B.ED NON FORMAL PROGRAMME
DE – 522 EDUCATIONAL TECHNOLOGY (ET)

ASSIGNMENT # 2:

Q1:- Describe the technologies of instruction and its behavioral perspective.

Ans:-

We use the term technology of instruction to refer to a teaching/learning pattern designed to provide reliable, effective instruction to each learner through application of scientific principles of human learning. That is, each of the soft technologies discussed in this chapter is a precast mold or framework for organizing instruction.

The value of precast molds is obvious. They give instructors and instructional designers a blueprint to follow in planning lessons or whole courses of study. Rather than reinvent the wheel, you can select the framework that addresses the problem most salient to you, and organize your lesson or course around that framework.

The Behavioral Perspective

In the mid-1950s psychological researchers began to study learner's responses to stimuli. B.F. Skinner was the leader for many years in this vein of research. Skinner subscribed to the behavioral position but with a major difference form his predecessors: he was interested in voluntary behavior rather than reflexes, as exemplified by Pavlov's famous salivating dog. Skinner referred to these voluntary actions as "operant" and referred to his method as "operant conditioning."

Skinner particularly focused on the importance of the consequences of responses, demonstrating that new behavior patterns could be "shaped" by rewarding desired responses. In other words, learning, he maintained, depends on what happens after a new behavior is exhibited.

The procedure of providing rewards or satisfying consequences after a response is referred to as reinforcement. Hence, Skinner's theory of operant conditioning became known as reinforcement theory. Its basic principle is that behaviors that are followed by reinforcement are more likely to recur in the future implying that they are learned.

Also fundamental to reinforcement theory is the notion that complex skills can be broken down into clusters of simpler ones. Each sub-skill can be learned one at a time if the subject receives reinforcement after each correct response. These sub-skills then become links in a longer, more complex behavior chain.

Experimenters were able to demonstrate dramatic results in the training of pigeons and other animals. As they began to transfer these theories to human learning of mental skills, they realized that another element needed to be added to the formula – a prompt. Rather than waiting around for a desired response to occur spontaneously, the instructor or instructional material can hint at or tell the desired response. The basic formula for applying reinforcement theory to human intellectual skills then requires.

1) A prompt (e.g.. statement of a law of physics)
2) A response (e.g.. answer to a question about the law)
3) Reinforcement (e.g.. knowledge of the correct response or praise)

Q2:- Enlist the Instructional Techniques and define cooperative group technique
Ans:-

Instructional Techniques

The following is a list of instructional techniques salient to the elementary classroom, followed by lessons in my portfolio that demonstrate my use of them. (Of course, there are many more instances of these techniques not only within my portfolio, but in my broader student teaching experience.)

Technique	**Demonstration of Use**
Discussion	Almost every lesson involved some degree of facilitating discussion. Some examples include: While we read about the Walking Purchase we discussed the events that transpired and how students felt about them. We also used discussion in rewriting a paragraph from Sandra Cisnero's *House on Mango Street* into a poem. After a simulation on the effects of DDT, the students discussed and debated the material in a large group. Discussion also occurred many times during math lessons, one example being a discussion the students had about different types of angles.
Lecture	Often, short lecture played a role in the lessons. Here are some examples: Throughout the geometry unit, there were times where I would lecture for a couple of minutes about a topic. During the Rachel Carson unit, I sometimes stopped to give students mini-lectures about the historical background of the times that Carson lived in.
Simulations	During a unit on Rachel Carson, I did a simulation with my students to give them sense of the devastating effects of DDT on different animals in a food chain.
Role-plays	During a lesson of Colonial Pennsylvania, I had students perform skits about the Walking Purchase.
Cooperative Group Work	Students often worked small groups or in pairs. Some examples include: Students worked in groups during several math lessons: in pairs during a lesson on symmetry, in small groups at the computer during the same lesson. When students worked on skits about the Walking Purchase, I had students working in cooperative groups of five or six

students.
In the Rachel Carson unit, students worked in pairs to make timelines.

