UNIT 5 MEDIA COURSEWARE DEVELOPMENT: BASICS

Structure

5.0 INTRODUCTION

In the previous units we have discussed the basics of course designing and technology based training. In this unit, you will study the basics of courseware development for various media. We shall first discuss the systems approach, which is adopted for courseware development for various media. You will also come to know that courseware development for media is not a task that can be accomplished by an individual but it requires team work with active collaboration among the team members. For developing courseware for media it is essential that you should be aware of the constraints associated with various media. Hence this issue has also been discussed in this unit. In the end the prerequisites of courseware development have been discussed.

5.1 OBJECTIVES

After studying this unit, you should be able to:

- Explain the concept of systems approach as applied to courseware development
- explain various media constraints associated with various media;
- discuss the process of courseware development;
- describe the need and process of tryout of a courseware.

5.2 MEDIA COURSEWARE DEVELOPMENT: A SYSTEMS APPROACH

There have been significant paradigm shifts in the field of education. Notable are the shifts from the chalk and talk method of teaching to teaching through multi-media, teaching by a teaching machine instead of a human teacher and from a real classroom to a virtual classroom. These changes have become a reality because a wide range of instructional media are today available for teaching-learning purposes.

At the same time several other parallel and systemic changes have taken place worldwide in education. To cite just a few examples—various knowledge streams and areas of specialization have grown and expanded enormously. Social aspirations and learners' needs and preferences have multiplied manifold. Aims and objectives of education have undergone a sea change and roles of teachers and teaching institutions are changing fast. Teachers are becoming managers and facilitators of learning. Conventional methods and techniques are fast giving way to modern media based and ICT supported strategies and coursewares. In view of these developments the need for designing and developing effective courseware media has come to the fore. Development of quality courseware for various media is a challenging task. Therefore, in this unit we shall discuss some of the basic aspects of media courseware development.

5.2.1 Systems Approach to Courseware Development

The systems approach was born in the field of systems engineering. It was first applied rigorously to the design of electronic, mechanical, military and space systems. Then it began to be used in training and thereafter in education. What is meant by systems approach in the context of education? Systems approach is an operational planning concept, borrowed from the engineering sciences and cybernetics. It deals with self-regulating and self–sustaining systems that process inputs, give outputs and following continuous feedback on the output, modifies itself to serve the target in a better way.

The systems approach is put forward as the most adequate general methodology for creative problem solving. Various stages of the systems approach involves evaluation that in turn depends upon analysis and synthesis. These are cognitive activities involved in the problem solving approach. Technically, a system may be comparable to interacting or independent group of items, forming a unified whole. It is an abstract concept. The views of some people that it is a set of components that interact and aim to achieve certain common goals do not explain it fully.

Let us take the example of a refrigerator, which is a man made system with very clearly defined components –a metal body, a compressor, refrigerant, etc. It is made for a specific purpose. However, we may consider it as just one component of a wider system say in a kitchen along with other objects. Alternatively, the components involved in cooling can be considered to form a system. Thus, a system exists in our mind rather than on its own. In the context of course designing systems approach can be applied. According to Sampath, Paneerselvam and Santhanam (1984) the systems approach to instruction in general includes the following steps:

- an analysis of the existing situation,
- setting up goals to achieve the desired situation,
- defining mechanisms to evaluate the achievement of goals,
- generating alternative solutions to achieve the goals,
- choosing the best possible solution through cost–benefit analysis, and detailing the design of the system,
- outlining the monitoring mechanisms for the system, and
- working out the solution.

The systems approach is thus a problem-solving method of analyzing the educational process, identifying the problem and selecting the best solution from among the alternatives. The criteria for such a selection must spring from the specific problem. Hence the emphasis here is on first defining the problem and then analyzing it to identify possible solutions. Finally the systems approach helps us to implement the solution, evaluate its effectiveness and to rethink about the inputs and processing if necessary. When we think of course designing, the problem could be a gap in knowledge in the learners that needs to be filled up through a course. The objectives

of the course are determined and means are developed to fulfill the objectives. The feedback on the inputs determine whether the objectives are being attained and thus lead to the improvement of the output.

The systems approach is a systematic attempt to coordinate all components of the instructional system to achieve specific learning objectives. In education, this means planned and organized use of all available learning resources/materials, including print, audio, video, computer and other electronic media and media combinations to achieve the desirable learning objectives by the most efficient means possible. The systems approach to courseware development focuses first upon the learners and the required performance expected from them. Thus it helps to take decisions regarding course content, learning experiences, use of media and instructional strategies. It also has an in-built mechanism of evaluation and feedback for continuous self-correction and improvement. It is through the evaluation part whereby feedback is collected on the functioning of the system and its various components. This ensures efficiency and fault free operation of the entire system.

The procedural steps in the systems approach to courseware development as suggested by Sampath and others (1984) are as follows:

- defining instructional goals, objectives and stating them in operational and measurable terms.
- determining functions related to the achievements of these goals by proper use of different media like video, audio, computer, etc.
- defining learner characteristics and requirements.
- choosing appropriate methods suitable for effective learning of the concept.
- selecting appropriate learning experiences from different alternatives available.
- selecting appropriate materials, facilities, equipment, resources, environment, and tools required for student experiences.
- defining and assigning appropriate roles to teachers and students.
- implementing the programme–test with a few learners in typical and appropriate condition.
- testing and evaluating the learners' performance in the light of the pre-stated instructional objectives.
- refining, improving and optimizing the productivity and efficiency of the system to enhance student learning.

(**Source**: Introduction to Educational Technology by Sampath, Paneerselvam and Santhanam, 1984)

5.2.2 Courseware Planning and Preparation

The systems approach implies that we plan the courseware development process effectively and decide various inputs in terms of expertise, content, media possibilities to deliver it and other elements including the system of evaluation. The development and delivery process i.e. processing with analysis and organization of content, including evaluation exercises, etc, are then decided. The final product is evaluated and through feedback it is improved.

