

REVIEW PAPER

Role of Educational Technology in Rural Development – A Review

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ABSTRACT

“Educational Technology is the application of scientific knowledge about learning and the conditions of learning to improve the effectiveness of teaching and training, its role is to develop veterinary research, education and extension to improve quality of life in rural area. According to Richey educational technology is “the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources” (Richey, 2008). Various initiatives under education technology have been taken for effective extension services in India such as Kissan Mobile Sandesh, Akshaya, AMUL milk collection system, Dairy Information and Services Kiosk, Community information centers, Village Knowledge Centers, etc. Educational technology can play a major role in facilitating the process of transformation of rural India to meet the challenges and to remove the fast growing digital divides.

Key words *educational technology, initiatives, akshaya, kiosk, digital divides*

“Educational Technology is the application of scientific knowledge about learning and the conditions of learning to improve the effectiveness of teaching and training. In the absence of scientifically established principles, educational technology implements techniques of empirical testing to improve learning situation”.

It includes numerous types of media that deliver technology applications and processes. Its role is to develop veterinary research, education and extension to improve quality of life in rural area. It can help an average Indian farmer to get relevant information regarding livestock and agriculture inputs, crop production technologies, food processing, market support, livestock finance and management of farm business. The extension mechanism is becoming dependent on educational technology to provide appropriate and location specific technologies for the farmers to furnish timely and proficient advices. Educational technology can be a best mean not only to develop extension but also to expand research and education system.

CONCEPT OF EDUCATIONAL TECHNOLOGY

Association for Educational Communications and Technology (AECT)

AECT denoted educational technology as “the theory and practice of design, development, utilization, management and evaluation of processes and resources for learning” (Lowenthal and Wilson, 2010).

National centre for programmed learning, UK

“Educational technology is a complex, integrated process involving people, procedures, devices and organization for analyzing problems and devising, implementing, evaluating and managing solutions of those problems involved in all aspects of learning” (Lucido and Borado, 1997).

Richey

Richey defined educational technology as “the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources” (Richey, 2008).

OBJECTIVES OF EDUCATIONAL TECHNOLOGY

- To bring fullest, all round development of individual in terms of physical, mental, moral and social development.
- To develop in man, ability to think and take sound decisions to solve the problem (Rathakrishnan *et al.*, 2009).

PURPOSE OF EDUCATIONAL TECHNOLOGY

- The purpose of education technology is “to make education more productive and more individual, to give instruction a more scientific base and to make instruction more powerful, learning more immediate and access more equal (Tickton, 1971).
- Educational technology prescribes the design of instruction material, structures learning interaction for maximum benefit.
- Education technology is an effort with or without machines to manipulate the environment of individuals for generating a change in behavior of learning (Knezevich and Eye, 1970).

EDUCATIONAL TECHNOLOGY INITIATIVES FOR EFFECTIVE EXTENSION SERVICES IN INDIA

Kissan Mobile Sandesh, Madhya Pradesh

In 1983 the KVK Chindwara has started KMS service aiding instant bulk messaging from KVK to individual farmers, extension personnel and agro input providers for extending agricultural information through bulk SMS. Five development blocks from Chindwara and Seoni district were selected for study. This service has found extremely cost effective with strong storage facility for rural farmers. KMS is being used as a medium to send information on important training and other programmes to contact farmers of KVK.

Akshaya- Malappuram, Kerala

The Akshaya project, first started in the Malappuram

district of Kerala in 2002, was the first district wide e-literacy project in India and one of the largest known Internet Protocol (IP) based wireless networks in the world. A joint project between local bodies (gram panchayats) in rural areas, municipalities in urban areas and private entrepreneurs in Malapuram district of Kerala was started to bridge the digital divide by providing community access to internet and computers with a goal at least one person in every family to be computer literate in that district. About 2662 Akshaya e-centres are in rural areas. The project offers lots of services like: E-Pay, E-Krishi (for farmers to provide online agriculture trading and information portal, E-Vidya, E-Ticketing, online medical transcription course and village kiosk for all extension programmes.

Self employed women's association (SEWA), Ahmedabad, Gujrat

SEWA is a large primary trade union that has about 1.9 million registered women working since 1972 in the informal sector. SEWA started using the Sat Com (satellite communication) programme in 1998 with its receiving terminals in nine districts and transmitting terminals in Gandhinagar. SEWA's two main goals are full employment and self reliance. SEWA has started computer training, marketing facilities, vocational training for semi-literate women workers. Many of its milk cooperatives are using computerized milk collection software.

AMUL milk collection system, Anand, Gujrat

The Anand Milk Union Limited (AMUL) was established in 1946 before the promulgation of the Gujarat State Cooperative Act, 1961. AMUL with more than 578,000 members was the first cooperative dairy to be established in Anand, Gujrat. AMUL introduced an automatic milk collection system in 691 milk collection centers which reduced the time required for collecting the milk. The system weighs the milk and measures its fat content at time of delivery to the centre and this has enabled immediate payment to the farmer.

