13

Role of ICTs in Education and Development: Potential, Pitfalls and Challenges

USHA VYASULU REDDI

Structure

Learning Objectives

After studying Unit 13, it is expected that you would be to

- Define and describe different ICTs.
- Identify the various characteristics, strengths, and weaknesses of different ICTs.
- Understand, apply, and evaluate learning from ICTs when these are applied in the context of adult learning.

13.1 Introduction

Unit 13 provides PALDIN learners with an introduction to media and information and communication technologies (ICTs) and to their use in education, with particular reference to developing countries. A close look at the ICTs is critical particularly in the context of global development goals, the increasing demand of education for all, and the inability of existing educational systems to meet such a demand without support from the ICTs. The unit discusses the role of ICTs in education, their characteristics, strengths and weaknesses, and success factors when using ICTs in education. The unit is

designed to facilitate your decisions about the use of ICTs in classroom and non formal settings, and to be able to defend your use of the ICTs to improve the quality and enhance reach to educational opportunities both for learners in formal settings and as tools to support other learning programmes for adults.

Reflect

As a parent and an educator, you have seen that many young learners seem to spend a lot of time with the television and the computer. When given some projects, they provide information collected from the Internet instead of the textbook. Do you think this much exposure to media is useful? Do you think the media are educating the learners? Reflect on this and identify both the advantages and disadvantages of the role of media in the life of learners.

Activity 13.1

As said earlier, the assumption is that you are already quite familiar with the media scene in India. The idea of Activity 13.1 is to know a) whether you are already sufficiently familiar with media, b) if you are prepared to take decisions about the use of these media in implementing programs at an adult learning setup. Please answer the following questions as honestly as you can in 'yes' or 'no'.

Question	Answer YES / NO
1. Do you listen to radio and/or watch television in your home?	
2. Do you have no access to a computer, whether at home or at a kiosk?	
3. Have you never seen a computer?	
4. Do you have an e mail address?	
5. Do you know what the Internet is?	
6. Do you think ICTs can be used effectively for training and learning?	
7. Is it your job to carry out adult learning programs and the program participants' duty to learn?	
8. Are you not concerned how an adult learns, just so long as you cover all the components of the program?	
9. Is making the plan to integrate the media in adult learning programs too time consuming?	
10. Are no media-based programmes available in the field of adult learning?	
11. Are you able to complete adult learning programs well enough without instructional aids?	
13. Do you not know how to operate the machines used in media-based learning?	
13. Would you not use any ICT content in adult learning programs, even if it was available?	
14. Do you think there is no point in talking about ICTs because it is simply not available/ accessible in Indian conditions where power supply is so scant?	

Now let us see how you fared! Did you answer yes to all the questions above? If you have answered NO to most questions, you are ready to learn more about how to use ICTs effectively in your work. If you answered YES to most questions, then Unit 13 will be very useful in helping you to become aware of and to understand what ICTs are all about and to use them in your work. Unit 13 will guide you in shaping yourself as the close-to-excellent and evolving adult educator who can also facilitate those co-learners who were unable to answer some questions correctly.

Reflect

Reflect on your answers to the statements in Activity 13.1 to understand why you chose the answers you did.

13.2 The Potential of Information and Communication Technologies (ICTs)

Today, from the time we awaken in the morning to the time before we sleep, we are surrounded by media, such as newspapers, radio, television, and computers. Sometimes we are not even aware that we are surrounded by these media. All these media come under the overall umbrella of what are known as today's ICTs. Knowing and using ICTs is important in today's fast changing knowledge society, but we very often are confused about what these media are.