The use of printed lessons, audio-video programmes, teleconferencing facilities, online instructions, etc. constitute the main inputs used in distance education. We also need to have an overall view of the subject matter, needs and characteristics of the students and plan the courseware accordingly. The systems approach thus involves continuous evaluation of all strategic inputs and learning outcomes to suitably modify the plan of approach to achieve the desired objectives. In brief, the systems approach applied to any situation, which may be educational situations, involves the following interlinked and interdependent stages (fig.1).

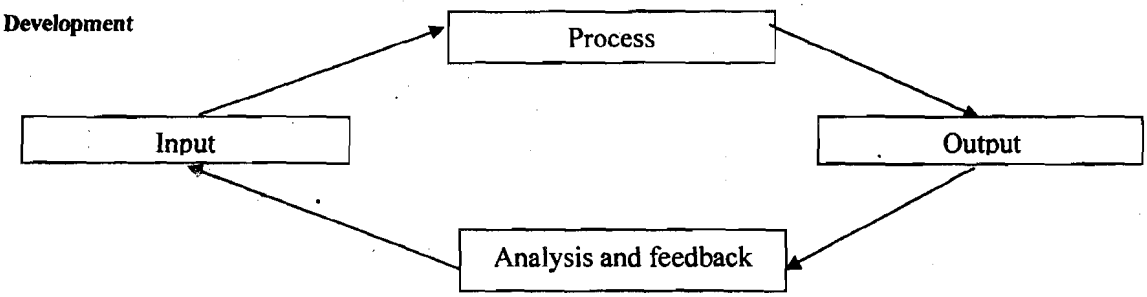


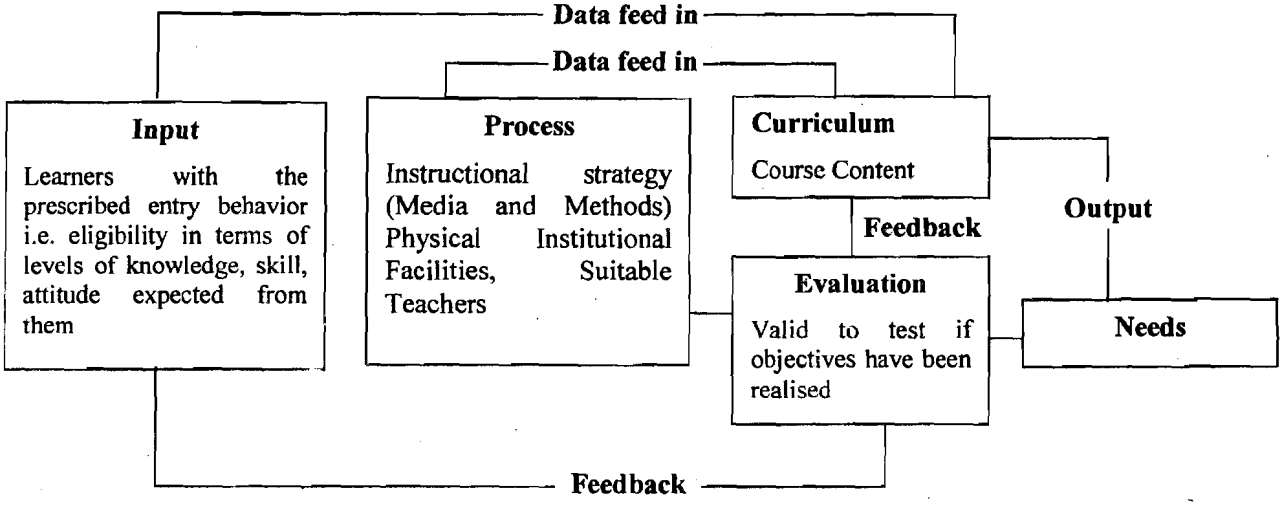
Figure 1: Stages of Systems Approach

Advantages of Systems Approach:

- It provides a conceptual framework on which to build plans for implementing change in a system or a subsystem.
- It helps identify suitable resource materials to achieve the specific goal.
- It helps assess the resource needs, their sources and facilities in relation to quantities, time and other factors like demographic, social and economic background of the learners.
- It gives an opportunity to provide the integration of man, machines, media and materials for attaining the specific goals.
- It permits an orderly introduction of components required for system success in terms of student learning.
- Rigidity in the plan of action is avoided so as to have continuous evaluation, midterm corrections and improvements at all stages of courseware development.

Framing objectives: Now let us discuss objectives for the curriculum (courseware) with reference to the systems approach. Objectives in terms of anticipated change in student behaviour should be well defined. Teachers and learners should know what is expected upon completion of an instructional task. Evaluation should reflect learners' skills, knowledge, concepts developed as envisaged in the objectives. Based on objectives, inputs i.e. instructional materials and teaching – learning strategies could be reconsidered to ensure achievement of the stated objectives.

