

# **B.ED NON FORMAL PROGRAMME**

## **DE – 507 Curriculum & Instruction (CI)**

### **ASSIGNMENT # 2:**

**Q1:- What are the instructional techniques? Explain modern strategies/approaches?**

A **teaching method** comprises the principles and methods used for instruction. Commonly used teaching methods may include class participation, demonstration, recitation, memorization, or combinations of these. The choice of an appropriate teaching method depends largely on the information or skill that is being taught, and it may also be influenced by the aptitude and enthusiasm of the students.

## **Methods of instruction**

### **Explaining:-**

Explaining, or lecturing, is the process of teaching by giving spoken explanations of the subject that is to be learned. Lecturing is often accompanied by visual aids to help students visualize an object or problem.

### **Demonstrating**

Demonstrating is the process of teaching through examples or experiments. For example, a science teacher may teach an idea by performing an experiment for students. A demonstration may be used to prove a fact through a combination of visual evidence and associated reasoning.

Demonstrations are similar to written storytelling and examples in that they allow students to personally relate to the presented information. Memorization of a list of facts is a detached and impersonal experience, whereas the same information, conveyed through demonstration, becomes personally relatable. Demonstrations help to raise student interest and reinforce memory retention because they provide connections between facts and real-world applications of those facts. Lectures, on the other hand, are often geared more towards factual presentation than connective learning.

### **Collaborating**

Collaboration allows students to actively participate in the learning process by talking with each other and listening to other points of view. Collaboration establishes a personal connection between students and the topic of study and it

helps students think in a less personally biased way. Group projects and discussions are examples of this teaching method. Teachers may employ collaboration to assess student's abilities to work as a team, leadership skills, or presentation abilities.

Collaborative discussions can take a variety of forms, such as fishbowl discussions. After some preparation and with clearly defined roles, a discussion may constitute most of a lesson, with the teacher only giving short feedback at the end or in the following lesson.

## **Modern Strategies / Approaches**

Teaching and learning are inseparable, because learning is a criterion and product of effective teaching. Teaching is part of a whole that comprises the teacher, the learner, the content of the discipline, the teaching/learning process, and the evaluation of both the teacher and the learner. To encourage a deep approach to learning which leads to good learning outcomes, teachers should use an appropriate teaching style.

What is the most effective way to teach? Although there are many ways to teach effectively, all require that the teacher understand three things:

1. The material being taught;
2. The best instructional strategies to teach the material; and
3. How students learn.

The concept of teaching has three main divisions:

1. Encouraging students to see content in context;
2. Enabling students to incorporate new content into existing conceptual frameworks; and
3. Providing the boundaries of each discipline, and the links to related disciplines.

Recognition that students must be active learners to learn effectively requires a teacher-centered approach being replaced by a student-centered approach. Student centered approaches place much greater emphasis on how people learn. The approaches are aimed at the interaction between the existing knowledge or beliefs of the learner and the new experiences students are receiving. Learners go through a series of stages associated with intellectual growth, achieve their own understanding through interaction with the learning environment in many different ways, develop their 'schema' by constructing related concepts, and modify their schema through these processes.

## **Current teaching approaches**

### **Traditional lectures**

The current approach to teaching in our university uses traditional lectures. Each lecture takes approximately 2 hours. The lecture content is well organised and presented. Most of the teachers have used some modern teaching techniques such as multimedia instructional materials, PowerPoint slides and computer

simulations, etc. to make the lecture more interesting. Usually students can get more information during the lecture. Traditional teaching methods are employed, teachers mainly focus on how to deliver knowledge and the lecture is centred on the content of the course. Students are treated as a sponge, ready to absorb knowledge. In this teacher-centred approach, students attend the lecture, listen and take notes. After the lecture they review their notes and recall the information. Students cannot completely understand the basic concepts, particularly given the lack of active participation. The students may be seen as passive recipients. The goal of learning is to pass the examination. It was reported these traditional methods are less effective in helping our students develop an understanding of the science concepts we are teaching (Pearsall 1992). The traditional way often leads to a surface level approach to learning.

