EQUALIZATION OF EDUCATIONAL OPPORTUNITY (Working Paper)

Source: Report of the Education Commission, 1964-66)

One of the important social objectives of education is to equalize opportunity, enabling the backward or under privileged classes and individuals to use education as a level for improvement of their condition. Every society that values social justice and is anxious to improve talent, must ensure progressive equality of opportunity to all sections of the population.

Inequalities of educational opportunities arise in various ways. In places where no primary, secondary or collegiate institution exist, children do not have the same opportunity as those who have these facilities in the neighborhood. This handicap should be overcome by the widest dispersal of educational institutions, consistent with economy and efficiency by instituting an adequate scholarship programme, by providing the needed hostel facilities or by making suitable transport arrangement. There are at present glaring regional imbalances of educational development in different parts of the country.

Another cause of inequality of educational opportunity is the poverty of a large section of the population and the relative affluence of a small minority. It is desirable to abolish fees progressively to provide free books, stationary, meals and uniforms. In addition, it is necessary to develop a large programme of scholarships.

Gross inequalities arise from differences in home environments. A child from rural household or urban slum having illiterate parents does not have the same opportunity which a child from an upper class home with highly educated

parents has. These inequalities are obviously the most difficult to overcome and here progress essentially depends on the general improvement in the standard of living of the population. But something can be done by arranging that special attention at school is paid to children from the underprivileged groups and by the provision of day study centres or boarding houses.

Two others forms of educational inequalities need attention - the wide disparity between education of boys and girls at all stages and sectors of education; wide disparity of educational development between advanced classes and the backward ones.

Like all ideals in life, perfect equality of educational opportunity is probably unattainable. In such matters, however, the essence of the problem is not the attainment of the goal, but an impassioned faith and earnest striving.

Assessment of Seminar

Name of the participant :

Date:

Topic :

(Please encircle the appropriate box)

Categories	very good	good	satis- factory	poor	very poor
CONTENT	A	B	C	D	E
ORGANIZATION	A	B	C	D	E
EXPRESSION	A	B	C	D	E

SESSION - 15

Conducting a Panel discussion.

Theme - Education, an instrument of Social change

Objectives:

1. To provide the participants the experience of being members of a panel.
2. To provide them the experience of conducting a panel discussion.
3. To enable them to discuss how education can be an effective instrument of social change.

EDUCATION : THE MAIN INSTRUMENT OF CHANGE (Working Paper)

(Source: Report of the Education Commission, 1964-66)

- i) *The development of Physical resources through modernization of agriculture and rapid industrialization.*
This requires the adoption of a Science based technology, heavy capital formation and investment, and the provision of the essential infrastructure of transport, credit, marketing and other institutions;
- ii) *The development of human resources through a properly organized programme of education.*

It is the later program, namely, the development of human resources through education, which is more crucial of the two; while the development of physical resources is means to an end, that of human resources is an end in itself; and without it, even the adequate development of physical resources is not possible.

Education as Instrument of change:

If this 'change on a grand scale' is to be achieved without violent revolution (and even then it would still be necessary) there is one instrument and one instrument only, that can be used: EDUCATION.

This emphasis on the social purpose of education, on the need to use it as a tool for realization of national aspirations or for meeting national challenges, does to imply any underestimation of values of individuals. In a democracy, the individual is an end in himself and the primary purpose of education is to provide him with the widest opportunity to develop his potentialities to the full. But the path of this goal lies through social reorganization and emphasis on social perspectives.

Forum

Theme - Education for international understanding.

Objectives:-

1. To provide the participants the experience of conducting a forum.
2. To enable them to discuss how education can foster international understanding.

Education for International understanding

World has never lived in isolation; present civilization is the result of contributions of many nations - the best advantages of science and technology. All nations should pool their available resources and 'know how' and work for collective welfare of humanity. Education can meet this challenge and function as an effective agency of international understanding.

How?

Give the right kind of knowledge; present facts objectively without prejudice, without ridiculing other people; no insertions; no personal whims and fancies; no fabrication of facts; no distorted statements.

Stories, description of cultures through travel stories, stories of eminent scientists, thinkers, religious reformers - subjects in the curriculum should be properly oriented.

Study of languages - comparative literature -parallel proverbs, thoughts and feelings - good and noble thoughts are conceived in all languages.

History - not to be narrow - no stress on political and military aspects but on social and cultural aspects - interdependence of countries - Progress of civilization through ages- contemporary events - international agencies.

Geography - To teach how man adapts to physical environment in all parts of the world; how geographical conditions affect the world.

Civics - To introduce the concept of world citizenship cosmic brotherhood.

Sciences - To teach the positive aspects and uses of science, its potentialities for peace - to enable the students to think critically and develop a scientific attitude and outlook.

Role of the teacher - To have a broad vision and a cosmopolitan outlook - the spirit of internationalism - understand and appreciate other cultures and faiths. War begins in the minds of men; it is here the foundation of peace must be laid".

"The more we sweat in peace the less we bleed in war".
"Where is the wisdom we have lost in knowledge ? Where is the knowledge we have lost in information? The cycles of Heaven in twenty centuries. Bring us further from God and nearer to dust."
T.S.Eliot.

How to conduct a forum

Purpose:-

1. To provide for a public discussion of a current event or controversial subject.
2. To ensure presentation of key points of opposing views.

Procedure:

Two teams are formed consisting of two persons representing their points on the issue in question.

The chairman introduces the series in about two minutes.

Each speaker presents a summary of his position within 4 minutes.

For about 10 minutes, the team speakers question one another through the chair.

The subject is thrown open to the floor for questions and the team members answer the questions.

A non - evaluative summary is given by the chairman.

The effectiveness of the forum lies in brief, condensed presentations and provoking significant audience participation.

SESSION - 16

Debate

Theme - Is teaching a profession?

Objectives:-

1. To enable the participants to conduct a debate and participate in a debate.
2. To enable them to debate 'Is teaching a Profession?'

IS TEACHING A PROFESSION?

(Source : Ryan / Cooper:

Those who can, teach Houghton Mifflin company 1975)

A Profession is more than a group of individuals all engaged in the same line of work. Professions have more or less recognizable set of characteristics that distinguish them from non-professions. "As you read the following list of characteristics of a profession, check whether or not you think teaching qualifies on each premise.

1. A profession renders a unique, definite, and essential social service. Only the people in the particular profession render the service.
2. A profession relies upon intellectual skills in the performance of its service. This does not mean Physical actions and skills are not needed, but rather that the emphasis in carrying on the work is on intellectual skills and techniques.
3. A profession has a long period of specialized training.
4. Both individual members of the Profession and the professional group enjoy a considerable degree of autonomy and decision making authority.
5. A profession requires its members to accept personal responsibility for their actions and decisions.
6. A profession emphasizes the services rendered by its practitioners more than financial rewards.
7. A profession is self - governing and responsible for its own ranks - performing activities aimed at keeping the quality of their services high and looking out for the social and economic well being of the professional members.

8. A Profession has a code of ethics which set out the acceptable standard of conduct of its members.

A case of Teaching as a profession

The very nobility of the teacher's work is evidence in favour of its status as a profession. Society has entrusted teachers with its most important responsibility - the education of the young.

Although students learn from many sources, teachers are the specialist who pass on to the young the key skills necessary to participate effectively in culture. Teachers are expected to improve their competence. The autonomy of the teacher is somewhat limited. However, within these limits, the teacher has an immense area of personal control. Teachers' autonomy is accompanied by a responsibility to teach effectively.

Teachers are represented by organization, whose major function is improving the profession. They have established codes of ethics to guide teachers' Professional activities. The assertion that teaching is not a profession because many teachers do not act like professionals is not sound. The crucial nature of the teacher's work and the selfless spirit of service of the best teachers raises teaching to the level of a profession.

SESSION - 17

Theme - Unconventional methods of teaching

Objectives:-

1. to introduce the participants to role play as a problem solving skill.
2. to introduce the participants to case study and case analysis.
3. to expose the participants to brain storming, a technique for creative thinking.

1.A STIMULATION EXERCISE - A TEACHERS TRAINING COLLEGE IN INDIA

The following simulation is a role-playing exercise for seven participants. Each participant should read the background information below and should then assume the role of one of the members of the college staff. He should read very carefully the information provided about the member of staff so that he can adopt appropriate attitudes and use appropriate arguments at the special staff meeting which is to be held.

This meeting should take place when all participants have had time to consider their positions and the action required of them. Each one should appreciate that for the purpose of the exercise he is the person whose role he adopts. He must therefore experience a sense of involvement. He must also appreciate that since this is a role - playing exercise, no one will afterwards think that he was expressing his own thoughts at the time:

Background

Two tutors on the staff of Anna Teachers Training College Lalit and Mohan have become interested in individualized instruction. They believe that if individualized instruction is introduced into their college it will help them modernise their methods and produce better teachers. They have read several articles about it and have recently attended a course at which it was discussed and demonstrated. Their college is not very well equipped, but they feel they could nevertheless begin individualized instruction using groups of students to provide lesson feedback. They are convinced that student teachers should learn to teach small groups before they attempt to teach whole classes, and that here are certain teaching skills which should be similarly practiced, in such groups.

They realise however that if individualized instruction is to be successful in their college the staff will need to be convinced of its usefulness. This will be no easy task, for certain of their colleagues are always suspicious of anything new. They have been using the same methods for many years and firmly believe that there is no other way to train teachers.

The two tutors have discussed the possibility of introducing individualized instruction with the Principal. He seemed very sympathetic to their ideas and suggested that they might like to put them to all the staff at a special staff meeting which he has called.

The special staff meeting has been fixed for 2nd April.

The Principal : Dr. Chandrasekaran, Age 51

You have been Principal of Anna College for 10 years. You are a fairly cautious man who has been content so far to run the college on traditional lines. However you consider that you are receptive to new ideas, and for some time you have had reservations about the teaching methods used in the college. These methods, which depend very much upon imitation and memorisation, seem to produce rather dull teachers. You would like your teachers to learn how to teach so that the pupils are encouraged to think for themselves and to express their own ideas. It is possible that individualized instruction could help to bring this about, but you know very little about it. Even if the two tutors are able to convince you that it would be well worthwhile to introduce individualized instruction you are very anxious to retain united staff and not to antagonise such long-serving members of staff as Arun and Ramesham both of whom you feel sure would be hostile to the new ideas.

Your best policy would appear to be to adopt a fairly natural attitude and to make it quite clear to the staff that no change will take place unless they vote for it overwhelmingly.

Indran, Age 25

You are one of the youngest members of staff. You know very little about individualized instruction but you are quite excited to hear about the forthcoming special staff meeting. If the new ideas sound reasonable you will probably be in favour of their introduction because they will be a welcome change from the usual dull routine of the college. You tend to become very enthusiastic about new ideas and intolerant of those who oppose them. You suspect that Ramesham and Arun, both of whom you regard as dyed-in the -wool reactionaries, will make a nuisance of themselves whatever arguments are put forward. In that case you will probably speak your mind although they will no doubt suggest that you have not had much experience and that therefore your views do not matter very much.

Ramesham, Age 55

You have worked in the college for 27 years and regard yourself as one of its main supports. You played a major part in shaping the course under the previous Principal and you have seen the college develop in many ways particularly in the last 10 years when it has double in many ways and added new subjects such as sociology of education to its time table. You think the pace of change has been about right. It has moved with the times. In recent years you have heard mention of a number of innovations which strike you as new as new-fangled gimmicks that have been developed in other countries where conditions are very different. You consider it important to warn your colleagues against such ideas. Some of them are only too keen to jump on the latest bandwagon. They love to think of themselves as modern and enlightened but need to be reminded that the well-established methods of the college have stood them in good stead for many years. They should not abandon the known and proven for the unknown and unproven.

Arun, Age 47

You have worked in the college for 10 years and have been much influenced by Ramesham, the most experienced member of staff. You think that he has played a key role in the development and improvement of the college, and that his distrust of new ideas has helped to keep out influences which might have disturbed the smooth running of the college which has a sound reputation.

At the forthcoming meeting you are not likely to develop many ideas of your own but you will probably speak in support of the arguments put by Ramesham.

Lalit, Age 32

You have been a member of the college staff for three years. You have a very lively mind and have become increasingly exasperated by the failure of the college to modernise its curriculum and methods. Some of your colleagues apparently never read articles on new developments in education and seem content just to drift along in complete ignorance of the many new and exciting techniques that have been successfully developed elsewhere.

Quite recently you and your friend Mohan attended a course on individualized instruction and you are now convinced that it should be introduced into the college course. It would help to develop and practise new teaching skills, it would increase their awareness of the learning/ teaching process, it would help to bridge the gap between theory and practice, it would provide for them a carefully graduated series of teaching experiences and it would help in the training of lively teachers able to generate enthusiasm in their pupils.

The Principal, Dr. Chandrasekaran listened attentively when you and Mohan explained to him the value of

individualized instruction and you are very pleased that a special staff meeting has been called at which you will both be allowed to address the staff.

However you know that you will need to marshall your arguments very effectively if you are to carry most of the staff with you. Many of them look up to Ramesham who is sure to be highly critical, and Arun will probably take whatever line is adopted by Ramesham.

Ramesham will probably say that whatever the merits of individualized instruction, there simply isn't room for it in the time table. If that is his argument you will reply that it may well be necessary in the long run to restructure the entire course in order to accommodate individualized instruction. However the staff are likely to be more sympathetic to the idea of a gradual introduction and a small carefully controlled experiment rather than wholesale changes. You will therefore suggest that individualized instruction should be used for a trial period and that you will offer to use it with one group of students for this time and evaluate it in due course.

Mohan, Age 39

You are a quite thoughtful man who joined the staff five years ago. You firmly believe that teaching methods in the college are now very old fashioned and that unless some new ideas are tried out to see how they work it will become increasingly difficult to carry out any worthwhile changes. Ramesham is a hardworking man but he is becoming too stick-in-the-mud and complacent about the way college trains its student teachers. He is a real bar to progress.

You greatly admire the energy and dynamism of your friend, Lalit, whom you intend to support at the forthcoming

special staff meeting. You are also hopeful that it will be possible to convince the Principle of the value of your ideas as you have always enjoyed a good relationship with him and you know that he thinks highly of your work in the college.

Ranjit, Age 35

- Until two years ago you were the headmaster of a school and while you think you know more than most of your colleagues about schools and the teaching of children, you feel you have a great deal to learn from them about the training of teachers.

You are looking forward to the special staff meeting and intend to listen very carefully to all the arguments put forward for and against the new ideas.

SITUATION FOR ROLE PLAY

You are the Head of the Department in a college. Two members of the staff of your department have just undergone a course in modern techniques of teaching. They come to you and suggest these techniques be employed by all the members of the staff of the department so that learning can be more effective.

About three members of your staff supposed to be stalwarts in the subject, rich with experience, are totally against such techniques. They suggest it is not advisable to listen to young immature people. One of them even threatens that he will resign his job if you impose the so - called modern methods on him. The other members of the staff about five in number keep silent, watching the proceedings of the meeting.

2. Case Analysis

- Have a small group

- Go through the case.

- Identify yourself with the role and think of what you would do if you were in that position.

- Let the group members consider each individual solution and discuss its various plus points and minus points.

- Let the group arrive at a consensus.

You are the principal of a college. Being Interested in innovative measures you have just administered a feed back questionnaire to the students on the teacher's efficiency. An analysis of the results is rather shocking. Two of your immediate subordinates who play a vital role in the administration of the institution have been rated very low in earnestness, sincerity, teaching competency and human relations. But they are very helpful to you in running the institution. Their timely advice and suggestions have helped you many a time to solve certain problems connected with administration. They take any extra work voluntarily and normally give a good account of themselves. They are also in the good books of the management. Now the time is 4'o clock in the evening. At 4-30 you have a staff meeting and the second item in the agenda is : Analysis of feed back questionnaire. The agenda has been already circulated among the members of the staff.

What will you do?

3. HOW TO BRAINSTORM

There are four steps and three ground rules.

I Steps:

1. Statement of the problem:

The leader should state a problem giving the essential facts relevant to the problem.

2. Restatement :

For about 5-10 minutes, students try to restate the problem so that the problem is seen from different angles.

3. Brain storming - idea getting:

The leader takes the best restatement of the problem and asks the students to call out the possible solution.

4. Listing:

The students call out at random, any possible solution or modifications of other's solutions. No reasons are given. One person quickly writes all the solutions on the black - board. This continues for 20 -25 minutes.

II. Ground rules:

Key rules -

1. Don't evaluate any idea, even wild ideas are accepted. Allow people to interrupt, laugh but suspend judgment.
2. Go for quantity. A group can produce at least 100 ideas in 20 minutes.
3. Build on whatever you wish.

Some areas to practice with-

- a slogan for a new activity.
- a name for a new product.
- a new small scale industry.

Exercise:

Which technique/s would be the more suitable for the following purposes from the following techniques?

Lecture - L

Demonstration - Dem

Discussion - D

Lecture, discussion - L/D

Conference - C

Team Teaching - TT

Programme learning - PL

Case study - CS

Brain Storming - BS

Role Play - RP

Practical experience (field trip visits) - P.E

Purposes Techniques

1. Explaining facts and principles.
2. Developing analytical skills.
3. Developing self-awareness.

4. Modification in attitude.
5. Decision making under pressure.
6. Carry over from college to job.
7. Improving communication skills.
8. Developing appreciation.
9. Developing creative thinking.
10. Sensitizing oneself to other's feelings,
11. Developing skills in manual operation
12. To illustrate the application of principles.
13. To collect ideas for solving a problem,
14. To solve a problem by seeking consensus.
15. To transmit some new information.

SESSION - 18

PERFORMANCE ASSESSMENT-II (Time : 2 hours)

1. Answer ONE of the followings questions in about 750 words.
 1. Identify the four motivational functions of teachers and discuss their educational significance with suitable illustrations.
 2. 'Lecture' as a method of teaching is being questioned as to its effectiveness. Suggest and suitably illustrate five measures by which you can make your lecture an effective teaching strategy.

(1X15=15 marks)

- II Answer FIVE of the following questions in about 150 words.
 3. What do you understand by 'higher order questions? With suitable illustrations discuss how you can make your teaching more effective by employing higher order questions.
 4. What do you understand by 'closure'? Briefly outline the process of closure for a lesson of your interest in your discipline.
 5. "It is not what we teach but how we teach that counts". In the light of this statement work out a case for teaching through 'Discovery'.
 6. What do you mean by 'Set Induction? Briefly outline the process of set induction for a lesson of your interest in your discipline.

7. Mention five major findings of the recent study of Atkinson and McClelland on 'Achievement Motivation' and their 'educational implications.
8. To what extent is FIACS useful to college teachers?
9. Identify five specific objectives of a course in Educational Psychology for college teachers.
10. Choose a topic of your interest in your discipline and discuss briefly how you would teach it with Glaser's Basic Teaching Model as your frame of reference.

(5X5=25 marks)

SESSION - 19

Theme: Individualization of instruction - Modular Scheduling and Programmed Learning.

Objectives:-

1. to help the participants to become aware of the importance of individualization of Instruction for a target population.
2. to enable them to acquire knowledge necessary to develop self instructional materials such as modules and programmed materials.

INDIVIDUALIZATION OF INSTRUCTION - MODULAR APPROACH

What once was an art - the art of teaching is now a Science - Pedagogy - built on firm foundations and supported by research findings in Psychology, Physiology, Sociology, Anthropology and Linguistics.

Pedagogy was confined in the past to giving instruction to the young i.e., 'giving children a start in life' as the etymology implies. Now the meaning we give to education and thereby to pedagogy is more vast and complex. It includes the cultural process of bringing forth and developing all an individual's potentialities, all his life. Lifelong continual education is the mark of modern pedagogy. It takes to account, the individual, his capacities, his mental structures, his interests, motivations and needs while he is a member of the group. In this view, the teacher or the instructor is not the only active agent but the pupil, the learner, who is being educated plays an increasingly active role in his own education. The basic assumption is that all the teaching activities have one primary objective and that is instigation of learning and appropriate changes of behaviour in students; all learning is individual, private and personal.

In the past ten years, many innovations aiming at evolving more effective and more flexible forms of education focusing on individualization of instruction have emerged. Non graded schools, polyvalent classes, unstreamed classes, community colleges, open Universities, non-formal education, modular scheduling, personalized scheme of instruction are some of the dimensions of the wave of innovation. The common features of all these new schemes are:

1. Recognition of individual differences
2. Adaptation of instructional procedures to the requirements of individual learner

3. Personal diagnosis and practice of self education.
4. Working at one's own pace, at one's own level and rate.
5. Commitment to goals or objectives by the learner.
6. Working in small groups in development of social skills.
7. Use of large group lectures and demonstration as vehicles of motivation.
8. Diagnostic, formative and summative evaluation by the self- proctoring system which acts on the principle of success orientation.

Class room operation:-

1. Physical freedom to move about in the classroom, to facilitate informal activity.
2. Variety of instructional material to encourage inquiry and discovery.
3. Alternative instructional material to accommodate the different learning styles of the different learners.
4. Small group experiences in the form of simulation, games , discovery experiences, realistic problem etc., for learning higher level cognitive skills and abilities.

Teachers' role:

1. Teachers are facilitators of learning and not purveyors of information.
2. Should be able to relate to and work with various types of individuals in small groups as well as a total class.
3. Teachers should be able to guide the achievement of effective and social goals as much as cognitive goals.

Learners' needs:-

1. Learners should be afforded experiences exploring and finding out one's own aspirations, needs, interests, and learning styles.
2. Learners need explicit instruction and experience in planning for carrying out individual and small group instruction.
3. Learners need to be taught to evaluate their work and progress.

Modular approach

According to James Rusell (1974) A module is a short unit of instruction dealing with a single conceptual unit of subject matter. With such modular units, it is possible to individualized learning by enabling the students to choose and master one unit before moving to another.

Each course is built up of a 'bank' of number of modules and each module is designed around a list of objectives and student projects. Variety of learning activities centred around the learner and incorporating a multi-media approach are provided. The components of the modules include-modular lecture units, group discussion unit, role play unit, laboratory units, programmed instruction units, workshop units, individual study unit, film unit, audio tape unit, video tape unit etc.

A mastery approach to evaluations employed; The learner chooses from a variety of evaluation techniques - such as quizzes, projects, oral test, written test - and tests himself on each module and if he finds he has failed to master, he may retest himself after some more study.

Some of the modules are basic modules and required of all students; others are elective modules, out of which the learner is free to choose according to his needs and interests. The less able student works at his own pace and gains a

mastery of what he learns. Since each works to one's own preestablished criteria, he competes with himself and not with his classmates'. Any student may re-study a module by using a different technique and different learning material and retest as often as he chooses without penalty.