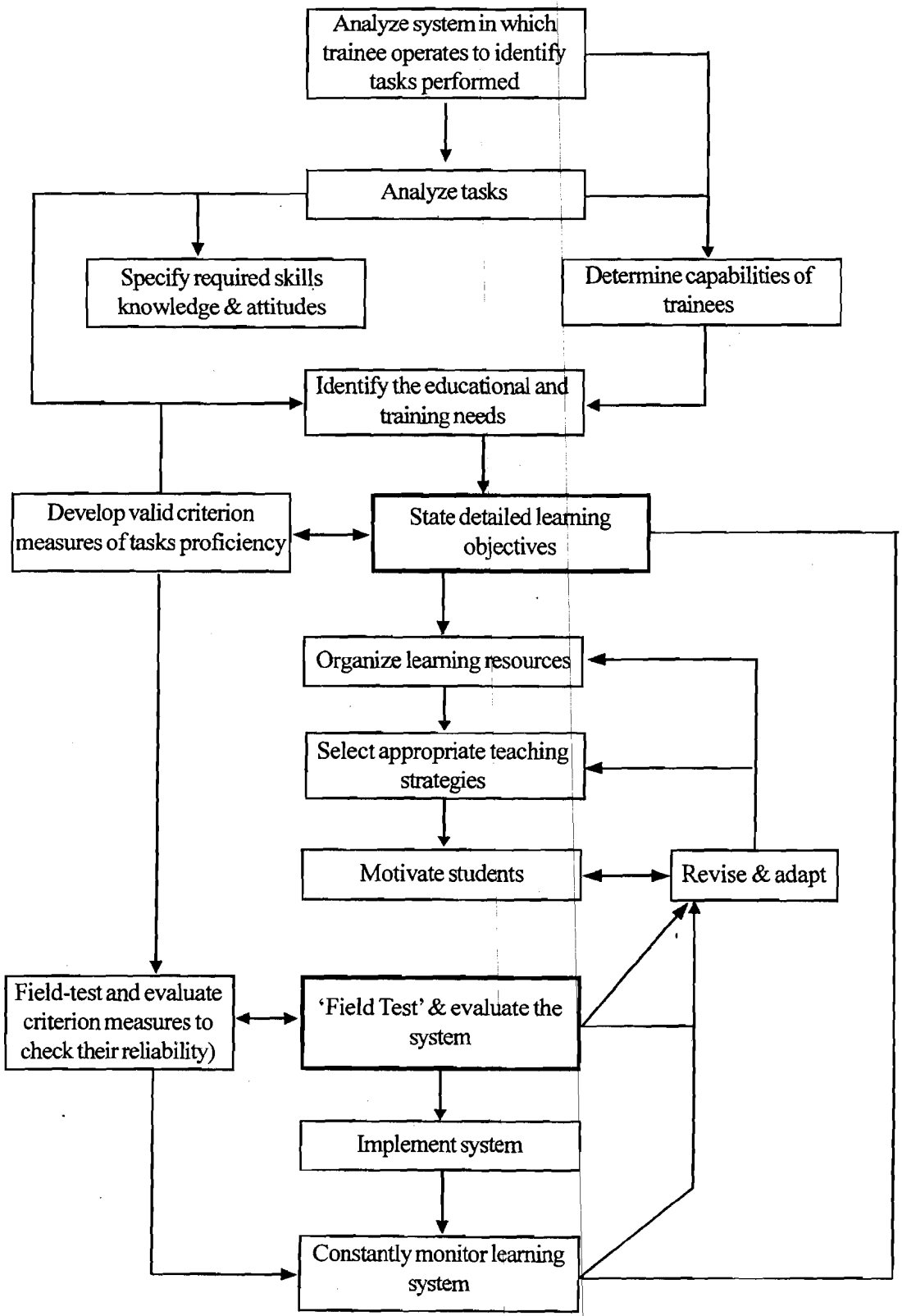
Planning the curriculum: Planning is fundamental for systematization. Systems can be represented by a flow diagram. The relationship between the input (learners), instructional strategy (process) and the output (outcomes) is shown by means of the simple flow diagram (Figure 2).



(**Source:** Sampath, Paneerselvam and Santhanam,, 1984)

Figure 2: Flow Diagram for Designing a System.

We shall take up two examples (Figure 3 and Figure 4) as shown in this unit. Both attempt to illustrate the stages that should be followed to identify the training or educational needs (define the problem), analyze the needs in order to transform them into objectives (analyze the problem), design the instructional methods and materials (develop a solution), implement experimentally and finally evaluate the course.



(**Source:** Romiszowski,1981)

Figure 3: Systems Approach to a Course Design.

Another extended example showing in detail the path followed in courseware development is illustrated in the form of a flow diagram (figure 4)