Transitions

Of course, the elementary teacher is always transitioning from subject to subject throughout the day. During lessons though, I also usually transitioned between several different activities. Here are a few lessons that demonstrate this:

During a lesson on Rachel Carson, I transitioned between doing a simulation, having a discussion and reading aloud to the students.
During a math lesson on triangles, I transitioned between group work and two different independent activities.
During a lesson on the Walking Purchase, I transitioned from reading aloud to discussion to group work to performing skits to debriefing the skits.

Introducing and Concluding

Almost every lesson/unit that I did had some sort of introduction and conclusion.

I introduced several units, including the unit on Rachel Carson and the Environment, in which I read the students the Lorax; and the unit on Geometry in which we discussed a definition of geometry.

Some examples of conclusions include:
The last Rachel Carson lesson, in which students watch a movie that ties together everything they had learned.
The conclusion to a lesson on the Walking Purchase, in which the class discusses the skits they have performed.

Demonstration

During many math lessons, including the one on area, I used demonstrations to help my students understand a concept.
During the unit on Rachel Carson and the environment, I had a lesson in which I demonstrated eye-catching poster design.

Technologies of Instruction Based on Cooperative Groups

Some of the earlier technologies of instruction, such as programmed instruction, programmed tutoring, Personalized System of Instruction (PSI) and audio-tutorial systems emphasize individual pacing opening the door to possible social isolation and a competitive individualistic class atmosphere. Social psychologists have found that achievement tends to be higher in a cooperative environment. The importance of emphasizing collaboration among students is also supported by the cognitivist theorists; they claim that knowledge and skills become useful and take on real personal meaning when they are attained through a process of social negotiation.

Robert E. Slavin of Johns Hopkins University and his collaborators have developed a number of structured methods for fostering cooperative learning in elementary and secondary schools. All are based on mixed-ability groups working under two specific conditions: (1) students must be working toward a group goal, and (2) success at achieving the group goal must have a reason to take their group mates success seriously, and group success must be based not on a single group product but on the sum

of the achievements of the members. Otherwise, there is temptation to ignore the lower ability group mates and let the smartest or most motivated do the bulk of the work.

Q3:- How to plane Instructional Media while teaching? Explain.
Ans:-

Instructional Media and Technologies

Notice the sequence that is being developed first, consider your audience and establish objectives; then organize the content to fit your objectives. Now select the specific instructional media and other experiences to achieve your goals.

Why this sequence? Because instructional media are channels through which content stimuli are presented to the learner – stimuli to motivate direct attention, inform evoke a response guide thinking and instruct. Therefore only after establishing what is that you wish to communicate are you properly able to select the channel or medium though which the content will most likely elicit the proper response that serves the objective.

If motion is inherent in the subject consider a video recording; but if motion is not important consider materials that demand simpler skills, less time, or less money, yet do the job equally well. To think further: a series of photographic prints with captions, which can easily be studied in detail at a work station, may be preferable to a slide/tape program and less difficult to make and use. Also consider using combinations of media to serve your purposes. A series of overhead transparencies that outline a process can be supplemented with a set of slides and the two used concurrently for effective instruction; or for motivational purposes a dynamic three-screen multi-image presentation may be effective. If you recognize the benefits of having learners participate actively during learning then some form of interactive learning media may be preferred.

On the other hand for practice or perhaps because you have certain equipment available you may wish to prepare a specific material possibly a series of synchronized slides with tape, a video recording, or a computer-based interactive video program. If this is your starting point, select a subject and establish purposes that will use the medium to its best advantage.

Any one or more of a number of instructional media may be applicable to serve an objective and its content. The decision for selection may be based on your skills equipment requirements, convenience, or cost. But each of the several types of instructional media makes certain unique contributions to improving communications and subsequent learning. All require careful planning before preparation – some more than others. When selecting the ones to serve your purposes examine all of them and become aware of their special characteristics and specific contributions to communication and learning.