## **Discover Modern Teaching Strategies**

Modern Teaching Strategies are introducing for students to achieve in their career. These strategies are changing with the passage of time. Today's students are into global world that will demand more understanding and abilities. Students need to understand the object basics, but also to think decisively, to investigate, and to make conclusions. Helping students to advance these skills will require changes in teaching strategies at the school and classroom level. The aim of effective teaching strategies is to advance student learning. Modern Teaching Strategies plays an important role in enhancing learning system. The time of blackboards with chalk and notice boards is going to change. The crucial factor in teaching strategies is the quality of the lessons given by the teachers. Teachers therefore should use effective teaching strategies. Modern Teaching Strategies are used to make learning sessions interactive and motivating. Nowadays, Classes are equipped with Modern Teaching Strategies such as Interactive Whiteboards, Visualiser, response system, projectors and educational software etc. Teachings with modern teaching strategies are essential in the technological age. Many subject topics can be taught better and in more depth with modern effective teaching strategies. Time has come to integrate modern teaching strategies into the schools, colleges and universities for efficient learning and teaching.

### **Q2:- What is the criteria for selection and sequencing of contents?**

Selection criteria describe the qualifications, knowledge, skills, and abilities and experience a person requires in order doing a job effectively. They are divided into:

- Essential criteria
- Desirable criteria.

You must meet the **essential** criteria to be considered for a position because without having the relevant qualifications, knowledge, skills or experience you would not be able to do the job. If you do not meet the essential criteria, you will not be short listed for interview.

It is not necessary for you to have the qualifications, knowledge, skills and experience described by the **desirable** criteria, but your chances of being short listed are better if you do. Where there are several applicants who meet the essential criteria, the selection panels will shortlist on the basis of the desirable criteria.

## Examples of selection criteria

Apart from qualifications and experience that may be specific to a particular job, there are several selection criteria that are common to many University positions. These include:

- ability to maintain confidentiality
- ability to work as part of a team
- ability to work independently
- ability to work under pressure
- attention to detail
- flexible and adaptable approach to work
- initiative
- keyboard skills
- knowledge of University organisation, policy and procedures
- organisational/planning skills
- problem-solving ability
- sensitivity
- supervisory skills
- verbal communication/interpersonal skills
- written communication skills.

### Selection criteria:

- i. To represent a masterpiece of human creative genius;
- ii. To exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;
- iii. To bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;
- iv. To be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;
- v. To be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human

- interaction with the environment especially when it has become vulnerable under the impact of irreversible change;
- vi. To be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria);
  - vii. To contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;
  - viii. To be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features;
  - ix. To be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals;
  - x. To contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.

### **CONTENTS AND SEQUENCING.**

Organization and sequencing of learning contents is both the core of the itinerary that will lead us to the design of learning processes.

We have already referred (Esteban, M y Zapata, M, 1992) to the realization and contextualization of the formative intentions, with a triple purpose – that the orientations of the actions and the formative interventions we perform

- answer the specific needs of the students in a certain context
- are coherent with the options that characterize the organizing institution, center or formative program,
- include the curriculum precepts established by the administration for the formative program.

We have also seen (Esteban, M. and Zapata, M., 1992) that this fact has its effect in content selection and organization, that is, that the concretion of the educative objectives

will lead the teaching-learning processes and that it will also have effects in the other aspects of the curricular planning, mostly in the selection and in the approach of the learning contents, and in the evaluation of the learning process. This seems obvious, it's implicit in any process of curricular planning, and has its correlation in the corresponding formative interventions.

Precisely, it should be pointed out that the various components of the Curriculum —rationale, aims, contents, evaluation and resources— which are usually treated separately are, in fact, interrelated. Therefore, in practice, we will have to check recurrently what we are doing, the results, compare them with the preset objectives and make the necessary improvements both in planning and in the

formative intervention proper. This is so much so that we will have to look back to enrich and redefine our previous formulations as we proceed in the study of each component. This practice also affects the selection and sequencing of contents. As we will see, these processes are included in the techniques we will be describing most times.