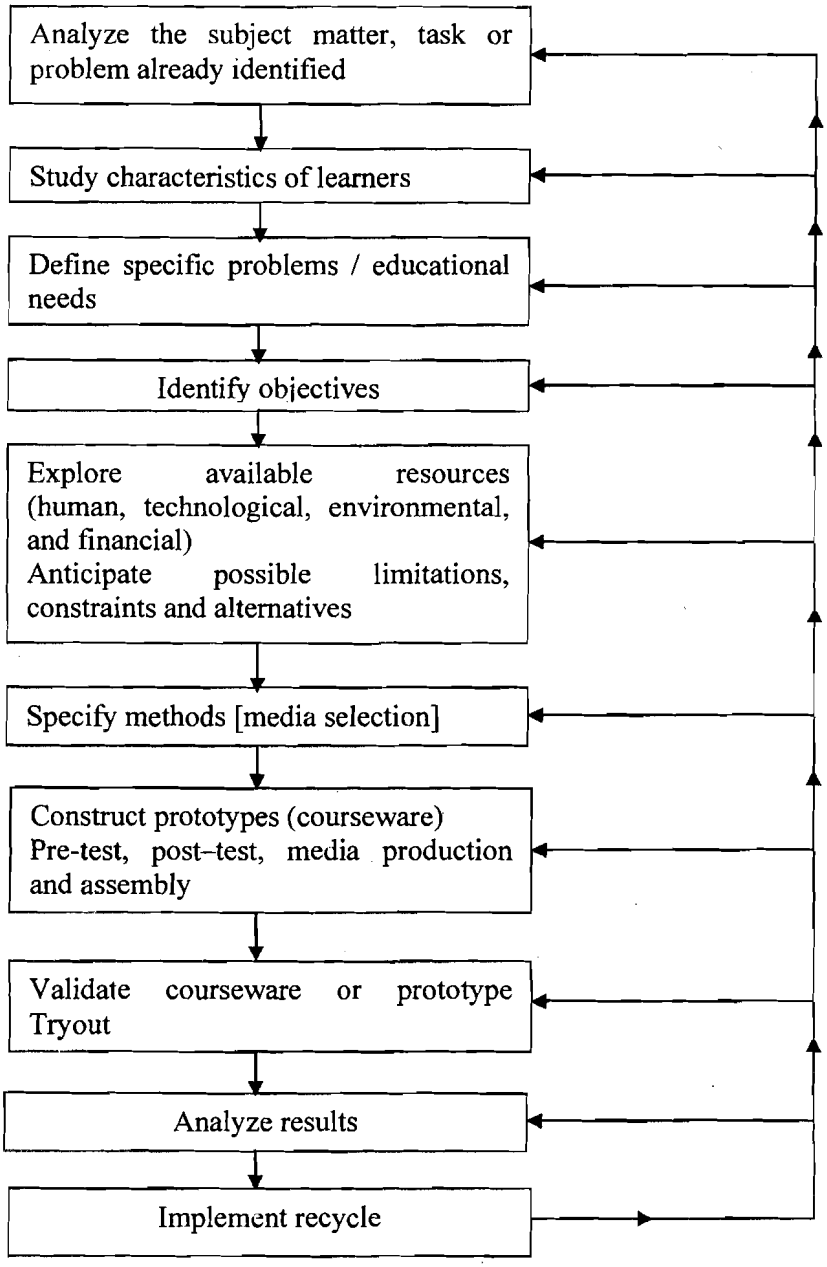


Figure 4: Flow Diagram to illustrate Systems Approach to a Courseware Development.

Suppose we wish to develop a new media courseware according to the systems concept. We should begin with a survey and analysis of subject matter identifying the skills to be learnt and characteristics of learners. Then the specific objectives, learning outcomes and performance criteria should be formulated. An inventory of human, technological and financial resources must be made besides considering the limitations and constraints like time, money, facilities, etc. This is the stage at which we are concerned with media (primarily, when we are dealing with media courseware) along with other materials. Undoubtedly, course development and software production can begin only after developing strategies for content, method and media. Field testing and validation provide opportunities to try out newly developed courseware / instructional package with a representative sample of students / learners.

Programme implementation is the final step of putting the validated materials into full scale operation. Continuous feed-back should be obtained from the learners at every stage which should lead to a further cycle of updating and modification.

The flow Chart is an abstract graphic model of the process of designing and preparing courseware/ instructional package. This helps to visualize the system at the planning or design stage as we have seen in Fig. 3 and Fig. 4. At the same time the flow chart has various limitations, which we shall discuss now.

The limitations of flow charts:

Flow chart presentations at times may be an ineffective, and somewhat misleading, way of explaining the systems approach. This is because -

- It gives the impression of a more or less linear, step-by-step process, where one step is completed before the next one is commenced. This is not always the case. Problem-solving involves a lot of jumping forward, based on sudden insights, and moving back. The flow charts should have arrows from every block to every other block, both forwards and backwards. But this would make the diagrams cluttered and unreadable.
- It gives the impression that most of the analysis happens at the beginning, the synthesis or design stages about the middle and evaluation mainly at the end of the process. In reality, systems thinking (the application of the systems approach) involves the exercise of these three types of intellectual activities at all stages throughout the process.
- Finally, such flow charts have tended to give the impression that the procedure is mechanistic and that there are precise rules for carrying out each stage, as in the case of a flow chart of a computer procedure. Some step-by-step procedures exist but these are more to guide one's thinking rather than to take over the thinking process.

Check Your Progress 1

Answer the following questions briefly:

1) Give an example of application of systems approach.

2) Write the general stages of the systems approach to problem-solving.

5.3 COURSEWARE DEVELOPMENT – A COLLABORATIVE EFFORT

Courseware development is a task that is very difficult to be accomplished by an individual. Whether it is for print or any other media, it is team work. The selection of inputs, their incorporation , their processing and evaluation of output involve a wide range of activities. The nature of the activities involved are such that they demand different types of skills, knowledge and expertise. Hence, people from different fields have to communicate and collaborate for accomplishing the task. During courseware development, individuals/group must nurture their communication skills. For this one must be aware of different types of communication associated with the teaching / learning process.

For instance, the subject experts, who are usually teachers and also other professionals from the relevant field have to plan out the entire process. If the medium is print and there is need for mass production then people from the printing industry should be involved. Besides artists, cover designers and others may be involved. In case of

audio /video or computer courseware, the nature of activitities are even more varied. Subject experts , technical staff, producers, engineers, and other professionals need to collaborate. The entire efforts of the team must ensure that the course when developed, communicates well the information sought to be delivered. The printed texts, diagrams, charts, tables, etc. , audio, visuals, and any other input included have to communicate well. This would help produce effective media courseware, which includes self-learning print materials, audio programmes, video programmes, interactive multi-media (computers). This would certainly require a collaborative effort of professionals and need pooling of their expertise in developing relevant and effective media courseware.

5.3.1 Developing Courseware – An Overview

As underlined by Ellington (1985), for convenience, all teaching / learning systems may be divided into three broad groups, which may be loosely described as mass instruction techniques, individualized instruction techniques and group learning techniques (Table No.1).

