

Improving Education in Rural India with the aid of Digital libraries

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Abstract-To increase The two main challenges of education system in India are expansion and excellence. No doubt the expansion part has much been achieved by opening of new schools, colleges and Universities. But still there are large numbers of areas, especially in rural India, where to provide education at the doorsteps is still a dream. The second challenge of excellence is still a major concern both in rural and urban India. To address these challenges, the Digital Libraries can really play a critical role if utilized properly. In this paper the role and importance of Digital Libraries with proper ICT facilities in rural India has been analysed and discussed. To improve the quality of education, Digital Libraries can play a significant role.

Index Terms - Digital library, rural education, ICT, excellence, expansion.

1. INTRODUCTION

The library is the heart of the education and is the primary resource of literally material in the schools. Libraries are key elements and basic raw materials for education and access to literary information is the basic requirement for education. The Library is the collection of resources like videos, software, audio, text, periodicals, magazines, etc. That is made available to learners so that they can benefit from it on a shared basis. Usually these resources are expensive and rare, and learner cannot afford to buy them or keep them all. Libraries often serve as a museum or laboratory by preserving the work and conserving it for the next generations. Using proper borrowing procedures, careful use, repairing and maintenance when needed, we can prolong the life of these books.

2. BACKGROUND

While giving a sharp look over the past and trying to find the concept of evolving and preserving the thoughts, findings, events, history, discovery, inventions and any material of learning onto the paper was a serious challenge. Before the invention of paper, people started writing on various materials like cloths, skin of dead animals and other such materials which can be preserved for longer time. With the ages the system of books and gradually storing them at some centralized places came into existence after the invention of paper and such locations are named as libraries. For the learner to access the library was not an easy task as the number of such storehouses was very less. Initially the libraries were under the possession of the kingdom or any such government

and permission to access them was extremely restricted. Therefore the attaining education was not every body's job and only influential people were able to visit these libraries. With the fast growing times the number of libraries gradually increased and accessing them became litter bit easier, especially for urban people and even present times for rural people it is still a challenge.

3. PRESENT SCENARIO

Keeping in view the evolution of the digital world as is happening in present times the scenario of searching knowledge is different. The time has gone when education in rural areas was considered a grave challenge due to non availability of knowledge sources like libraries, bookshops, schools and other sources of knowledge. The concept of digital libraries was well established in the beginning of the seventies, when third generation computers were taking a pace. To generate a digital trace of anything, storing them in electronic storage devices has been the geneses of digital storage hubs and digital libraries are one among them.

Developing the digital libraries or e-library was well conceived over the period with development, in advanced semiconductor devices and their mass integration like VLI, VLSI and VVLSI. Man has succeeded in developing the mass storage devices and anything can be stored viz; video, audio, facsimiles and text. Storing the books or any knowledge at any central point has been achieved and to access them from any distant point is another challenge. But the latest advanced communication system has made it

possible to access anything at any point from any place at any time and same is the case here in accessing the digital storage houses of knowledge. The present high speed internet has made the things at ease. There are a large number of e-resources, e-portals like NPTEL, UGC, GIAN, NCERT, SWAYM, spoken tutorials and etc. and accessing the from any distant place is a big reality at present era. Most of the knowledge is open access and considered an open source treasure. The only requirement is the basic infrastructure of high speed internet at every place and in our country the government has already taken an initiative to provide internet facility at every corner of the nation and also has attained the goal at a substantial extent. Huge investment has already been made and Reliance Jio is one of the biggest companies doing this job.

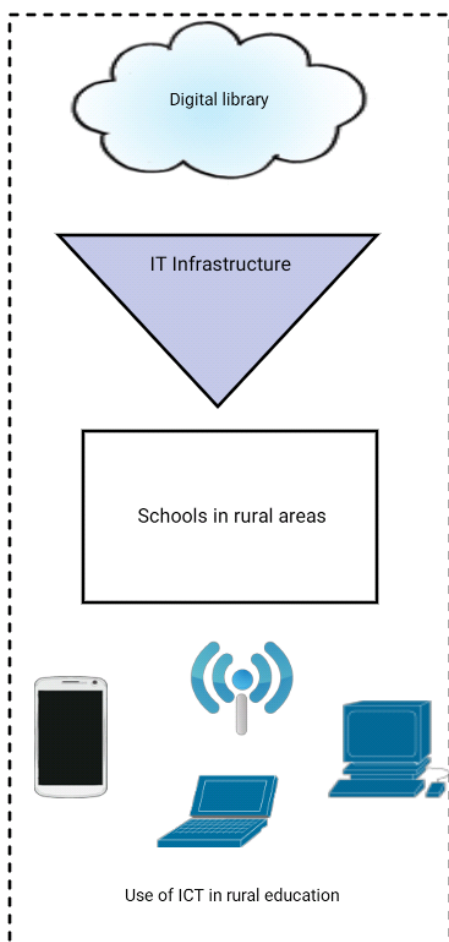


Fig.1. Underlying Infrastructure

Libraries allow writers and contributors to share their work in width with learners to inspire them and to emphasize contribution from young writers. Libraries provide peoples' freedom of space, time and style to learn. Libraries are vital in formal as well as non