To summarize, modular approach of individualized instruction is a dynamic, flexible , multi-media approach to education.

It emphasizes working to stated objectives, student progress at their own rate towards mastery, using a variety of instructional materials, a multi-media approach and self assessment through a variety of proctoring techniques.

Values of individualized instruction

1. Students are encouraged to assume responsibility for their own learning.
2. Little time is spent in passive listening and more time in cooperative learning activities.
3. Self disciplined approach is used in management of classes.
4. There is recognition of each individual student, his needs and interests.
5. A key element of this learner - centred modular scheduling is success - orientation; when students do not achieve, the implication is that the course has failed.
6. Peer - tutoring is encouraged and this leads to increased cooperation among the members.

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Programmed Learning

Introduction

The process of education consists of determining the objectives, providing suitable experiences designed to achieve these objectives and measuring and evaluating the results produced. Looking into the conventional role played by the teacher in such a situation as it stands at present we find that a good teacher presents his subjects in which he considers which the student has already acquired leading him from known to the unknown. A good teacher also obtains the active participation of his students and makes sure that his level of presentation is suitable for the type of students he is teaching. He also adopts suitable assessment procedures. These basic requirements of a good teaching programme have been applied by teachers with varying degree of efficiency for many years. But the efficiency of operation of this system is limited by many factors such as staff - student ratio, nature of the individuals involved and their differences.

In the modern systems approach to education, these factors have all been thoroughly analysed and many new techniques and ideas have been evolved and their differences.

Programmed learning or programmed Instruction is one such technique. This is a relatively new technique through which the learner receives instructions by means of specially prepared and validated texts, known as programmes. These programmes are different from the ordinary text books in that the former are prepared to suit the needs of particular students and to achieve specific objectives where as the latter are intended for more general use.

Though the field was developed from the ideas of Sidney L. Pressey of the Ohio state University during the year 1926, adoption of these ideas took real momentum by the work of Dr. B.F. Skinner in 1958. S.L. Pressey devised a contrivance to present in a sequence the instructional materials which were later called as teaching machines. Dr. Skinner postulated that learning should take place in small steps and the learner can be conditioned to 'respond' correctly to a 'stimulus' by means of a 'reward' will 'reinforce' the learning. In the human learning process this is achieved by presenting the information in small steps called frames. The learner is asked to respond by giving an answer to a question or to fill in a blank. After the learner makes the response he is told immediately whether the response is correct or not. The mental satisfaction produced, acts as a reward and produces the reinforcement to the learning. There are two kinds of programming called the Linear and Branching. In the Linear programme the frames are so designed and arranged that the population for which it is planned will generally be providing the correct response all the time. In the Branching programme however there is scope for the learner to choose his answer from a set of alternative and if he is wrong he is immediately told why he has gone wrong. Thus the Branching programme acts as a teacher and guide at each step and corrects the learner whenever necessary.

If suitable programmes are not available for the specific population, a body of experts in writing programmes along with technical competent personal should form a unit and prepare programmes.

A programme before it is presented for use is subjected to a series of tests and developments.

Mechanics of Writing a Programme

The writing of a programme on any specific topic for a known set of population involves three broad phases.

1. Planning and preparation
2. Writing; and
3. Evaluation

1. Planning and Preparation

This is a very important phase and the time and effort spent on this phase will definitely improve the quality of the programme. The planning consists of the selection of topic and the determination of the target population and their assumed behaviour.

The scope of the use of the programme and where it is to be used will considerably modify the structure of a programme for a given topic. Different programmes may be prepared for the same topic depending upon whether it is to be used for home work, class work, remedial work etc.

The next question to be decided is to find out the qualifications and basic abilities of the student (target Population). Then it is necessary to define clearly the basic assumptions from the knowledge of the population in terms of their knowledge and skills (assumed behaviour). This is generally done by giving an entry test based on the assumed behaviour and finding score of this test.

The first task in preparation of the programme is topic analysis. This process is similar to the process used for syllabus analysis, expansion and breakdown used by educators prior to lesson preparation.

The next job is to specify the objectives. Each instructional objective should clearly identify the terminal behaviour in precise operational terms. It should state the important conditions under which the behaviour is expected to occur and should specify the criteria of acceptable performance by describing how well the learner must perform.

Having stated the objectives of the programme in observable and measurable terms, the next task is to plan questions which measure the degree of acquisition of learning to meet the objectives. These criterion questions when prepared for all the objectives will form part of the pre and post tests to be administered when the programme is gone through by the learner. It provides a basis for evaluating the effectiveness of the programme. Now the stage is set for ordering instructions and planning the instructional strategies.

The first is to write the sequence in the form of a set of teaching points, each teaching point to contain one new 'unit of knowledge' or skill, as obtained from topic task analysis.

The second is to attempt to classify each teaching point with the 'type of learning involved' which is independent of the factual statement of content. In this way the teachingpoints serve not only as control to the content but also as guidelines to the instructional strategy.

Once this is done the programme is ready for the next phase which is the writing phase.

2. Writing the Programme

Choice of Format and Paradigm

The first question to be decided is whether any particular type of teaching machine is to be used or whether it is going to be in the form of a programmed text. Once this is decided, the

programmer may then select a suitable model to be followed in constructing the programme. There are a number of models which are used by programmers and these are called programming paradigms; depending on the objectives, suitable combinations of the paradigms may be used in programming.

These paradigms can be classified broadly as a) Linear or extrinsic Programming; and b) Branching or intrinsic Programming.

- a) The Linear extrinsic programming paradigms are based on the work of B. F. Skinner. The following are the extrinsic paradigms.
 1. **The Linear Programme:** In this type student responds to the first item and then after receiving confirmation as to the correctness of his response, proceeds to the second item and so on. Each stimulus is designed to elicit the correct response by the student and his own construction of the response is an integral part of the learning situation
 2. **Conversational Chaining:** This paradigm originated by J. Barlow closely resembles the linear model. It also consists of a sequence of stimuli and responses in the form of questions and answers. A chain is built up by ensuring that the second stimulus is contingent upon the emission of the first response and so on.
 3. **Modified Linear Programme:** Sometimes it becomes necessary to take into account the individual differences. Slow learners require more review frames and fast learners may be able to skip many repetitive frames. Thus a linear programme may be modified to allow for skipping of certain review sequences when responses have been correct.
 4. **Linear Programme with sub Linear:** By reversing the skipping procedure, the linear sequence may be used as a

form of remedial instruction for those who are slow. These may be taken as the option of the students.

5. **Linear Programmes with criterion frames:** At certain critical juncture in the linear programme it may have to be determined whether a particular student should go through a particular sequence or not. On such occasions test frames called criterion frames are incorporated in the Linear Programme itself.

b) **Branching or intrinsic programming**

This type of programming was developed by Norman Crowder. In this, the student is given the material to be learned in small logical units. Immediately after he reads and digests it, he is given a short test on it. The results of the test will then decide whether he can be given the next unit or whether he has to return again and work on the previous unit. Thus in the Branching programme, at the end of each unit a question is posed with four to five alternate answers. Choosing the correct answer will lead him on through the programme whereas the other choices give him remedial information and brings him back to the starting point with instructions to choose another answer.

Principles of frame Action

The frames may require the student to make a response which is observable like filling in a blank or represent by diagram etc. Such a response is said to be Overt.

Sometimes it may be necessary in some frames for the learner not to make any observable responses. Such responses are called Covert response. Some times the responses desired of the learner may be indicated within the same frame. These are called cues and prompts.

All programmes start with introductory frames called set frames; These are followed by a number of practice frames in

order to make the learner practice the newly acquired knowledge.

Following this are a series of discrimination frames which are presented to the student and he does not select one response from many but constructs his own responses each time. The programmes are ended with subterminal frame leading to the end and finally and in a terminal frame;

3. Evaluation

Development testing:

When the programme is still in the draft stage it is necessary to subject it to the development tests. These consist of one to one testing and small group testing. Testing on one to one basis involves the programmer and a representative of the target population. The programmer should uncover as many programme inadequacies as possible by discussing with this individual and eliminate these inadequacies. He generally does this by asking this representative to read the frame aloud and respond loudly. Wherever difficulties are found they are discussed. After the programme is tested several times on a one to one basis, the small group testing is done.

In this five to eight average students of the target population are chosen and the programme is administered. The time taken by each student is noted. Pre and post tests are also administered. After grading these tests, the programmer sits with individual students of the group and discusses the programme and the difficulties experienced.

$$\text{Gain Index} = \frac{\text{Post test score} - \text{Pre - test score}}{\text{Max. score} - \text{Pre - test score}} \times 100$$

$$\text{Mean G.I.} = \frac{\text{GI}}{\text{N}} \text{ Where N is the number of students}$$

After carrying out the development tests and making the necessary corrections the programme is ready for field testing.

The field testing is intended to (1) find out whether the programme achieves its objectives (2) find out the mean and range of working time; (3) provide data for final programme revision. It is only the field tested programme which is allowed finally to be printed.

One common standard used for expressing the achievement of the programme is a 90 -90 standard. This means that the class mean is 90% and 90% of the population will achieve each and every objective of the programme.

Teaching Machines and their Usages

Programmed Learning materials are available for some topics and subjects commercially in the form of printed texts, leaflets, film strips, microfilms and slides. These are produced by commercial firms in Britain and USA and other European countries. These are all written for specific population with specific objectives in mind. The responses by the students are written on separate sheets of rolls of paper so that the same programme material can be used over and over again. These are presented through certain devices to facilitate turning pages, skipping frames, and these are called teaching machines. These are used with linear programmes. In some of these, the Programmed Learning material is projected frame by frame from a filmstrip and the students respond by pressing appropriate buttons or levers or by writing in a separate paper roll. The most economical form however is to use the printed programme with separate response sheets.

Areas of Usages of Programmed Instruction

It helps the learner to acquire knowledge and information at his own pace bit by bit.

Students who have missed lectures due to late joining or indisposition need not miss the subject matter content of the course.

Student involvement, active participation and response is ensured throughout the programme.

Reinforcement is ensured by providing the learner with immediate answer indicating throughout, his progress correctly.

The learner progresses with the assurance that he is learning and attaining the same level of achievement as the other students.

Tends to eliminate the frustration due to inability to keep pace with the group by individuals in the class. All learners are given set objectives and the end behavioural attainment is specified and the programme is tested before being released.

SESSION - 20

WORK SHOP

Theme - Programmed Learning - Frame Writing

Objectives:-

1. To provide an opportunity for the participants to apply the knowledge of principles of programming they have been introduced to in the previous session.
2. To enable the participants to write a few frames for an identified topic in their respective disciplines in the linear style.

Following are the samples of the programmed learning materials developed by the discipline - wise groups in the work shop session.

Sample Frames in Physics

1. When two positive or negative charges are brought near they move apart: when a positive and a negative charge are brought closer, they move towards each other. So like charges and unlike charges.....

Repel, attract

2. Repulsion and attraction mean that forces act on these charges. If we double one charged, the force is also doubled. If we double both the charges, the force is increased 4 times. i.e. the forces is directly proportional to the (product,sum, difference) of the charges.

Product

3. If we have the distance between the charges, the force is increased 4 times. If we make it one third, the force is increased 9 times, i.e. the force is inversely proportional to the of the distance between the charges.

Square

4. So we come to a very basic law in electro -statics called Coulomb's law which states that the force between two charges is directly proportional to the charges and inversely proportional to the square of the distance between them.

5. Before you proceed with this frame state Coulomb's law and check your answer by referring to the previous frame. It can easily be seen that the force (F) between two charges 'q₁' and q₂' separated by a distance d' is given by $\frac{1}{4E} \times \frac{q_1 q_2}{d^2}$ where E is a constant called the permittivity of the medium in which the charges are placed. What is the effect of permittivity on the force between the charges? As permittivity increases, force decreases

As permittivity increase, force decreases

6. If we compute $\frac{1}{4E}$ for air or vacuum, it comes to be 9×10^9 . So when q₁=1 q₂=1, and d=1 we find that F= 9×10^9 . So we define unit charge as that charge which when placed from a similar charge in air or vacuum at a distance of 1 metre repels it with a force of

9×10^9 Newtons

7. The unit charge that we have defined is called a Coulomb. Compare the force between two charges 10 and 20 Coulombs separated by a distance of 0.1m in air.

18×10^{13} Newtons

8. The space surrounding a charge where its effect can be felt is called the electric field of the charge. The force acting on a unit positive charge placed at a point in an electric field is called the electric intensity at the point. Electric intensity will be(high, low) near a charge. Theoretically Electric intensity will be zero only at distance from a charge. High/ Infinite

High / Infinite

9. Work must be done in moving a unit +ve charge in an electric field against electric intensity. This work will be stored as on the unit +ve charge. It is called the electric potential. Thus electric potential at a point in an electric field is the work done in moving unit +ve charge from infinity up to the point. Potential energy.

Potential energy

10. We can also define potential difference between two points in an electric field. Can you define it from what you have studied about electric potential ? It is the work done in moving unit +ve charge from one point to the other.

It is the work done in moving unit +ve charge from one point to the other.

Sample Frames in Economics

1. In every day language, the term "market" is understood as a place where commodities are sold. Buyers come there demanding commodities. Bargaining takes place where the seller and the buyer; strike at a common price; the commodity is sold. This is what a layman means by the term 'market'.

You are clear now what a lyamen means 'market' is a where and takes place.

1. Place 2. Selling 3. buying

2. In economics, 'market' does not necessarily mean a place. Again it does not stress that the seller and the buyer must meet in person. What is important is selling and buying i.e. exchange. Buyer and seller may contact even by phone or trunk, or post etc. So, market means an occurence of an exchange, according to economists. So, you know, now, that market involves

Exchange.

3. Linsey, an economist, defines the term 'market' as "any area over which buyers negotiate the exchange of a well defined commodity". This is a simple and comprehensive definition. The key words are negotiate, exchange and well defined commodity. Thus the concept of market means the occurence of an exchange through negotiation irrespective of the mode of contact between the seller and buyer.

The key words in Linsey's definition of market are include

(1) (2)

1. Negotiate; 2. Exchange; 3. well defined commodity.

4. The markets are of many types. In general, in a modern economy, they range from local street market to the stock exchange, and from national market to the international market.

Market for perishable goods is an example for ———

a) Local Market, b) National market, c) international market.

a) Local market.

5. There are several basic market structures or models. They are not comprehensive picture of reality. In reality any industry may have the characteristics of two or more models. So, there are bound to be many borderline cases. To enumerate the prominent market forms, we can mention perfect competition, monopoly, monopolistic competition and oligopoly .

In general in our practical world life, we come across this type of market.

a) monopoly

b) oligopoly

c) Perfect competition

d) Monopolistic competition.

(d)

6. Well, having seen the market forms let us see the creation of effective demand. Human beings want various commodities to consume to get satisfaction. A man wants a meal to eat to put off his hunger. By consuming the commodity, meals, he gets satisfaction. In doing so his want is fulfilled. To attain this he should have money or purchasing power to get the desired commodity. Again he should have his 'will' to purchase the commodity. Thus one's wants, will and purchasing power put together gives rise to an effective demand. Even if one factor is lacking, it is not demand.

For the creation of an effective demand besides want and will, there should be present Purchasing power.

7. In the previous frame, you have learnt the meaning of 'effective demand' from the point of view of a single person. With regard to a market, demand means something more. It means the total demand per unit or time at various price level from all the buyers on all the sellers in a particular market. Say, on a particular day 1000 oranges are demanded at a price of 50p. each and 500 oranges at re.1/- each and 15000 oranges at 25p. each and so on. Then the whole picture of this is meant by the term demand for the particular commodity (Oranges) for that particular day in that market. By demand in a market, we infer the various quantities of commodity, to be purchased in a at different

(1) Unit of time (2) Price levels.

8. You are following me. We can now learn the factors which determine the demand. You know we will purchase a

commodity more when it is cheaper and less when it is costly. That is, price determines demand. Again consumers prefer to purchase certain things instead of other things according to their tastes. So, tastes, and preferences determine the demand when there are more buyers naturally more will be demanded. So, number of consumers is another determinant. You know well that as one's income increases his consumption too increases. Thus income determines the level of demand. These are the important determinants of demand.

Price of a commodity, tastes and preferences, number and incomes of consumers determines

Demand in a market.

9. We can now study about substitutes and complements. When the price of coffee increases while that of tea remaining the same, demand for tea will increase and viceversa. Here tea and coffee are substitutes to each other. When more and more cars are purchased by people, naturally the demand for petrol rises. Such related goods are known as complements. In short changes in the prices of the related goods determine the demand of a particular commodity. To quote related goods, we can(1)..... and(2).....
-

(1) Substitutes (2) Complements

10. Assume that on a particular day, there were only ten varieties of vegetables available and on the next day, thirty varieties of vegetables were available. It is obvious that

demand for a particular variety of vegetables would be high on that particular day than on the next day. Since they have many a choice, their demand of a particular commodity falls. Suppose when one believes that the price of a particular commodity will increase in the near future, he is tempted to hoard and hence the demand rises. When he expects a fall in price there is a fall in demand.

..... of goods available, consumers, expectations regarding future, of commodities, will influence the demand.

(1) range

(2) price.

11. Having seen the factors influencing demand we can now give a mathematical expression between demand and its determinants. The following are the notations for each. D_x =quantity demanded of commodity f =function; P_x = price of commodity; T =Tastes; C =number of consumers; Y = income; P_r =Prices of related goods. R =range of goods available to consumers and E =Expectations. Now we can conveniently summarise the influence of the factors on demand by $D_x = f(P_x, T, C, Y, P_r, R, E.)$

Giving mathematical expression for demand and its determinants; we can write

$$D_x = f(P_x, T, C, Y, P_r, R, E.)$$

- 12 We have finished enumerating the seven determinants of demand. If we assure that changes take place in all these

determinants; our human brain will not be ably to grasp the happenings and predict the resultant change in demand. To overcome this difficulty, we assure that one of these determinants changes at a time while all other remain constant or changeless. This assumption that all other things remain unchanged is called as “CETERIS PRAIBUS”. The assumption that all other things remain constant is termed as

Ceteris Paribus.

$$D_x = f(P_x, T.C., Y, P_r, R, E)$$

Sample Frames in Mathematics

To learn eclipse, the learner should have knowledge about.

- i) New moon and full moon
- ii) Conjunction and opposition
- iii) Direct common tangents and transverse common tangents
- iv) Cone, Vertex, semivertical angle.
- v) Horizontal parallax of the sun and moon.
- vi) Latitude of the moon.
- vii) Angular radius of sun and moon.

1. You have already learnt about fullmoon and new moon. Now you will learn something more about them.

Let S denote the centre of the Sun and E that of the Earth. The direct common tangents of sun and earth meet at V. Thus they form a cone of vertex V.

In this cone, the part lying between the Earth and the vertex V is called the shadow cone (formed by the shadow of earth) cast by the earth.

The portion of the cone (formed by direct common tangents of sun and Earth) between earth and vertex V is called the

SHADOW CONE

2. Yes you are right, Proceed. It can be seen that the portion between the earth and the vertex V will not get any light from the sun. This shadow one is otherwise called

UMBRA

3. Yes, right go on. Suppose, the transverse common tangents meet at 'V'. The portion of the cone with vertex 'v' generated by the transverse common tangents of Sun and Earth, surrounding Umbra is less dark and it is called Penumbra. The portion bounded by the transverse common tangents and umbra is called

PENUMBRA

4. Very good, Go ahead. You know that the moon moves round the earth. In its motion round the earth, if any part of the moon enters into umbra, that part will be rendered dark. The reason is that the earth will obstruct the sun's rays from falling on the moon. This leads the occurrence of a lunar eclipse.

If the moon enters the shadow cone occurs.

LUNAR ECLIPSE.

5. Now you can see that when the moon enters into umbra it will be in opposition with the sun. Hence it will be a full moon day. So lunar eclipse occurs on full moon days when

the moon enters into Umbra (shadow cone) Lunar eclipse occurs when the elongation of the moon is

180°

If you have said 180, you are right, proceed further.

6. Now you know how a lunar eclipse is caused. The lunar eclipse is for is for the moon. In the same way there is an eclipse for the sun called the solar eclipse. It is caused by the moon's entering in between the sun and the earth, and hiding either a portion or the whole of the sun's disc as seen from the Earth. This occurs on new moon day. (Pickout the correct answer) Solar eclipse is caused when the moon is in with the sun. (Opposition, conjunction, quadratur).

CONJUNCTION

Yes, go ahead.

7. Thus there are two types of eclipses lunar and solar. Now you can find the kinds of lunar eclipse. When the moon moves round the earth, if it touches the shadow cone, it will be the beginning of a lunar eclipse, Thus M is the position of the moon when the lunar eclipse begins. When it is at M3 it is partially eclipsed, at M2 it is completely inside the shadow cone. It is called total lunar eclipse.

Thus there are kinds of lunar eclipse namely

TWO, TOTAL AND PARTIAL

8. As in the case of the moon, let us find the kinds of solar eclipse. Suppose that the direct common tangents of sun and moon do not meet before reaching the Earth. Let the tangents meet the Earth at A and B. Then for a place P with AB, the sun will be totally hidden. But for a place Q, out side AB, the sun may be partially hidden or completely visible.

“Hence total solar eclipse will be enjoyed by the places in AB” -State True/False

TRUE.

9. Now you can find what happens when the direct common tangents of sun and moon meet before reaching Earth. Let the tangents produced meet the Earth at A and B. For a place P within AB, the central portion of S will be darkened. So the sun will be seen as a circular ring. This is called annular eclipse. For a place Q outside SB, there may be a partial solar eclipse or no eclipse at all. Thus there are altogether (a) kinds of solar eclipse. They are (b) (a) three b) TOTAL, PARTIAL, ANNULAR.
10. You have seen that on new moon and full moon days we have solar and lunar eclipses respectively. But do we have eclipses on all full moon, new moon days. No; because the lunar orbit is inclined at an angle of $5^\circ 8'$ to the ecliptic. Hence on certain full moon and new moon days, the moon may pass or without even touching the shadow cone. The non-occurrence of eclipses on all fullmoon and new moon

days is because of
 (Fill in the blank with five words).

ITS INCLINATION TO THE ECLIPTIC.

Revision Frame

Umbra is formed by Direct common tangents of sun and the Earth. On a full moon day if the moon enters into Umbra (shadow cone), the moon will be partially or totally hidden; hence lunar eclipse occurs.

