Chapter six

Learning design of educational films on the subject of ‘Environment Management’
6.1 Introduction

The researcher shares his own experience in creating learning design of the multimedia programs, how he choose the topic, how the learning design were crafted, how it is implemented, what kind of problems occurred in the implementing the project. The researcher has taken the two case studies one film on water conservation and another film on ‘Bio-diversity’

The learner does the study of a course, module or syllabus with an intention to get knowledge, understand theory, use theoretical base to solve practical difficulties. In this journey of learning the learner goes on doing various experiments unintentionally, the teacher also tries to find out best possible means to pass on the knowledge. In the whole process, learning design automatically evolves. This design may vary from teacher to teacher, learner to learner, from subject to subject. Can one formulate universal guidelines in this respect?

How to achieve learning objectives in the best possible way by creative use of learning design? This is the most important question one has to ask while planning any teaching activity. As one knows the learner is going to learn through various teaching methodologies, learning environment, from co-learners, from learning media, learning laboratories and finally from practical exposure. The task of the teacher is to create a great ‘Learning Experience’ to achieve the set learning objectives.

To get him to his objectives, one must experiment with a complex equation whose terms include subject matter content, learning sequences, stimulus modes and presentation media
such as audio-visual media. One has to make a best combination of teaching tools and techniques to achieve desired learning objectives, this can be a continuous process, in this chapter the researcher’s intention is to describe the process of creation of ‘Learning Design’

‘Environment Management’ is a talk of the entire world. We have to protect our natural resources, birds, animals, trees on priority basis. To do this one should try to use modern technological based learning material. This study elaborated the audio-visual learning experience created by the researcher in the educational subject of ‘Environment Management’

6.2 Objective:

The objective of this chapter is to understand the process of creating learning design for the learner to understand the topic in a better way. What are the various factors which contribute in designing the learning process? Various experiments conducted by the researcher are discussed at length for the purpose of study. The researcher tries to find out the impact of A/V technology on the learner when the A/V technology is prepared with creative learning design.

6.3 Purpose of study:

The purpose of the study is to study the impact of audio-visual technology created with specific learning design on the minds of the learners, it is very important to observe the usefulness of the crafted audio-visual technology. The observations made will be
helpful to analyze and interpret the data. It will be useful in drafting findings and writing the observations of the research study.

6.4 Understanding key Concepts

![Conceptual Frame Work](image)

![Learning Design](image)

![Concepts](image)

**Figure 6. 1 Understanding key Concepts**

Concepts can be called as basic building blocks on which entire structure of the subject is based upon. Once the concepts are understood, then it’s easy to grasp the relatively difficult theoretical part of the subject. While learning these concepts, the learner has his own ‘Conceptual Frame work’ from which he looks at the subject. This conceptual frame work varies from person to person. This may lead to creation of confusion in the minds of the learners. One needs to be very alert to the kinds of difficulties and confusions that can come in the way of teaching. One of the approaches to deal with this kind of problem is exploring the concept with learners. In this approach the concept is put before the learner, the learner has to explain the meaning
as per his knowledge and in the discussion process the teacher can modify its meaning, he can add new dimension to the existing meaning or try to explore new meaning of the concept. One can say this is a first step towards framing learning design of any topic. There can be many ways to explore the understanding of the meaning of the concept in learners mind, but one can list the probable steps. These ways of understanding are not necessarily required to be followed in a chronological order, instead one can choose suitable path of learning as per his own creativity. There can be many ways of learning; we are trying to map the different paths which lead to successful learning activity.

**Figure 6.2 Learning Process**

6.4.1 Isolation of the concepts

This path of learning tries to explore the key concept associated with the subject by isolating theoretical part at the first step of learning; instead students are exposed to the subject matter in variety of ways.
6.4.2 Defining each concept from various angles:
Every concept has various dimensions, one can try to understand the meaning of the concept from various angles.

6.4.3 Examining model examples:
One can start learning activity from practical examples and then co-relate it with theory. One can also narrates counter examples, border line examples, invented examples its relation to personal and social context.