13.2.1 Definition of Information and Communication Technologies (ICTs)

Information and Communication Technologies (ICTs) are often associated with the most sophisticated and expensive computer-based technologies. But ICTs also encompass the more conventional technologies such as radio, television and telephone technology. While definitions of ICTs are varied, it might be useful to accept the definition provided by United Nations Development Programme (UNDP): 'ICTs are basically information-handling tools- a varied set of goods, applications and services that are used to produce, store, process, distribute and exchange information. They include the 'old' ICTs of radio, television and telephone, and the 'new' ICTs of computers, satellite and wireless technology and the Internet. These different tools are now able to work together, and combine to form our 'networked world' – a massive infrastructure of interconnected telephone services, standardized computing hardware, the internet, radio and television, which reaches into every corner of the globe'.

When we talk of ICTs, we refer not only to the latest computer and Internet based technologies, but also to simple audio visual aids such as the transparency and slides, tape and cassette recorders and radio; video cassettes and television; and film. These older and more familiar technologies are referred to under the collective heading of "analogue media" while the newer computer and Internet based technologies are called the "digital media".

However, in today's world, with the increased convergence or blending of the engineering designs and with the coming together of the satellite and the computer, the dividing lines between these different media are becoming blurred and consequently, the way people define and refer to ICTs is also getting blurred.

Often, the definition of ICTs is also done in terms of "old" and "new" as if to distinguish between the analogue and digital.

But what is "old and what is "new"? Livingstone (1999), in an extensive exploration of the idea of newness, has argued that the notion of "new" can

either be seen with reference to the "newness of technology" or in the context of "what's new for society" about these media. Livingstone further argues that what is new for the western world is not necessarily so for the rest of the world. Within a social context, the introduction of radio or television may be as "new" as the introduction of Internet. While there is much euphoria about the ICTs, after more than half a century of research, social scientists are still sceptical about tall and ill defined claims about potential societal changes that may follow a technological innovation. This means that 'new" cannot merely be defined either in terms of time and time scales or in terms of the technology innovation.

Activity 13.2

Everyday, you are exposed to different media, from the time you get up in the morning to the time when you go to sleep. Think about the different media or ICTs you are exposed to; and list them into categories of "old" and "new". Write down the reasons for your listing in two columns against old and new.

13.2.2 ICTs and Education

Do the ICTs have a role in education? We can argue both ways. Supporters of the view that ICTs have a role in education, especially adult learning, have many arguments that they put forward and most of these arguments centre on issues of the global and Indian contexts, the changing nature of the learner and demand of education for all, and the reality that the existing educational system cannot cope with the demand for education on the one hand, and the issues of access, equity, and resources on the other.

The context: Liberalization, privatization, and globalization constitute the current social, economic, technological and political space within which television and all other media have to exist, survive, and function. Revolutions in information and communication technologies have reduced national boundaries to meaningless lines drawn on maps. And in the new scenarios, education has been identified as one of the twelve main services, which need to be opened up for free flow of trade between countries. The form of this flow will become clear only when GATS comes into full force after rounds of negotiations among participating countries. Then, more than now, knowledge is expected to become a tradable commodity; and it will be essential that Indian educators keep pace with the change, or else perish in the face of competition from multinational forces in all fields of education and learning, including adult learning.

At the same time, changes in the capabilities, needs, and interests of the user; changes in the medium and its content, the close interdependence of the media and the competition of each medium to survive, and changes in the availability and attractiveness of accessible alternatives; interact freely with social, economic and political and technological contexts.

The learner community: India's demographic mosaic consists of an increasing demand for education for a population, half of which is below 15 years of age, 75 per cent rural, a literacy rate of about 60 per cent; and a linguistic break-up of 15 different

major languages. The demand for education far outstrips the conventional system's ability to provide it, leaving no alternative to the use of technology in education.

We are at a critical junction, when the new technologies of communication - from the individualized computer assisted learning systems to the more mass directed radio and television today offer an unparalled opportunity to reconsider conventional educational and learning practices and institutions. The notion that teaching and learning can be taken out of the confines of existing schools and colleges, that teaching can be individualized and insensitive to geoclimatic distances is one which has emerged out of the telecommunications revolution sweeping across the world in the 1980s and 1990s. And yet, the urban-rural divide in terms of ***access***, ***equity***, and ***resources*** will continue to be the main issues that Indian educators, particularly adult educators will have to address as the needs of the learning community in the new social, economic and political contexts will change.