The Dairy Information and Services Kiosk (DISK), Gujrat

It is one of the successful initiatives taken up by Gujarat Cooperative Milk Marketing Federation Ltd (GCMFL) with the help of Indian Institute of management, Ahmedabad. DISK aimed at helping the dairy farmers with timely messages and educating them on the care for their milch cattle and enhances the production of quality milk. It also aims at assisting the dairy unions in effectively scheduling and organizing the veterinary, artificial insemination, cattle feed and other related services.

It is being used at milk collection centers and in cooperatives to measure butter fat content of milk, tests the quality of the milk and promptly make the payment to the farmers. It has resulted in the removal of incentives to those who adulterate milk, reduced the time for payments from 10 days to less than 5 minutes and instilled the confidence in farmers on cooperative set up (Haque, 2000).

Community information centers (CICs), Gangtok, Sikkim

The Community Information Centre (well known as CIC) Project has been implemented on pilot basis in 30 blocks of the North Eastern states and Sikkim in India This project was started by the department of information technology, Government of India with the technical support of the national informatics centre (NIC) on 17th August 2002. Presently, all 4876 blocks in 79 districts of the 8 states, basic services to be provided by CICs include Internet Access, E-mail, Printing, Data entry and Training for the local people. In addition e-Suvidha, prices and other market information of Agricultural and Veterinary produce (Chamling, 2015).

n-Logue Chiraag Kiosks, Chennai

Chennai based India's largest operator of for profit rural kiosks under "Chiraag" brand, established in 2005-06, focusing on fee based transactional services. Chiraag kiosk provides a substantial number of informational services using content that is localized and stored on site include education and training, healthcare, agriculture consultancy and e-governance (Jhunjunwala *et al.*, 2004).

Janmitra, Jalawar, Rajasthan

This project is a joint initiative of United Nations Development Programme and the Government of India operational since 2002. It has been implemented with the help of district administration Jalawar, Department of information technology and Rajcomp, a state agency. It provides e-governance, e-education, e-health and e-commerce services to the villagers through 30 community information centers (CICs); 21 departments are connected to the server through dial up connectivity and 13 departmental offices are on local area network (LAN) with the server.

Village Knowledge Centers (VKCs), Pondicherry

Village knowledge centers of MS Swaminathan research foundation was launched in 1998 in Pondicherry. The main aim behind the establishment of VKCs was to provide sustainable food security in rural areas of Pondicherry. It provides technical information related to agricultural and veterinary inputs. It helps in procuring quality seeds in providing information about the daily marked priced from the government as well as private bodies, and advices farmers on rotation of crops as well as about the use of fertilizers and pesticides. VKCs receive information by voice mail and disseminate it through any public address system. It has also identified 13 districts in Pondicherry, where there is a huge potential for agriculture business, and where the government will invest Rs. 170 crores (Saravanan *et.al*, 2011).

HP I Community in Kuppam

HP launched the world's first i-community or inclusive-community at Kuppam in February 2002. Three years later, the citizens of Kuppam, around 300,000 in number, have access to Information & Communication Technology based solutions to everyday life situations and solutions that also have long ranging social and economic

benefits as well as thereby helping this rural region grow faster. Informational services of Kuppam are offering information on government programs and contacts, agriculture and veterinary information, information on employment, education and health. Self help group management information and computer training are also offered.

SWOT ANALYSIS (STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS) OF EDUCATIONAL TECHNOLOGY IN INDIA

STRENGTHS

- On farm solution of the problems
- Facilitation of internet at the doorstep of the farmers
- Transfer of technology becomes faster
- Improved farm productivity and standards of living in rural community
- Improve market access to farmers

WEAKNESS

- Lack of awareness among users
- Lack of realistic financial model
- Lack of facility for training farmers in regional languages
- Lack of financial support by the government
- Lack of effective communication and coordination

OPPORTUNITIES

- Work area can be expended to neighboring villages and states
- Employment generation in agriculture and allied sectors

THREATS

- Frequent strikes
- Shortage of electricity lead to deterioration of project
- Initial cost is high which cannot afforded by the farmers

CONCLUSION

Educational technology can play a major role in facilitating the process of transformation of rural India to

meet the challenges and to remove the fast growing digital divides. The rapid change in the field of educational technology makes it possible to develop and disseminate required electronic services to rural India. The existing bottlenecks in undertaking the tasks need to be addressed immediately. A national strategy needs to be drawn for spearheading educational technology penetration to rural India. The success of any educational technology based service to rural India hinges on evolving a proper revenue model for the dissemination points. Once these dissemination points prove to be economically viable, the educational technology revolution in rural India will require no crusaders (Mittal, 2012).

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