These three paths of teaching and learning process can be called as a means and modes of understanding the subject matter. There can be more innovative paths of learning; the new paths can be discovered as per the subject demands and creative thinking of the teacher. The process of discovering the teaching path is a continuous process.

6.5 Mapping the subject matter-

Tony Buzan (1973) recommended ‘Spray diagram’, in this method the teacher has to jot down various teaching points connected with the subject in the form of pictorial diagram.
Once, all the important teaching points are jotted down, then teacher can connect various points of teaching and select an appropriate way of dialogue with student.
David Hawkridge (1981) specifically mentioned that the map of the educational technology could be drawn differently by educational technologist as the requirement and application of the educational technology is altogether different from classroom teaching. Classroom teaching has one to one mode of communication, there is more personal interaction. One can adjust the speed and method of teaching as per the needs of the learner. Whereas while using educational technology there may or may not have personal interaction between the teacher and the student. For example, if one is undergoing a course through e-learning via internet, there is no personal interaction between the content presenter and the student. So while creating educational technology one has to map the subject matter in a universal way. The educational technologist has to jot down universal points of the subject, so every learner can identify the subject matter from his own point of view.
6.6 Sequencing of delivery

![Diagram showing sequencing of delivery]

The sequence of delivery of the content of educational technology largely depends upon the subject matter, the assumed previous knowledge of the learner, the subject matter to be handled and the availability of technology and delivery mechanism. This is a bit complicated process, in which every person involved in the process of teaching and learning is required to contribute. Creative sequencing of the delivery of the subject matter is a very challenging process.

Figure 6. 3 Sequencing of delivery
6.7 Variety of sequencing

There can be variety of sequencing of the content, one can start from the individual case study and then co-relate it to theory, and one can start from demonstration and show a real case study. One can compare two theories by taking use of role model.

6.8 Case Studies of learning design

The researcher has tried to explore various elements of learning design principles by producing need based educational technology. ‘Environment Management’ subject was selected for the study, as in today’s scenario environment protection is now becoming a top priority of in the corporate world. The problems like global warming, water conservation, protection of animals, pollution are now key issues in an ‘Environment Management’.

The researcher selected some issues related to ‘Environment Management’ and created need based educational technology in the form of a film, which was shown on University Grants Commission’s Vyas Channel, DD 1, (Doordarshan) National Channel of India and Zee Channel.

6.9 Portraying real examples

‘Environment Management’ is subject of practical application. Taking this as a base assumption; the researcher started
interacting with the subject experts and students. They stressed the need to study the practical examples having Indian context. This point of Indian context was very important from student’s point of view as they were looking for the role models to be followed.

Real examples work as a good stimulus as the human being learns from observing real world from his birth. As the child grows he begins to respond to a wider range of reality and try to understand the happenings in the world, over a period of time, he assesses the information collected from different senses and tries to find meaning out of it. Many things he learns from his own initiative. The inborn instinct of learning is tried to be adopted in these case studies.

6.10 Pictorial presentations of the examples in form of a film

With the help of pictorial examples, one can show the reality in a controlled manner. One can make use of creative persons such as cameraman, animator and can demonstrate the real things, where it is difficult for a learner to see.
One can create the scene which has never happened. People, things and events are no longer here to be looked at or have not yet come in existence. Replicas and table top models can explain the details of the teaching subject matter such as river details, development of stream, the structure of molecules, or the relative motion of the plane in the solar system. The selection of the picture can be made as per requirement of the subject. The flow of visual information can be controlled as per the requirement of the subject and understanding level of the audience. This pictorial form of presentation can help in explaining the subject in more realistic manner as the reality is presented as per the subject need and to the point. The unwanted part of the visual can be edited to suit the essential features of the subject matter. Even if one plan to give students the real feel of the subject, he may come across many hurdles such as time constraint, availability of the real things, availability of the learners at that particular time, physical constraints like number of learners, permission to visit the field are types of hurdles which one can come across. One more challenging task in learning from real things is that, there are many aspects of any real happening, some of which may be not at all connected to the subject matter. This may lead to diversion of attention from the subject matter. In the pictorial presentation one can alter the reality in the required manner to suit the context of the subject.
6.11 Capturing the reality

The pictorial content of the subject is required to be selected as per the need of the content. A teacher making use of picture presentation as form of content delivery required to make purposeful selection of the reality. It is required to convert pictures into relevant meaning. If one goes on making pictorial presentation in the real time then the subject will not be able to get justice, audience will lose the relevance of the pictorial reality from the context of the subject. One has to make deep study of the content and then craft a series of content where picture will be prominent source of putting content across.