Printed Materials

A number of materials prepared on paper, may serve instructional or informational purposes. They are classified as printed media and consist of three grouping: (1) **learning aids**, (2) **training material**, and (3) **informational materials.**

Learning aids comprise resources designed for use by individual learners or trainees, as a person follows precise directions for performing a task. A **guide sheet** or job aid may be a checklist of steps or procedures to follow when assembling operating or maintaining equipment. A more complete learning aid includes line drawings or

photographs along with words for better explanation. These materials are often used at job sites or when the need for a handy reference arises after class instruction.

Overhead Transparencies

Transparencies are a popular form of instructional media. The use of large transparencies is supported by the development of small, lightweight, efficient **overhead projectors** combine with simple techniques for preparing transparencies and by the dramatic effectiveness of the medium.

The projector is used from near the front of the room with the instructor standing or seated beside it facing the group. The projection screen is at the front wall and room light is at a moderate level. Transparencies are placed on the large stage of the projector, and the instructor may point to features and make marks on the film. The results appear immediately on the screen.

Audio Recordings

For instructional purposes, recordings often are correlated with readings and worksheets in an **audio note book** format. When a recording is the central element of a complete instructional program that includes a variety of learning experiences, an **audio-tutorial** approach is being employed.

Slides Series And Multi-Image Presentations

Slides are a form of a projected media that are easy to prepare; hence they frequently serve as the starting efforts in a media production program. Pictures are generally taken on reversal color film, which you can process and mount yourself or send to a film laboratory.

For many uses, any 35mm camera will make satisfactory slides. However, for filming some subjects and for close-up and copy work a 35mm single-lens reflex camera with any appropriate light-metering system and lens is recommended.

Video Recordings And VideoDiscs

Video cameras are compact and portable. Many products on the market consist of the camera and video recorder as a single, compact unit called a **camcorder.** With television monitors and large-screen video projectors, recordings can be shown to groups or used by individuals for self-pacing their own learning. With television monitors and large-screen video projectors, recordings can be shown to groups or used by individuals for self-pacing their own learning.

Q4:- Define the process of designing Instructional Materials.
Ans:-

Designing Instructional Materials

You have your content organized in terms of the audience and objectives. You are aware of the kinds of instructional materials you may consider for preparation, their characteristics and particular contributions advantages and limitations. And you have some empirical procedures for materials selection. In putting all these together you must decide which materials can best communicate the content of specific objectives. Your plans may require that a single medium (video slides, transparencies or such) carry your message or in the design approach a number of media may be integrated each serving one or more specific objectives and content.

Examine the cards you prepared listing objectives and content. Then decide on the medium or media to use. If more than a single medium is to be employed make cards for each one and organize the objective and content cards with the appropriate medium cards. This plan will give you a visual reference to the flow and relationship of elements within the total topic. Now start planning for production of your instructional materials.

There is no single best manner in which the details of the content outline can be transformed into meaningful and related picture can be transformed into meaningful and related pictures and words. Two approaches have been established through experience, but they are by no means the only sound ones. First many successful materials carry an audience from the known to the unknown; they start with things familiar to the audience (perhaps by reviewing the present level of understanding) and then lead to as many new facts and new relationships as the material is meant achieve. Second many materials are successfully built around three divisions – the introduction which motivates and captures the attention of the audience; the developmental stage which contains most of the content and in effect tells the story (or involves the viewers in active participation); and finally the ending which may apply summarize or review the ideas presented and suggest further activity.

There is evidence from research to show that detailed introductions and summaries in films and probably in other instructional media do not add much to effectiveness. This finding may be particularly true of a series of integrated materials each of which serves a specific objective or a related series of objectives. The brief video recording illustration a process and the short audio recording containing explanatory information for a topic are examples of such integrated material. A printed study guide or an instructional module can introduce relate summarize and direct student participation. The material itself contains just the essential facts, explanations, demonstrations and so on without any embellishments.