Finally, we would like to mention that the considerations included in this work are closely connected with, or are the same, to the ones used for selecting, organizing and distributing learning contents in larger cycles than the ones of a formative module or of a curricular unit of any traditional program. The fact is that, for obvious reasons, this task is carried out by other instance and at other decision levels.

### **AIM OF THE SEQUENCING OF LEARNING CONTENTS**

The aim of sequencing contents is to establish a certain order within them that will ensure **the link between the educational objectives and the learning activities of the students**, in such a way that the organization of the formative work guarantees the realization of the formative interactions that are proper of the formative programmed, of the educational community or of the institution.

We assume that the learning contents of a certain area are interdependent, and that the order in which they are presented is relevant to learning.

We will deal with three techniques to sequencing contents: the one based on content analysis, the one based on task analysis, and the theory of elaboration, which is the outcome of the attempt of combining the first two. This theory is highly recommended in the bibliography related to reform as guideline to learning sequencing.

However, before sketching the sequencing criteria inherent to the theory of elaboration, it will be relevant to scrutinise the specific contribution of each of the two mentioned techniques in order to point out some elements which can be of use in sequencing learning contents.

### **Q3:- Define the term Instructional Technology and explain Enquiry Approach in detail?**

Instructional technology is the use of a variety of teaching tools to improve student learning. We usually think of computers and computer software when we think of instructional technology, but instructional technologies are not limited to computers in the classroom. Instructional technology describes all tools that are used for teaching and learning such as: cameras, CD players, PDA's, GPS devices, computer-based probes, calculators and electronic tools we have yet to discover.

Students and teachers use computer software and Internet resources to locate, process, and present information, learn and assess their skills.

Students can locate information from millions of sources using a computer, online encyclopedias, databases, and the Internet. Computer-based tool software, such as spreadsheets and databases, help students organize and report information. Students create professional-looking products as they report information they have learned using word processing and presentation software. Students use computers as electronic tutors to improve skills such as reading and math.

Teachers use computers and other instructional technologies to present information they want students to know. They also use computers to assess students' learning and identify and report students' learning needs.

### **Explain Enquiry Approach in detail**

For many years computers have been used to create environments that engage students in scientific inquiry activities. There are many examples of how computers are used for scientific inquiry activities including: computer simulations that present natural phenomena or processes for manipulation; support tools that help students gather, organise, visualise and interpret data; collaborative tools that allow students to communicate and to share data and ideas; and computer-based modeling tools that allow students to express their theories as models. More recently, efforts have been made to develop scaffolds or cognitive tools for computer environments, which support students through the inquiry process.

The designs of many of these applications are informed by principles of inquiry learning, for example, the Knowledge Integration Environment (Linn, 2000) and Hiking across Estonia (Pedaste & Sarapuu, 2006).

Inquiry learning focuses on the use of real world inquiry activities for students and is described as the process of solving a problem through exploration of the natural world: asking questions, making discoveries, rigorously testing these discoveries in the search for new understanding (National Science Foundation, 2000).

Supported inquiry learning has been shown to be an effective mode of learning (van Joolingen, de Jong & Dimitrakopoulou, 2007). Another approach to the design of educational technologies to teach scientific inquiry skills is to integrate Problem Based Learning (PBL) procedures (Elliott, Sweeney & Irving, 2008). PBL also focuses on the use of real world inquiry activities for students, and uses authentic problems as a context for small student groups to acquire factual knowledge, learn problem solving skills, and develop self-directed or lifelong learning strategies (Norman & Schmidt, 1992).

Within the context of higher education in Australia, the extent to which bioscience educators explicitly teach scientific inquiry skills (and related generic skills) to their students is currently unclear. While there are examples of educational technologies being used to support the teaching of scientific inquiry skills and problem solving processes (Elliott, Sweeney & Irving, 2008; Galea, Stewart &



Steel, 2007), more evidence needs to be collected on the effectiveness of tools and how widespread their use is in bioscience disciplines.