6.12 Editing the reality

Editing is an important part of the film making process, because it is related with the sequence of the delivery of the content, factors like previous knowledge of the subject, purpose of learning, understanding capacity of the visual language is taken into consideration.

When one makes use of pictorial presentation for delivering the content, he has to go through the process of editing. This is an automatic process which follows whether he is visually literate or not, because he has to select a section of reality as per the need of the content, some time he has to use his imagination to show unseen visual in the form of animation. He is required to edit the sequence of information considering the flow of the teaching material, so he has to edit the information in form of pictures as per requirement of the subject matter. The understanding
capacity of the learner and availability of the time factor require to be considered. The process of creation of reality and editing it, as per the module is critical task. The researcher has done an experiment to use this pictorial form of teaching.

### 6.13 Experiment of creating teaching aids on the subject of ‘Environment Management’

Case study one

Topic selected for the study: ‘Underground Water Level Management’

![Vavoshi Case Study, Scene 1](image)

Figure 6.4 Vavoshi Case Study, Scene 1

**Introduction:**

In many parts of India, including Maharashtra, the underground water levels are going deeper and deeper, the demand for water
is ever increasing. If the underground level of the water goes down, then there is danger of the of cultivation land into becoming a barren land. This topic of environment management needs to be addressed by using effective teaching method by which a learner can identify the problem and think about probable solution.

6.13.1 Need Identification:

The researcher had discussions with the subject experts, teachers and students of the ‘Environment Management’ about the subject matter and selection of effective methods of teaching. The discussion revealed the fact that learners learn this topic in the classroom, where the teacher explains the topic by making use of black board and chock and sometimes by showing pictures. Most of the teaching comprise of theoretical

Figure 6. 5 Vavoshi Case Study, Scene 2

The researcher had discussions with the subject experts, teachers and students of the ‘Environment Management’ about the subject matter and selection of effective methods of teaching. The discussion revealed the fact that learners learn this topic in the classroom, where the teacher explains the topic by making use of black board and chock and sometimes by showing pictures. Most of the teaching comprise of theoretical
concept coupled with very few positive examples. The researcher felt that, there is need to teach this topic of underground water management in more realistic way and by showing a real life example from which the learner will get motivation and will try to take measures in the positive direction.

6.13.2 Selection of the example

As per the need identification, the researcher went on finding example which will suit the subject need and can make a positive impact on the learner. A Pune based, non-government organization named ‘Ecological Society of India’ is taking long term efforts in increasing underground water level through state wide movement ‘Nirmal Ganga’ Abhiyan. The researcher selected a case of village Vavoshi’

Figure 6. 6 Selection of the example, Scene 3
Vavoshi, village in Raigad district is facing water crunch. To resolve this problem ‘The Ecological Society of India’ along with the help of the villagers are trying to restore the 3 KM stream which flows from the village. This work has begun in the year 2007. They have taken a task to remove natural and manmade obstacles from the channel of the stream.

The volunteers of the ‘Ecological Society’ of India, were first required to convince the villagers to participate. They had to be educated on this process and the significance of saving land and by not littering the stream. The children in the Vavoshi took an active part in convincing the parents to join the project. They prepared sign boards on the need to build bunds on the stream.
6.13.4 Creation of Audio-Visual Aid

The researcher with consultation of the subject, expert chooses a pictorial presentation form of explaining the topic of ‘Underground Water level Management’ in the form of a film. While conducting the experiment various combinations of learning path were selected to present the content of the film.