Table 1 Three Basic Classes of Instructional Methods

T-L (Teaching-Learning) Systems	Examples	Role of Teacher/Instructor /Trainer
Mass instruction	Conventional lectures, expository lessons, television and radio broadcast, cable or satellite television, videos.	Traditional expository role; controller of instructional process
Individualized instruction	Directed study, programmed learning, mediated self- instruction (print, audio, video), Computer–Based Learning (CBL), web based resources	Producer / manager of learning resources; tutor and guide
Group instruction	Tutorials, seminars, group exercises and projects, games and simulations, self-help groups.	Organizer and facilitator

To develop courseware for different media it is essential to be thoroughly conversant with different types of instructional materials and various features associated with them. Various types of instructional materials that are currently available may be divided into seven broad groups, in the order of their increasing technical sophistication. They are discussed below:

- **Printed and duplicated materials:** These comprise all textual and other materials that are produced in bulk for learners/trainees. Some of the important types are: self instructional materials, books, hand outs, assignment sheets, workbooks, study guides, handbooks, etc.
- **Non-projected display materials:** This group includes all visual display materials that can be shown to a class, small group or individual students without

the use of an optical or electronic projection of any sort. Some important types of non-projected display materials are: chalkboard displays, marker board displays, magnetic board displays, posters, photographic prints, charts, models and so on.

- **Still projected display materials:** This group includes all visual display materials which do not incorporate movement and which require an optical projector in order to show them. The important types are: overhead projector transparencies, slides, etc.
- **Audio materials:** This group includes the various systems whereby straightforward audio signals can be aired or received by a class, a group or individuals. It ranges from radio broadcasts, audio cassettes, audio CDs and so on.
- **Linked audio and still visual materials:** This is the first group in which audio and visual materials are combined to form integrated instructional systems and includes a number of media that are particularly suitable for use in individualized instruction. The most commonly used systems are tape-slide programmes, tape–photograph programmes, radio–vision programmes and so on.
- **Cine and video materials:** This group includes all media that enable audio signals to be combined with moving visual sequences, adding another dimension of integrated audio-visual presentations. The main systems that are currently available are cine videos, television broadcasts, video tape recording, videodisc recordings, films and so on. In the near future mobile phones will also be offering this facility for learning.
- **Computer-mediated materials:** This group includes the various materials that require a computer to enable them to be displayed interactively. The important types are: substitute tutor packages, substitute laboratory packages, database systems, interactive multi-media on web-site, CD-ROM, etc.

5.3.2 Specialists' Team

With a wide variety of media and their combinations available today for delivering instructions, there is obviously a need to select media, which is appropriate for the educational or training objectives you want to achieve. As underlined earlier, developing courseware is not a one man job. It requires a team of specialists like teachers, subject specialists, trainers, script writers, producers (radio / TV), video makers, animators, graphic artists, editors, cameramen, model makers, courseware designers, researchers, etc. who would be functioning as a team.

5.3.3 Media Constraints – Print, Audio, Video, Computers

Different media have their own merits and demerits. As course developers we must pay special attention to analysis of the features of media and media choice must be appropriate. Certain factors should be considered for media selection. This requires the knowledge of the constraints of various media. Advantages and disadvantages of different media need to be analyzed. We have discussed this in the seventeenth and eighteenth units of the course, MES-032 of this programme. You may go through Table **3** to recapitulate it.

Table 3. Advantages and disadvantages of different media.

Audio-visual (Broadcast: TV/Radio, Cassette/CD: Video/Audio, Computer, Multi –media)	**Print**
Advantages of audio-visual over print	Advantages of print over audio-visual
• High impact • Memorable • Motivates • Personalizes teachers	• Detailed treatment (sometimes on cassettes) • Reproduction easy • Random access possible
Advantages of Broadcast over Print and Cassette / CD	Advantages of Print and cassette / CD over Broadcast
• Large audiences • Sense of immediacy • Non-stop overview	• Learner chooses time and pace • Variable length • Interactive • Replay for revision • Good back–up for broadcasts
Advantages of radio / audio over TV / video and print	Advantages of cassette / CD over broadcast
• Economic • Evoke images	• Better for group discussion • Close integration with print
Disadvantages of video cassette / VCD	Disadvantages of print
• High distribution cost • Low student access	• High distribution cost.

(**Source:** BBC Open University training handouts.)

5.4 MEDIA COURSEWARE : PRE - REQUISITES

The following production steps are usually involved in developing courseware for media. Let us discuss these steps.

5.4.1 Pre- Production Planning: From Idea to Script

Pre-production planning and co-ordination are the important steps that have to be taken prior to the production of the courseware. It involves the following steps:

Audience Profile: Audience (target group) i.e. those for whom the courseware is intended is the most important consideration. The target audience has to be defined precisely. This is true for every media courseware, ranging from print to web-based courseware. The target audience of a magazine, a radio programme, a TV show or a particular website may be different. Even when you want to reach as large an

audience as possible and the audience is not defined, instead of simply saying "general audience" for your proposed programme, you must describe the primary target audience for example , the target audience may be "the eighteen to mid-twenties people" or the elderly people, or adolescents or children, etc.

You should also understand your target group, in terms of ***demographics,*** such as gender, ethnicity, education, income level, household size, religious preference, or geographical location (urban / rural), as well as of ***psychographic,*** such as consumer buying habits, values and life styles. Educators, advertisers and other video communicators make extensive use of such demographic and psychographic descriptors. In the context of development of media courseware in the field of education, the ***target audience*** may be synonymously used as ***learner's characteristics*** e.g. age, cultural background, commitment, knowledge, conditions.

Before preparing particular media courseware, we must keep these points in mind and collect the specific information regarding the audience.

Writing for a Local Audience: Whenever we produce courseware (print) for a local audience, we should be familiar with the needs of the learners, their age, level of proficiency, degree of motivation, learning styles, etc. At the same time, it is advantageous to use the information already available (or to be collected) about the instructional setting: mode of instruction, ' group size, number of hours of instruction, place of the courseware in the curriculum, language(s) used by learners in and outside the classroom, etc.