In the new educational system, there are likely to be four levels of learners. The first level will consist of students, who, able to afford the high cost of education, will obtain it from either public or private institutions of higher education. They will be getting the best of the facilities, and will soon form educational elites. The second level of learners will consist of intelligent and competent students, who unable to afford the cost of education, will obtain it from existing public institutions and will soon be competing with the first level for membership in the educational elite. A third level of students will consist of the academically and financially poor students, who will seek access to education from lower quality institutions of higher learning. And the last group of learners would be most of the illiterate and the poor, whom you will be addressing as part of your work. Current ways of imparting adult education use extensive ground work in the field and require both large numbers of trained personnel as well as committed individuals working in a world where access to technology is going to determine the gap between the haves and the have-nots.

We no longer have a choice. It is no longer an "if" but "how" to deploy the technologies optimally. Information and communication technology application constitutes an absolute necessity, given huge dispersed populations in a sub continent; inadequate resources and mind boggling needs. The new technologies offer us the chance to telescope decades of infrastructure building and development activities by providing us with the advantage of high speed delivery with no dilution in quality; wide reach; individualization of learning in a anytime, anywhere situation; and interactivity, a low per unit cost. These technologies and facilities can be equally used for language teaching, for literacy and adult learning.

This brings the role of the teachers or educators into focus. The adult educator is a key person in the whole process of learning and transacting education and a gateway to the learner. The responsibilities of the teachers or adult educators are many, and very often they feel threatened and further challenged when told that they have to use ICTs, sometimes even feeling that they may well lose their jobs or be replaced by the ICTs.

12.2.3 Strengths and Weaknesses of ICTs

Like all innovations that we have come to accept, ICTs also have strengths and weaknesses. We should list these because it is important to know what they are especially if we are to plan and use them effectively.

Some of the strengths of the ICTs include

- **Individualization of learning:** This means that people learn as individuals and not as a homogenous group. ICTs allow each individual to relate to the medium and its content.
- **Interactivity:** Interactivity is the way in which a person can relate to the content, go forward and backward in the content, start at any point depending upon prior knowledge instead of always in a sequential way.
- **Low per unit cost:** Per person, ICTs reduce the cost of education from very high to very low.
- **Distance and climate insensitive:** It does not matter where you are, or how the weather is, you can still access and learn from ICTs.
- **Can serve multiple teaching functions and diverse audiences:** ICTs, especially the computer and Internet based can be useful in drill and practice; to help diagnose and solve problems, for accessing information and knowledge about various related themes.
- **High speed delivery, wide reach at low cost:** There is instant delivery of information.
- **Uniform quality:** If content is well produced and is of good quality, the same quality can be delivered to the rich and the poor, the urban and the rural equally and at the same low cost.

But ICTs also have weaknesses which we must understand. Some of these include

- **High infrastructure and start up costs:** It costs money to build ICT systems and to maintain them.
- **Tend toward centralized uniform content in economies of scale:** The larger the numbers, the lower the cost. This means that sometimes we try to reach large numbers so we make content common, not taking into account individual differences.
- **Are not ideally location and problem sensitive:** Address problems in a general way, but cannot, without special effort, solve local and culturally sensitive problems.
- **Problems of reach, access, remain:** Not everyone has equal access; so not everyone benefits equally from the use of ICTs.
- **Tend to create new class of knowledge rich/knowledge poor:** Those who have access and knowledge through the media become richer and those who do not become poorer, widening the "knowledge or digital gap" between rich and poor.
- **Essentially delivery systems:** A medium is different from the content; and often we forget that we can deliver any content, because ICTs are essentially meant only to deliver content, not to change attitudes or bring about behaviour change.
- **Hard to assess impact:** Learning from ICT delivered content is difficult to assess since such learning is of a multidimensional and long term kind,

rather than from immediate learning assessment as in a classroom test.