Lunar eclipse occurs on

FULL MOON

SESSION - 21

Theme - Technology of Teaching Effective use of audio - visual aids

Objective:-

1. To make the participants aware of the process of search for a technology of teaching.
2. To introduce them to the psychology of the learning process.
3. To help them value the importance of using audio visual aids in facilitating of learning.
4. To demonstrate the versatility of some of the equipments such as the overhead projector and slide projector.
5. To focus their attention on the effective use of projected experiences such as films and film strips.

TECHNOLOGY OF TEACHING

Introduction

The exploding world population, the exponential rate at which new knowledge is being generated and the changing technology of the society outside are the three major factors which demand that education should wed itself to science and technology and develop the capacity to adopt to and manage change. This has led to a search for a technology of education or educational technology.

Concept of Educational Technology

Educational Technology refers to 'the applications of scientific principles to instruction' according to Skinner (1968) Gagne (1965) and Pask (1969). Finn (1960) and his colleagues give a hardware approach to Educational Technology when they define it as 'the application of Technology to instrumentation useful to the process of teachings. The first approach is concerned with learning aids like programmes and the second, to teaching aids like teaching machines and they are obviously, functionally interrelated to each other.

The national Council for Educational Technology appointed in 1967, in UK has defined educational technology as "the development, application and evaluation of systems, techniques and aids to improve the process of learning". In layman's language, we can say that educational technology is the application of scientific knowledge about learning and the conditions of learning to improve the effectiveness and efficiency of teaching and training. Thus educational technology is concerned with knowledge of what is taught, when it is taught, how it is to be taught, and to whom i.e., the content, the learner,

scientifically established principles of learning, teaching - learning process, techniques or presentation, using of aids, arranging the stimuli situation, organization of learning experiences and feed back and evaluation.

Thus educational technology is a very wide concept and should not be limited to the hardware approach and confused with teaching media like teaching machines, T.V., language laboratory, programmed learning and packaged learning materials.

Technology of Teaching

Application of technology of the micro-educational level, to the process of teaching is a relatively new development. Experimental analysis of behaviour and the behavioural changes occurring in the learner in all its aspects of knowing, feeling and active has led the way to evolve a technology of teaching from which programmes, schemes and methods of instruction can be deduced.

The main purpose of teaching is facilitation of learning. The teacher either operates as a resource or manages the learning resources. A technology of teaching is concerned with few tools and techniques which can be used to make the teaching- learning process more effective.

The two major trends that have developed in this process are technology for mass instruction and technology for individual instruction.

Mass instructional technology includes broadcasting, television, filmed lectures through closed circuit television and motion pictures. Technology for individual instruction includes all the equipment and materials designed for individual

operation such as Teaching Machines, Programmed Instruction, Computer assisted Instruction, Auto Tutorial system, Language Laboratories, Learning Modules, and viewing and listening equipment as slides, filmstrips, films and recordings. A combination of the right equipment, i.e., hardware with thoughtfully, intelligently and adequately prepared software is the essence of technology of teaching.

Traditionally decisions regarding methods and materials of instruction and instructional sequencing have been made by the class room teacher. But when technology mediates in the form of a TV teacher or language laboratory or a programmed book, curriculum planning and programme development become the centre of instructional strategy and the class teacher's function is more of a supporting function in managing learning and sharing the responsibilities of teaching with the media or mediated teacher.

Programmed Learning

Instructional technology has ushered in a man-machine-man system. A highly developed technology of teaching is programmed instruction. This is a self - instructional system. By analysing and breaking down content into specific behavioural objectives, devising the necessary steps to achieve the objectives, setting up procedures to try out and revise the steps and by validating the programme against attainment of the objectives, programmed instructions has succeeded in creating an effective technology of instruction.

Significance for Adult Education

The tasks of Adult Education is as diversified and multivarious as life itself. If the goal is life long continuous

education, education has to be beamed at different target audiences - illiterates, non-learners, school dropouts, people wanting to further their professional qualifications, people wishing to supplement their university degree, those looking for leisure time activities from urban and rural areas, men and women of different ages, races, traditions, beliefs, cultural backgrounds, walks of life etc.

The types and forms of adult education may be formal, vocational, professional, remedial, liberal or enrichment.

Depending on the purpose and substance of the instruction, the educational message may be simple or complex.

Different approaches will have to be applied according to the motivational level of the audience. According to the continually changing needs and aspirations, objectives, policies and practices will have to be reviewed and diversified. To get education to adults who are already overburdened with duties and responsibilities, having little time for education, new techniques of arousal will have to be used.

One promising answer to a new way of teaching is the application of mass communication technology. Radio forums, Tele clubs, TV group viewing etc have proved quite effective in tackling some of the community development programmes and reaching a large number of rural audience.

A multimedia approach combining TV programmes with film demonstration, self-study manuals, correspondence courses, weekly discussion sessions and Summer Contact Programmes has proved very successful in offering additional advantages and possibilities for those wishing to improve their qualification.

TV and radio can present subject matter in a variety of ways, in all forms of the spoken word - variation, dialogue, lecture, interview, commentary, dramatization or any form of literary art and this has been found very helpful in evoking and retaining interest, to stimulate efforts in learning, to challenge curiosity and intellect, to effect emotion and attitude especially from the less captive audience.

Mass media can be used in an auxiliary capacity or direct teaching purpose. Whatever vehicle may be used, the media by themselves cannot achieve much. Consolidation and extension of the impact can be achieved only by integration of the man - machine-man system and developing a technology with its characteristic methods and concepts to face the problems and the needs of its clientele.

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EFFECTIVE USE OF AUDIO - VISUAL AIDS

Rationale

Though psychologists have not agreed on a theory of learning, there is marked agreement among educators about the ways people learn:

- i) The basic steps in the learning process are, experience, understanding and thinking.
- ii) The basis for all learning is experience - direct, concrete, sensory or representative or symbolic.
- iii) In any learning situation, the more the senses are stimulated, the more a person learns and longer he retains.
- iv) The effectiveness of what is learnt depends on the intensity of the stimuli.
- v) The attention aroused is a response to the commanding nature of the stimuli.
- vi) The better the blending of experiences into meaningful conceptional groups, better the understanding.
- vii) Incorporating new experiences with the existing ones and using their associations to discover relationships is the highest type of learning.

Objectives

The general objectives of the use of audio visual materials is enhancement of learning. Senses are gateways to knowledge. There is an old saying,

"I hear, I forget.

I see, I remember

I do, I understand

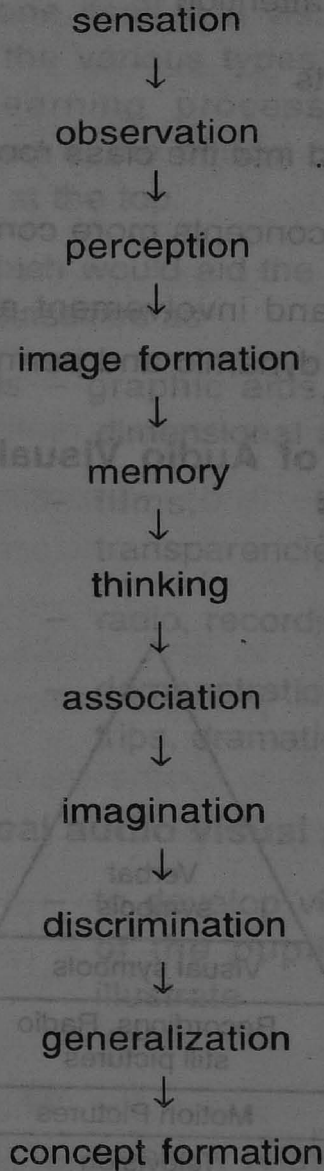
Learning by direct concrete sensory experience would be the most ideal method to help the learner acquire complete knowledge; there would be integration of the inflow of information received through multisensory channel by the complete involvement of the learner in the learning experience. Undertaking field trips, excursions, projects and experiments come under this category. But, as this approach is too time consuming, it may not be possible to acquire much of the accumulated knowledge especially in higher education. Hence, the next best would be to provide vicarious and symbolic experiences through audio visual materials and media.

Mental Processes

The learning stimuli that impinge upon our perception are mainly audio visual. They emphasize the use of concrete or non-verbal experience in the learning situation. As the knowledge gained through the sense of sight is more vivid, accurate and permanent, what one sees, one remembers better. An old Chinese saying goes as 'A thousand hearings are not so effective as one seeing. More than 85% of our knowledge is gained through our eyes. Sensation leads to observation, which when organized in the sensory field becomes perception. The degree of intensity of the sensation decides the manner in which the individual responds to the stimulus, and the attention he pays to the situation. Some of the factors which influence this organization of the sense field otherwise known as perception are proximity, similarity, continuity, completeness and symmetry. Attention is greater if the stimuli sensations are clear, vivid and strong. Size of the object, the striking quality, definite form, mobility and repetition influence attention. The more vivid the perception the more often the experience is repeated and the more deep seated is the modification, more permanent and

The learning stimuli that impinge upon the perception are

Mental process in Learning



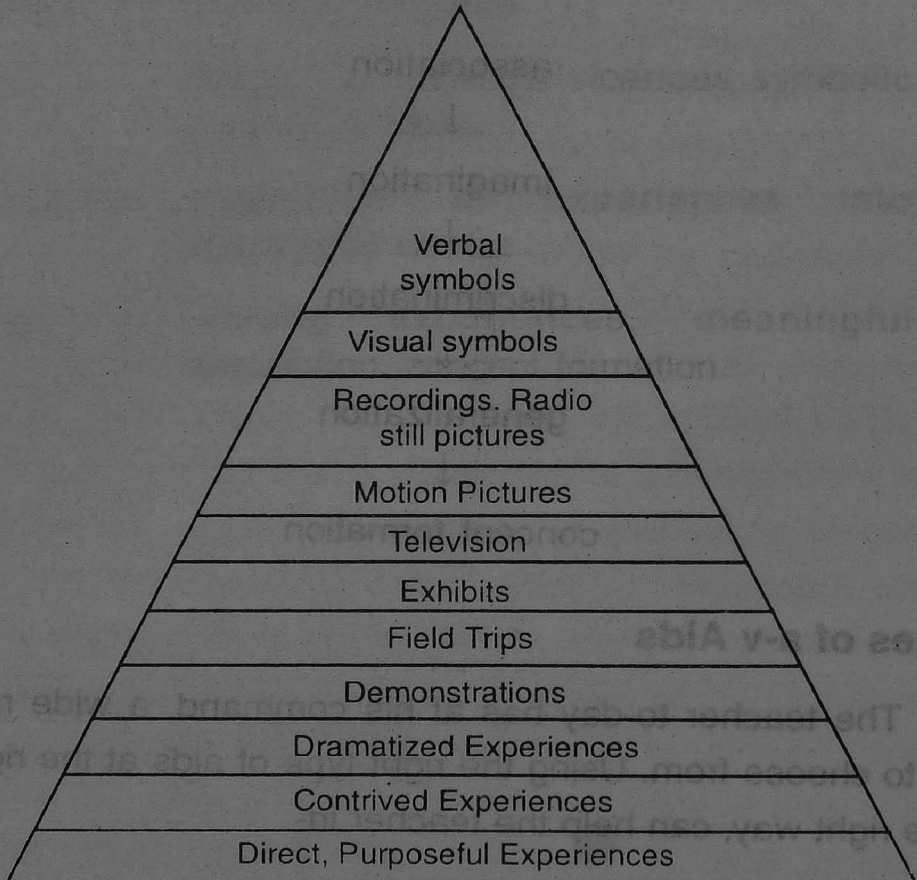
Values of a-v Aids

The teacher to-day has at his command, a wide range of aids to choose from. Using the right type of aids at the right time in the right way, can help the teacher in-

- 1) motivating the students
- 2) focusing attention

- 3) reducing verbalism
- 4) inducing greater attention
- 5) clarifying concepts
- 6) bringing the world into the class room
- 7) making abstract concepts more concrete
- 8) adding interest and involvement and thus make learning more enjoyable, dynamic and permanent.

5.00 Classification of Audio Visual aids : Dale's cone of experiences



Dr. Edgar Dale has classified and arranged audio visual experiences in the form of a cone and he calls it the "Cone of Experience". This cone itself is a visual aid in explaining the inter-relationship of the various types of aids as well as their positions in the learning process. The most concrete experiences are placed at the bottom of the cone and the most abstract experiences at the top.

The material which would aid the experiences represented in the cone may be classified as-

- i) non projected aids – graphic aids, display boards, three dimensional aids.
- ii) projected aids – films, filmstrips, slides, transparencies.
- ii) audio aids – radio, recordings, TV
- iv) activity aids – demonstration, laboratory work, field trips, dramatics etc.

Uses of some typical audio visual aids:

Chalk board – to develop visual information in front of the pupils , to add variety, to illustrate

graphic aids

- books, picture cards
 - charts, posters,
 - cartoons, graphs
- } – to show relationship
- } – to present materials symbolically
- to present abstract ideas in concrete forms.
- to attract the attention of the students.
- to publicise information

display boards

- | | | |
|--|---|--------------------------------------|
| flannel board, felt board, magnetic board, bulletin board. | } | – to show movements and arrangements |
| | | – to provide manipulative experience |
| | | – to motivate, to arouse curiosity |
| | | – to introduce, summarise a unit |
| | | – to display work done by student |

three dimensional aids

- | | |
|-----------------|----------------------------|
| models, objects | – to simplify reality |
| | – to demonstrate processes |

Projected aids

- | | | |
|-------------------------|---|--|
| films, filmstrips | } | – to give impression of reality and promote better understanding |
| slides, transparencies. | | – to synthesize and interpret audio and visual concepts |
| | | – to hold the attention of the students and promote retention. |

audio aids

- | | | |
|-------------------|---|-----------------------------------|
| radio, recordings | } | – to stimulate imagination |
| TV CCTV | | – to enrich learning experiences. |

activity aids

- | | | |
|-----------------|---|---|
| demonstration | } | – to add reality |
| laboratory work | | – to provide direct purposeful experience and broaden understanding |
| dramatization, | | |
| field trips | | |
| | | – to add interest, variety and involvement to the learning situation. |

The essential steps of using audio visual aids to advantage are , proper selection of aids, preparing students for the a.v. experience, proper planning of the aids, ensuring good listening and viewing conditions and suitable follow-up. Effectiveness of instructional media depends upon how they are used.

A.V.Equipment

film projector

film strip, slide projector

episcopate

Overhead projector

8mm. loop cassette projector

tape recorder, record player

close circuit television

radio, T.V.

teaching machine

language laboratory

Computer

Conclusion

Rapid expansion of knowledge, phenomenal increase in student population, developing technology and changing social milieu - all these provide challenge to education to-day. There is so much to teach, to so many, by so few, in such short time. A high percentage of our life to-day is filled with audio visual experiences of many kinds such as radio, pictorial magazines, cinema, T.V. etc and all these experiences cause learning-planned or unplanned, conscious or unconscious. Teachers cannot afford to ignore the developed technological media; rather, they need to enhance their effectiveness in the classroom by basing many class activities on these media for 'clarity in communication, diversity in method and forcefulness in appeal.

Film Analysis Form

1. Are the objectives clear?
2. Will the TARGET AUDIENCE find the film interesting?
3. Does the film build on previous knowledge, skills or experiences of the target audience?
4. Is the subject matter appropriate for the course of training?
5. Does the content related directly to the main objectives?
6. Is the content presented in a well organized, systematic pattern?
7. Are the important ideas or procedures clearly emphasised?
8. Does the film attempt to present too much material for the audience?
9. Are new facts, ideas, terminology or procedures introduced not too fast or too slow?
10. Does the film provide for adequate repetition of the important content- e.g. revision, summaries, outlines?
11. Is the method of presentation suitable to the subject matter?
12. Is the difficulty of the PICTORIAL PRESENTATION appropriate for the target audience?
13. Are the details of the information or demonstration, clearly presented pictorially - camera angle, lighting, close-up etc.,?
14. Is the verbal difficulty of the commentary appropriate?
15. Does the commentator contribute to the effectiveness of the film appearance, tone, manner, speed?

16. Is the sound track clearly audible?
17. Is the information presented in the commentary well integrated with the presented in the picture?

Further questions on subject matter content:

1. Is the information **TECHNICALLY** accurate?
2. What is the relative importance of any inaccuracies?
3. Is the content up-to-date?
4. Is the content specific - Precise factual material rather than broad abstract generalization?
5. Is it highly probable that the information or procedures prepared will be confirmed by subsequent experience?
6. Is it highly probable that the target population will be able to **USE** or **APPLY** the information or procedures presented?
7. Is the subject treated more effectively, than it would be through some other medium? - lecture, demonstration slide, film, textbook?
8. Is it the most feasible or economic way of teaching the subject?
9. Does the kind of film used colour or black and white - effectively show the essential details of the subject matter?
10. Does the film show common errors - in the performance of a skill, or common misconceptions - in understanding of theory, and how to correct them?

SESSION - 22

Theme - Measurement and Evaluation

Objectives:-

1. To introduce the participants to the concept of evaluation.
2. To expose them to the principles of test construction.
3. To enable them to construct various types of instruments for measuring learning outcomes.
4. to equip them with the background knowledge needed to analyze test items with respect to the facility value and discrimination index.

AN INTRODUCTION TO EVALUATION

Measurement and Evaluation

All of us have some idea about the nature of measurement, especially, the measurement of physical environment - temperature by reading the thermometer, speed of a car by reading the speedometer, length of a line segment by using a ruler, time by looking at a clock. We have countless experiences with evaluation in our day-to-day activities; judgments about this dress or that as compared with another, decisions as to party and candidates in elections and the continual evaluations we make of our friendships.

Measurement is making a statement, stating a fact; evaluation is passing a verdict, making a judgment. The measure is referred to a pre-established standard or norm and a verdict is passed; this is evaluation.

Measurement is a matter of determining how much or how little- how great or how small - how much more than or how much less than. It should be noted that enumeration (counting) and measurement are not synonymous. In simple words enumeration answers the question 'how many?', measurement answers the question 'how much?'. A ruler is a measuring instrument, an achievement test is also a measuring instrument. Rulers are used to measure a very simple property - length. On the other hand achievement is a much more complex property.

The length of a line segment is measured directly. On the other hand the amount of heat in a room is not measured directly. It is done indirectly by noting a column of mercury in a simple glass tube (thermometer). In other words, we do not measure heat in terms of what it is but in terms of what it does.

In one sense, the measurement of achievement is very similar to the measurement of heat. It must be accomplished in an indirect manner. We have to measure the effects or outcomes of achievement rather than the property itself. We develop situations to which an individual responds. The test items are some what similar to the mercury in the thermometer. The more an individual is able to respond correctly to situations, the more he is assumed to have achieved.

General principles of Test construction

Test construction requires a systematic, organized approach if positive results are to be forthcoming. The following steps will serve as a guide to the test market.

1. List the major objectives for which an appraisal is desired.
2. Analyse and define each objective in terms of expected student outcomes.
3. Establish a table of specifications.
4. Construct one or more test items for each objectives listed.
5. Assemble the items of the test.
6. Write clear and concise directions for each type of question.
7. Construct the key.
8. Discuss every aspect of the test with other teachers.
9. Make necessary modifications.
10. After the test has been administered to one or two groups of students, analyse and improve it.

Taxonomy of Educational objectives as a basis for Evaluation

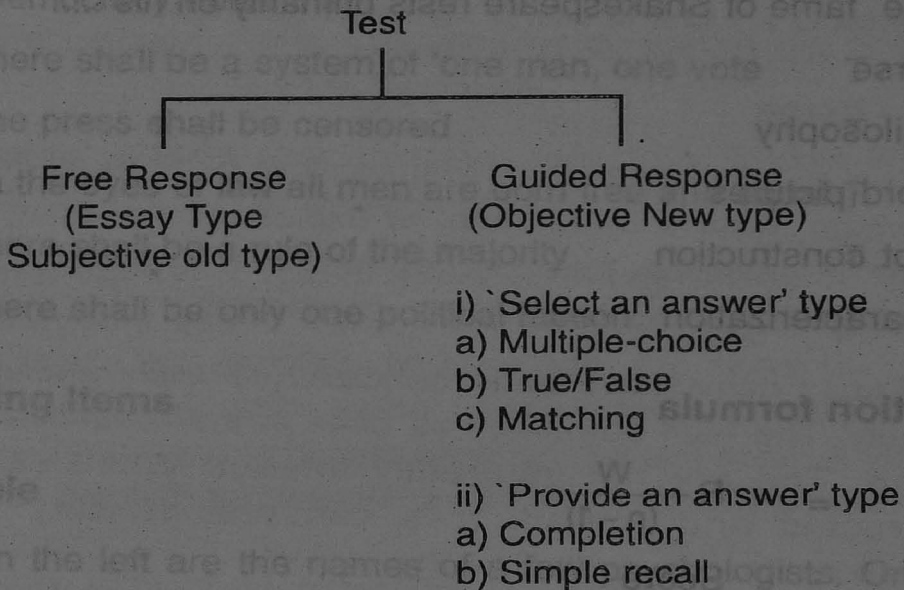
- Knowledge - can students recall ideas?
- Comprehension - Can students explain ideas?
- Application - Can students use ideas?
- Analysis - Can students see relationship among ideas?
- Synthesis - Can students combine ideas?
- Evaluation - Can students make judgments on ideas?

Points to be taken note of in constructing a test:

1. It is not possible to measure all outcomes of instruction with one type of test.
2. Make the test comprehensive, but exclude insignificant and trivial items.
3. Devise items which require application skill of the students.
4. Make certain that the type of item used for measuring each objective is the one that will measure best that objective.
5. Avoid trick or 'catch' questions.
6. Include a large number of items in the test.
7. Do not 'lift' statements directly from books and use them as test items.
8. Whenever possible, avoid items with only two choices from which the student selects one.
9. Make each item independent of others.
10. Make sure that no item can be answered simply by referring to other items.

11. Include no item for which the response is obvious to a person who does not know the subject matter.
12. Word the items in the simplest possible manner.
13. State questions clearly; Eliminate ambiguous questions.
14. Keep the method of recording response as simple as possible.
15. Leave sufficient space for all responses without crowding.
16. Arrange blanks for responses along one side of the page, if possible.
17. Arrange the items so that responses will not form a particular pattern.
18. Arrange the items in such a way that it will not be necessary for the student to refer to more than one page in answering a given item.
19. Number the responses consecutively from the beginning to the end of the test.
20. The practice of underlining crucial words, if not done too frequently and indiscriminately, tends to increase the objectivity of test items.
21. Avoid weighting of items
22. If certain items are to be corrected for guessing, this should be clearly indicated in the directions.
23. Make sure the directions are clear and complete.
24. Prepare a proper heading for the test.

Types of Tests - (Structural Classification)



Multiple- choice items

A multiple - choice item consists of a question or an incomplete statement followed by several possible answers. The student must select the best or correct answers in accordance with the direction given.