Writing for a Wider Audience: It is much more difficult to take learners' characteristics into account while writing for a wide audience. But one major factor that cannot be ignored is age. Children are not the same as adult learners. A more subtle age division exists between children and adolescents. Naturally, writing for these different groups has to vary.

5.4.2 Goals and Objectives

Once we have a clear idea of the message, which we want to communicate, we are ready to write the programme proposal. A programme proposal is a written document that stipulates all that we intend to do. Stating the target audience in precise terms, it briefly explains the message and the major aspects of its presentation. Although there is no standard format for a programme proposal, it should describe at least the following essentialities:

- Title of the programme
- Target audience
- Instructional objective(s)
- Brief content outline
- Format
- Treatment
- Production method, and
- Tentative budget

Programme objective (s) is a brief explanation of what the production is to accomplish. It gives a direction of what is to be achieved and provides a view of what is to be accomplished. Media professionals group the presentation techniques under four

type of instructional objectives. They are: cognitive, motivational (to motivate the learners), affective and experiential. For example, the objectives of the programme "Profile of an elementary school child" could be:

- To make trainees / teachers aware of the potentials and stages of development of the elementary school child (Objective related to the cognitive domain).
- To develop a positive attitude towards teaching at the elementary level (Objective related to the affective domain involving attitudinal change, developing appreciation for something/ motivating someone, etc.).
- To prepare teaching aids (Skill based).

5.4.3 Content Organisation

A programme in print, radio or television, begins with an idea. But forming good and especially workable ideas is difficult. After the development of the idea, one has to prepare the outlines of the next steps. This is true irrespective of the media courseware you may opt for, starting from print to web-based courseware. Assuming that the general idea is to develop a media courseware for senior citizens. You may organize your idea in the following way.

- First, enlist elderly guests who could talk about the joys and problems of aging.
- Second, we may prepare a list of all the social, legal, transportation, and health services available for the elderly.

Content organization may be described as the sequence of the content or the order of information or ideas. There is no single formula for organizing the content and producing an effective courseware. However, the content organization of media coursewares differs greatly from one another because of their inherent disparities and due to the pedagogic differences among the media. Besides, it relates to kinds of audiences, different forms of access to education, etc. There are several dimensions to content organization like, whether it is for continuing education or for teaching at a distance or face-to-face. Again for each course there are considerations like:

- The nature of the subject matter
- The types of the course or materials (e.g. academic, practical etc.)
- The level of the programme (e.g undergraduate, postgraduate)
- The method of presentation

But, while preparing a media courseware how do these dimensions influence the content and subsequently the content organization? For instance, courses for building awareness among learners may emphasize knowledge, while for practitioners, it could be skill. For example, a programme for teachers may aim to develop awareness about AIDS while if it is for lab technicians it could aim to develop skills for safely conducting blood tests.

5.4.4 Instructional Treatment

Socrates was one of the earliest programmers who developed a programme in Geometry. This was recorded by Plato in the form of a dialogue. Socrates used to guide his followers to the acquisition of knowledge by conducting them conversationally along a path from one fact to another and insight to insight. The primary objective in the Socratic Method was inquiry. The subject-matter was broken down into very small cumulative steps.

Before beginning to explain what "Instructional Treatment" is, let us first look into the difference between teaching, instruction and programmed instruction. 'Teaching' is a broad concept while 'Instruction' is a controlled sequencing of experiences imparted to attain certain well defined objectives. All instruction involves teaching, but all teaching cannot be instruction. Programmed instruction is a sub-head under instruction and represents a more rigorous attempt to develop a mastery over the content. Programmed Instruction involves controlled, carefully specified and skillfully arranged learning experiences in small sections followed by exercises for assessment and feedback, following which the learner proceeds to the subsequent section. They are self-instructional and self-corrective (Fig.5)

The treatment may be described as the translation of the learning experience to be provided i.e. the message (content) into media terms, that may be print, audio, video, or computer. Every medium has its own demands regarding instructional treatment. We may take the instance of video programme to illustrate this point better. The treatment of a video courseware (you may call it a programme):

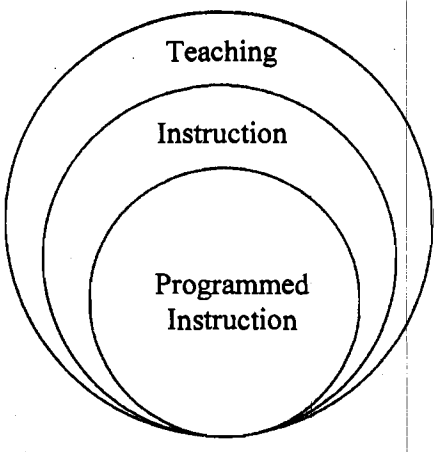


Figure 5

A brief outline of each scène or sequence of the proposed production, in the order in which they will appear is as follows:

- As much description as possible of the visual elements for the production;
- A list of probable locations;
- Some descriptions of the different types of Audio to be used (Narration, Sound effects, Music) and the purpose each will serve.

To illustrate this further you may have to go through a sample Treatment for a concept to be taught through a video programme.

Title: Ups and Downs

Audience: Pre-school children, ages 3-5

Subject: "Ups and Down" is a conceptual video, which explores the title terms – *up* and *down*. This five-minute work will present a fast – paced montage of images, which demonstrate either ascending or descending motion. In addition, visuals will depict the concepts of *up* and *down* in terms of physical location (i.e. objects in the sky or down on the ground). Narration for this video is rhythmic and accelerating in pace.