formal education. Libraries provide a good opportunity of informal education to learners as learning in the libraries is under control of learner itself, allowing the learner to take advantage of a large database of resources available. Moreover, in formal or professional education, libraries play an important role. Professional education or professional learning is different from informal education. Skill development is compulsory in professional education and trainings play an important role in professional education, acquisition of knowledge and learning skills is the core activity in professional education and use of libraries play a vital role in all these activities.

As technology has changed our lives and information technology has revolutionized every sphere of life and with this context libraries cannot keep themselves away from the digital revolution. The libraries cannot reach to every place all across the globe without the use of information technology. As demand for digital information is increasing need for digital resources are growing day by day, it also has changed learning and teaching perspective. Incorporation of technology in teaching and learning activities has become compulsory. Use of information technology in libraries has resulted in the evolution of digital libraries, these involve the use of digital technologies to create, store, retrieve, disseminate and share learning resources. Information available in paper form can be saved in various formats available like videos, audios, software, animations, PowerPoint presentations simulations, images and text. Digital libraries also provide tools to save searches and access the available information using digital catalogues. Digital Library is an environment to create, store, catalogue, disseminate, and searching of useful information. [1]

Use of digital libraries expands the arena of information as we can convert our traditional paper based books into digital format and save it on laptops, computer, and CD ROMs in various available formats. Digital libraries provide a means for secure and easy storage of valuable information that cannot be done otherwise. Using digital libraries we can preserve information for generations, creating heritage where physical records are prone to loss, deterioration and damage. Use of digital libraries reduces time, space, money constraints of physical libraries and offers an easy way to access remote sources in an easy and inexpensive manner.

Books often consume space and so the only finite number of books can be stored somewhere, but the use of digital libraries will overcome the constraints of space. Searching of requisite information among the traditional store of books is cumbersome and time consuming, but digital libraries can be searched in no time using IT based catalogues and searching applications. We can instantly access information from anywhere with the help of desktop computers,

laptops, smart phones, etc. remotely without limitation of the physical boundaries of the information and without the need of visiting the library physically.

It also offers great ability to reach learners with limited time and space. Use of digital libraries has contributed to the seamless transformation of teaching, learning activity into self exploration of highly interactive and inter networked web of resources to move into the world of imagination and opportunities. This is the world of internet where everything is possible & easily accessible, Sharing is easy and tremendously rich collection of resources is available. With the proper use of resources this will change understanding of learning and teaching. Use of digital libraries makes learning, teaching process enjoyable and interesting as learning with the use of images and visual material is easy and fun. The use of digital libraries has raised the quality of education because of the availability of high quality education material at ease to learners. Digital libraries can make use of the internet. Libraries that use the internet are called Internet based digital libraries. These libraries can be updated regularly using an internet connection and these libraries work both online and offline providing up to date information to learners. [2]

It seems digital information will substitute the traditional sources of knowledge in coming times. This has changed the outlook of learner as interaction with traditional books is only one way but interaction is dynamic in case of digital libraries[3]. Digital libraries are economical and inexpensive[4].

In present era of independent environment where learning and teaching is based on information acquired the learners from digital libraries, they play social role in support of empowerment of individuals, support teaching and learning and provide economic, social awareness. Digital Libraries preserve assets for future generations easily and act as means to collect diverse information from various sources and archiving of data.[5]

Digital libraries provide rapid and efficient delivery of information, innovation, ideas and research results on the network. They help in increasing productivity of teachers and students, learners, engineers, scientists, researchers etc by providing them up-to-date information about their area of interest. It enhances cooperation and collaboration between the individuals or group of individuals, institutes etc for efficient exchange of information and results between them. It helped in broadcasting of results and information within no time across the network [6].