6.13.5 Pre-production Research

The teacher and the researcher undertook mapping of the subject that is identifying the various points of teaching related with the subject. In this exercise the researcher invited four teachers from different colleges to understand their methodology of teaching and their approach towards teaching the subject, based on their experience teaching a general map of the inputs of the film was drawn.
The researcher along with the subject teacher visited the village to understand the green movement, its authenticity, and the visually convincing facts of the movements such as participation of the villagers, their knowledge about the ‘Nirmal Gram Abhiyan’ movement. The places of the shooting were listed down as per the subject need. A list of persons were indentified, whose interviews can be incorporated in the film, which will reveal the story more authentically then by telling it by someone else. The physical verification of the stream was done to understand the efforts put in by the villager and ‘Ecological Society’ of India.

The observations were noted down and were compared with the syllabus of the topic. It was found that the case of a ‘Vavoshi’ village is appropriate to the content of the subject. The co-relation of the syllabus content and observations noted at the village ‘Vavoshi’ were made. One is also required to see that visual stimuli in form of pictorial presentation provides some visual oriented variety in the content, to ensure this life in the stream were conceived and appropriate visuals to be taken were noted down.

Things which were not relevant to the subject like local politics of the village, alcohol habits of the villagers, transportation problems of the villagers were eliminated in co-relation study, as to the edit the reality as per the subject need. This co-relation study was used as a basis to write the script of the film.

The first draft of the script was written and cross checked with subject and shown to the respective subject teacher, the suggested changes were noted and incorporated into the script.
The modified draft of the script was discussed with the creative members of the team such as cameraman, sound man, graphic artist and the theme of the film were explained to them. Their suggestions were noted down and second draft of the script was made.

6.13.6 Shooting Stage

Figure 6.9 Shooting Stage, Scene 6

As per the research and script, technical crew along with the researcher and subject expert went on the location to capture live pictures. The interviews of the local village people, the shots of the stream from various positions such as hill, slope of the mountain, its flow in the village were taken. The detail shots of the man made bund were taken to explain the concept. The shooting schedule was arranged in every season of the year so as to get the true picture of the stream. The interviews of the subject expert, volunteer’s were taken to explain the subject with more detail.
6.13.7 Editing Stage

The captured material in the form of pictures and interviews was edited in the logical sequence with consultation with the subject expert and the teacher of the topic. The general pace of learning of the learner, were taken into account in delivering the content and small units of the learning input were designed. The segment of the film was developed in the form of a story, to enable the learner to develop interest in learning the subject.

6.13.8 Pre-testing of the film

The film was shown to the target audience. Their observations such as, some shots of the film were prolonged, more demand for input in terms of subject input were noted etc. The film was shown to the teaching community and their observations, such as demand for more explanation about life in the stream were noted. The appropriate changes were made in the film and final draft of the film was made.

6.13.9 Outcome of this case study

1. This effort was very well appreciated by teaching community, the University Grants Commission’s Consortium for Educational Communication sent a special appreciation letter.
2. This film was selected for ‘Prakruti 2010’, a National Environmental Film festival held at Jodhpur in March 2010.
3. This film was shown at UGC’s Vyas Channel of Doordarshan.
4. This film is being used as audio-visual aid in teaching ‘Environment Management’.
6.14 Case study two- Topic selected for the experiment: ‘Bio-diversity’

Introduction
The ecological balance of the world is now the key issue in the ‘Environment Management’. In the name of the development and economic growth basic issues like co-existence of plants, animals, birds and human beings are now facing challenge of survival. Teaching this kind of topic is a challenging task for the teachers, as one is required to explain the topic with a positive or negative example. Considering the available time for teaching and the number of the students, it is practically impossible to take student to the location of example, and even if one takes all sorts of efforts to visit the place, there are very rare chances to see and examine all the details of animals, birds, plants and human being, their co-relation and co-existence. The researcher took this as a problem of study and started to find out various alternative methods to teach this topic in an effective manner.