**Q4:- What is an encyclopedia? What is its usefulness at secondary level?**

An encyclopedia or encyclopaedia is a book or series of books that contain general information about many topics or areas. The world encyclopedia comes from the Greek *enkykliā paideia*, which means "a general knowledge." The word has been in use for at least 500 years, and used in print for the first time in *Encyclopaedia, or Knowledge of the World of Disciplines*, which was published in 1559.

The first encyclopedia per se was written in the first century BC by Pliny the Elder with the help of his nephew. The work consisted of 37 volumes and covered everything from anthropology and human physiology to agriculture, painting, and pharmacology. Through the following few centuries, encyclopedias adopted a religious overtone.

An encyclopedia is often confused with a dictionary, although they are inherently different. A dictionary offers definition of words, while an encyclopedia explores topics more in depth and often includes illustrations, maps, and photographs. While most encyclopedias are organized alphabetically, some are organized by categories or cross-referenced articles.

In the 20th century, the *Encyclopedia Britannica* has become the standard for encyclopedia works. Topical encyclopedias have also become more popular, and cover topics as varied as economics, bioethics, or Judaica. Many encyclopedias are now being published in CD-ROM form, with the most notable example being Microsoft's *Encarta*™; other encyclopedias are now entirely available online, with no print version. One of the most important advantages of online encyclopedias is the fact that they can be edited frequently, so they remain up to date. Traditionally, an encyclopedia was written by a single writer or as a collaborative effort, but new works are being put together by a team of writers who often have no face to face contact whatsoever with each other.

**Q5:- Write short note on the following**

**a) Supplementary book**

- **Make an ABC book for your preschooler.** Creating your own abecedario using your family photographs would not only become a treasured family heirloom, but it could really make learning the alphabet a much more meaningful experience for your child.



- **Make a book about colors.** Wow. How much fun would this be? You could not only use photographs that you've already taken, but you could also involve your child by asking them to create a nice display of household items that are the same color. Then take a picture of it together!

- For older students, **consider making a recipe book.** Pick one day each week to create the recipe of your choice together. You know, paletas, natilla, alfajores, pan dulce...you get the picture! Be sure to document your progress.

**b) Workbooks** in the American education system are cheap, paperback textbooks, issued to students. Workbooks are usually filled with practice problems, where the answers can be written directly in the book.

### **Advantages**

Workbooks are often used in schools for younger students, either in middle school or elementary school. They are favored because students can work directly in their books, eliminating the need for loose-leaf and copying questions from a textbook. In industry, they may be customized interactive manuals which are used to help provide structure to an otherwise complex problem.

Workbooks also hold an advantage because they are usually smaller and lighter than textbooks, which equates to less trouble when the student brings the book home to complete their homework.

### **Other uses**

The term workbook is also used to describe other compilations of questions that require the reader to complete scratch-work when dealing with higher-level mathematics. It can also be used as a training tool for certain job positions.

More recently, electronic workbooks have permitted interactive and customized learning. Such workbooks may be used on computers, laptops, PDA's, and may be web-based.

## **c) Analyzing Activity Based Learning in Primary Classes**

### **Overview**

So far the concentration in overhauling of primary education has been to make activity based teaching. The present project tries to analyze how much of this teaching result in activity based learning, as far as the child/student is concerned.

## **Aims**

The present project aims at finding out how much of learning has resulted from the activity based method of teaching in the different primary classes (class I to class V)

## **Objectives**

To study the different methods of teaching used from class I to class V

To observe the interaction of students and report

To observe the voluntary participation of students.

To understand how the topic of the said period is recapitulated

To study the evaluation procedure of the activity by the teacher.

## **To relate the results to the achievement result of the students**

## **Project Plan**

### **Methodology**

Observation of the different class teaching will be done for a month in each of the schools chalked out for the study. Initially we will work on Govt. schools, then go on to Public schools and then to the private schools the results of the observation will be tabulated. The teacher teaching the classes will be interviewed to find out how she marks and evaluates the students. Observation of the achievement results will also help tally and correlate with the achievement results.

### **Milestones**

How much participation /interaction is present

How Teacher recapitulates

Evaluation Method

Achievement results as indicator

How useful this process could be

How to improve/on what points

The process will take at least one year's time to get actual results.