Purpose: "Ups and Downs" reinforces the audience's understanding of the concepts

of up and down. The video will make the audience aware that many objects in their environment can be defined in terms of up and / or down motion or position. Visual and auditory entertainment, appropriate to the audience, will reinforce these up and down movements. The visual portion of the video will be augmented by the verbal use of nursery rhymes, which contain reference to up, and / or down.

Location: Various low land locations.

Programme Structure

Visual Sequences

- Time lapse shot of sunrise.
- Up and down movements and positions of children in playground.
- Up and down movements and positions of objects in a home.
- Up and down movements and positions of objects in a variety of urban settings.
- Combination of up and down movements and positions from playground, home and urban settlings.
- Time lapse shot of sunset.

Audio Sequence

- Ambient sounds of children in playground.
- Mix of theme music and group of children reciting nursery rhymes, which contain references to up, and / or down.
- Theme music: Instrumental, Simple.

Video Elements

Visuals

Pacing for the video will begin with slower rhythmic motion to introduce the audience to the concept of the up and / or down motion or movement. The pacing will increase with the final montages of tighter, faster cuts of a mixture of all three areas, the playground, home and the urban setting.

Sunrise: The video programme will open with the time lapse shots of the sunrise.

Playground: Up and down movements and positions will be shown in an area familiar to most children, the playground.

- Children on a seesaw
- Sliding down a slide
- Bouncing balls up and down
- Children jumping up and down
- Children swinging on a swing

Home: Following the playground, children are very familiar with their home environment. The video will show items within the home, children can relate to.

- Zipping up a zipper
- Pulling down a sweater

- Pulling window blinds down
- Lifting up a baby
- Toast popping up
- Lifting up a lid
- Walking up the stairs

Urban setting: The final area that will show up and down movement is the urban setting.

- Flags going up a flag pole
- Planes taking off and landing
- Going up a ladder
- Exterior elevators going up and down
- Helicopter lifting off.

Sunset: The video will close with a time lapse shot of the sunset.

Sound Track

- **Theme music:** Instrumental, light, simple, upbeat. Original music appropriate to the audience and the subject matter. The tune will have a series of rising and descending chords.
- **Playground ambience:** The sound of children laughing and shouting.
- **Children singing:** A mix of cuts from Jack and Jill, Ring – around – the Roses, Hickory – Dickory Dock, London Bridge, Twinkle Twinkle Little Star. These will include such reinforcing lines as :

  "Jack and Jill went *up* the hill,
  To fetch a pail of water,
  Jack fell *down* and broke his crown"

  "Hickory, dickory dock
  The mouse ran *up* the clock,
  The clock struck one,
  And *down* the mouse ran"

  "Ring around the roses,
  A pocket full of posies,
  Husha, husha,
  We all fall *down*"

  "London Bridge is falling *down,*
  Falling down, falling *down,*
  London Bridge is falling *down,*
  My fair lady"

5.4.5 Formats and Style

After you have decided your audience profile, goals and objectives, content organization and treatment, you must decide the format and style of your programme may it be on print, audio, video or computer. Everyday you must be watching different programmes on Television. Have you ever tried to analyze the format of different programmes? You may have watched programmes like Kaun Banega Karod Pati, Sa-Re-Ga-Ma-Pa, Khana – Khazana, Big-Fight, We the People, Bharat Ek Khoj on Television. But you may not know as to why you like theses programmes? The success of any programme depends on its format and style after considering the Audience Profile and Objectives of the proposed programme.

Programme format refers to a particular class / genre of programme. It could be a Documentary, Demo, Illustrated - Lecture / Picture – lecture, Drama, Quiz, Magazine or hybrid of any of these formats like Docu-Drama (Documentary + Drama), Demo –Lecture (Demo + Lecture) and so on. The format of Kaun Banega Karod Pati is Quiz Show, Sa-Re-Ga-Ma is a Musical show, Khana – Khazana is a Demo, Big – Fight / We the people are Chat shows and Bharat Ek Khoj is a Docu-Drama.

You may further note that some other formats of audio / video programmes are Talk, Interview, Discussion, Feature, etc. These formats are also being used for print also but at times the same format may be called differently depending on the media you are proposing to use For example, the format 'Documentary' in video is usually called 'Feature' in Audio, the format 'Lecture' in video is called 'Talk' in Audio. Some formats like 'Interview', 'Feature' are commonly used in Print, Audio and Video / Video.

Style of a programme is an important aspect of production of a programme/ courseware irrespective of the media used. Style of a video programme in general refers to the manner of expression in writing or speaking. However, in the present context, style of a programme refers to literary expressions as to its being serious/ humorous/sarcastic; descriptive/persuasive/didactic and so on.

Whether you propose to use studio/location/both studio and location and in-vision presenter/out of vision/in-vision and out of vision (both)/two presenters and for audio where you may use one voice/ double voice/one male and one female/both male/both female also have to be considered.

5.4.6 Writing and Production

After taking a decision of 'What to write' and 'How to write', we may need to start writing the script and finalize it before beginning your actual production. So, you are required to know some basic elements of Script – Writing. We have to remember that for script writing it is not only important 'What we are saying' but it is more important 'how we are saying!'

We may consider each of our programme as one single 'Story'. That precisely means that we are going to tell a story and whatever may be the medium, we must act like a story-teller and must learn the techniques of story – telling irrespective of the media through which you intend to tell the story. To comprehend it in a better way, you may go through the following elements of writing a story, which we usually call the 'script'.

Beginning / Introduction: First of all we need to make our readers / listeners / viewers aware of what they would be getting and also making them look forward to it with interest. This can be achieved by capturing the attention of the target audience

which is known as, to 'HOOK'. It may be possible by teasing /building tension / creating suspense/ surprising/ using some enthusiastic presentation, etc.

