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5.0 LEARNING OBJECTIVES

After going through this module, you will be able to:

- Explain the Information Communication Technology (ICT) and its delivery modes in Non-Formal Education.
- Describe the emerging trends of ICT in Non-Formal Education.
- Explain the key issues and concerns of using ICT in Non-Formal Education.

INTRODUCTION

Although education is a basic human right, there are millions of people who for various reasons have missed out on the opportunity of formal schooling, thereby constraining (to restrict) them from basic literacy. This module focuses on the use of ICTs and how ICTs are increasingly being used in the community in general to make available information and learning to a larger target group outside of the formal school system. The widespread use of ICT at this level for lifelong and continuous learning as well as community empowerment is a significant trend in making into a reality the 21st century ambition of living in truly “knowledge societies.”

Hello friends, in the previous module we have discussed different methods and instructional media used in Non-Formal Education. Now let’s see how Information Communication Technology (ICT) plays a significant role in Non-Formal Education.

5.1 INFORMATION COMMUNICATION TECHNOLOGY (ICT) IN NON-FORMAL EDUCATION

Attempts to encourage full and effective participation in NFE now forms a central part of current educational and economic policy making in most developed countries—under the various banners of creating “learning ages,” “smart countries” or “knowledge-based societies.” ICT has been viewed by many Governments as having profound and far-reaching implications to achieve these aims. Over the past 30 years, NFE initiatives have effectively used ICT for mass literacy campaigns, training of health workers, and capacity building under the rural community development projects. NFE has a critical role to play in reaching marginalized groups, and ICT is an important tool in the effective performance of this role.
The Asia-Pacific Programme of Education for All (APPEAL) Resource and Training Consortium (ARTC) study that was undertaken in 2002 (UNESCO 2002) and the APPEAL study (UNESCO 2005) highlight the following benefits of integrating ICTs in NFE programs:

1) Develop Livelihood Skills and contribute to Poverty Alleviation: Livelihood skills training is a common activity in Community Learning Centres (CLCs). The use of ICT as a tool in such training is an engaging way for learners to develop these livelihood skills (UNESCO 2005).

(E.g. The Anand Milk Union Limited (AMUL) established in 1956, collects 0.8 million litres of milk from 1,003 milk societies every day. AMUL introduced an Electronic Automatic Milk Collection System in 691 milk collection centres to promote livelihood generation through ICT, which reduced the time required for collecting milk. The system weighs the milk and measures its fat content at the time of delivery to the centre, and this has enabled immediate payments to the farmers. The project has been selected for study because the technology tool has affected a huge population of women dairy farmers socially as well as economically.)

2) Capacity Building: More specifically, ICT can be used as an effective and affordable tool in the professional development of NFE teachers. This is important because although qualified and trained teachers are the key to quality learning and increased learner motivation. In many countries professional expertise, particularly for the provision of non-formal literacy education, is limited and thinly distributed.

(E.g. The project is on ‘Capacity Building of Women/ Girls/ SC- ST using ICT’. This scheme is proposed for Model Cluster Schools (MCS) started under the National Programme for Education of Girls at Elementary level (NPEGEL). MCS are opened for Girl’s, as a model girl-child friendly school at cluster level in all selected districts / blocks where the scheme is operational. These schools have got all amenities in terms of teaching, learning equipment, books, equipments for vocational education, games etc. The main aim of this project is to improve the achievement of girls, fostering an interest in education among them, and raising the importance of girl’s education in the community by using computer as an ICT tool. At the end of project capacity was built of 4342 Women/ Girls/ SC- ST by using computer)

3) Documentation and Information sharing: ICT can facilitate print, visual, and video documentation that is needed for the dissemination of information about successful NFE projects.

(E.g. Grassroots Green Innovations Local Language Database Project was the first phase of database development of 1500 outstanding practices in traditional knowledge, grassroots innovation and medicinal plants in multi-media and multiple languages. It includes documentation of information on various aspects of plants and translation of the information in four languages viz. Hindi, Gujarati, Tamil and English. SRISTI has
translated and documented traditional knowledge and innovations in Hindi. The database is also available online.


4) Facilitate the process of networking among organizations engaged in the design and delivery of NFE programs: It is essential for the Government and other organizations to coordinate their NFE activities to maximize available resources and expertise, including ICT equipment.

(E.g. The project “Using Adobe Photoshop among Differently Abled People” (2009-2010) was undertaken in collaboration with Society for Physically Handicap. Through the use of ICT project worker gave one month training to 20-25 Differently Abled people.)

5) Improve the overall effectiveness of monitoring and evaluation: Monitoring and evaluation should be built into the entire planning and management of NFE programs.