Digital libraries can be put to use in rural and remote areas to bridge gap of geographical distances. As the children from marginalized population often lack facilities to participate in formal education system. Schools in remote places can enhance their resource system by the use of digital libraries as digital libraries

provide tremendous education material for students in such schools.[7]

4. PRESENT SCENARIO OF RURAL EDUCATION IN INDIA

Right to education is one the fundamental rights in India and as almost 65 percent of the India's population live in rural areas. As per statistics roughly 85 million people in the age group of 14 to 18 are living in rural areas, rural education is vital for socioeconomic development of India as education is the prerequisite need for social economic, political, scientific development. In India substantial efforts are needed to reform rural education .although rural education reforms have contributed to a large extent but access to proper education and quality of education remain as major concerns. Number of students who have never attended School is nearly 100 million in India which is the largest concentration in the world. In some states like Hyderabad rural development foundation has built high quality schools but enrolment in schools is low. Rural schools have high dropout rate, female ratio attending schools is very low and female drop out ratio is very high. ASER (annual status off education report) show improvement in enrolment figures in recent past i.e.; number of students attending school is raising but quality of education is still miserable in these areas. Academic performance of students attending schools in ideas rural areas is not up to the mark. Reading writing skills of students are very poor and ability to solve simple mathematical problems is below average. The curriculum being same as rest of India this is a matter of concern and indicates that efforts should be made in proper direction to ensure excellence along with expansion in terms of school infrastructure. There are numerous reasons responsible for this miserable condition of students in rural schools like poverty, teacher attendance, attendance of students, negligence of parents, lack of transportation facility to schools, topographic difficulty to access in schools i.e. schools situated on hill tops, near river streams etc and climatic challenges e.g. extreme climate in various parts of country either very hot or very cold , poor infrastructure e.g. lack of buildings, toilets, lack of electricity and water, lack of effort by teachers and government, lack of awareness in rural population etc.[8]

To bridge this Gap between rural India and rest of India in terms of Education ICT and digital libraries can play a vital remedial role by battling the challenges mentioned and strengthening the infrastructure of schools and providing access of teachers and students to vast global information resources. Steps are already being taken by government and non-government institutions for introducing ICT in schools. In 1980s Govt of India has

started programme named CLASS (computer literacy awareness in secondary schools) this is considered as turning point for ICT movement in Indian schools. But, the need of the hour is making ICT fully functional and making digital education accessible to students and teachers to empower them with enormous potential of quality content of digital teaching and learning resources. These digital initiatives can help student benefit from the ocean of knowledge otherwise difficult for him do access. Computer-aided learning (CAL) can result in better results and performance as quality of Education can be improved by group based interaction and better participation done conventional classroom teaching learning can be used with the help of technology in both on campus present and of campus i.e. remote classrooms.[8]

5. CONCERNS

- Training of teachers. Digital aids surely cannot replace teachers but equip them with the power of digital technology. Trainings must be imparted to teachers so that they can handle digital aids properly in classrooms. Teachers need to familiarize themselves with technology to make them realize the potential of digital study material available online.
- Teacher motivation. Teacher's need to be motivated to ensure their participation in digital initiatives In addition to these initiatives, electricity and internet connectivity issues need to be addressed to make them success.
- Privacy and copyright issues.
- IT infrastructure in schools
- Poor connectivity. Connectivity concerns have reduced to a large extent because of access to high speed internet from almost everywhere in India nowadays.

6. CONCLUSION

Keeping in view the present scenario of education in rural India under consideration, it is of paramount importance to provide state-of-the-art ICT facilities, so that the concept of Digital Libraries can be utilized at gross root level. Steps must be taken to bridge the digital divide so that

- Power cuts. Frequent power cuts in remote areas is, the main hindrance in digital classrooms which can be managed using proper backups and alternative sources of electricity like solar power energy.
- Student cooperation. Students must be properly educated to make them comfortable in digital classroom situations.
- Changes in curriculum. ICT can be used in teaching of all subjects ranging from arts to mathematics. Use of digital libraries doesn't need any amendments in curriculum but teachers should be trained and encouraged to use digital libraries as medium of teaching & learning[10]

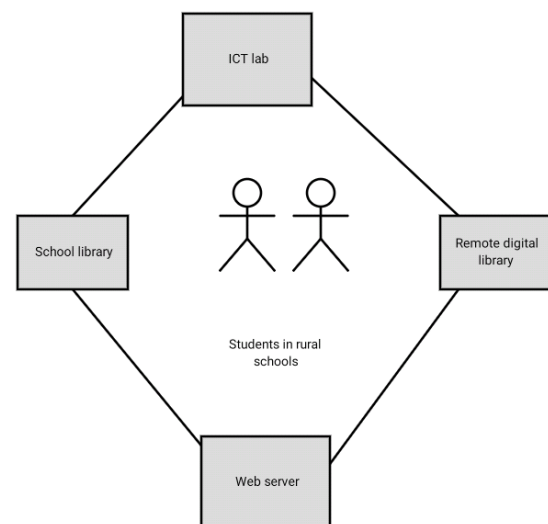


Fig. 2. Flow of Information

everyone can access to digital libraries across the world.

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