6.14.1 Examination of present teaching methodology
The researcher met with four teachers of environment namely Ms. Girija Joshi from Ecological Society of India, Mr. Anuj Khare from Nature Walk, Mr. Kiran Purandare (Subject expert) and Dr. Hrishikesh Soman from Symbiosis College.
The interaction with these teachers and subject expert opened various issues related with the topic, such as this topic of
‘Environment Management’ is a interdisciplinary topic, so teacher has to introduce various concepts from subjects like botany, zoology, anthropology etc. and that too in short period of time. In a normal teaching course this topic is taught by explaining the concept in the classroom followed by reading assignments. This particular topic does not have any practical work at the initial stage, as in the first phase of learning, students are supposed to understand the co-relation between the various branches of knowledge and their application in this particular topic.

The researcher thought about an idea of finding out relevant real example which will focus various issues related to ecological balance and co-existence of various ecological chains and their dependence on each other.

Figure 6. 10 Morachi Chincholi, Scene 1

The researcher found out an example of the village ‘Chincholi Morachi’, where from the pre British era, villagers are trying to maintain ecological balance and co-existence of birds, animals, trees along with human beings. After finding out the example of
village ‘Chincholi Morachi’, the researcher along with the subject expert visited the place to cross check the various claims made by the villagers about the eco-conservation, ecological balance, and co-existence of birds and animals. Bird expert ‘Kiran Purandare’, botanist Dr. Sachin Punekar visited the place, examined the bio – diversity and it was confirmed that the villagers are doing the eco-conservation from the past as part of their religion. After getting the confirmation from the subject experts and field workers, the researcher thought about an idea of making use of technology in the form of audio-visual aid to support classroom education while teaching the topic of bio-diversity and ecological balance.

6.14.2 Pre-production research.

The researcher met the subject expert and made a co-relation study about the elements of the topic selected to be taught in the class and availability of the things available in the village which can be shown to the students in the form of audio-visual aid in the classroom.

The researcher visited the place along with the cameraman, soundman, graphic artist, script writer to see the place and to know more about the bio-diversity and the existence of various birds and animals. The idea came from the discussion with crew about doing the shooting of the film in all four seasons to get good exposure about the bio-diversity available in all four seasons.

A tentative draft of the script was prepared in consultation with the subject expert and observations of the experts were recorded.
6.14.3 Production Stage

As per the basic draft of the script a technical team along with the researcher went to the village with all equipments required for the shooting. The team visited the village ‘Chincholi Morachi’ in summer, rain and winter season. As per the subject requirement various shots of bio-diversity were taken. A shoot was of total thirty two days. Ten tapes having duration of one hour were exposed to take various shots.

6.14.4 Editing stage

![Image of a peacock](image)

**Figure 6.11 Editing stage, Scene 2**

The rigorous editing sessions were undertaken to remove the unwanted shots from the subject point of view. Each shot from the ten hour shoot have been critically scrutinized by the researcher, as per the decided content of the script. Unwanted shots were removed in three stages, at first stage technically poor shots were eliminated, in the second stage of elimination;
visuals which were not suitable to the topic were eliminated. In the third stage of elimination prolonged shots were cut short as per the requirement of the content of the program. The scrutinized shots were arranged in the chronological order as per the developed script, the co-relation between the words and the visuals were made. The total visuals of ten hours were condensed to 15 min. To make it more effective, music was composed as per the mood of the visual sequence, special effects of sound were created to enable the learners to understand the sound of various animals, birds. Graphical treatment was given to explain the critical concept of the topic selected. A creative treatment was given to the program in terms of sequence of the segments of the program. At this stage audio-visual learning experiment was ready for the trial.

6.14.5 Pre-Testing

Figure 6. 12 Pre–Testing, Scene 3
To test the efficiency of the audio-visual learning experience created, a qualitative technique were used. Audio-visual learning aid was shown to two teachers and two students, later they were asked various questions related to the audio-visual experience they had. The questions were as follows:

1. How was the learning experience in totality?
2. What educational inputs they received in the learning experience?
3. What are the weak elements of the audio-visual experience?
4. What changes you recommend in this audio-visual experience?
5. Is it possible for teacher to use the audio-visual learning experience in your institute?