(E.g. The project, “Using Mobile Phones to Strengthen Monitoring of Rural Sanitation Outcomes” was undertaken in two blocks of Bihar and Himachal Pradesh. Information was collected from a sample of 23,000 rural households in a space of 3 months. An Android app – Outcome Tracker – has been developed to collect information and monitoring sanitation practices. Online MIS system designed to handle large dataset.)

http://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/LilongweBriefing_ICTS.pdf

Let’s see what are the different modes of using ICT in Non-Formal Education

5.2 DELIVERY MODES OF USING ICT IN NON-FORMAL EDUCATION

The delivery modes and domain of NFE are wide ranging but it has common denominators, that is, “need-based approach, contextual relevancy, flexibility in learning contents and time and place” that show a good contrast to formal schooling. By transcending (go beyond the range or limits) physical and spatial constrains, ICT and mobile devices bring exceptional educational opportunities to people of all socioeconomic levels.

- Early distance education NFE projects used print, radio, television, audiotape, videotape, and satellite transmission as an efficient and cost-effective way to provide illiterate adults and out-of-school learners with educational opportunities.

- Further innovations in ICT like Very Small Aperture Terminal (VSAT) satellite communications, the Internet, and CD-ROMs are helping to create new innovative learning tools that will profoundly change the way NFE is delivered.

- In recent times, NFE projects have been making use of devices such as Personal Digital Assistants (PDAs), Laptops, Pocket PCs, and mobile phones to provide interactive content to previously unreachable and remote locations. At the same time, conventional classroom approaches to learning are being supplemented by
learner-centred anytime-anywhere mode of learning, with the potential to increase participation and school retention rates.

- The emphasis on using the newest ICTs has begun to shift the focus of NFE away from local community development towards individual lifelong learning. The future use of the new ICTs in NFE in developing countries will greatly depend upon how well NFE practitioners manage issues associated with the use of ICTs in NFE. Currently there are at least three types of learning spaces where ICTs are used to enhance NFE:

1. **Telecentre**
2. **Community Multimedia Centers (CMCs)**
3. **Community Learning Centers (CLCs)**

1. **Telecentre:**

   It is a public space where community members can access telephones, computers, the Internet, and other digital technologies that can help them gather information and communicate with others. The simplest kind of telecentre is a booth in which the owner of a telephone sells user-time.

2. **Community Multimedia Centers (CMCs):**

   CMCs are nonprofit telecentres that aim to promote community empowerment and addresses the problem of the digital divide. Also known as a community e-centre (CeC), CMC a combines community telecentre facilities (computers with Internet and e-mail, phone, fax, and photocopying services) with a community radio run by local people in the local language. The radio, which is low-cost and easy to operate, not only informs, educates and entertains, but also empowers the community by giving a strong public voice to the voiceless and encouraging greater accountability in public affairs. CMCs provide a gateway to active membership in knowledge societies by enabling everyone to gain access to information and communication tools that they can use to improve the quality of their lives.

3. **Community Learning Centers (CLCs):**

   CLC is “a local place of learning outside the formal education system usually set up and managed by local people for local people.” CLCs, which may be located in urban and rural areas, “are home-grown institutions that provide education programs which address the specific needs and desires of the populations they serve.” Their aim “is to help individuals empower themselves and promote community development through lifelong education for all people in the community, including adults, youth, and children of all ages. A CLC does not necessarily require new infrastructure, but can operate from an existing health centre, temple, primary school, or other suitable venue.”
We have understood the modes of Non-Formal Education. Can you tell what are the emerging trends of ICT in Non-Formal Education?

5.3 EMERGING TRENDS OF ICT IN NON-FORMAL EDUCATION

Traditionally, ICT in NFE programmes have been based on Radio, Television or Internet. Now countries have started experimenting with newer technologies such as mobile phones, WiMax and game-based learning. A brief overview of such projects is given in the following:

1. **Mobile (m)-learning:**

   Mobile learning means any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies. Mobile phones have a greater penetration (Access) than Internet in developing countries. With the development of 3G and 4G networks, use of mobile phones in education could provide a way forward.

2. **Games-based learning:**

   It is a game that deals with applications that have defined learning outcomes. Generally they are designed in order to balance the subject matter with the game play. There are countries which have used the methodology of games-based platform to further the cause of non-formal education. With significant penetration of 3G and 4G networks and increased adoption of mobile phones, this methodology is expected to gain momentum in the near future. Educational games can make a profound impact on the learning needs of underserved communities.

3. **WiMax technology:**

   WiMax, meaning Worldwide Interoperability (its a technical term used in IT to refer to computer systems that can exchange information) for Microwave Access, is a telecommunications technology that provides wireless transmission of data using a variety of transmission modes, from point-to-multipoint links to portable (able to be carried or moved easily) and fully mobile Internet access. WiMax provides high-capacity broadband wireless access (BWA) across a larger geographical area than other available wireless technologies like WiFi, In India, Pakistan, and other countries in the South Asian region WiMax networks are being actively tested and deployed (to use something for a particular purpose).
According to the Infonetics's new report, WiMax Equipment and Subscribers in Key Markets, India is the single largest WiMax opportunity area in the world with all major service providers like BSNL, Tata, Bharti Airtel, and so on pursuing WiMax technology. WiMax offers immense potential for the Education sector as well, since it provides a solution for affordable high speed broadband access in rural and under developed areas as well, thus facilitating distance education and e-learning.