- **Officers, trainers need reorientation and retraining:** Just as people learn to use ICTs, trainers and officers also need training - something they sometimes resent.
- **Call for attitudinal change to understanding of teaching and learning:** These are different media and have a different way of teaching from what we are accustomed to—therefore, they need different ways of understanding what teaching and learning is all about

And so, they are a mixed bag and it is necessary that we recognize both their strengths and weaknesses, before planning to use them in our adult learning setup. It is more important that we recognize because if we use a technology thinking it to be ideal one, but not recognizing its limitations, we are likely to fail in our effort and then to believe that all ICTs are useless and inadequate in education.

Activity 13.3

As an individual you still are unsure about the potential of media such as radio and television for adult learning. But, you have been told by your superior officer that from the next financial year, radio and television will be used for adult learning. What are the arguments that you would come up with to support your views if

a) You are required to convince others that they should also try to use radio and television.

b) You would have to convince your superior of the ineffectiveness of these media.

13.3 Different Types of ICT/ Media Technologies

We can study ICTs them in terms of the technologies, i.e. the delivery systems or in terms of their content. Let us look at the different types of ICTs/Media Technologies first .

Delivery systems: Based upon their characteristics, media technologies can be grouped into two categories, namely, synchronous and asynchronous (See Table 13.1). Synchronous media require all participants to be together at the same time even though in different locations. Asynchronous ICTs allow for participants in the learning process to be at "different times" and "different places"

Table 13.1 Types of Media/ICT Technologies used in Education

Synchronous Media	Asynchronous Media
Audio-graphics	Audio and video tapes and CDs
Audio conferencing, as in a telephone conference	E mail
	Computer file transfers
Broadcast radio and television	Virtual conferences
Teleconferencing	Multimedia products, off line
Computer conferencing such as chat and Internet telephony	Web based learning formats

Types of Media /ICT Content: Just as we can divide ICT technologies into two types, educational content is also categorized into two different types of

educational content - general awareness and instructional content. Table 13.2 describes the different features of educational and instructional content.

Table 13.2 Types of Educational Content

Educational	Instructional
Broad audiences awareness orientation Nature of learning is broad, multidimensional, even incidental process, and summative methods	Clearly defined target Enrichment, Clear Objectives Target related format and treatment Evaluation critical, through formative,

When a decision is taken to use ICTs for educational purposes, we must be able to define and describe for what purpose the content will be used and also be very clear as to what delivery system we are going to use. Such a decision should not be based on the technologies but on the conditions and contexts in which we seek to use the ICTs; e.g. access to media by the learners, etc.

Factors that will determine the choice of ICT use and of the content are important. We must ensure that there is adequate reach and access.

Activity 13.4

Look around you, in your house, your neighbours, and in the community. What are the different ICTs available? Categorize each in terms of whether it is synchronous or asynchronous; and in terms of its content. Analyze the content. List the ICTs suitable for use for education within your community. List those not suitable. Give justifications for each of your choices.

13.4 Some Common Myths about ICTs

- **Access:** A first myth is that today's ICTs enable us to transcend the barriers of reach and provide access. The reach of any medium is not the same as access. A 100 per cent of reach of radio or a 90 per cent reach of television does not mean that listeners or viewers have access to the medium. For instance, if community radio has a reach of 25 kilometres radio from the station, but there is no FM radio set within the transmission area, there is reach, but no access. Similarly, if the television set is placed in a location that women cannot access, for social and cultural reasons, reach is not the same as access. If the timing of a broadcast is wrong, there is no access. Or, if there is no electricity in a village, there is no access. In addition to the conditions of socio cultural factors, poverty, illiteracy, and time, mobility and relevance are key factors influencing access.
- **Ownership and Control:** Access is also determined by patterns of ownership and control. A second myth is about people, especially poor, illiterate, rural women, not being able to handle technology - therefore ownership and control cannot be given to them. Ownership and control of the means of communication bring involvement

and commitment. They enable people to use the technologies to give voice to their own needs and to create their own materials. And when ownership and control is transferred to the community, the likelihood of change is greater and the ICTs break down barriers when technology is demystified.