One Right answer

This is the simplest kind of multiple- choice item. The student is required to identify the one correct response, listed among several that are totally wrong but not obviously wrong.

Example: What is meant by Plebiscite — (stem)

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> a) diplomatic compromise b) use of arbitration c) vote of the people d) military conquest e) use of propaganda | } | <p>a,b,c,d and e are called as
as options, responses,
alternatives c-Right or keyed
response, a,b,d, and
e distractors</p> |
|--|---|--|

Best answer

The fame of Shakespeare rests primarily on his

- a) verse
- b) philosophy
- c) word pictures
- d) plot construction
- e) characterization

Correction formula

$$S = R - \frac{W}{(n - 1)}$$

S — Score

R — Right answers

W — Wrong answers

n — Number of options

True - false items

The true -false (alternate response) item is the easiest to construct; it usually consists of a simple statement that may be either true or false.

Example:

T F One of the major adjustments of adolescence is establishing a satisfactory relationship with the opposite sex.

cluster true false

It usually consists of an incomplete statement followed by several phrases or clauses, each of which will complete the statement. The student is required to indicate those phrases or clauses which form true and those which form false statements

Example:

Democracy holds that

- | | | | |
|----|--|---|---|
| 1. | there shall be a system of 'one man, one vote' | T | F |
| 2. | the press shall be censored | T | F |
| 3. | in the eyes of law all men are born free and equal | T | F |
| 4. | there shall be a rule of the majority | T | F |
| 5. | there shall be only one political faction. | T | F |

Matching Items

Example

On the left are the names of a few psychologists. On the right are certain concepts in psychology. Match each item of the left with an appropriate item on the right.

X

Y

- | | |
|-------------------|---------------------------|
| 1. B.F. Skinner | A. The unconscious |
| 2. E.L. Thorndike | B. Interaction Analysis |
| 3. Abraham Maslow | C. Laws of learning |
| 4. Ned Flanders | C. Intelligence quotient |
| 5. Sigmond Freud | E. Operant conditioning |
| | F. Personality Assessment |
| | G. Motivation |

Simple Recall / Completion items

The simple recall item usually requires the student to supply a word, figure or date. The word (sometimes more than one) may come at the end of a statement.

Completion type

The unit of electric current is

Simple recall type

What is the unit of electric current?

essay - items

The essay - type item requires the student to make a comparison, write a description, or explain certain points. The student is allowed freedom of expression in analyzing, comparing, describing, explaining, or reasoning.

Essay items have been criticized severely and usually justifiably. The fault however, has been in the construction and scoring. They are not inherently inferior. When carefully constructed and scored, they can provide very useful information about a student's achievement.

Points to consider in constructing essay items:

1. Decide upon the objectives to be measured. Be specific.
2. Call for specific answers.
3. Require the student to "compare" "explain why" "describe" or "tell how" not to "list" or "enumerate".
4. Determine definite specifications for marking.
5. Follow a definite procedure in marking.

The characteristics of a good test:

1. **Validity:** A test must be valid. A test must actually measure what it is supposed to measure. In other words a test should test what it ought to test. A test designed to measure the mathematical ability of the students should test the mathematical ability only. If a test is so constructed that a highly intelligent student can find the correct answers without knowing the subject, then that measures only general intelligence and not achievement. Such a test is not valid. A test constructed to test a particular area of learning only.

Face Validity: The test seems to be relevant for the purpose.

Content validity: It is estimated by evaluating the relevance of the test items.

Construct validity: Psychological aspects or factors involved in the area of learning.

2. **Reliability:** A test must be reliable. A reliable test is a trustworthy test. It is consistent. In other words, a highly reliable test should yield essentially the same score when administered twice to the same student provided of course no new learning occurs between the two tests. A valid test is reliable but a reliable test is not necessarily valid.

Methods of finding reliability:

Test- Retest method:

The same test may be administered a second time to the same group. Correlation Co efficient between the two sets of scores, called self correlation or reliability coefficient of the test is calculated. If this index is high enough then the test is reliable.

Parallel forms or Equivalent forms:

Two separate but equivalent forms of the test are administered to the same group of individuals. The reliability coefficient between them is calculated.

Split - half technique:

The items of a single test are divided into two equivalent and separately scored tests. Then the two sets of scores are correlated. (A test may be divided into two parts odd items 1,3,5 -etc and even items 2,4,6 - etc; in this case the items must be serially graded in order of difficulty.)

3. **Objectivity:** A test must be objective. It affects both validity and reliability. there are tow aspects of objectivity.

The first is concerned with the scoring of the test. The second refers to the interpretation of the test items by the students. The personal judgments of the individual who corrects the test, his whims and fancies should not be a factor affecting the score. After the key has been made out there should be no question as to whether an item is right or wrong or partly right or partly wrong. As regards the student's interpretation of the test items, well constructed test items should lend themselves to one and only one interpretation by the student.

Validity, reliability and objectivity are closely related and interdependent; there is no fine line of demarcation. Evaluation necessarily depends upon accurate and correct measurement. This measurement in turn depends upon the precision of the instrument - the test. If the test is to be precise, it must be valid, reliable and objective. These three factors constitute the major criteria of a good test.

comprehensiveness:

A test must be comprehensive i.e. long enough to do the task. In constructing an achievement test it is equally important to sample liberally all phases of instruction which are supposed to be covered by the test. It is not necessary and it would not be practicable to test every point taught in the course: there is no specific formula for meeting this criterion; it is a matter of judgment.

Administration and scoring:

A test must be easily administered and scored. Consideration must be given to the features of the test which make it readily administered and scored. It should be so designed that a minimum of student time will be consumed in answering each item. The test items should also be constructed in such a manner that they can be scored quickly and effectively.

Types of Tests (Functional classification)

Prognosis and Guidance:

Prognostic tests refer to tests that serve effectively in predicting future achievement of individuals; they are used to analyse their present status of mastery and to predict future achievement. The inventory test is used for the purpose of taking stock' of the knowledge and abilities. Such tests may also be effectively used to bring to light whether the students have progressed. The discovery of superior ability is as important as the discovery of inferior or the average.

Diagnosis and Remediation:

Diagnostic tests are tests designed to reveal points of strength and weakness in a pupil's skill or knowledge in a given subject; they are administered for discovering learning difficulties and finding needs for remedial teaching. Such a programme should be keyed to bring to light distinct weaknesses in learning which call for specifically planned remedial action. An important by-product can be the evaluation of instructional procedures. The real value of diagnosis will depend upon a carefully planned follow-up remedial programme and a careful check on and interpretation of attained results.

Achievement Tests:

Tests that are designed to measure an individual's performance or experience relative to given subject are called achievement tests; they are concerned with learning outcomes rather than native capacity or ability to learn the subject.

Item Analysis:

An item analysis will be useful in performing the following functions:

1. It may make the instructor think twice about his ability to make good test items.
2. The information obtained will prove to be useful in construction of later tests. Methods of phrasing statement, avoiding vague words etc., are some of the things to be learnt.
3. Interesting and useful information may be provided on the achievement of individual students. This can be extremely valuable in diagnosing individual difficulties and prescribing remedial measures.
4. Improvement in teaching methods and teaching resources will often be suggested by the analysis it may be the means of impressing upon the teacher the need for improvement.
5. When a long test has been constructed, an item analysis will indicate the items that can be discarded without impairing the value of the test.
 - i) To identify the items that do not discriminate between the good and poor students.
 - ii) To identify the items that discriminate between the good and poor students.
 - iii) To identify the items that are too difficult even for the best students.
 - iv) To identify the items that are too easy even for the poor students.

A simple item analysis useful in studying the discriminating power of test items.

Suppose we have given an achievement test to a class. After scoring, the papers are arranged in order of magnitude. The top 27% of the papers constitute the high Group; the bottom 27% of the papers the low group. Now these groups are compared.

Table of item analysis

Top 27%				Bottom 27%		
Item No.	High Group (20 papers)			Low group (20 Papers)		
	Correct	Incorrect	Omitted	Correct	Incorrect	Omitted
1	16	4	0	10	8	2
2	20	0	0	0	18	2
3	10	6	4	11	5	4
4	18	0	2	16	2	2
5	5	15	0	15	3	2
6	3	15	2	1	18	1

The next step would be to consider each item and compare the responses made on the sets of papers; our analysis may run on the following lines:

Item 1 discrimination - positive

Item 2 shows perfect discrimination; I wonder why all good students got it right and all the poor students got it wrong.

Item 3 is a puzzler. The poor students answered it right more often than the good students; what is wrong with the item?

Item 4 discriminates positively; but discrimination is only slight.

Item 5 discriminates negatively. what is wrong with the item?

Item 6 is a puzzler again.

The imagined soliloquy is very subjective but it illustrates the first step that might be taken by the teachers.

$$D.I. = \frac{R_H - R_L}{\frac{1}{2}T}$$

D.L – Discrimination Index

RH – Number of students who have chosen the right answer (high group)

R_L – Number of students who have chosen the right answer (low group)

T – Total number of students (both groups put together)

e.g. Item No. : 1 $D.I. = \frac{16 - 10}{20} = \frac{6}{20} = \frac{3}{10} = 0.30$

Item No. 5 $D.I. = \frac{5 - 15}{20} = \frac{-10}{20} = \frac{-5}{10} = -0.50$

Items with D.L.'s greater than + 0.40 are effective items.

The difficulty index of each is found by calculating the percentage of students who have answered it correctly. The normal curve can be taken a guide in the selection of difficulty indices. Thus about half of the items might have difficulty indices between 25% and 75% about one-fourth 75% and larger, and remaining (about one-fourth) 25% and smaller.

SESSION - 23

Workshop - Item writing

Objectives:-

1. to equip them the knowledge needed to guide the participants in item writing
2. to analyze the latest question paper in one's own subject in terms of Blooms' taxonomy.
3. to draw up a specification table.
4. to construct items of different types, especially few higher order objectives.
5. to prepare adequate essay type questions.
6. to assemble items into a balanced question paper according to the specification table prepared.

Preparation of a table of specifications or a test blue print

1. Table of specifications is a two way chart showing the objectives along one side and the content topic along the other.
2. A table of specifications provides guidance for a teacher by calling attention to the kinds of items needed for a balanced test
3. A teacher should not modify a table of specifications because he experiences difficulties in developing items for some of the cells. Frequently the most important achievements are the most difficult to measure and these should not be under represented on the test. In fact using a table of specifications is an effective way to minimise the erosion of noble ideas by the pressure of producing an instrument.

Planning the test:

Planning is important in both guiding student learning and assessing the quantity of learning as it occurs.

In planning a test, the teacher should

1. Identify the objectives to be measured.
2. Identify the blocks of content to be covered to provide a useful avenue to the objectives.
3. Develop a test plan that relates content and objectives with an appropriate distribution of emphasis.
4. Decide on the test items to use.
5. Decide on the length of the test to be used.

Table of specification:

1. The intersecting cells in the table make it possible to indicate the proportion of the test to be devoted to each learning outcome and each subject matter topic.
2. The learning outcomes should cover all instructional objectives that can be tested and the subject matter content should include all of the major topics that were considered during the course.
3. These can be weighted in terms of importance and the corresponding items allotted to each cell.
4. The test should reflect the emphasis on the table of specifications which in turn should reflect the emphasis during instruction.

Specifications for a Unit in Test Construction

Subject matter topics Learning Outcomes	Knowledge of facts principles	Understand ing of facts and princi- ples	Application of facts and principles	Total no of items
1. Planning the test	5*	5	—	10
2. Constructing objectives test items.	5	10	10	25
3. Constructing essay questions.	5	5	5	15
4. Assembling the test	10	5	15	30
5. Using and appraising the test	5	5	10	20
Total No. of items	30	30	40	100

* Either the number of items or the percentage of items may be recorder in each cell.

A. Identifying content topics to be measured:

1. Subject matter content may be outlined by broad topics such as novels, shorts stories, Poetry for English; Electricity, Magnetism, Heat, Light, for Physics; Algebra, Geometry, Trigonometry, Calculus etc., for Mathematics; or by extremely narrow topics in each of these branches. Each aspect of a test that must be covered on a valid test should appear in a content outline.
2. It is impossible to include in a test all questions be asked on every discrete topic of importance. Hence the test must be developed selectively to represent adequately the subject matter topics.
3. Between eight to twelve content topics in the test plan would be reasonable for most classroom unit tests or about five minutes of testing time should be allowed per topic.

B. Determining test length:

1. Two aspects may be considered.
 - a) How much time can be devoted to administering the test.
 - b) How many items students can complete in the time available.
2. Time available depends upon the length of class the number of periods to be used.
3. The number of items the students can complete depends upon the nature of material and the types of items used.
Recognition or Recall items need less time on the average than those requiring computation or application of principle.

True or false, matching and completion items require less time than multiple choice items.

4. Generally the short response types require 30 seconds on an average per item, the more complex requires a minute or even more per item.

C Selecting types of items:

- 1.a) Tests emphasising the recognition of terms, dates, or ideas, should comprise items that makes use these achievements efficiently and validly.
 - b) If the test plan calls for organisation of ideas, free response format is probably the best.
 - c) Test requiring application, prediction, explanation and understanding of concepts should be composed of items that measure these efficiently.
2. There is little virtue in using a variety of item types on a test merely to give examinees a change of pace or to keep them motivated. The quality of the test and not the types of items used will be the major factor.
 3. Teachers can learn to develop and use all types of items effectively.

For short periodic assessment of student progress,

- a) Completion, true or false and short answer items will be preferable.
- b) Essay and multiple choice items are useful for major examinations that require students to organise and present careful exposition or to interpret, apply relate or derive concepts.

Relating goals and content:

A test must be balanced with proper emphasis placed on each objective and subject matter topic.

Table of specifications for a literature test.

Objective	Short story (40%)	Content Essay (30%)	Drama (30%)
Understanding meanings ink context(35%)	14%	10.5%	10.5%
Understanding literary device (30%)	12%	9%	9%
Identifying main ideas (20%)	8%	6%	6%
Identifying author's purpose (15%)	6%	4.5%	4.5%

Specifications for a Test on Test Construction

Content Outcomes	Role of Test in Teaching	Principles of Testing	Planning the Test	Total No.. of Items.
Knows terms	2	4	4	10
Knows procedures	2	-	3	5
Knows taxonomy categories	-	-	5	5
Understands Principles	2	6	7	15
Understanding applications in teaching	4	-	11	15
Can recognize properly stated outcomes	-	-	10	10
Total Number of Items	10	10	40	60

Improving Essay Questions

The essay-type question requires the examinee to read the question, formulate his response, and write the response. Many teachers erroneously use these types of tests to measure knowledge of facts and principles. Such knowledge can be more effectively measured with more objective types of tests.

The most appropriate use of the essay type is in assessing the quality of an examiner's higher-order mental processes: application, analysis, synthesis and evaluation. An essay question might require the student to make comparisons, organize material or make judgments.

Hence essay questions must be used, primarily, for the measurement of those learning outcomes that cannot be measured by objective test items. Learning outcomes concerned with the abilities to select, organize, integrate, relate and evaluate ideas require freedom of response and the originality provided for, by essay questions. In addition, these outcomes are of such great educational significance that the expenditure of energy in the difficult and time consuming task of evaluating the answers can be easily justified.

The freedom of response provided by essay questions is not an all - or-none affairs but rather a matter of degree.

2. Restricted response question tends to limit both the content and the form of student response. The content is usually limited by restricting the scope of the topic to be discussed. Limitation on the forms of response are generally indicated in the statement of the question

Examples

- i) List, in statement form, the major differences between the Korean war and previous wars in which the United States has participated.

- ii) Why is the barometer one of the most useful instruments for forecasting weather? Answer in a brief paragraph.
- iii) Describe two situations which illustrate the application of supply and demand. Do not use examples discussed in the class.

Another way of restricting responses in essay tests is to base the questions on specific problems.

Example

The majority of dental scientists are in general agreement that fluoridating a city's water supply is a safe and inexpensive method of preventing tooth decay. However many cities have not fluoridated their water because the residents voted against it. One of the main arguments against fluoridation is that fluoridating a city's water supply violates the individual's freedom of choice.

- a) Indicate whether you agree or disagree with the underlined part of the statement.
- b) List reasons which support your position.

2. Extended response question: The extended response question provides a wide range of latitude. The student is generally free to select any factual information which he thinks is pertinent to organize the answer according to his best judgment, and to integrate and evaluate ideas as he deems appropriate. This freedom makes it possible for the pupil to demonstrate his competence in these areas. The same freedom makes this type of question inefficient and it introduces scoring difficulties which severely restrict its use as a measuring instrument.

Examples :

- i) compare the administrations of president Eisenhower and President Kennedy in terms of significant developments in international relations; cite specific illustrations.
- ii) Critically evaluate the significance of the sea captain's pursuit of the white whale in Moby Dick.
- iii) Describe the influence of Mendel's laws of heredity on the development of Biology as a science.
- iv) write a scientific evaluation of the copernican theory of Solar system. Include scientific observation which support your statements.

Weakness:

When measuring achievement with items prepared in the essay format, several rather complicated problems are encountered which might be thought of as 'weaknesses'. These weaknesses can be minimised (but not eliminated) by careful construction and scoring. The problems can be grouped into three broad categories.

a. lack of content validity

Content validity may be defined as the degree to which the test conforms to the content and objectives deemed important by the teachers.

b. lack of scoring economy :

Scoring of responses to an essay test requires the expenditure of much time.

C. unreliability of scores

- i) halo effect - The halo effect occurs whenever a random general impression of the examinee affects the evaluation of a specific response.

- ii) informed judgment- Regardless of the objectivity with which a reader attempts to score an essay response, the scoring process to an essay question may be of the same quality but be written in different modes, and different terms.
- iii) extraneous factors - When scoring an essay test the reader is often influenced by extraneous factors like the quality of handwriting, spelling, style and grammar.

Suggestions for constructing Essay Questions:

1. Restrict the use of essay questions to those learning outcomes which cannot be satisfactorily measured by objective items.
2. Formulate questions which will call forth the behaviours specified in the learning outcomes.
3. Phrase each question so that the student's task is already indicated.
4. Indicate the approximate time limit for each question.
5. Avoid the use of optical questions.

Some Type of Thought Questions and Sample Item Stems:

i) Comparing:

Describe the similarities and differences between -
Compare the following two methods for _____

ii) Relating cause and effect:

What are the major causes of —?

What would be the most likely effects of _____?

iii) Justifying:

Which of the following alternatives would you favour and why?

Explain why you agree to disagree with the following statements.

iv) Summarizing:

State the main points included in ____

Briefly summarise the contents of ____

v) Generalizing:

Formulate several valid generalizations from the following date.

State a set of principles that law explains in the following events.

vi) Inferring:

In the light of the facts presented, what is most likely to happen, and when?

How would senator X be likely to react to the following issue?

vii) Classifying :

Group the following items according to ____

What do the following items have in common?

viii) Creating:

List as many ways as you can think of for ____

Make up a story describing what would happen if ____

Write a list of questions that should be answered before ____

ix) Applying:

Using the principles of ____ as a guide, describe how you would solve the following problem situation, Describe a situation that illustrates the principle of ____

X) Analyzing:

Describe the reasoning errors in the following paragraph.

List and describe the main characteristics of ____ Describe the relationship between the following parts of ____

xi) Synthesizing :

Describe a plan for proving that ——

Write a well- organized report that shows ——

Write a set of specification for building ——

xii) Evaluating:

Criticise or defend each of the following statement.

Describe the strengths and weaknesses of the following using the criteria developed by —— Write a critical evaluation of —— One way to clarify the nature or the question is to make it as specific as possible.

Examples:

Restricted response:

Poor: Why do birds migrate?

Good: State three specific hypotheses which might explain why birds migrate south in the fall of the year.

Extended response:

Poor: Compare the Democratic and Republic Parties.

Good: Compare the current policies of the Democratic and Republic Parties with regard to the role of the Government in Private business. Support your statement with specific examples.

Suggestions for scoring Essay Questions:

1. Prepare an outline of the expected answers in advance.
2. Use the scoring method which is most appropriate (Point method or rating method)
3. Decide on provisions for handling factors which are irrelevant to the learning outcomes being measured.

4. Evaluate all answers to one question before going to the next.
5. Evaluate answer without looking at the student's name.
6. If important decisions are to be based on the results, obtain two or more independent ratings.

Do's and Don'ts

1. Use essay tests to measure higher mental processes.
2. Include enough questions to sample the material adequately.
3. Limit the length of response.
4. Use questions which are germane to the area being measured.
5. Use terms which will have the same meaning to all examiners.
6. Use terms which all examiners can define and understand.
7. Use questions with more problems to be solved.
8. Explicitly state and qualify the problem so that it will be interpreted in the same manner by all examiners.
9. Make the sentence structure as simple as possible so that the problem posed will be clear to all examinees.
10. Write the question in advance so that it can be analysed and revised if necessary before the test is given.
11. Write a comprehensive set of directors and include in them the weightage of each question.
12. Write a model set of answers.
13. Before scoring the papers, determine the weights of the various elements expected in complete answers.
14. Require the examinees to answer every question on the test.

15. Read a response and make a gross judgment as to its relative worth.
16. Score one question for all papers before going to the next question.
17. Ignore the names of the examinees when grading.

Don't

1. judge papers on extraneous factors such as handwriting, spelling and grammar.
2. make a general estimate of a paper's total worth as a first step in scoring.
3. construct a test containing too few items to sample the material adequately.
4. use optional questions.
5. use different questions if the examinees are to be compared.
6. use questions designed to elicit only factual information.
7. expect the students to know the intent of the questions unless it is explicit stated.
8. allow students to write "verbal garbage" with the hope of stumbling.

Sources:

1. GRONLUND (1976): *Measurement and Evaluation in Teaching*, Macmillian.
2. MARSHALL and HALES (1972). *Essentials of Testing*, Addison Wesley.
3. MICHEELS and KARNES (1950) : *Measuring Educational Achievement*, Mcgraw Hill

WORKSHOP SESSION

Following are samples of items prepared in disciplinewise groups for the various levels of Bloom's taxonomy.

Subject: Zoology

Unit - Genetics

Level I - Knowledge

1. Ribosomes are present in
 - a) Prokaryotes only
 - b) Eukaryotes only
 - c) Both Prokaryotes and eukaryotes
 - d) TMV- Virus only.
2. Checker Board method was found out by
 - a) G.T. Mendal
 - b) Devries
 - c) Tschermark
 - d) Bateson & Punnett

Level comprehension

3. Law of segregation is otherwise called as
 - a) Law of independent assortment
 - b) Law of Dominance
 - c) Law of purity of geometer
 - d) Trihybrid cross
4. A person having antigen 'B' and antibody 'a' belongs to
 - a) A blood group
 - b) B blood group
 - c) AB blood group
 - d) O blood group

Level - Application

5. One of the following diseases is not congenital.
- Leukemia
 - alkaptonuria
 - Sickle cell anemia
 - Kilenepelters syndrome.