The students and teachers participated in the pre-test experiments and they were very happy to see the various elements of bio-diversity in the form of visual with all academic explanation needed for the topic.

On the second question, they reacted in a very positive way. They could see the details of animals, birds, they could see the tree from various angles, they could see the birds very closely and in live action such as nesting, searching for food, flying and that was the great experience to them.

On third question they suggested few additions in the content. They were looking for more inputs in terms of interviews of subject expert, more detail information about bio-diversity etc.

On the fourth question they felt that the time duration of the audio-visual learning experience was very short. They were
expecting the educational content in the form of series instead of one episode. They recommended more content in form of audio-visual experience.

On the fifth question their answer was negative. They were having very limited audio-visual resources available in the institute. There was unwillingness among the staff about use of new technology in the class. They suggested that it should be made mandatory for the institute to use audio-visual learning experience for teaching this topic.

### 6.14.6 Re-editing

The film was re-edited and the researcher tried to incorporate the findings from the qualitative research. More content were added. Initially, the film was of 15 mins, which was extended to twenty mins. Modifications in terms of graphical treatment were given, information about birds, trees was incorporated with the shots and the audio-visual experience was made ready to be used in the classroom.

### 6.14.7 Outcome

1. Environment science department of University of Pune is using this audio-visual learning experience for teaching the subject of Bio-Diversity.

2. University Grants Commission and Consortium for Educational Communication has given a special award as ‘Best audio-visual learning experience for teaching the subject of ‘Environment and Development’

3. This award winning learning experience has been shown on Doordarshan and on educational Vyas Channel.
6.15 Case study three

Introduction
India has strong rooted culture. Almost every village in the country has some special festival. Most of the festivals are related to God and surrounding environment. If one wants to educate people about environment, one has to understand their culture, their association with the surroundings, their feeling about the nature etc. Once these things are understood in proper way, one can think of changing their education and adding new dimensions to it. The researcher tried to do this exercise in an innovative way. Creation of audio-visual learning material may help to understand various intricacies of the issues related with ‘Culture and Environment’. The created audio-visual learning material would be helpful to teach the topic of Environment Management’.

6.15.1 Need Identification:
The researcher was keen to understand the co-relation between the tradition of the festival, prevailing culture among the people of the village, its relation to the nature. The idea behind this detailed study was to reveal emotions behind the festival, to find out its relevance in today’s scenario and find out ways to make festival more meaningful and help in strengthening the emotional bond between the people of the village, their culture and its relationship with the nature.
6.15.2 Pre-production research:

Nagpanchmi festival is a famous religious festival of Maharashtra. It is celebrated to respect nature, all living animals particularly snakes as they guard their crops from rats. The researcher identified one village in the state of Maharashtra, in Sangli district named ‘Battis Shirale’. The special feature of this village is live cobras are worshiped on the day of ‘Nagpanchami Festival’. The whole village irrespective of community bars, participate in the festival in an active form. The villagers search for live cobras from the fields, catch them, bring them to their house, worship them on the day of ‘Nagpanchami’ and after the festival, release back at their respective places. Various events like ‘Cobra’ competition, procession of snakes are carried as a part of the festival.

The research selected the village ‘Battis Shirale’ for the study as it has a very unique tradition of worshiping live cobras and showing respect for the live animals and nature. The researcher
visited the village before the festival, stayed there throughout the festival for observation. He interacted with the leading people of the village like ‘Sarpanch’, Member of the state assembly, Collector of the district, common people of the village, priest of the temple, Journalist of the local newspaper etc.

The researcher also observed the ‘Nagpanchami’ festival, its prior preparation, various celebrations such as ‘Cobra’ competition, worship of live cobra’s, photo session of people with snake, the procession of the snakes, sending the snakes back to the nature after festival. There was interaction with various social activists, who were against the form of the festival. The researcher interviewed them and recorded their opinions. A script was prepared based on the research input. The researcher tried to incorporate different angles of the festival into film such as prevailing culture, emotions, sentiments of the people living in that village for generations and the impact of the festival on the nature.