- **Technology driven vs. people driven:** A third myth places the technology first. "The technology worked, but the effort did not yield results" is a common assessment of projects using ICTs. This is because the bulk of investment in any project generally goes toward such overhead costs and few resources are left for project activities. People issues must be addressed first. Choice and use of ICTs depends upon the investment in people first, rather than on the deployment of sophisticated ICT based "solutions" without adequate attention to the people issues.
- **Content matters:** That content for technology is readily available, and if not it is easy to develop is the fourth misconception about ICTs. A dangerous myth because content is at the heart of the issue. There are two aspects of content development that merit attention. First, much has been said about relevant, timely, local content. There simply is not enough useful and relevant content available; especially content that addresses the realities and needs of women and girls. Content takes time and costs money to produce. Multimedia content suitable to be used by the new ICTs takes longer and costs more. If we have to deliver knowledge in local languages, in this part of the world, even fonts in local languages are not readily available; and if available, cannot be integrated easily in to existing multimedia packages easily.
- **Participation:** Who determines what is relevant, timely and local? Unless it is the learner, there is less chance of actual use. Relevant, appropriate, time and problem solving content is critical. This has to be developed in a partnership with the learners; otherwise, it will not be used, because it is not rooted in ground realities.
- **Appropriate ICTs:** Project managers in many ICT based efforts have yet to determine what is the most appropriate medium to deliver knowledge? Appropriateness of medium and content is related to issues of reach and access; technologies of both hardware and software content relevance, cultural acceptability and usability.
- **Ground support:** The lessons of history tell us any medium can be used to bring about awareness and to "open a window to the world". However, without strong ground support, media initiatives can fail to deliver. Ground support includes community mobilization and participation; timely availability of support materials, whether of fertilizers or books or literacy primers. Using a teleconference, as a technology intervention is fine, provided that ground support has ensured that there are learners at the receiving end and that follow through activities are carried out. Otherwise, it is a colossal waste of time and money.

Activity 13.5

The head of your department has informed that you will be the coordinator for the ICT based teaching programme being conducted at your adult learning setup for four months. Taking a look at the factors described in Section 13.4 of the lesson, what are the different things you have to do to ensure success of the proposed ICT based teaching programme. What kind of ground support will you plan, organize and ensure?

13.5 Using ICTs in Education

What does using ICTs in education, especially adult learning, mean? This is a good question to begin our discussion of ICTs with. There are three ways in which ICT in education is considered in current thinking. These are ICT education; ICT supported education, and ICT enabled education.

ICT Education: This is the most common understanding of the field of ICTs in education. Essentially, it refers to the creation of human resource to meet the IT needs of the knowledge economy. In developing countries of Asia, each country is trying to create a pool of manpower to address job opportunities in computers—hardware and software, creating and training people in computer engineering. Very often, an ICT in Education policy of a government describes the steps by which computers will be placed in schools, how teachers and students will be provided the basic computer programming skills to cater to the growing job market in computer based technologies.

ICT Supported Education: A large number of distance education universities and programmes use ICT to support the print content that they deliver to students. These include broadcast audio and video such as radio and television programmes, audio and video tapes delivered to students as part of a learning kit, and in more recent times, multimedia content such as lessons which are delivered off line, i.e. on CDs. This is also sometimes called multimedia education, where multiple media are used to support learning.