Level: Analysis:

6. Ribosomes are essential for:
- DNA Synthesis
 - RNS Synthesis
 - Protein Synthesis
 - Autolysis.
7. Codon is a set of three
- Bases
 - Nucleosides
 - Nucleotides
 - Deoxyriluse sugarr.

Level: Synthesis:

8. I.Q can be increased by
- keeping a good environment
 - in heritence
 - crossing over
 - linkage.
9. Which of the following constitutes the primary genetic material?
- Nuclic Acid
 - Proteins
 - Fat
 -

10. Blood groups in human being are controlled by
- pleiotropic genes
 - Epistatic genes
 - Multiple alleles
 - Multiple genes.
- 11) A woman who has lost her child is asked by the Police to identify a baby left in a foundling home. She claims that the child is hers. Evaluate her claim on the basis of the following blood type results.
- | | | | | |
|-----------|----|----|----|----------|
| Mother | AB | MN | Rh | Positive |
| Father | O | M | Rh | Negative |
| Foundling | O | M | Rh | Positive |

Subject: Physics

Unit- Dynamics

Level - knowledge

- Acceleration is defined as
 - distance travelled
 - displacement
 - rate of displacement
 - rate of change of velocity.
- When a bullet is fired from a gun, the gun recoils; this is due to
 - loose holding of the gun
 - the reactional force of the bullet
 - friction of the bullet in the gun barrel
 - high speed of the bullet.

Level: Comprehension

- For a given velocity of projection, a body will cover maximum range of the angle of projection 60° - True / False.

4. The basic law behind the working of rockets is
- Newton's II law
 - Newton's III Law
 - law of conservation of momentum.
 - Newton's I law

Level - Application:

5. A body is dropped from a moving train. Its path of motion to a stationary observer is a
- horizontal straight line
 - Parabola
 - Circle
 - Vertical straight line.
6. A car starts from rest and picks up a velocity of 40 km / hr in 5 minutes. Its acceleration in km/hr is
- a) 8 b) 480 c) 200 d) 45

Level- Analysis

7. A stone is dropped from the top of a tower. If it reaches the ground in 2 seconds, what is the height of the tower? ($g=9.8\text{m/sec.}$)
- a) 19.6m b) 11.8m c) 4.9m D) 39.2m
8. A rail engine travels east. A south wind blows. Both have the same speed. In what direction does the smoke of the engine appear to travel to a stationary observer?
- North- West
 - North-East
 - South- West
 - South - East.

Level - Synthesis

9. A gun is aimed at a mango, The mango falls exactly at the moment of firing the gun. Can the bullet strike the mango? Explain.

Level - Evaluation

10. The absolute velocity of a body can never be found out.
True/False
11. It is possible for the speedometer of a car to indicate 72km./hr. five minutes after starting- True / false

Subject: Chemistry**Level- knowledge**

1. The unit of electrical resistance is
 - a) mho
 - b) volt
 - c) ohm
 - d) coulomb
2. A gas cannot be liquefied below its critical temperature-T/F.

Level - Understanding (Comprehension)

3. A radioactive atom having atomic No. 82 and atomic mass 214 loses a beta particle. The element which is the product of this nuclear change has an atomic number of
 - a) 83
 - b) 82
 - c) 81
 - d) 80
 - e) 84.
4. In the Hydrogen spectrum, Balmer series lies in the region,
 - a) ultra violet
 - b) infra red
 - c) near infra red
 - d) visible

Level - Application

5. Which of the following is a non-linear molecule
 - a) H_2
 - b) CO_2
 - c) CS_2
 - d) H_2O

6. The volume 1 gm mole of acetylene occupies at a temperature of 273 K 760 mm pressure is
- 22.44 litres
 - 22.4 litres
 - 11.2 litres
 - 11.22 litres.

Level - Analysis

7. At constant volume, the pressure of a gas increases with increasing temperature because as the temperature increases
- molecules move faster
 - molecular volume increase
 - the mass of molecule increases
 - collision no. increases
 - molecules are closer together.
8. Match the following
- | | |
|--------------------------------|-----------------------------|
| 1. Phenol-water system | a) Lower CST |
| 2. Diethylamine _ water system | b) Upper CST |
| 3. Nicotine -water system | c) Both upper and lower CST |
| | d) No definite CST |
| | e) Azeotropic mixture. |

Level- synthesis

9. In the nuclear equation ${}_{15}^{30}\text{P} \longrightarrow {}_{14}^{30}\text{Si} + \text{?}$ the missing item is:
- In the neutron
 - an electron
 - a positron
 - a gamma ray
 - a proton.

Level-Evaluation

10. When a neutron is transformed into a proton the other particle produced is :
- electron
 - antiproton
 - positron
 - meson.

Subject : Mathematics**Unit - Differential Calculus****Level - Knowledge**

- Every differential function is continuous- True / false .
- Every continuous function is differential - True / False.

Level-Understanding (comprehension)

- The n^{th} derivative of an n degree polynomial is Zero - True/ false
- $Y = \sin(ax + b)$ then $y_n = \sin\left[n\frac{\pi}{2} + ax + b\right]$ - True / false.

Level - Application

- The function $Y = x^4$ is increasing for $x > 0$ - True/false.
- If $y = ax^{nx}$, then $\frac{dy}{dx} = ny(1 + \log x)$ - True / false

Level - Application

- Examine whether $X^{1/2}$ has a maximum or minimum value and determine the same.

Level - Evaluation

8. Find the coordinate's of the centre of curvature at any point $(a \cos Q, b \sin Q)$ on the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$. Hence find the equation of the evolute of the ellipse.
9. Find out the evaluate of the parabola $y^2 = 4ax$.

Level - Synthesis

10. Derive the formula for the durations of the four astromomical seasons.

Subject: English

Unit - History of English literature

Level-Knowledge

1. Explain the meaning of 'Renaissance'
2. Spenser's autobiographical poem was —?

Level - Understanding / comprehension

3. 'The Shepherd's Calender' was pastoral in nature - T/F
4. 'Prothalamion' was written to commemorate Spensor's marriage-T/F

Level -Application

5. Identify the deviating factors of BenJonson from the conventional dramas.
6. 'Fools rush in where angles fear to tread" - Apply this statement to the literary achievement with particular reference to "An Epistle to Dr. Arbuthnot".

Level - Analysis

7. Narrate in 100 words the sensuous allegory in 'The Faerie Queene'.

8. Explain the literary significance of Tottle's miscellany.

Level- Synthesis

9. Trace the origin of English drama in 200 words with particular reference to "Miracles", "Moralities", and "Mysteries".
10. 'The university wits' and their names and their contribution to the world of English Literature.

Level- Evaluation

11. Consider the fact that "Every Man in His Humour" is a true representation of Ben Jonson's Comedy of humour.
12. Describe the skill of Shakeshepeare's characterization with special reference to any of his characters in 200 words.

Subject: Economics

Level - Knowledge

1. The concept of consumer surplus was originated by
- Alfred Marshall
 - J.S. Mill
 - Adam smith
 - Hicks.

Level - Comprehension

- 2) Is the demand for the following commodities elastic or inelastic
- sugar
 - scooters
 - electricity
 - fountain Pen.

3. The demand for a commodity is called inelastic,
- a) if the quantity demanded is not very much affected by changes in its price.
 - b) if the quantity demanded is not very much affected by change in fashion and taste.
 - c) if the quantity demanded is not very much affected by changes in Percapital income.

Level: Application

4. Consumer surplus is based on the theory of
- a) Law of supply
 - b) Law of Diminishing utility
 - c) Law of Demand
 - d) Law of Returns.
5. The consumer surplus is the difference between
- a) total price and marginal utility
 - b) total cost and total price
 - c) total utility and total price.
 - d) total price and average utility.

Level: Analysis

6. When we get a commodity without paying a price, then the consumer surplus we get from the commodity is
- a) nil
 - b) normal
 - c) maximum
 - d) poor
7. State whether the following statements are True or False.
- Farmers have to depend upon credit, much more than other producers True/False.

Farmers need short term finance to increase their land holdings - True / False.

Level - Synthesis

8. What do you understand by 'Elasticity of Demand',? How is it measured ? Write a brief essay.

Level: Evaluation

9. Do you agree with the following statements?
- In India, the joint stock banks play little direct part in the financing of agriculture.
 - Co-operative finance is the cheapest and the best source of rural Credit.
10. India resorted to deficit budget in the 5th plan
- as there was no internal source of income
 - as there was no external source of income
 - for resource mobilization
 - as prices were decreasing.

Percentile Rank

It is often useful to describe a score in relation to the position of other scores in an array below which a given percentage of scores falls. If the 80th percentile rank in an array is a score 68, 80 percent of the scores fall below the score 68.

SESSION - 24

Theme - Some basic Statistical Concepts of Educational Significance.

Objectives:

1. to introduce the participants to some basic statistical measures such as measures of central tendency, dispersion, ranking, percentiles and correlation.
2. to expose them to the concept of standard scores.
3. to equip them with necessary knowledge to convert raw scores into standard scores.

AN INTRODUCTION TO EDUCATIONAL STATISTICS

(Basic concepts and their educational significances)

Statistics:

Statistics is the body of mathematical techniques or processes for gathering, describing, organizing, analysing and interpreting numerical data. Since research often yields such quantitative data, statistics is the basic tool of measurement and research.

Ranking:

When data, such as a set of scores are collected and are to be interpreted, some system of organization is necessary. When scores are arranged in descending order of size (magnitude) they constitute an array showing corresponding ranks

S.No.	Raw Scores	Ranks
1	83	83
2	79	79
3	72	72
4	72	72
5	70	70
6	68	68
7	68	68
8	68	68
9	67	67
10	65	65

Percentile Rank

It is often useful to describe a score in relation to the position of other scores in an array below which a given percentage of scores falls. If the 80th percentile rank in an array is a score 68, 80 percent of the scores fall below the score 68.

If our usual rankings, (1st, 2nd, 3rd, 25th— etc.) are translated into corresponding percentile ranks, we get a meaningful interpretation of the new scores.

$$PR = 100 \frac{100R - 50}{N}$$

PR - Percentile Rank

R - Rank from top

N - Number of students

(e.g) Jones ranks 30th in his class of 50 students; his percentile rank is computed as follows:

$$\begin{aligned} PR &= 100 - \frac{(100 \times 30 - 50)}{50} \\ &= 100 - \frac{(3000 - 50)}{50} \\ &= 100 - \frac{2950}{50} \\ &= 100 - 59 \\ &= 41 \end{aligned}$$

PR of a given score in a distribution is percent of total scored below the given score; it indicates the position of score in percentage terms.

Measures of central tendency:

These measures deal with types of averages of a series of characteristics or scores. Data are often described in terms of some measurement found near the middle of the distribution that in some way typifies it. The three most commonly used measures are the MEAN, the MEDIAN, and the MODE.

The Mean

The mean of a distribution is commonly understood as the arithmetic average. It is computed by dividing the sum of all the scores by the number of scores.

$$\text{Mean} = \frac{\text{sum of scores}}{\text{number of scores}}$$

The Median

The median of a distribution is the middle most score. It divides the distribution into two equal subgroups.

To compute the median in a series of ungrouped data:

- i) arrange the scores in array form
- ii) if N is odd, the median is the middle score
- iii) if N is even, the median is a point midway between the middle scores.

odd	even
7	14
6	12
5	11
	10
4 - Median	8
3	7
2	5
1	4

$$4 - \text{Median} \quad 8 \quad \frac{(10+8)}{2} = 9 = \text{Median}$$

The Mode

The mode is the oft repeated score - the score that occurs most frequently in a distribution. In the grouped data the mode is assumed to be the mid-score of the interval in which the greatest frequency occurs.

USE

- i) the Mean when the scores are almost symmetrically distributed and when the measure of central tendency having the greatest stability is wanted.

- ii) the Median - When the exact middle point is wanted and when there are extreme scores which would markedly affect the mean.
- iii) the Mode - When a quick and approximate measure of central tendency is wanted and when the measure of central tendency must indicate the most typical value.

Measures of Dispersion

The Range (R)

The Range refers to the difference between the highest score and the lowest score in an array.

$$R = H.S. - L.S.$$

The Quartile Deviation (QD)

It is also called semi-inter quartile range. The interquartile range is the difference between the third quartile (Q_3) and the first quartile (Q_1). Q.D. is the half of that difference. Example:

Example

14

13

10

- Q_3 (9.5)

9

9

8 - Q_2 (Median) (7.5)

7

5

4

- Q_1 (4)

4

3

2

$$Q.D. = \frac{Q_3 - Q_1}{2}$$

$$= \frac{9.5 - 4}{2}$$

$$= \frac{5.5}{2}$$

$$= 2.75$$

(Median divides the distribution into 2 equal subgroups; quartiles divide the distribution into 4 equal sub groups. Deciles divide the distribution into 10 equal sub groups. (Per) Centiles divide the distribution into 100 equal sub groups).

The Standard Deviation (S.D):

The Standard Deviation is the positive square root of the variance. The deviation of a score is its distance from the mean.

The sum of the squared deviations of individual scores from their mean divided by N is known as the variance.

Scores (X)	Deviation $d = (X - M)$	Deviation squared d^2
18	+6	36
16	+4	16
14	+2	4
12	0	0
10	-2	4
8	-4	16
6	-6	36
<u>84</u>		<u>112</u>

$$N = 7,$$

$$\text{Mean} = 12 \text{ (sum of squared deviations)}$$

$$\text{Variance} = \frac{\text{sum of squared deviations}}{\text{number of scores}}$$

$$= \frac{112}{7} = 16$$

$$\text{S.D.} = \text{Square root of variance}$$

$$= \text{square root of } 16$$

$$= 4$$

Measures of Relationship

Correlation is the relationship between two or more paired variables; that is, two or more sets of data. The degree of relationship may be measured and represented by the coefficient of correlation.

The simplest type of correlational analysis is known as the Spearman Rank order method. This analysis is appropriate when a relatively small number (fewer than 30 pairs) of scores are being related. The coefficient of correlation is identified by the Greek letter, rho. (ρ)

$$\rho = \frac{1 - 6 \times \text{sum of } D^2}{N(N^2 - 1)} = \frac{1 - 6 \sum D^2}{N(N^2 - 1)}$$

D = Difference between Ranks

N = Number of paired ranks.

The coefficient of correlation ranges from '-1' to '+1' through '0'. '-1' refers to perfect negative relationship; '+1' refers to perfect positive relationship. '0' refers to complete lack of relationship.

Example:

Student	Scores in A	Scores in B	Rank in Test A	Difference in Ranks D	D^2
A	21	18	1	1	1
B	19	20	2	1	1
C	13	12	3	2	4
D	16	16	4	1	1
E	12	14	5	1	1

$N=5$

Sum of $D^2=8$

$$\text{Rho (P)} = 1 - \frac{6 \times \text{sum of } D^2}{N(N^2 - 1)}$$

$$= 1 - \frac{6 \times 8}{5(25 - 1)}$$

$$= 1 - \frac{6 \times 8}{5 \times 24}$$

$$= 1 - \frac{2}{5}$$

$$= +0.60$$

Frequently textbook authors present a general criterion for the evaluation of the significance of coefficients.

Coefficient	Relationship
0 to 0.20	Negligible
0.20 to 0.40	low or slight
0.40 to 0.60	Moderate
0.60 to 0.80	substantial
0.80 to 0.90	high
0.90 to 1.00	Very high

The foregoing is a crude analysis. The significance of a coefficient of correlation depends upon the nature of the factors related, the number of cases involved, the range of score data and the purposes of the application of the measure.

Standard Scores

Standard scores provide a method of expressing any score in a distribution in terms of its distance from the mean, in standard deviation units.

(i) Sigma score (z score)

$$z = \frac{X - M}{S.D.}$$

X = raw score
 M = Mean
 $S.D.$ = Standard Deviation

Example A

$$X = 66$$

$$M = 60$$

$$SD = 5$$

$$z = \frac{66 - 60}{5} = \frac{+6}{5}$$

$$= +1.20$$

Example B

$$X = 57$$

$$M = 60$$

$$SD = 5$$

$$z = \frac{57 - 60}{5} = \frac{-3}{5}$$

$$= -0.60$$

ii) T Score

Another version of the sigma score, called T score, has been devised to avoid the possible confusion resulting from negative scores (below the mean) and also to eliminate decimals.

$$T = 10z + 50$$

$$\text{a) If } z = +1.20, \quad T = 10 \times (+1.2) + 50$$

$$= 12 + 50$$

$$= 62$$

$$\text{b) If } z = -0.60, \quad T = 10 \times (-0.60) + 50$$

$$= -6 + 50$$

$$= 44$$

(z score scale has a mean of '0' and standard deviation of 1;

T score scale has a mean of 50 and a standard deviation of 10.)

P.S.

The use of raw scores is a false basis for comparison. Raw scores may be converted into standard scores (z or T) and compared.

CONVERSION OF RAW SCORES INTO STANDARD SCORES:

We often wish to make a comparison between the relative positions of one individual on two different tests. It is possible to do this meaningfully if the two tests have the same means and the same standard deviations, but this seldom happens in practice. To overcome this difficulty we can translate measures into standard scores. A widely used standard score that plays an important role in statistical journals is the z -score. It is defined as the distance of a score from the mean, as measured by standard deviation units. The formula for finding

$$z\text{-score is } z = \frac{X - M}{S.D.}$$

Where X = raw score of the candidate

M = Mean for the group

$S.D.$ = Standard Deviation for the group.

By definition z - distribution has a mean of zero and $S.D.$ equivalent to 1.

For illustration, suppose a student's score in psychology test is 81 where the mean of the distribution is 78 and the $S.D.$ equals 12. Suppose also that the same student has made a score of 53 in Arithmetic test where the mean is 51 and the $S.D.$ is 6. If we substitute these figures for the appropriate symbols in the formula, we can get the z -scores.

Psychology

Arithmetic

$$Z = \frac{81 - 78}{12} = +0.25$$

$$Z = \frac{53 - 51}{6} = +0.33$$

The result shows that the score of 53 in Arithmetic test shows a slightly better relative performance than the score of 81

in the psychology test. Compared to his peers, this student has done some what better in Arithmetic than in psychology.

Let us suppose that a trait is measured by administering a test to a very big population and if the scores are converted into z-scores and tabulated on a graph (trait vs individuals) you will find that the trait is normally distributed. Most of the cases concentrate near the mean. The frequency of cases decreases as we proceed away from the mean in either direction. Approximately 34% of the cases in a normal distribution fall between the mean and one standard deviation above or below the mean. The area between one and two standard deviations from the mean on either side of the distribution contains about 14% of the cases. There are only about 2% of the cases between two and three standard deviations from the mean, and only about 0.1% of the cases fall above or below three standard deviations from the mean.

Conversion of Raw Scores into Grades

Raw marks awarded can be converted into grades in order to facilitate the examiner to have comprehensive scale to evaluate the merit of the students. For this purpose a 7 point scale is followed:

O : Outstanding : 6 points

A : Very Good : 5 Points

B : Good : 4 points

C : Average : 3points

D : Below Average : 2 points

E : Poor : 1 point

F : very poor : 0 point

Intervals for the various grades shall be worked out as shown below:

- i) The marks of the top 1% of the number of candidates shall be awarded grade O. The last mark among these 1% shall be the lower limit for grade O. The difference between the next lower mark and 45% shall be taken and divided into 3 equal intervals and grades A,B,C shall be assigned for these in the descending order. The other similar intervals below 45% will be assigned grades D,E and all others given grade F.
- ii) When the difference between the two marks mentioned above is not exactly dividable by 3, the upper limit of grade A may be adjusted by increasing or decreasing it by one mark, as the case may be.
- iii) The marks shall be converted into grades by the Boards of Examiners based on the above instructions. While awarding grade O, if the Board feels that no candidate deserves it, it need not be given to anyone. In such a case the difference between the highest marks obtained by a candidate and 45% shall be divided into 3 slabs and grades A, B,C be determined accordingly. Then again, if the Board opines that more than 1% of candidates merit grade O in the particular subject then that grade may be assigned to all deserving cases.

Direct grading

To make direct grading a realistic assessment of the performance of candidates, the Examiners shall meet before commencing the valuation of answer scripts and lay down the norms for the award of the various grades in each subject. Broad guidelines shall be prepared as to the main points in the answer expected so that there may be a certain uniformity maintained in the valuation. Where the valuations of a script by

two Examiners and the final grade for the script be decided on the basis of the revaluation.

Where direct grading is done, each question shall be given a grade in the 7 point scale and a grade for the whole paper shall be arrived at by calculating the grade point average.

Suppose, for example, in a paper with five questions to be answered, all questions being of equal weight a candidate has been awarded grade B for question 1, grade A for question 2, grade B for question 3, and grade A for questions 4 and 5. The grade point average will be calculated (assuming equal weightage for all questions) as follows:

$$\text{G.P.A.} = \frac{4 + 5 + 4 + 5 + 5}{5} = \frac{23}{5} = 4.6 \text{ or } 5$$

Therefore overall grade for the paper is A. If the questions are of unequal weight, say questions 1 and 4 having a higher weightage than the other three, in the ratio 5:4, then the grade point average in this case will be as follows:

$$\text{G.P.A.} = \frac{4 \times 5 + 5 \times 4 + 4 \times 4 + 5 \times 5 + 5 \times 4}{5 + 4 + 4 + 5 + 4} = \frac{101}{22} = 4.59 \text{ or } 5.$$

Again the overall grade is A. The grade point average for the whole course shall be given correct to 2 decimal places so as to distinguish one from the other among those who obtain the same grade.

SESSION - 25

WORKSHOP

Theme:- application of statistical concepts

Objectives:

1. to enable the participants to apply some of the statistical techniques in marking, scoring and evaluation of their students.
2. to enable them to covert raw scores into standard scores.