6.15.3 Production Research and Execution

Figure 6. 14 Production Research and Execution, Scene 2
The production team consist of cameraman, sound recordist, technical assistants, production assistant, script writer along with the researcher were deputed to the village ‘Battis Shirale’ during the festival for consecutive three years. Each year the production team concentrated on various elements of the festival independently namely culture, environment and religious sentiment.

In the process of shooting, the team recorded various issues related to the festival without any bias views. The idea was to make a true documentation of the festival and bring it to the people for discussion, probable solutions and making festival more meaningful.

The sequence of catching the cobras from the field was the most exciting moment for all the crew members as the entire crew along with team of youth from the village went into the field to catch snakes. It was very risky job as the event took place in the agriculture fields.

As the researcher was trying to examine the example from various angles, the hard core experience of working in the field and observing the process of catching live cobra’s was a life time experience. The researcher could understand the emotions of the group who hunted the snake from the fields, the process of catching it. This highly skilled technique was unique feature of the festival.

The sequence of worship of live cobras was also very interesting to observe as one can see the strong roots of culture associated with it. Their way of worship, understanding between
the different communities was very meaningful to observe and record in an audio-visual format.

As the researcher and production team were documenting the events of the festival for the consecutive three years, the total hours of video documentation was of 28 hours. To make the video documentation more meaningful, a process of editing was necessary.

### 6.15.4 Editing Stage

![Editing Stage, Scene 3](image)

**Figure 6.15 Editing Stage, Scene 3**

To make the teaching and learning process more interesting, the researcher tried to portray the real example with variety of sequence of learning inputs such as information about the ‘Nagpanchami’ festival, the traditional and historical perspective of the village ‘Battis Shirale’, its geographical location, special features of the festival such as catching live cobra’s, cobra’
competition, snake worship, mythological aspect of the festival, religious aspect of the festival etc. 

In addition to that, special comment was included in the script about the environmental damage, the preventive measures, and suggested ways to improve the festival.

This exercise of making learning design more meaningful and interesting was very exciting and challenging as the complete content of the learning input was required to be fitted in the 20 min. as it a normal length of the audio visual learning experience in form of a documentary.

6.15.5 Pre-testing of the audio-visual content

The created audio-visual learning technology was tested on the students learning the subject of ‘Environment Management’. The feedback received from them was very encouraging. The audience appreciated the efforts, particularly inter disciplinary treatment given to the teaching process. They liked the usage of live footage, interviews and opinions of the villagers and environmental activist.

The students and teachers suggested few changes in the film, such as, showing the case of snake bite in the festival and treatment given to the patient, the response of the victim and his views about the festival.

The suggested elements were recorded and incorporated in the film. The reality was altered to suit the educational purpose, making pictorial form of presentation more interesting and meaningful.
6.15.6 Outcome of the research project

1. The created audio-visual technology received two National awards. It was declared as a ‘Best Documentary’ in the category of ‘Culture and Environment’ and it also won the prize as ‘Best Content Treatment Award’. These two awards were given by the ‘University Grants Commission’.

2. This film was selected in “Mumbai International Film, Festival’.

3. The film was shown on “Doordarshan’ and also translated in Marathi and Hindi languages and shown on the regional channels of ‘Doordarshan’.

6.15.7 Insights gained from these experiments

These experiments have shown that the audio-visual medium helps the learner to understand the topic better. The learner generates interest in the subject matter. He is able to see the various angles of the subject in the visual form. This helps him to understand the topic from all the aspects. The audio-visual form of presentation helps him to retain the knowledge gained from the audio-visual form of teaching.

While creating audio-visual learning material one has to see that it is created in such a way that learner generates interest in the subject, it should be visually rich, technical quality of the audio-visual material should be up-to the mark.
If the technology is used in the classroom then the teacher should encourage the learners to ask the questions related to the content of the program. This interaction between the teacher and student is most important in using the audio-visual technology in the teaching and learning process.