ICT Enabled Education: Any educational programme that is purely delivered through ICTs, or with ICT delivered content as the primary backbone of the teaching-learning process, such as on line courses through the web, is ICT enabled education. In simple words, this form of education requires ICT access and requires that the learner use ICTs as a primary or basic medium of instruction.

When deciding to use ICTs, you must always decide the purpose for which you have made the decision and what you expect to achieve from the content that will be produced. Is it to teach computer skills, to support the learning process, or to instruct through the ICTs itself?

Activity 13.6

In continuation with Activity 13.5, how will you establish the purpose of the proposed ICT based training programme? Will you ask your son and daughter to attend the programme? Why or why not?

13.6 Evaluating ICTs in Education

If, as we have seen in the earlier part of this lesson, using ICTs for education, especially adult learning, is a complex process involving a lot of careful choices and decision making without which we cannot succeed, then why use ICTs in education at all?

We have already seen that the strengths of the ICTs include expanding reach and access, while retaining uniform quality. And that ICT content can be, if carefully made, suit the audience it is intended for.

Half a century of research into learning from media has revealed that there are no undifferentiated effects and that learning from media is not a direct cause effect relationship. Learning from any form of media intervention, whether print or computer enabled, is multidimensional, non linear, and indirect, unexpected and critically, it is long term. It is of an enriching and even incidental kind. And it is the user or learner, not the content producer or delivery agency, who determine the extent and nature of benefit. If the media technology fails to meet needs, it will be replaced or substituted by another medium, another activity. It is necessary that we recognize this aspect of learning from media because no learner, no matter how poor, illiterate, or deprived is going to accept any content which does not meet felt needs or provide some gratification.

Hardly any results will be visible in the short term. Results, if any, are not of a direct, cause effect variety. If ICTs are to be effective as learning tools, they have to be used in a long-term sustained manner; and learning from media often provides unexpected results.

Despite all this history, we need to evaluate ICTs and ICT content before taking any decision to use them in adult learning settings. What we try to evaluate, whether it is readily available content, or material that is going to be prepared is essentially

- **Knowledge,** i.e. what has been learned. And we do this through knowledge tests and longitudinal testing.
- **Understanding,** i.e. what has been understood, testing to check if learner can rephrase in own terms.
- **Application,** i.e. has the learner been able to apply what has been learned; i.e. solve problems.

Very often, in educational evaluation and testing, immediate testing is done or an experimental design is followed. In immediate testing, we give a test immediately after teaching the lesson and then judge whether the person has learned the content through scores on this test. If we give a test before teaching the lesson and then immediately after teaching, we are using a simple experimental design.

What do we know about the use of ICTs in education, especially adult learning, in India? India has a vibrant system in the use of ICTs and is considered a world leader. For instance, a glance at the information and communication technologies scenario would show that today, there is a system with

- India's own satellite system providing round the clock multipurpose services
- Nearly 100 per cent reach of radio
- A satellite to cable and terrestrial system of television, with above 50

channels in different languages within the private and public sector

- One of the largest television systems in the world
- About four 24 hour dedicated satellite to cable educational television channels
- A 24 hour TDCC channel available for use in teleconference support for education
- A private sector technology channel covering information technology and bio technology
- State level initiatives underway for the use of satellite based systems on the Ku Band in almost all the states of the country, capable of providing bandwidth for data, voice and picture transmission through the EDUSAT network
- Wide reaching telephone access, through PCOs throughout the country
- The fastest growing sector of the economy being that of information and communication.

And so we have the ICT systems in place. The question now remains is - how do we best use them. We will briefly explore how to use ICTs in Section 13.7. Before moving on to the section let us complete Activity 13.8.

Activity 13.7

Go to a nearby music and CD library or store. Ask the store for any educational multimedia product in a subject of your choice. Examine it in terms of its

- Strengths
- Weaknesses
- Potential users and uses
- Culture and context specificity

13.7 Enhancing Learning through use of ICTs - What We Have Learnt

There are many aspects of ICT use in adult learning in India in which we already have sufficient knowledge, based on experience of using different media for more than forty years for educational and developmental purposes. Let us look at what we know.