Problem No. 1					
Compute the Rank-Order Correlation for the following :					
1)	A	B	Rank A	Rank B	D ²
	58	58			
	55	54			
	50	57			
	40	40			
	48	35			

55	54				
50	57				
40	40				
48	35				

55	54				
50	57				
40	40				
48	35				

55	54				
50	57				
40	40				
48	35				

Problem No. 1

Directions: Set up simple frequency distribution and analyze test scores. (marks obtained in English by X std. students)

Simple Frequency Distribution

Raw Scores	X	Tally	f	fx	d	d ²	fd ²
45							
40							
35							
45							
40							
55							
50							
35							
45							
40							
45							
50							
30							
45							
50							
55							
45							
50							
30							
20							

N=20

Σ =

Σ =

1. Compute Mean :

$M = \frac{\sum fx}{N} =$

2. Compute Median:

$Mdn. = \frac{N + 1}{2} =$

3. Indicate the Mode.

Mode =

4. Find out the range:

$R = H - L =$

5. Find out the range of upper fourth:

$\frac{3N}{4}$ from, to

6. Find out the range of lower fourth:

$\frac{N}{4}$ from to

7. Compute Standard Deviation:

$SD(0) = \sqrt{\frac{\sum fd^2}{N}} =$

Problem No. 2

Compute the Rank-Order Correlation for the following :

1)

A	B	Rank A	Rank B	D	D ²
56	86				
55	84				
50	75				
49	40				
48	35				

$\Sigma =$

Computation : $r = 1 - \frac{6 \Sigma D^2}{N(N^2 - 1)}$

2)

A	B	Rank A	Rank B	D	D ²
70	28				
68	30				
66	35				
50	38				
44	40				

$\epsilon =$

3)

A	B	Rank A	Rank B	D	D ²
35	55				
30	54				
29	60				
26	43				
22	50				

$\epsilon =$

Interpreting Rank - Order correlations computed :

1.

2.

3.

Problem No. 3

Directions:

Assume a distribution with a mean of 75 and an SD 15. Using this data, compute the z-score for raw scores of 95, 85, 75, 65, and 55. Use the following formula:

$$z = \frac{X - M}{SD}$$

$$95 =$$

$$85 =$$

$$75 =$$

$$65 =$$

$$55 =$$

Problem No. 4

Directions:

Using the z-scores computed in the above example compute the T- scores for the same raw scores of 95,85, 75,65 and 55. Use the following formula;

$$T = 10z + 50$$

$$95 =$$

$$85 =$$

$$75 =$$

$$65 =$$

$$55 =$$

Problem No.5

Directions:

Assign stanine values to the scores listed in the X column.

Percentage:

	Lowest 4%	Next 7%	Next 12%	Next 17%	Middle 20%	Next 17%	Next 12%	Next 7%	Highest 4%
Stanine	1	2	3	4	5	6	7	8	9
No of scores in each stanine	-	-	-	-	-	-	-	-	-

X	Stanine Value	X	Stanine Value
60	_____	28	_____
58	_____	28	_____
56	_____	24	_____
54	_____	22	_____
52	_____	20	_____
58	_____	18	_____
48	_____	16	_____
46	_____	14	_____
44	_____	12	_____
42	_____	10	_____
40	_____	8	_____
38	_____	6	_____
36	_____	4	_____
34	_____	2	_____
32	_____		
30	_____		

N=30

Problem No. 6

Directions: Find out the Percentile ranks of the scores given below. (marks obtained in numerical ability test by x std. boys).

Score	f	Rank
99	1	1
93	1	2
87	1	3
84	4	5.5
77	5	10
73	3	14
67	3	17
62	3	20
57	1	22
52	1	23
49	1	24

N=24

$$PR = 100 - \frac{(100R - 50)}{N}$$

$$PR_{99} =$$

$$PR_{84} =$$

$$PR_{67} =$$

$$PR_{49} =$$

Self-oriented roles

Self-oriented roles stem from the self-concept of teachers rather than from their personality as such.

SESSION - 26

Theme - Psychology of being a teacher
- mental health of teachers

Objectives:

- 1. To expose the participants to the various roles a college teacher has to play.
- 2. to introduce them to the concept of mental hygiene, role conflict and frustration.
- 3. to sensitize them to the causes of frustration.

THE PSYCHOLOGY OF BEING A TEACHER

The effectiveness of a teacher depends as much on his understanding of himself as it does on his understanding of his students. Teachers play many roles; the roles interlock and overlap; some are complementary and some are contradictory.

Instructional and Administrative roles

- i) Instructor - to initiate, direct and evaluate learning.
- ii) representator of society - concerned with transmitting the values and standards of the culture and the community.
- iii) subject - matter expert - studies and masters certain areas of learning
- iv) disciplinarian
- v) clerk
- vi) youth group leader
- vii) Interpreter to the public; helps the public to arrive at a better understanding of the educational institutions and what they are attempting to accomplish.

psychologically oriented roles

- i) educational psychologist - psychological worker in an educational setting.
- ii) artist in human relations
- iii) group builder
- iv) psychological catalyst
- v) mental hygiene worker

Self- oriented roles

Self - oriented roles stem from the self - concepts of teachers rather than from their personalities, as such.

- i) social service worker
- ii) dual role of the learner and the scholar
- iii) parent - figure
- iv) power seeker
- v) security seeker

Conflicts in roles

Teaching is strenuous work. Some of the strain comes from the need to play different roles, particularly the roles that are in conflict with each other. One of the key problems that faces the teachers, therefore, is that of integrating his roles, organizing them around values in life that are most important to him, and playing them in ways that are not in basic conflict with his self-concept or his self - ideal.

Conflicts in expectations

There is often a discrepancy between what people expect of teachers and what teachers expect of themselves. The teacher is expected by some to be a paragon of all virtues. Teachers are likely to be people who never achieve what they expect of themselves; that is, there tends to be a gap between their self-ideal and their self- concept. Therefore when they find themselves the focal point for criticism their sense of failure and guilt is heightened.

Conflicts in loyalties:

Conflicts involving divided loyalties are sometimes aggravated by an administration that is unfriendly or unsympathetic to the mental health of teachers.

Teachers as targets of hostility

Another disintegrative force is the 'unearned hostility'. Disintegrative forces and factors in teaching make heavy

demands on teachers. They constitute a serious threat to the mental health of teachers.

Integrative factors in teaching:

In spite of the annoyances, tensions and anxieties that constitute the disintegrative forces in teachers, most teachers like their jobs.

The significant rewards in teaching are however, more psychological than economic.

Teaching also offers opportunities for personal growth. The opportunity to experiment, to learn better ways of teaching, is an attraction that keeps many teachers in the profession in spite of the disintegrative and frustrating experiences. As the teacher realizes he is part of a large movement - of something that is bigger than he is - he gets the sense of participation in a grand enterprise. The other integrative factors in teaching are opportunities for improving professional competence and educational qualifications, contact with young growing minds, scope for sharing knowledge and experiences with others and scope for interaction with intellectually alert brains for mutual enrichment.

A final word

Teaching is more than a profession; it is a calling; it is more than a calling; it is a mission; it is more than a mission; a service.

"A poor teacher complains;

An average teacher explains;

A good teacher teaches;

A great teachers inspires"

Mental Health of Teachers

Mental health

Mental health is a process of living that points to better living. It is not a passive acceptance of life and its conditions; it is not just efficiency, or contentment, or complacent abiding by rules. It means an even temper, functional intelligence and consideration of the social order. Reality is accepted. Problems are solved when solvable and lived with when unsolved or unsolvable. Mental health, like physical health, is a matter of degree.

Mental health refers to emotional balance. A man, in a sound mental health, is comparatively free from the symptoms of maladjustment. Mental health is preserved in a friendly and sympathetic atmosphere, by not being overprotected, by developing efficiency through good habits and by having a well balanced program of work and rest; mental health is the full harmonious functioning of the whole personality.

Mental Hygiene

Mental Hygiene stresses better living conditions that will not only cure mental ill health but prevent the on set of mental illness; it is a science that deals with human welfare and pervades all fields of human relationships. It is the art of living according to the principles of sound psychology and philosophy. The objective of mental hygiene is to assist people in the realization of a fuller, happier, more harmonious and more effective life.

Frustration and Conflict

When the attempt of an individual to reach a goal is thwarted, he is frustrated. The situation in which he is placed is called tension. The sources of frustration are i) environmental obstacles that attainment of the goal; ii) personal inadequacies or handicaps that make the goal unattainable. iii) motivational

conflicts within the individual that deny him satisfaction of one motive when he satisfies another.

Although the environmental obstacles and unattainable goals account of for many life's frustrations, the most deepseated sources of frustration - the one that causes people the most unhappiness is a conflict of motives.

Approach - Approach Conflict: implies a conflict between two positive goals - goals that are equally attractive. People usually resolve such a conflict by satisfying first one goal then the other.

Avoidance - Avoidance conflict: involves two negative goals - 'caught between the devil and the deep sea' two kinds of behaviour are likely. One is vacillation. The other is an attempt to leave the field.

Approach - Avoidance conflict: the person is both repelled and attracted by the same goals.

Reactions to frustration

'ego' defences - mental mechanism - defence mechanisms - mental dynamisms - adjustment mechanism - escape mechanisms-

- i) **compensation** : a method of adjustment which usually involves a substitute activity for a frustrated motive.
- ii) **rationalization:** In this mode of adjustment, the individual explains his own behaviour as to conceal the motive it expresses and assigns it to some other motive.
- iii) sour - grapism
- iv) sweet- lemonism
- v) **reaction formation:** expressed in a form that is directly opposite to its original intent.

- vi) **Projection:** is a device that disguises the source of conflict by ascribing motives to someone else.
- vii) **fantasy or day dreaming**
- viii) **displacement:** the object or goal of a motive is disguised by substituting another one in its place.
- ix) **repression:** a reaction in which a person rejects from consciousness, impulses or thoughts that provoke anxiety; it eliminates a conflict or frustration from conscious awareness and thereby reduce anxiety. It is, in part, a kind of 'forgetting' for, a person conveniently represses the things that might make him anxious or uncomfortable.

Suggestions for dealing with frustrations

Here is a list of suggestions on how to cope with frustrations.

1. **develop self -awareness:** The basic idea is that the better a person understands himself, the less likely he is to be overwhelmed by events he cannot control. Further more, a person who understands and accepts himself is better able to understand and accept the others.
2. **recognize new possibilities in teaching.**
3. **evaluate dissatisfactions.**
4. **re-evaluate total load.**
5. **Look for help on specific questions.**
6. **Deliberately expose yourself to new experiences.**
7. **Seek satisfactions elsewhere**
8. **Talk it over with friends.**
9. **Get physical release of tension.**
10. **Avoid taking out your frustrations on the class.**
11. **Get professional help.**
12. **In extreme cases execute a strategic withdrawal.**

SESSION - 27

Theme - Teacher as a classroom leader, leadership and morale, leadership styles and leadership behaviour.

Objectives:-

1. to provide the participants with opportunities to analyze their leadership styles and leadership behaviour.
2. to introduce the participants to the concepts of group dynamics, leadership and morale.
3. to equip them with all the necessary knowledge and experiences needed to help them become effective classroom leaders.

LEADERSHIP STYLE QUESTIONNAIRE - EXERCISE

(One response alternative has to be chosen from the three given after each of the following situational descriptions) You are a principal of a college.

1. In order to attend a workshop meant for principals, you are to be away from the college for four months. The annual examination of the college and new admissions would be conducted during this period. It is not compulsory for you to attend the workshop.
 - A. I shall inform the college management of my attending the workshop. I shall delegate my duties and responsibilities to the vice-principal and a team of the members of the staff.
 - B. I shall attend the workshop. Our teachers are well experienced. They can run the college quite efficiently even in my absence.
 - C. Principal worth his salt cannot be away from the institution for a long period of four months especially at the time of examination and admissions. If it were shorter period, the vice-principal would have managed it. In this case I will not attend it.
2. The Director of Collegiate Education has written to you, to take the responsibility of housing or organizing a camp with participants from ten colleges, during the December vacation. Your teachers are very reluctant to have it in your college. You are expected to reply to the D.C.E.
 - A. I shall write to the D.C.E. that the college will undertake the responsibility, and shall tell the teachers that they have to organize the camp whether they like it or not.

- B. If the teachers are not willing then the Principal cannot do any thing. I shall have to write to the D.C.E, that the College cannot organize the camp.
 - C. The organization of a camp is a creative activity . The college and the staff are likely to get some opportunity to learn how to organize a camp. So I shall discuss with the teachers to make it possible.
3. One of the assistant professors has suggested a new way of scheduling the work-load of teachers through a committee of teachers.
- A. If the teachers come forward to manage their own work through a joint co-operative system, I shall join them in the enterprise and shall welcome such an initiative as it provides sharing of experience and ideas.
 - B. I consider, it will make things difficult for me to maintain discipline amongst the teachers. After all scheduling the workload is the Principal's duty and I do not want others to do it for me. I cannot accept such a proposal.
 - C. Scheduling is not so important as to require my attention. If the teachers want to decide what should be done let them decide. I shall approve the plan.
4. The governing body of the college is of the opinion that you as a principal did not possess sufficient tact in handling students' strike, and consequently the college was put to considerable loss and damage. They have asked you to send your explanation if any.
- A. I will explain that in meeting the situation I have been continuously in touch with my colleagues for adopting suitable course of action. And I think it was the best under the circumstances of which I assume the full responsibility.

- B. I considered it was futile to meet the agitated students as they were in a violent mood. Nothing better was possible in the situation.
 - C. With all the power that I have as a Principal I tried to suppress the students, but apparently the students were out of control. Of course I feel that deterrent punishment should have been given.
5. You receive a request from some brilliant students of P.U.C. Class that they want some extra coaching for the coming Public Examination in order to secure higher ranks.
 - A. It is difficult to arrange such classes, as I cannot impose additional burden on the teachers under the existing rules. So let the students make their own arrangement.
 - B. I shall encourage the students for this initiative, but tell them I like to discuss the matter with the other teachers and possibly the teachers' committee may find a way out.
 - C. Since rank holders are a matter of prestige to the college I shall send a circular to the teachers assigning some of them for the extra coaching class.
6. A lady teacher had a delivery early in the summer vacation. She has applied for maternity leave from the date of re-opening of the college after the summer vacation. The rule governing the maternity leave is rather vague, (as to when this period of two months should commence) and much depends on your discretion.
 - A. The teacher has had enough rest when she needed it, and she should join the college on completion of two months from the date of delivery.

B. I have to find out from her how many days of leave she thinks she would need, after the reopening, and if it is reasonable, shall help her to have it.

C. I do not think I have much to do in this case. I shall simply recommend the application for two months of maternity leave.

7. You receive an application from one of your assistant professors requesting you to relieve him of his job as he has secured a better one elsewhere. Rules require that application for any job should be sent through you. If the teacher is relieved now, teaching would greatly suffer.

A. I shall call for the explanation of the teacher and tell him that he cannot be relieved, as he did not apply through proper channel. I do not want the work to suffer and shall warn him, that in future applications should be sent through the principal.

B. The teacher is to be relieved as it is a better job. I cannot ask him to continue when he is not willing. I shall explore what alternative arrangements could be made to relieve him.

C. The teacher should see the secretary of the managing committee and get his clearance. Personally I do not have any objection, after all, no one is indispensable.

8. You have received a note from the students' union of your college (obviously under outside inspiration) that they would go on strike if the evaluation of the examination papers is not made more leniently.

A. I shall sit with the students to discuss with them about the suitable action regarding evaluation. To me strike is not the problem, the problem is their dissatisfaction about evaluation.

B. I shall inform the students' union if they go on strike or cause any disturbance, severe disciplinary action will be taken against them.

C. I shall send a note to the governing body of the college, as what should be done in such situations is upto them.

9. The governing body of the college considers that some students need extra coaching in some subjects beyond class hours and you should make arrangements for it. You apprehend some resistance to this idea from some teachers.

A. I shall also share the extra work with my teachers, shall find out if they can volunteer to do the work by rotation. I shall also try to impress them that the teachers' credit lies in pulling backward students up and here is an opportunity for them.

B. Teachers are full time employees and it is a part of their duty to teach the subject well. They should attend to these students.

C. shall forward the letter to the vice. principal to make suitable arrangements. If there is something I can do I shall do it.

10. You heard a rumour that a certain teacher is very communal in his approach towards pupils. On preliminary inquiries, you understand that although there is exaggeration yet there is some truth in it. You also discover that communal tendencies are present in some other teachers also.

A. I think, as a free citizen every person has his own ways of thinking and I cannot go on correcting individual opinions or modes of thinking.

- B. I shall convene a meeting of the teachers for discussion and firmly point out that communalism is not conducive in any educational institution; it is an unhealthy feature.
 - C. I shall call each of the teachers and tell him that there is absolutely no place for communal feeling in my college if I find any body communal I can become ruthless to outcast such a person.
11. The vice-Principal of the college who happens to be your colleague and friend over a long period of time suggests to you in writing that the teachers and students would show remarkable progress in their achievements if you reduce check on them.
- A. I can never trust my assistants and students. The vice-principal, I think, does not know that the college would be in big mess if I do not check constantly.
 - B. As a Principal I think I was expected to take rounds. I used to go round but if that is a problem I may stop going round.
 - C. I have always been thinking of the progress of my colleagues. I think I should try out this suggestion for a fortnight to see the results. If there is a worthwhile progress I shall willingly follow this suggestion.

KEY

Leadership Style Questionnaire

- | | | | | |
|----|-------|-----|-------|-------------------|
| 1. | A — D | 6. | A — A | A = Authoritarian |
| | B — L | | B — D | D = Democratic |
| | C — A | | C — L | L = Laissez fair |
| 2. | A — A | 7. | A — A | |
| | B — L | | B — D | |
| | C — D | | C — L | |
| 3. | A — A | 8. | A — D | |
| | B — L | | B — A | |
| | C — D | | C — L | |
| 4. | A — D | 9. | A — D | |
| | B — L | | B — A | |
| | C — A | | C — L | |
| 5. | A — L | 10. | A — L | |
| | B — D | | B — D | |
| | C — A | | C — A | |
| | | 11. | A — A | |
| | | | B — L | |
| | | | C — D | |

What is your dominant style?

How many As - ?

Ds - ?

Ls-? do you have?

T - P LEADERSHIP QUESTIONNAIRE - Exercise

Name Group

The following items describe aspects of leadership behaviour. Respond to each item according to the way you would be most likely to act if you were the leader of a work

group. Circle whether you would be likely to behave in the described way — Always (A) Frequently (F) occasionally (O) seldom (S) or never (N)

If I were the leader of a work group —

1. I would most likely act as the spokesman of the group. A F O S N ☐ ()
2. I would allow members complete freedom in their work. A F O S N ☐ ()
3. I would encourage the use of uniform procedures. A F O S N ☐ ()
4. I would permit the members to use their own judgment in solving problems. A F O S N ☐ ()
5. I would needle members for greater effort. A F O S N ☐ ()
6. I would let the members do their work the way they think best. A F O S N ☐ ()
7. I would keep the work moving at a rapid pace. A F O S N ☐ ()
8. I would turn the members loose on a job, and let them go to it. A F O S N ☐ ()
9. I would settle conflicts when they occur in the group. A F O S N ☐ ()
10. I would be reluctant to allow the member any freedom of action. A F O S N ☐ ()

11. I would decide what shall be done and how it shall be done. A F O S N ☐ ()
12. I would push for increased production. A F O S N ☐ ()
13. I would assign group members to particular tasks. A F O S N ☐ ()
14. I would be willing to make changes. A F O S N ☐ ()
15. I would schedule the work to be done. A F O S N ☐ ()
16. I would refuse to explain my actions. A F O S N ☐ ()
17. I would persuade others that my ideas are to their advantage. A F O S N ☐ ()
18. I would permit the group to set its own pace. A F O S N ☐ ()

T	
P	

TP LEADERSHIP QUESTIONNAIRE

Guidelines for scoring

- A. If you have circled S or N against the Serial Numbers 1,3,9,10,11,15,16,17, then cross the rectangular window



- B. If you have circled A or F against the serial numbers 2,4,5,6,7,8,12,13,14,18, then cross the rectangular window ☒
- C. If you have crossed the rectangular window for 2,3,4,5,8,10,14,16,18. then put a cross in the bracket (X)
- D. Count the number of Crosses in the bracket and this is your score for P
- E. Subtract the number of crosses in the bracket from the number of rectangles crossed and this is your score for T

P = Person

T = Task.

Are you concerned with Task more or Person more? Are you high in both?

L B D Q - Ideal Self - Exercise

Out of the five choices given for each of the following items, please select one and put a circle around the number indicating your choice. The choices are given in the box.

Please be sure that you mark every item.

- | | |
|---|--------------|
| 5 | always |
| 4 | often |
| 3 | occasionally |
| 2 | seldom |
| 1 | never |

1. A leader should make his attitudes clear to the staff 5 4 3 2 1
2. A leader should try out his new ideas with the staff. 5 4 3 2 1
3. A leader should rule with an ironhand.* 5 4 3 2 1
4. A leader should criticize poor work. 5 4 3 2 1
5. A leader should speak in a manner not to be questioned. 5 4 3 2 1
6. He should assign staff members to particular tasks. 5 4 3 2 1
7. He should work without a plan.* 5 4 3 2 1
8. He should maintain definite standards of performance 5 4 3 2 1
9. He should emphasize the meeting of deadlines. 5 4 3 2 1
10. He should encourage the use of uniform procedure. 5 4 3 2 1
11. He should make sure that his part in the organization is understood by all members. 5 4 3 2 1
12. He should ask that staff members follow standard rules and regulations. 5 4 3 2 1
13. He should allow staff members know what is expected of them 5 4 3 2 1
14. He should see to it that staff members are working up to capacity 5 4 3 2 1
15. He should see to it that the work of staff members is coordinated 5 4 3 2 1

16. He should do personal favours for staff members.	5	4	3	2	1
17. He should do little things to make it pleasant to be a member of the staff.	5	4	3	2	1
18. He should be easy to understand.	5	4	3	2	1
19. He should find time to listen to • staff members.	5	4	3	2	1
20. He should keep to himself.*	5	4	3	2	1
21. He should look out for the personal welfare of individual staff members.	5	4	3	2	1
22. He should refuse to explain his actions.*	5	4	3	2	1
23. He should act without consulting the staff.*	5	4	3	2	1
24. He should be slow to accept new ideas.*	5	4	3	2	1
25. He should treat all staff members as his equals.	5	4	3	2	1
26. He should be willing to make changes.	5	4	3	2	1
27. He should be friendly and approachable.	5	4	3	2	1
28. He should make staff members feel at ease when talking with them	5	4	3	2	1
29. He should put suggestions made by the staff into operation.	5	4	3	2	1
30. He should get staff approval on important matters before going ahead.	5	4	3	2	1

L B D Q

(Leadership Behaviour Description Questionnaire)

KEY

The first 15 items deal with the dimension of 'initiating structure' and the last 15 items deal with 'consideration'

- Maximum score attainable - 150
- Initiating structure - $15 \times 5 = 75$
- Consideration - $15 \times 5 = 75$
- Minimum score I.S. = 15
- C = 15

Items 3,7,20,22,23, and 24 are scored in reverse.