Signposting: Next, we need to tell our audience what we will do. This can be achieved in the following ways:

- Distant signposting : What's coming later
- Local signposting : Chapter heading
- Context : Why it's coming
- Focus : What to make of it.

Link: To connect

- Between items
- Backwards (e.g. in chapter heading)
- Forwards (e.g. chapter ending)
- Visual

End: For every story, there is an 'end'. So, at the end of the programme, we must tell our audience, what we have already done. This can be done by

- Recapitulating
- Summarizing salient features of the story
- Generalizing / Presenting the abstract ideas
- Ending the story/script

On following the above mentioned steps, we may come out with a draft script that can be reviewed and refined. Then the script is discussed with other members of the team and their suggestions are incorporated. Once you are satisfied with 'Draft' Script, it becomes the 'Final' script. A script may be written either by yourself or by a professional scriptwriter. Thereafter the production process begins. We may then go ahead with shooting , recording, editing. During shooting / recording also you have many opportunities to improve your script –After editing, the programme is ready for broadcast and circulation. It is also time for its evaluation and collecting feed back on it.

5.4.7 Evaluation: Try out and Feedback

It has been mentioned earlier in this unit that systems approach emphasizes monitoring of output and the use of feedback to evaluate revise and improve the instructional system. Let us discuss a production model called the effect – to – cause model. As described by Zettl (2000), production models are to describe the flow of activities necessary to move from the idea to the televised message. They help you organize the production process and facilitate your co-ordination efforts. The effect-to-cause model, for example, streamlines your production activities.

Effect – to – cause model: The effect – to –cause model starts with a basic idea; but instead of moving from the basic idea directly to the production process, it jumps to the desired communication effect on the target audience. Because this communication effect is generated by a process of the viewer watching and listening to television messages, we call this effect the process message. After all, it is the desired communication effect,i.e. the process message that should drive the production

process rather than the initial idea. This means that as a producer you should know exactly what we want to achieve- what we want the target – audience to learn, do, and feel – before deciding on the specific medium requirement that would lead to such an effect. The more the actual process message (viewer effect) matches the desired message, the more successful the communication. This model may be applied to any media courseware for the evaluation. In fact, you should always show the completed off-line version (rough cut) of the programme to the target audience before the final editing. If we proceed according to the effect-to-cause approach, the audience would remain continuously involved in the production process and most changes would have been made. The final showing/displaying is not the time to discover major production mistakes. Nevertheless, we must keep an open mind during screening/listening/reading your off-line production and listen carefully to your audience's recommendations for change. We may have a series of tryout depending on the time constraint and desired effect of the *process message*.

Check Your Progress 2

Answer the following questions briefly:

1) Write down advantages of Audio-Visual over Print and of Print over Audio-Visual medium.

2) Make a list of some of the broad groups of instructional materials available.

3) Make a list of some of the formats for production of media courseware.

5.5 SUMMARY

In this unit we have discussed the basics of media courseware development. In the first place, we have discussed the systems approach in general and how it came from engineering to education. The systems approach to instruction in general includes various steps like input, processing, output and evaluation. Feedback from evaluation is used to improve the output. Systems approach to courseware development involves planning the inputs, their treatment to get the output i.e. the courseware and its evaluation. The relationship between the input, instructional strategy (process) and the output (out comes) has been shown by means of the simple flow diagram.

Courseware Development is a collaborative effort that requires team work with subject experts, producers, technicians, etc. We have also discussed at length different types of instructional materials that are available to day. These are: printed and duplicated materials, non-projected display materials, audio materials, linked audio and still visual materials, cine and video materials and computer-mediated materials. Next, we have elaborated various constraints associated with print, audio, video and computers. Then we shifted our focus to various pre-conditions required for different media courseware development. These are determining audience profile framing goals and objectives, content organization, instructional treatment, formats and developing scripts. Towards the end of this unit, we have discussed the evaluation of the courseware using the *effect-to-cause* production model.

5.6 UNIT END ACTIVITIES

1) Prepare a flow diagram to illustrate *Systems Approach* for developing a courseware on any topic

2) Describe your target audience if you propose to make a video programme on the nutrient value of egg.

3) Write down the instructional objectives of a video courseware on traffic rules when the target audience would be:

   a) persons driving vehicles

   b) children in the age group of 8-12years.

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5.8 CLUES TO CHECK YOUR PROGRESS

Check Your Progress 1

1) In a classroom a teacher selects content and teaching aids required (input). She teaches (processes). Evaluation of learning gives feedback for input.

2) Problem definition, analysis (to generate alternatives), selection and synthesis of an optimal solution, controlled implementation and evaluation and possible revision

Check Your Progress 2

1) Audio-visual over print: can make abstracts concrete, bring the outside world to the learners. Print over audio-visual -comprehensive, personal copy to annotate, study guide, random access,

2) Printed and duplicated materials, Non-projected display materials, still projected display materials, audio materials, linked audio and still visual materials, cine and video materials and computer-mediated materials.

3) Docu-drama, interview, quiz, etc.

GLOSSARY

Algorithm : Process or rules for (esp. machine) calculation.

Cassette : A video or audio tape recording or playback device that uses tape cassettes. A cassette is a plastic case containing two reels – a supply reel and a take up reel.

CD : Compact disc. A small, shiny disc that contains information (usually sound signals) in digital form. A CD player reads the encoded digital information using a laser beam.

Cine : Cinematography (cine camera, film, projector).

Courseware : Prepared course materials.

Cybernetics : Science of systems of control and communications in animals and machines.

Psychographics : Audience research factors concerned with such items as consumer buying habits, values, and lifestyles.

Script : Written document that tells what the program is about, who is in it, what is supposed to happen, and how the audience shall see and hear the story.

Target audience : The audience selected or desired to receive a specific message.

Treatment : Brief narrative description of a television programme.