The technology works: Twenty five years of satellite broadcasting and more than ten years of teleconferencing, and five years of computer based systems has shown that the technological end is the strongest part of the system in India. The technology works but there is room for improvement. Findings from all the exercises has shown that there is much to be improved in the technical quality. Generally speaking, there are fairly good facilities at the teaching or the provider's end. The same could not be said of the receiving/ learner's end where there was inadequate space for viewers, disruptions in power supply, and an undependable telephone line, and a varying reception quality of data, video and audio in transmitted programmes and interaction.

Content matters: Since the primary purpose of using the technologies in adult learning is to disseminate particular contents in the form of learning packages, the single most important element in the entire process is the content of the programmes or package of programmes. We know that content must be of good quality and relevant to the needs, learning levels, and life experiences of the learners and in local languages for there to be maximum use.

13.8 Conclusion

To summarize, when using ICTs in your adult learning work, make sure and

- Mix, supplement with different media
- Mix and experiment with formats and treatments
- Greater emphasis upon substance, less on style
- Use of graphics, animation
- Summarizing and recap of main points
- Build in interactivity

Unit 13 has attempted to highlight the factors that an adult educator or adult learner may usefully keep in mind while choosing the appropriate medium and appropriate content. Elsewhere in the world, determinants of choice are **quality, utility, price, and innovative content.** In India, we can add **availability and local relevance** to these criteria. You can also chose the delivery medium, keeping in mind the inherent characteristics of each medium.

In selecting already existing educational programmes, choice or the programme, in addition to the above mentioned criteria, you would do better look for an evaluation based on questions such as

- Are the instructional objectives as stated or implied in the lesson clear to the viewer?
- Does the content of the programme relate closely to the main objectives?
- Does the amount of time taken to develop each concept, procedure, or example seem appropriate for the intended audience?
- Is the content organised and so structured as to facilitate learning?
- Is the material based on expert, up to date professional information?
- Is the vocabulary level appropriate for the intended audience?
- Does the presentation provide for optimum repetition of the main idea?
- Does the programme effectively use pictures, film clips, demonstrations, diagrams and other graphics?
- Is the production quality of the programme good? Is there appropriate integration of audio and video?
- What is the quality of the presenter, in terms of expertise, ability to present material?
- Are the techniques designed to provide viewer participation?
- Does the presentation motivate the learner to do supplementary work, etc.?
- Is there any testing incorporated into the programme?

- Is there any provision for testing the learning gain from the programme?

Keeping in mind that merely the selection of the medium is not necessarily going to enhance learning outcomes, and that each medium has its strengths and weaknesses, a mix of media would be ideal for any distant learner. Criteria for selecting the medium of delivery include aspects such as the reach of the medium, its availability, its ruggedness, the ease with which it can be used by the individual learner or the counsellor at a distant location, and cost effectiveness (both for the institution as well as for the learner). Any medium which draws the learner into a participatory learning situation is likely to be more readily accepted by the learners.

13.9 Apply What You Have Learnt

We now come to the last part of Unit 13. It has to do with the application of one's learning to one's profession as well as everyday life. This effort helps the learner to internalize one's knowledge and skills.

Choice of media is difficult, especially in the absence of inter-institutional efforts. Such a problem is compounded by learner demands for user friendly, low end delivery methods. This may mean return to the old, familiar and tested media such as radio. Most importantly, choice of media is dependent upon the effectiveness of the medium in meeting learner demands rather than merely on what is the most modern method available at the time.

Suppose you are the coordinator of PALDIN programme of study and you wish to convert it into a multi-media-based learning package. You will need funds to carry out your plan. A funding agency has asked you to submit a proposal that gives justification for conversion and states clearly with reasons what types of ICT you want to use. Prepare a detailed proposal covering both demands of the funding agency.