What is your score for initiating structure?

What is your score for consideration?

Is your I.S. score higher than your C score?

Is your 'C' score higher than I.S. score?

Are you high in both?

Leadership Behaviour of college Teachers - A study

Within the classroom, the teacher is the undisputed leader: he is the director of all actions and the object of all attention.

The good teacher is a model for his students to emulate, an example which they follow. This is one of the greatest responsibilities of the teacher and one from which he cannot escape.

What makes the teacher a good leader? What effect does the style of leadership have on his classes? Does the class work better under a democratic leader who uses persuasion rather than force, conference rather than command?

Whether the teacher is supportive and integrative or imposing and domineering or persuasive and non-interfering, decides the corresponding pupil - behaviour. A number of research studies on teacher - behaviour point out that an effective teacher is one who provides for open interaction and free communication between himself and his students. One of the significant results of Flander's study in interaction analysis is that teachers' indirect behaviours are associated not only with higher student achievement in the subject matter but also with more favourable student - attitude towards the teachers, subject, class and institution. As the teacher listens to students' responds to students' suggestions, accepts students' feelings, involves them in the class room discussions and praises and encourages adequately, a warm, supportive open climate is maintained and this climate enhances emotional security and zest for learning and leads to high student achievement.

Lippitt and White (1968) find that pupils subjected to autocratic control are aggressive, show less capacity for constructive group-work and are less capable of self-disciplined roles and behaviour when direct supervision is removed; whereas democratic leadership results in a high frequency of

members' suggestions for group- action, low dependency on the leader and little member- discontent about their relations with the leader. leadership appears in social science literature with three major meanings - as the attribute of a position, as the characteristic of a person and a category of behaviour.

Early researches on leadership approached the concept by comparing leaders, as different from non-leaders. Very few stable differences between leader and non-leaders have been found to exert a significant influence on leadership acts. Hence the current approach focuses on leadership behaviour emphasizing those acts leading either to goal-achievement or to the maintenance and strengthening of the group.

The two fundamental roles of leadership are:

1. Task role which requires the person to organize and direct the activities of the members so that they are focused on achieving the group - goals with maximum efficiency.
2. Socio - emotional role which requires the individual to maintain group's morale and release tension arising from the group's work activities.

A leader, to be a leader, must lead; he must initiate action and get things done. To get things done through other people, he has to maintain good human relations. Thus, the two fundamental dimensions of leader-behaviour are initiating structure and consideration.

Initiating structure refers to the leader's behaviour establishing good relationship between himself and the members, by taking them into confidence, seeking co-operation and leading the group higher and higher up in achieving the goals set.

Consideration refers to behaviour indicative of friendship, mutual trust, respect and warmth in the relationship between the leader and the group.

The Study:

A small study was done by the Department of Education, Madurai Kamaraj University to analyse the leadership styles of college teachers, find the relationship between the style and the dimensions of leader behaviour.

Sample:

Sixty teachers of different colleges affiliated to Madurai Kamaraj University, belonging to different disciplines, were taken up for his study.

Leadership Style Questionnaire, TP Leadership Questionnaire and profile form and Leadership Behaviour Description Questionnaire were used for this study.

Methodology:

The leadership style questionnaire consists of a series of true-to-life situations and the teachers were asked to read them and choose and answer from the given alternatives which depicted the three styles of leadership, namely, democratic, authoritarian and laissez-faire.

After analysing the leadership style of each case in a group discussion, the teachers, were asked to score and find out in how many cases they have shown democratic style, authoritarian style and laissez-faire style.

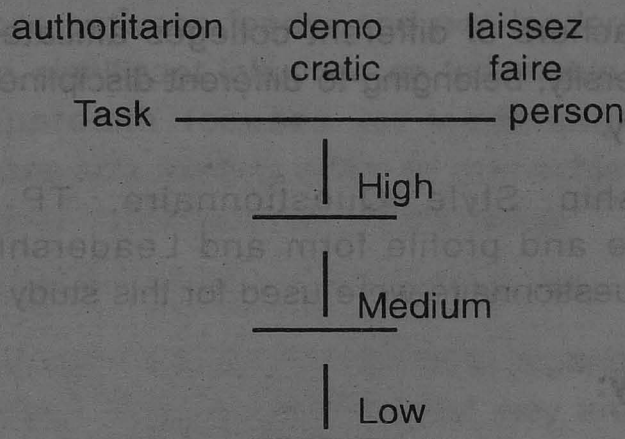
To find out whether they were more concerned with 'task' achievement or 'need satisfaction' of the group' the TP questionnaire was used and scores on T and P were marked.

The TP profile was made and each teacher could make out as to whether he belonged to high, medium or low category in terms of his concern for task and for people.

A typical profile for a democratic leader is one who scores high in both task role and socio-emotional role. Task role

requires the leader to organize and direct the activities of the members so that they are focused on achieving the group goals with maximum efficiency.

Socio-emotional role requires the leader to maintain groups' morale and release tension arising from the groups' work activities.



Leaders having high scores for both, task achievement and needs satisfaction of the person in the group are evaluated as effective leaders and their leadership is categorized as democratic style. Leaders who have high score for task achievement and less than the mean score for concern for person are categorized as authoritarian leaders, so very intent on getting the task done that they forget that they are dealing with human beings and not cogs in the machine.

Those leaders who have a high score for concern for person but less than the mean score for task achievement, are ineffective leaders who do not contribute to effective performance and the style is categorized as laissez-faire.

The leadership behaviour description questionnaire gave scores for the dimensions of leader-behaviour, namely, initiating structure and consideration.

Findings:

An analysis of the data of all the three questionnaire shows that

- i) 80 per cent of the sample of college teachers, if given the choice, would like to be democratic; 17 per cent were prone to be authoritative and only 3 percent tended to be non-interfering and permissive in their styles of leadership.
- ii) Though 80 percent had been identified as preferring democratic styles, not more than 40 percent were found to be high in their concern for both 'task' and 'person'. Remarks by the participants show that community demanded that the teachers be more task. i.e. result oriented;
- iii) Hardly 3 per cent were found to be low on both 'task' and 'person';
- iv) 66 per cent of the teachers had scored higher on initiating structure than on consideration;
- v) A significant correlational value of +0.72 was found between the scores of LBDQ and the TP leadership, i.e., those found to belong to high category; in the profile also had high scores for both initiating structure and consideration and those found to be in the low category had low scores for both initiative and consideration.

Conclusion:

Treatises on effective teaching place a premium on the democratic or integrative attitude of the teacher; Democratic attitude includes decision as well as trust and direction along with courtesy. We need to develop these qualities in our teachers. Experiences conducive to development of these qualities and such attitudes must be made a vital part of teacher education programmes.

Leadership and morale:

Leadership is a multi-dimensional construct, and effectiveness of leadership depends not only on the personal qualities of the individual but also on the membership of the group he leads as well as the situation in which one is placed. Leaders found most effective in work situation have been found to flop during peace time. Very few people can be said to be born with certain qualities which make them 'charismatic' leaders. Buddha, Jesus, Gandhi and Kennedy, usually considered as 'Charismatic leaders' most probably had such endearing qualities of authenticity, empathy, love and compassion that the charisma cuts across space and time and continues to attract through the ages.

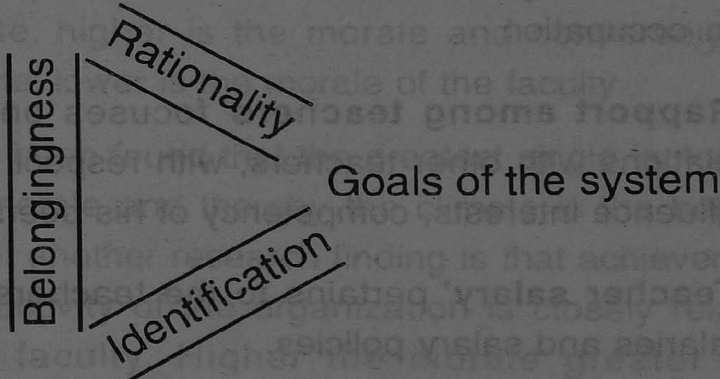
Morale - Morale, it is said, like love, is a powerful force and it is about as easy or as difficult to describe; morale has been defined in terms of individual adjustment as well as group adjustment. Morale has been synonymously used as 'job satisfaction', 'personal involvement', 'psychological well being', as well as 'group cohesion', 'we feeling', 'group solidarity' identification with organizational goals.

In the current literature, morale refers the dynamic relation of equilibrium between the individuals and the organization they serve. What physical health is to the organism, morale is to an organization. The professional interest and enthusiasm of a person displayed towards the achievement or organizational goals in a given job situation can be defined as morale. If there is satisfaction in the interactions of the individuals with the roles they have to play, the morale of the role incumbent would be high and the organization would be effective.



Three segments of morale are belongingness, rationality, and identification. The following model describes the relationship of morale and its dimensions.

Role expectation



Need Disposition

When personal needs to the individual and role expectation of the institution are met, the individual feels that he belongs to the institution.

The extent to which the role expectation is in line with the proposed institutional goals decides the rationality aspect and the extent to the which a person could integrate the goals of the institution into his own needs situation decides his degree of identification with the institution.

Factors affecting morale:

Many devices to measure morale and job satisfaction have been developed and one such tool developed to measure teacher morale in schools has identified ten factors which affect teachers' morale. The following is a brief description of the ten factors.

1. **'Teachers' rapport with Principal'** deals with the teachers feeling about the Principal, his professional competency, his interest in teachers and their work, his ability to communicate and his skill in human relations.
2. **'Satisfaction with teaching'** pertains to teacher relationships with students and feelings of satisfaction with teaching. High morale teacher loves to teach, feels competent in his job, enjoys teaching and believes in the future of teaching and believes in the future of teaching as an occupation.
3. **'Rapport among teachers'** focuses on the teacher's relations with other teachers, with respect to co-operation, influence interests, competency of his peers and ethics.
4. **'Teacher salary'** pertains to the teachers' feeling about salaries and salary policies.
5. **'Teacher load'** deals with such matter as record keeping, clerical work, extra curricular load and keeping up-to-date professionally.
6. **'Curriculum issues'** deals with the teacher's reactions to the adequacy of school program in meeting the individual needs of students.
7. **'Teacher status'** pertains to feelings about prestige, security and benefits offered by the teaching profession:

8. **'Community support of education'** deals with the extent to which the community is willing to support a sound educational program.
9. **'School facilities and services'** has to do with the adequacy of facilities, supplies and equipment and the efficiency of the procedures for obtaining materials and services.
10. **'Community pressures'** gives special attention to community expectations with respect to teacher's personal standards and their interference in school activities.

Implications

It has been found that there is a very high relationship between organizational climate and group morale. Openness of climate is conducive to high morale and the state of morale of group members affects the climate of the organizations. More open the climate, higher is the morale and conversely, more closed the climate, lower is the morale of the faculty.

It has also been found that the greatest single factor which influences the morale and thereby the climate is the behaviour of the leader. Yet another research finding is that achievement of goals and productivity of the organization is closely related to morale of the faculty. Higher the morale greater is the achievement.

Morale is not a steady pervasive thing. One cannot sit back saying that he has built up high morale. Even when one gets seated the high morale may very well be gone.

The implication to the administrators is that high morale should be cultivated in organizations assiduously and systematically. The key person in building it up is the administrator. It is up to him to make the members feel secure, important, involved, and attain a sense of achievement.

SESSION - 28

Theme - guidance and counselling

Objectives:

1. To equip the participants with the necessary knowledge of their role as guides and counselors.
2. To expose them to principles of educational guidance.
3. To introduce them to guidelines for organizing a guidance service in their respective institutions.
4. To provide them with experiences to become aware of the general problems of adolescent students with special reference to their study habits.

GUIDANCE AND COUNSELLING - NATURE AND SCOPE

Guidance has been understood and defined differently by different people. One extreme, narrow view defines guidance as a kind of specialist service extended to help an individual having certain problems. In the institutional context, helping a pupil having problems in choosing a course of study is called 'Educational guidance', in choosing a career 'Vocational guidance', helping in personal, Social adjustment, 'Personal guidance. Psychometric tools like ability and attitude tests, personality tests and inventories, rating scales etc, are used in the study of the individual by the counselor and thus the approach is basically remedial.

On the other extreme is the broad view of guidance which considers it as synonymous with education and any kind of guidance rendered to the child in his development educational, vocational, personal, social, moral, physical etc., is called guidance. Thus, in the developmental approach, guidance is constructed as a continuous, pervasive process. The weakness of the first approach, is that it restricts guidance to problem pupils alone. In the second approach, guidance tends to become incidental almost accidental in its influence and diffuse in its application' (Mathewson 1955).

The via-media approach considers guidance as a sub process of education, emphasizing the total development and growth of the student under unorganized program. According to this approach, education and guidance go together, guidance emphasizing more fully, the functions of education in a democratic society.

Some basic ideas about guidance:-

1. Guidance is an organised service having a definite purpose.
2. Guidance is concerned with meeting pupil needs which are vital to pupil growth in the extra instructional spheres

3. Guidance is both, a specialized and generalized service, in which the teacher, the parent and the counsellor have important roles to play.
4. Guidance is a service meant for all.
5. Guidance is a continuous, dynamic process concerned with the whole individual.

Counselling:

When guidance taken on the roles of individualized services in specific problem situations, it renders it through a special technique called 'counselling'. Counselling is only a part of the guidance program, a specialized aspect which deals with pupils only at problem points. The emphasis is on helping the individual in self-direction and personal effectiveness.

Need for guidance

Factors which have contributed to the emergent need for guidance in schools and colleges:

1. inadequacy of home and community to meet the emerging and complex needs of pupils.
2. greater realization of the inadequacy of classroom instruction to meet the extra-instructional needs of pupils.
3. the unprecedented increase in the number of students and consequent inability of the teacher to cope up with problems emerging from this situation (e.g. gifted, backward).

The need for guidance can be looked at from the stand point of the individual and that of the society.

Individual Needs:

1. Academic growth - understanding of pupils' needs, abilities, attitudes of children and guidance in choosing courses (orientational type of problem).

2. Vocational maturity - development of skill and right attitude towards work. Preparing the student to make the right vocational choice (adjustive type of problem).
3. Personal Social development - family relations, social adjustment, personality adjustment, health, sex, marriage, financial - (developmental problems)

Social Needs:

Guidance for better family life - attitude towards home and understanding of relationships in fundamental emotional ways.

Vocational Guidance is not just a mechanical process of getting an individual into a job - a round peg in a round hole - not a square peg out of a round hole. Endowed with the quality of extraordinary adaptability, a human being with normal intelligence can fit in a variety of jobs, within broad limits after due training has been given to him.

Vocational choice is merely a single event in the total process of elementary vocational guidance. Vocational guidance can start at elementary stage itself by development of healthy habits and right attitudes - respect for manual work, training in use of hands, eye-hands coordination, cooperative work, good inter-personal relationship, neat, systematic work etc.,

School Stage:

Helping pupils to know themselves,

to know the world of work

to make right choices,

to prepare for entry into careers

to enter suitable jobs and for further professional studies or educational studies.

College Stage:

To make students increasingly aware of the expanding field of work, unlimited opportunities and avenues open, to help

them to be aware of various programs of financial assistance, scholarship, fellowship etc.,

Personal Social:

To attend to both developmental and adjustive needs of pupils

To develop desirable attitudes, helping in solving problems related to health and physique -sex, adolescent problems - psychological, emotional, financial and martial problems.

Organizing programmes:

Pre-requisites

1. an adequate system of pupil assessment and recording of pupil data.
2. provision in the timetable for work related to guidance and filling of cumulative cards by teachers.
3. guidance for good citizenship- appreciation and understanding of social values, needs, problems, social attitudes, group loyalties, social responsibilities, fair play etc.,
4. guidance for proper utilization of human resources - vocational guidance of reconciling individual aspiration with social demands on a basis of free individual choice.
5. guidance for national, military service.

Guidance functions:

3 Main functions:

1. Educational
2. Vocational
3. Personal, social.

Need areas:

1. Appraisal and self-understanding
2. Orientation
3. Adjustment
4. Development.

Educational:

Curricular Guidance by:

1. acquainting students with the nature and purpose of College curriculum.
2. help them to make an appraisal of their own abilities, attitudes, skills, interests.
3. help them to acquaint with the vocational implications of the various courses of study.
4. information about other courses, available at other institutions.
5. information about further educational possibilities.

Training to Teachers:

1. for group guidance
2. introduce parents to the idea of guidance
3. budgetary provision

Inventory service (data gathering)

Information service, Counselling service.

Cumulative record card - collection of useful and reliable information about an individual pupil over a period of years for the purpose of helping him.

Characteristics- comprehension and continuity. Cumulative record card is a document in which is recorded cumulatively the relevant information about a particular pupil at one place thus presenting a complete and growing picture of the individual concerned.

Types of information included - identification data, (name, father's name, date of birth) background data, physical data, psychological data (I.Q., attitude etc.,) educational data, vocational preferences and plans.

USE:

To know the strength, weakness, special abilities, achievement; an excellent basis for reports to colleges, prospective employers etc.,

The history of guidance movement closely follows that of psychological measurement. As the tools of psychological measurement became more defined since 1915, their use in guidance also became more and more prominent as diagnostic device and prediction device. The period from 1926 to 1945, a period in the history of guidance movement there was an uncritical use of tests. By 1950s more critical study of tests from the predictive validity has pointed out the drawbacks and limitations of mental testing, especially, intelligence testing. As personality tests and attitude tests data have been found to be less valid, use of tests alone for guidance, it was concluded, was insufficient.

Now, 'totality' approach to measurement and evaluation use of techniques as anecdotal record, interview, questionnaire, rating scale, individual profile, cumulative records etc., is used.

Information Necessary for effective Guidance - Interests

In the words of William James, 'Interest alone gives accent and emphasis, light and shade, background and foreground - intelligent perspective - in a word'.

'Interests' is one of the important dimensions of personality of an individual which has significance for educational and vocational success and satisfaction. The knowledge and understanding of a student's interests is a major factor in educational guidance. Skills and abilities are important but application of one's effort is very much influenced by the interests.

Definition of interests: According to Strong, "interests are the sum total of likes and dislikes for a wide range of stimulus objects and activities.

Bingham says - 'An interest is a tendency to become absorbed in an experience and to continue it'.

Murphy defines - 'Interests are conditional stimuli related to goal object and expressed as likes or dislikes of activities objects, characteristics or people in the environment.

The term interest has been used in various senses -as expressed interest, manifested interest, tested interest and inventories interest. Expressed interest refers to the verbal profession of interest in an object, activity or task; actual participation in an activity or occupation shows the manifest interest; tested interest i.e. what objective tests measure through specialized vocabularies is different to inventories interest i.e. what inventories measure, as this is more subjective self estimate

Interests and aptitudes

Interests are as closely related to attitudes as personality and interests are elements in the total personality and attitude pattern.

Interests are feelings of liking associated with a specific thing or situation; since it is a feeling, it cannot be objectively measured. It has to be either revealed by the individual himself or inferred by the observer.

Interests can be classified as extrinsic and intrinsic. Extrinsic interests are pleasurable emotions that are connected with the purpose or goal of an activity. Intrinsic interests are those concerned with the activity itself; it is a more basic or real interest. Extrinsic interest provides a constant incentive to continue an activity until the goal is reached even after the pleasure in the activity itself is gone.

Though ability and interest are considered closely related, it may not be always true. It is true that one who has high ability in some activity will have a high interest in it; but it is also possible that one may perform a job well just for making alibiing

or one may have a deep interest in an activity though has very low ability in it.

Research has shown the existence of a low to moderate degree of relationship between attitudes and interests. Studies have shown that there is a moderate relationship between intelligence and interest, the correlation ranging from -0.6 to $+0.4$.

Assessment of interests

Assessment of interests is very important for providing vocational guidance. The aim is to discover the degree to which the individual possesses the general pattern of interests that characterize successful workers in a specific occupation;

The inventories have been devised to yield scores that indicate interests in specific occupations, interests in families of occupations and interests in broad fields, which may cut across vocational groups.

Strong's vocational interest blank, Kuder's preference Record vocational, Edwards personal preference Record and Thustone's interest schedule are some of the well known instruments to assess interest.

Strong's vocational interest blank measures the extent to which one's interests are like those of successful men in a given occupation. In addition to the page of general information about the individual, the inventory is divided into eight parts-occupation, amusements, school subjects, activities, peculiarities of people, order of preference of activities, comparison of interest in two items, rating of present abilities and characteristics.

Kuder's preference Record indicates liking for various activities common in certain occupations. Occupations are grouped under nine general heads of indicating areas of interest or preference - mechanical, computational, scientific, persuasive, artistic, literary, musical, social service and clerical.

The interests the likes and dislikes revealed by these inventories, are, in most cases, real present interests and as such have a great deal of value. This information can be utilized by teachers and counsellors as a means of widening and enriching the knowledge of the pupil and developing an understanding of different types of occupational life.

Interest and attention

All children are born ready to pay attention. They are naturally interested in and therefore, ready to attend to various stimuli. There is an intimate connection between attending and being interested. Each interest is a permanent readiness to attend to particular stimuli.

In the modern sophisticated world, it is necessary to develop new interests besides the natural or real interests i.e., the need to extend the range of things to which children are ready to pay attention. Children will attend to things.

1. if they have a direct natural interest.
2. if they have an indirect natural interest.
3. if they have a direct acquired interest.
4. if they have an indirect acquired interest.

The Group Approach

Guidance uses many different techniques suited to the special needs, the special situation and the abilities of the counsellor / teacher.

The two standard techniques of guidance are group guidance and individual guidance. While it is true that the most important objectives in the guidance process are to help the individual achieve self direction, self knowledge and self realization, it is also obvious that as many experiences take place in a group setting, group guidance or group approaches in guidance becomes necessary.

As the psycho-social development of the individual takes place through a series of group interactions and group memberships, there is need for the counsellor to get acquainted with current knowledge of groups and acquiring skills in manipulating group action.

Objectives of group guidance:

1. Dissemination of helpful information
2. Solution of common problems
3. Gaining of an understanding of the group's general attitudes
4. Analysis and reconciliation of different interests, policies and points of view.

Technique of group guidance- group discussion, sociometry, role play, psychodrama, sociodrama and case conferences.

Group approach:

Group discussions- To serve effectively as a technique of group guidance, the discussions in the class should have certain characteristics. There needs to be an informal free atmosphere which would enhance security, acceptance and understanding so that the students would feel free to be themselves and have an easy exchange of ideas and feelings. The students need to have an important part in setting goals and standards in selecting study topics and learning tasks and planning and directing the learning activities. The discussion can be made stimulating by focusing on matters of common concern and significance to group members and by making the process of decision making a co-operative undertaking.