**Examples of ICT enabled NFE Programmes**

**EXAMPLE-1: Asha Project, INDIA**

With a mission to educate illiterate adults by using Devnagri script in computers and also to train rural youths in computer applications in the most backward villages of Nagrota Surian block of Himachal, ASHA-2005 was launched in mid 2002. A joint initiative between the Science Awareness Trust (SAT) and the State Govt. of Himachal Pradesh, ASHA-2005 aimed to train 2,100 people in areas of health, social welfare and the environment, as well as educate 15,000 Illiterate adults in three years. SAT invited officials of the district administration and other departments to create a platform for discussing and solving related problems.

**EXAMPLE- 2: Multi Purpose Community Telecentre for Community Development—Sri Lanka**

**Implementation:** The Sarvodaya Shramadana Movement, a leading NGO in Sri Lanka is administering this project at 18 sites under the supervision of the NFE unit of the Ministry of Education.

**Medium of delivery**—CLC is equipped with computers

**Objectives:** The purpose of this project is to help village entrepreneurs (someone who starts a new business), enabling them to use ICT in marketing and selling their products. Project activities include training in the use of ICT, development of a community database, dissemination (to spread information or ideas to as many people as possible) of appropriate information to villagers and entrepreneurs, an entrepreneurial skills development Programme. Each telecentre provides a computer, printer, scanner, photocopier, and binding machine for community member’s use.
EXAMPLE- 3: Radio Sagarmatha—Nepal

Radio Sagarmatha (RS) covers and discusses public issues, conducts training for public radio journalism, and provides a venue for local ideas and culture. The station also has regular focus on good governance, gender, women's issues, environment, economics, and ICTs. In 2000, the station added a weekly twenty five minute Internet radio programme featuring local and international ICT related news, and ICT glossary, radio web browsing, and interviews with relevant ICT resource persons.

Friends, now let's understand what are the key issues and concerns of using ICT in Non-Formal Education?

5.4 KEY ISSUES AND CONCERNS OF USING ICT IN NON-FORMAL EDUCATION

1. Policy formulation for ICT in NFE:

A policy framework is essential as it provides a vision of desired outcomes and outlines a roadmap of how these outcomes are to be achieved. In such a framework, the vision of NFE would have to be broad-based and all- encompassing (to include a wide range of ideas or subjects) within the overall framework of lifelong learning. Projects and programmes offered outside of a policy context are likely to fail in the long run. Many countries have developed ICT national plans to provide a policy context that guides new technology-based programmes and projects. These master plans articulate (to express your ideas in words) a vision of how ICT can contribute to education reforms and improve this vision of other national priorities.
2. **Infrastructure:**

Public access to ICT is available to various extents in most of the larger urban centres in all countries through cyber cafés, but access is largely nonexistent in rural areas. Lack of infrastructure (electricity, telephone connections and hardware) is still the major challenge for introducing ICT in rural areas.

3. **Cost and Sustainability:**

The costs associated with setting up ICT infrastructure are forcing many Governments to make difficult choices. For most national Governments, the priority is primary education. Similarly, the pressure to produce the necessary human capital for a “knowledge-based” economy is resulting in greater investments being made in formal higher education systems.

Further, meeting the ongoing costs of maintaining equipment, staff training, connectivity, content materials acquisition, and development and consumables (goods are intended to be used and then replaced) is a major challenge. Many ICT-based education programmes funded by aid agencies or by corporations could not be sustained because Government failed to step in with the necessary financing and the local communities are not in a position to generate the resources needed to continue these programs.

4. **Lack of local language content:**

English is the dominant language of the Internet. An estimated 80 percent of online content is in English. A large proportion of the educational software produced in the world market is in English. For developing countries in the Asia-Pacific where English language proficiency is not high, especially outside metropolitan areas, this represents a serious barrier to maximizing educational benefits of the World Wide Web.

5.5 **LET’S SUM UP**

- Over the past 30 years, NFE initiatives have effectively used ICTs for mass literacy campaigns. NFE has a crucial role to play in reaching marginalized groups, and ICTs are a tool in the effective performance of this role.
- Early Distance Education NFE projects used print, radio, television, audiotapes, videotapes and satellites transmission. Further innovations in ICTs like Very Small Aperture Terminal (VSAT), Satellite Communications, CD-ROMS are helping to create new innovative learning tools.
- In recent times NFE projects have been making use of devices such as Personal Digital Assistants (PDAs), laptops, pocket PCs, and mobile phones to provide interactive contact.
- Currently there are three types of learning spaces where ICTs are used to enhance NFE which are Telecentres, Community Centres (CMCs) and Community Learning Centres (CLCs).
Now countries have started experimenting with newer technologies such as mobile (m) learning, WiMax and games-based platforms.

The important factors for success of any ICT-based NFE programmes are community involvement, formulation of a comprehensive policy, sharing of best practices among communities and countries, creating localized content, and constant technology upgradation.