Q5:- Discuss the Integration of Technologies with Instructions.
Ans:-

Instructional Technology Integration

Technology integration is not a subject area, nor is it a curriculum: it is an instructional strategy. Technology is an instructional tool; using it in an integrative fashion is an instructional strategy. As such, it is not added to the curriculum; it is a tool for delivering subject matter already in place within the curriculum. It is a tool for accessing, organizing, managing, analyzing, incorporating and evaluating information. It is a tool for developing new understandings and communicating. It is the tool of the 21st century to be used by teachers and students in their teaching and learning.

A portion of the No Child Left Behind (NCLB) Act is the Enhancing Education Through Technology Act of 2001, also known as Title IID and/or E2T2. The goal of E2T2 is: To assist every student in crossing the digital divide by ensuring that every student is technologically literate by the time the student finishes the eighth grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability.

Rhode Island must be in compliance and reporting the final two items, Personnel Skilled in Technology and Integration of Technology Status to the federal government by the 2009-10 school year.

Technology Integration Defined

Technology effectively and fully integrated into teaching and learning is defined as an environment in which students use digital tools and resources to answer teacher and/or self-generated questions that dictate content, process, and product. Classroom management and climate support full-scale integration with minimal implementation issues.

Responsibilities Related to Technology Integration Requirement

The USDOE has required that all states report on the number of Integration Status as well as the number of Personnel Skilled in Technology. This requirement is directly tied to Title II, D (E2T2) Federal funds. Recent guidance from the USDOE allows states to pilot a system within the E2T2 program and then roll it out further to a statewide implementation. During the 2009/10 school year, RIDE will pilot the use of the LoTi Digital Age Survey with over 400 participants in the E2T2 - RITTI 2009 Model Classroom program. The survey will assess the current state of the personal computer use, instructional practices and authentic classroom technology use.

Reporting on Technology Integration Status

Reporting on the technology integration status is an "end of the year" reporting item. The pilot implementation of the LoTi Digital Age Survey occurred in November of 2009. Statewide implementation will occur in the Spring of 2010. Collection of the data necessary for federal reporting will occur in the LoTi Digital Age Survey.

Other Reporting Requirement Details

- **School Computer Count and Internet Access** - *Beginning of each school year*
  (Beginning 2008/09 - Collection will take place within e-RIDE's "Instructional Technology Data Collection Area". Training for personnel responsible for reporting will occur at the Data Manager Meeting on October 9, 2008.)
- **8th Grade Technology Literacy** - Two testing windows: *December and May of each school year*
  (Beginning December 2008 - Collection will take place within the TechLiteracy Assessment)
- **Personnel Skilled in Technology** - *End of each school year*
  (Beginning May 2010 - Collection will occur in the LoTi Digital Age Survey.)
- **Integrated Technology Status** - *End of each school year*
  (Beginning May 2010 - Collection will occur in the LoTi Digital Age Survey.)

Helpful Resource

The Technology Integration Matrix, produced by Florida's Center for Instructional Technology, was developed to help guide the complex task of evaluating technology integration in the classroom. Short vignettes demonstrate what technology integration actually looks like at different levels of sophistication within different learning environments. Rhode Island teachers may want to use the Matrix to generate talking points in their own self evaluation as a comprehensive model of technology integration is developed.

Standards

The Rhode Island Department of Education recommends the use of the International Society for Technology in Education (ISTE) National Educational Technology Standards (NETS) for determining what students, teachers, and administrators should know and be able to do in order to effectively use technology within our schools. Awareness of the standards that students, teachers, and administrators are being held to is a necessary condition in the successful integration of technology in all classrooms. It is assumed that teachers, administrators and staff members in Rhode Island's school districts will be committed to learning how technology can contribute to their ever-increasing productivity and to steadfastly incorporate technology into all aspects of their work, as appropriate, as we prepare our students for life in the 21st century.