The problem solving approach is stressed in most group guidance programmes;

Group problem solving is more complex than individual problem solving as it occurs in communication and interaction with other persons. Re acting a group solution requires an agreement process and it is a function of the unique social organization of the group

A group characterized by dynamic interaction, open communication and mutual respect finds consenses as a satisfying decision reaching method than confirming through voting.

Whether there is a delegated leader or not, leadership should be shared in the group. Participating leaders are more effective than supervisory leaders in creating a free atmosphere, in facilitating interaction and in helping the group to use minority opinion to upgrade the discussion. Effective discussion depends upon the quality of leadership.

Discussion skills are learned skills. Teachers /Consellers can help students develop the needed skills and attitudes by helping them to observe and appraise themselves and by stimulating them to seek improvement through practice and evaluation of their performances.

Organisation of guidance programmes:

The aim and purpose of any guidance program viz. to bring together all of the resources of the institution, home, and community for the benefit of each pupil, dictates organised effort. The guidance process involves a detailed consideration of all the various phases indicated in Fig.1.

GUIDANCE PROCESS

PLANNING (determining what is to be done)	ORGANISING (grouping activities into administrative units)	ASSEMBLING RESOURCES (obtaining personnel)	DIRECTING (iusing instructions)	CONTROLLING (seeing that results conform to plan)
--	--	---	---------------------------------------	--

The planning phases involves the identification of a need analysis of the situation, a review of alternate possibilities and finally the choice of a course of action including the extent of staff involvement.

The organising phase concerned with the coordination of the whole guidance effort should concern with dividing the activities into appropriate units and grouping them, delegating responsibility, establishing relationships between individuals, identifying techniques and determining the structure (committees, team service relationships). This should result in maximum motivation of other physical resources and facilities becomes less difficult.

The directing phase is concerned with the coordination, control and stimulation of the other phases. It is that phase where instructions given are explicit and clear which authorises or stimulates others to act in a responsible manner. The two major components of this phase are a) the role of authority and (b) the role of communication. A knowledge of the units of authority combined with a recognition of the role of others in action and a consistent application of sound principles of directing are imperative to successful implementation of guidance programme. Techniques to bring about effective communication may include case conferences, memoranda, visual aids, informal conferences, committees, formal reports and staff meetings. The effectiveness of the entire guidance process hinges round the administrative leadership which is capable of mobilising all available resources and facilities to form an organizational structure that will result in maximum effort by all concerned in an institution.

Workshop Session:

The following problem areas have been identified

1. absenteeism
2. indiscipline

3. under achievement
4. placement
5. medium of instruction

You are requested to divide into five groups, select one of the areas mentioned above, identify a problem (within the area selected) common to a college situation and evolve an organizational structure for providing guidance to the pupils based on the principles and procedures discussed above.

CHECK LIST ON PROBLEMS OF ADOLESCENTS

This questionnaire (check list) was designed to list the important problems of boys studying in Polytechnics.

Please read each statement carefully and mark your response. If you want to say 'yes' then put a circle around 'yes' written on the left side of the sheet against each statement. If you want to say 'No' then put a circle around 'No'. You are requested to give free and frank responses.

Please do not write your name anywhere

Example:

YES ☒ NO I feel nervous just before the examination.

Responses Statements

/ 1 /

- | | | | |
|-----|-----|----|---|
| 1.1 | Yes | No | I worry too much about examinations. |
| 1.2 | Yes | No | I worry I may not get good marks. |
| 1.3 | Yes | No | I worry that I have too many assignments to complete. |
| 1.4 | Yes | No | I worry that the syllabus is too heavy for this semester / class. |

- | | | | |
|-------|-----|----|--|
| 1.5 | Yes | No | I don't find the course interesting. |
| 1.6 | Yes | No | I don't find the teaching methods used by the teachers very interesting. |
| 1.7 | yes | No | I do not have proper facilities for studying at home. |
| 1.8 | Yes | No | Worry that teachers do not pay personal attention to me. |
| 1.9 | Yes | No | I hesitate to go to my teachers for getting my difficulties solved. |
| 1.10 | Yes | No | I feel I work more but get less marks. |
| 1.11. | Yes | No | I wish I knew how to study better |
| 1.12. | Yes | No | Worry that i forget my lessons very easily. |

/2/

- | | | | |
|-----|-----|----|---|
| 2.1 | Yes | No | I worry that I do not have good physique. |
| 2.2 | Yes | No | I worry that I am not good looking. |
| 2.3 | Yes | No | I worry that I do not know how to look smart. |
| 2.4 | Yes | No | I worry too little regarding body health and care. |
| 2.5 | Yes | No | I worry that my health problems affect my studies. |
| 2.6 | Yes | No | I remain too conscious regarding my appearance. |
| 2.7 | Yes | No | I do not know whom to approach to get accurate knowledge regarding body care. |

/3/

- | | | | |
|------|-----|----|---|
| 3.1 | Yes | No | I worry that I have very few friends. |
| 3.2. | Yes | No | I worry that I am not popular among my class mates. |

- 3.3 Yes No I wish I could do better in co-curricular activities (games, dramas, signing etc.);
- 3.4. Yes No. I worry that I do not know any teacher well enough to talk about my personal problems.
- 3.5. Yes No I like society in Western countries because boys and girls have freedom to be friends
- 3.6. Yes No I wish I could be intimate with my teachers

/4/

- 4.1 Yes No I remain very self conscious in presence of others.
- 4.2. Yes No I feel very shy to talk to others.
- 4.3 Yes No I am afraid of making mistakes.
- 4.4 Yes No I lack confidence in myself.
- 4.5 Yes No I loose my temper easily.
- 4.6 Yes No I get easily hurt.
- 4.7 Yes No I spend much time in day dreaming.
- 4.8 Yes No I remain impatient and restless to get things done.

/5/

- 5.1 Yes No I remain worried about my future
- 5.2 Yes No I worry that I don't have enough information regarding availability of jobs.
- 5.3 Yes No I wish there were more (opportunities) facilities in the Institution to express my talent.
- 5.4 Yes No I worry that I may not come up to the expectations of the teachers.
- 5.5 Yes No I worry that I do not know anybody who can advice me regarding my employment prospects.

- 5.6 Yes No I do not follow any schedule of studying after class hour.
- 5.7 Yes No I worry I have not taken appropriate courses.
- /6/
- 6.1 Yes No I worry that my parents impose many restrictions on me.
- 6.2 Yes No I worry that my parents are not so rich.
- 6.3 Yes No I feel worried that my parents do not realise the needs of their grown up sons.
- 6.4. Yes No I worry that my parents do not consult me in most of the matters in the family.
- 6.5 Yes No I wish my parents have more faith in me.
- 6.6 Yes No I wish my parents would give me more freedom to manage my affairs.
- 6.7 Yes No I wish I had more money to buy things I want.
- 6.8 Yes No I worry that my parents expect too much from me.

STUDY HABITS INVENTORY

Below are a series of statements made about studying; Please read each and indicate by circling the appropriate response whether, in your own case, the statement is true or false. If you really cannot make up your mind, CIRCLE the question mark.

Please work through quickly, and answer every item.

1. In ordinary times, when there are no exams close. I find that the amount of work I do fluctuates week by week T ? F
2. Even the smallest detail is valuable; I think it is sensible to try and read the footnotes and small type in text books. T ? F

3. Compared with other students of my year,
I think my memory is better than many. T ? F
4. If I sit down for an evening's work it is
important to have pen and paper with me;
I learn largely through committing things
to paper. T ? F
5. During an evening's work I prefer to stick to
one subject rather than to change about and
do two or three. T ? F
6. If I hear other students discussing something
I know almost nothing about, I often get quite
harassed and feel inadequate. T ? F
7. As far as general culture is concerned,
I think that I am better read than most of the
students in my year. T ? F
8. I do my studying alone, very seldom in
conjunction with friends T ? F
9. I cannot comfortably pass over a topic
without fully understanding it; I work at it,
read up other textbooks or ask someone
else until I understand it. T ? F
10. I find diagrams and illustrations invaluable in
helping me to understand difficult topics; they
are often more useful than the text. T ? F
11. I don't get worried just before examinations T ? F
12. When written work has to be handed in I find
I tend to leave it to the last minute and then
often have to rush it. T ? F
13. I study longer hours than most students of
my year. T ? F

14. The topics I read in textbooks are normally independent of recent lectures; they are much more dependent on where I have got to in my planned courses of study. T ? F
15. I don't keep my notes very methodically. T ? F
16. I find informal 'talking shop' among friends is a valuable source of learning and revision. T ? F
17. If I am asked a difficult question that needs some thought to recollect, I will normally find the answer in something I have been or done myself, rather in something I have read. T ? F
18. In lectures I am troubled by finding that my attention is repeatedly wandering, and I have to force myself to concentrate. T ? F
19. If there is an opportunity to make some intelligent comment or ask some intelligent question so that a member of staff will notice and think well of me, I usually do so. T ? F
20. I worry less about work than most students in my year. T ? F
21. I shall work consistently throughout the course and have it well covered before the exams get too near; I will then be able to take revision steadily. T ? F
22. I make several 'breaks' in an evening's study by taking a few minutes off for a short walk, a cigarette or cup of coffee etc., T ? F
23. I learn best from a short text book, that sticks to basic essentials with no extras. T ? F

24. If, during a day's study I come across one or two topics I can't understand, I don't let it bother me; in a field of study as large as teaching, you can't expect to understand everything. T ? F
25. If I miss a lecture, I borrow a friend's notes and catch up. T ? F
26. I make plans and schedules for study and revision, but then I drop behind and I have to give them up or change them. T ? F
27. I do more work at the subject I least like T ? F
28. I take rough notes in lectures, and then copy them out more fully and neatly later. T ? F
29. When studying I like to have the radio/record player on. T ? F
30. When exams get near I do my revision principally direct from text books rather than from my notes. T ? F
31. Whether I settle down to an evening's work depends on the mood I am in when the time comes rather than on any prior plan or schedule. T ? F
32. I wish I had been more methodical and thorough in my note taking earlier in the courses. T ? F
33. My handwriting is clearer and more legible than most. T ? F
34. During an evening's study I fix definite time schedule for the study of particular topics. T ? F
35. I use a small pocket notebook for revising I can carry it around traveling, evening walk and look at it at odd moments-eg T ? F

36. Quiz sessions' (discussions) with friends are a good way of revising. T ? F
37. Reading the same topic in different textbooks only tends to confuse me; I like to stick to one account (book). T ? F
38. Getting notes down is for me the most important part of the lecture. T ? F
39. When studying, I tend to work over fixed time periods, e.g. to start and finish on the half-hour. T ? F
40. When working from a textbook I first of all read the whole section through quickly to get a general picture, and then go through again for the details and to work out the bits I haven't understood. T ? F
41. I help myself remember things by using mnemonics (abbreviations or short forms) T ? F
42. When actually in the exam room, my apprehension diminishes, I am even somewhat hyper (extremely) efficient responding to the challenge of the exam. T ? F
43. If I like a member of staff, and find his personality agreeable, it is easier to learn from him even if his actual lecturing or teaching isn't all that good. T ? F
44. In terms of general academic ability I am probably below the average of students in my year. T ? F
45. I am a sociable person who makes friends easily. T ? F
46. I don't really work much from my notes; it wouldn't matter greatly if I lost them all. T ? F

47. My handwriting is slower than most people's T ? F
48. As exams get nearer, I make a precis of my notes and textbooks as an aid to last minute revision. T ? F
49. I find various college 'hand - outs' useful for revision. T ? F
50. I learn somethings by rote going over and over them until I know them by heart. T ? F

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CROW and CROW - An introduction to guidance, American Book Company, NY, 1951.

RAYMOND HATCH, - Administration of guidance service IOWA 1951.

Specific objectives must be spelt out in —

a) tangible terms

b) unequivocal terms

c) attainable terms

d) measurable terms

SESSION - 29

Performance Assessment III

(Mastery, Comprehension and Essay)

References

- MILLER, Guidance - Principles and Service Ohio, 1961
- MATTHEWSON, Guidance Policy and Practice, New York, 1955
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- CROW and CROW - An introduction to guidance, American Book Company, NY, 1951
- RAYMOND HATCH - Administration of guidance service IOWA, 1951
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- it action in most down know yllar t'nod 1 54
- the new task 1 a yllar t'nod 1 follow

BASIC AND APPLIED PEDAGOGY

PERFORMANCE ASSESSMENT III

PART - A

Time : 20 Mts.

Marks : 20

Attempt All Questions

Of the four responses given, one is the most appropriate, Indicate your choice in the brackets provided.

1. Teaching can be classified as _____
a) managerial
b) skilled
c) professional
d) service - oriented ()
2. A test should test what it ought to test. What criterion of a test does this statement imply?
a) validity
b) objectivity
c) reliability
d) administrability ()
3. The technique which analyses teaching into a number of skills and provides intensive training is each in called ____
a) systems approach
b) micro -teaching
c) interaction Analysis
d) programmed learning ()
4. Specific objectives must be spelt out in ____
a) tangible terms
b) unequivocal terms
c) attainable terms
d) measurable terms ()

5. The best way to 'motivate' a student to learn is
- a) to appeal to his sense of self-esteem
 - b) to make liberal use of incentives
 - c) to rechannel the motives he already has
 - d) to arouse and stimulate his interest ()
6. The basic function of a democratic teacher is to
- a) Outline the guidelines the students are to comply with
 - b) locate and develop student leaders
 - c) develop a concept of democracy in the students
 - d) guide students towards a greater competence and self-direction ()
7. The greatest single hazard to teachers' mental health is
- a) professional incompetence
 - b) social isolation
 - c) restrictions upon personal life
 - d) community criticism ()
8. The Gestalt Field approach emphasizes the — of the learner.
- a) S_R bonds
 - b) perception
 - c) readiness
 - d) motivation ()
9. The tests designed to predict future achievement of individuals are called —
- a) Prognostic tests
 - b) diagnostic tests
 - c) Achievement tests
 - d) attitude tests ()

10. A mode of adjustment which involves a substitute activity for a frustrated motive is called —
- a) rationalization
 - b) displacement
 - c) Compensation
 - d) identification
11. Effective discipline should focus upon
- a) encouraging conformity
 - b) promoting student growth
 - c) promoting order
 - d) deterring misbehavior
12. Which one of the following techniques aims at teaching for creativity?
- a) seminar
 - b) symposium
 - c) role playing
 - d) brain storming
13. Which one of the following cannot be observed directly?
- a) response
 - b) entry behaviour
 - c) exit behaviour
 - d) learning
14. Which of the following is the most adequate definition of intelligence?
- a) ability to profit from experience
 - b) ability to perform well in I. Q. tests
 - c) predisposition to academic success
 - d) innate capacity for mental growth

15. Which of the following is an important instructional function of tests?
 - a) classification (ie) promotion and retention
 - b) diagnosis
 - c) guidance
 - d) prognosis
16. The major objective of FIACS is
 - a) skill development of teachers
 - b) assessment of learning outcomes
 - c) evaluation of teacher behaviour
 - d) study of the involvement of the learner
17. A teacher normally faces the most difficult situation in communication when he is dealing with — domain of the learner.
 - a) cognitive
 - b) psychomotor
 - c) affective
 - d) all of the above
18. Which of the following describes a leader best?
 - a) cheerfulness
 - b) assertion
 - c) domination
 - d) initiative
19. A major need of an adolescent is
 - a) economic self-sufficiency
 - b) rich diet and vigorous exercise
 - c) an effective teacher
 - d) freedom from adult world

20. Which combination in the following list of verbs is most appropriate for stating objectives in behavioural terms

- Verbs
- 1) to know
 - 2) to discriminate
 - 3) to construct
 - 4) to state
 - 5) to solve

Combination

- a) 1, 2, 3, 4
- b) 2, 3, 4, 5
- c) 2, 3, 5, 6
- d) 1, 3, 5, 6

()

PART B

Time: 2hs 40 mts

Marks : 80

Answer the following in about 750 words each

- I
1. "War begins in the minds of men, it is here the foundation of peace must be laid." In the light of the statement above, discuss how you will foster a sense of international understanding in your students with special reference to teaching your discipline.

OR

2. "Teacher of today is likely to become a back number, if he ignores the use of audio - visual aids which have a place in the teaching-learning situation for their clarity of communication, diversity in method and forcefulness in appeal". (15 marks)

- II
3. Critically examine the needs and problems of the adolescent learner and outline the developmental tasks appropriate to the physical, social, emotional and mental aspects of development.

OR

4. Identify five major factors which adversely affect the mental health of college teachers and suggest suitable remedial measures. (15 marks)

III. Attempt any TEN of the following questions in about a page (150 words) Each:

5. How does exposure to the Psychological foundations of education help the teacher in his profession?
6. Distinguish between 'attitude' and aptitude.
7. 'Teaching is useful to the extent it facilitates learning' What is the implication of this statement ?
8. Identify the five significant characteristics of a good frame with an illustration.
9. What do you mean by 'closure'? Briefly outline the process of closure for the lesson of your interest in your discipline.
10. Explain briefly how Education can be used as an effective instrument of social change.
11. What do you mean by 'Entry Behaviour'? How does a knowledge of entry behaviour of the learner facilitate effective teaching?
12. Outline briefly the sequential steps of 'Item Analysis.
13. "A leader, to be effective, has to be concerned equally with 'initiating structure' as well as 'consideration. Discuss.
14. Briefly explain with illustrations two defence mechanisms which our students usually employ in frustrating situations.

15. What do you mean by systems approach to Education? In what way has this approach opened a new vista to teachers?
16. Briefly explain how a 'small group discussion' as a technique of teaching - learning will be more effective than a 'large group' presentation.
17. A major objective of teaching is to develop in the learner a scientific attitude. Identify and briefly explain two measures by which you hope to develop a scientific attitude in your learner.
18. "FIACSS alone can ever indicate the effectiveness of teaching; it focuses only on one vital aspect of teaching". Comment.
19. "The teacher has to have the creative proficiency of an artist, precise attitude of a scientist and perfected skill of a crafts man" Briefly discuss.
20. Briefly outline the educational implications of McClelland's 'Achievement Motivation' (10×5=50)

SESSION - 30

Theme - Course evaluation feed back

Post test - Cognitive

- Profession perception

Objectives:

1. To get feedback from the participants regarding the usefulness and the degree of interest generated in order to revise and review the course.
2. To find the gain score of the participants both in the cognitive and affective domain after completing the course.
3. To investigate the impact of the course on the participants in a general manner.

COURSE FEED BACK

- A. Following a list of components of the course content. Rank them in order of priorities on the basis of their degree of USEFULNESS to you as a college teacher. You need not write your name in this sheet.

S.No.	Theme	Rank No.
1.	Teaching - learning Process	
2.	Bloom's Taxonomy of Educational objectives	
3.	Motivation	
4.	The adolescent Learner	
5.	Curriculum Development	
6.	Micro teaching and FIACS	
7.	Programmed Learning	
8.	Method of teaching	
9.	A.V Communication	
10.	Evaluation	
11.	Educational Statistics	
12.	Mental Health of Teachers	
13.	Guidance and counselling	
14.	Leadership and morale	

- B. Rank the following sessions on the basis of their degree of Interest:

S.No.	Session	Rank no.
1.	Lectures / Lecturettes	
2.	Workshop	
3.	Seminar / Symposium / Debate / Panel/case analysis	
4.	Self-exploratory exercises (like LBDQ, Personality Questionnaire)	
5.	Discussion	

Feed Back:

The course aimed to expose the college teachers to analytic and systematic approach to teaching-how to specify instructional goals clearly, how to develop stepwise progressions to achieve these goals and how to know when we have achieved our objectives.

An analysis of the course assessment forms rated by the participants at the end of every session is as follows. The total number of participants in the four years were 365. Of these.

1. 95% of the participants have stated that concepts such as Bloom's taxonomy, objective based teaching, motivation, curriculum development and evaluation were not known to them and that they would be able to apply the knowledge they have gained when they go back to their respective institutions.
2. 93% of the participants said that techniques like case studies, simulation and gaming, brain storming etc were

something very novel and they would try to think of adequate situations to use these techniques, to make learning more interesting.

3. 90% felt that by using visual aids like transparencies, slides, and filmstrips they would be able to cut their teaching time and hence would start using them when they go back.
4. 90% said that they found the psychological load of the course, namely, the adolescent personality, his development, and problems most interesting and that this knowledge would help them greatly in handling their students.
5. 10% stated that due to lack of physical resources and facilities available in their colleges, they would not be able to apply some of the skills they have developed.
6. 8% opined that due to administrative constraints they would not be able to use the knowledge they have gained though they would very much like to.
7. Among the suggestions they have offered 85% have suggested that such a course should be a 'must' for all college teachers, especially for the heads of departments in their colleges.
8. Almost all of them have remarked that they would recommend this course to all their colleagues in all departments.

The post tests on cognitive and attitudinal change show a very significant gain, beyond .001 level,

t ratio for cognitive gain = 9.18

t ratio for attitudinal gain = 6.97

table value = 2.64 at .01 level.

LEARNING GAINS

I Profession perception

Entry Perception	N=336	M=73.62	SD=7.54	SE of the mean = .63
Exit Perception	N=336	M=76.42	SD=8.75	SE of the mean = .73

Difference between the means = 3.20

SED = 0.46

$$t = \frac{3.20}{0.46}$$

= 697 significant at

.001 level

II Cognitive

Pre test	N=336	M=11.45	SD=3.87	S.t of the mean = .32
Post test	N=336	M=14.48	SD=5.82	49.

Difference between the means = 3.03

SED = 0.33

$$t = \frac{3.03}{0.33}$$

= 9.18 significant at

.001 level.

EPILOGUE

Our global goal was to bring about improvement in formal instruction. We analysed this global goal into specific learning outcomes. Keeping in view the learner characteristics, the structure of the course content and available resources, we planned a series of learning experiences which would lead our participants to the designated objectives. This was our instructional system.

We invited our students to evaluate the applicability and usefulness of the content, methodology and manner of presentation. We wanted to know whether our instructional system resulted in learning that is observable, measurable, self evident and obvious. We required our participants to plan certain units of lessons and teach them in simulated conditions. We had specific discussion on why a certain technique was used and why not some other. Thus, we led them through a process of self evaluation and self awareness. We do feel that we have achieved our objectives to a great extent, our participants will be more effective teachers, more systematic, and more conscious, capable of identifying specific goals and employing appropriate strategies for achieving the identified goals.

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