ICTs in Urdu Medium Schools in Hyderabad: An Evaluative Study
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Abstract: The use of computers in the classroom is creating a minor revolution in how our children learn everyday subjects like science, maths, history and geography. Multisensory attractive multimedia content is entertaining and educating kids. Introduction of K-Yan technology which is high performance machine is facilitating teaching as never seen before. This is a multimedia computer with TV, DVD, CD player, CD writer, LCD projector, internet surfing all rolled into one. Right now lessons from classes V to VIII are loaded into K-Yan, but students from lower classes are also clamouring for it.

Keywords: Information Communication Technology; K-Yan; Infotainment; E-Governance; IT Skill Education

I. Introduction
Education is a dynamic field where new technologies are adopted from time to time. Teaching aids are no more merely black boards. Now, a wide range of teaching aids is used to make the teaching and learning more effective. Among such teaching devices, ICTs are occupying an important position. Improving the quality of education and training is a critical issue, particularly at a time of educational expansion. ICTs can enhance the quality of education in several ways: by increasing learner motivation and engagement, by facilitating the acquisition of basic skills, and by enhancing teacher training. ICTs are also transformational tools which, when used appropriately, can promote the shift to a learner-centered environment.

ICTs combine text, sound, and colorful, moving images can be used to provide challenging and authentic content that will engage the student in the learning process. Interactive radio likewise makes use of sound effects, songs, dramatizations, comic skits, and other performance conventions to compel the students. ICT-enhanced learning mobilizes tools for examination, calculation and analysis of information, thus providing a platform for student inquiry, analysis and construction of new information. Learners therefore learn as they do and whenever appropriate, work on real-life problems in-depth, making learning less abstract and more relevant to the learner’s life situation. In this way, and in contrast to memorization-based or rote learning, ICT-enhanced learning promotes increased learner engagement. ICT-enhanced learning is also “just-in-time” learning in which learners can choose what to learn when they need to learn it.

ICT-supported learning encourages interaction and cooperation among students, teachers, and experts regardless of where they are. Apart from modeling real-world interactions, ICT-supported learning provides learners the opportunity to work with people from different cultures, thereby helping to enhance learners’ teaming and communicative skills as well as their global awareness. It models learning done throughout the learner’s lifetime by expanding the learning space to include not just peers but also mentors and experts from different fields. ICT-supported learning promotes the manipulation of existing information and the creation of real-world products rather than the regurgitation of received information. ICT-enhanced learning promotes a thematic, integrative approach to teaching and learning. This approach eliminates the artificial separation between the different disciplines and between theory and practice that characterizes the traditional classroom approach. ICT-enhanced learning is student-directed and diagnostic. Unlike static, text or print-based educational technologies, ICT-enhanced learning recognizes that there are many different learning pathways and many different articulations of knowledge. ICTs allow learners to explore and discover rather than merely listen and remember.

Embracing ICT, the Department of Electronics, initiated the Education and Research Network (ERNET) in 1986 with funding support from the Government of India and United Nations Development Program (UNDP), involving eight Indian premier educational institutions. ERNET provides state of the art communication infrastructure and services to academic research institutions and government organizations. ERNET has made a significant contribution to the emergence of networking in the country. It practically brought the internet to
India and has built up national capabilities in the area of networking. It has not only succeeded in building a large network that provides various facilities to the intellectual segment of Indian society the research and education community. UNDP has lauded ERNET as one of the most successful programmes. Now, Indian government and some other bodies had taken more efforts to create more networks and websites for the purpose of educational development.

II. ICTs in Education-Global experiences

Pelgrum W.J. and Voogt J.M. (2000) infer that ICT is currently seen to have the potential to facilitate changes in education that will allow future citizens to be better prepared for the information society. ICT tends to play a facilitating role in managing the increased flows of information associated with more autonomous learning environments.

Chijioke Josiah Evoh (2007) argues that the e-school initiative stands to gain from the experience of developing countries that have successfully integrated ICTs in education through collaborative strategies. Adeyinka Tella et al (2007) while assessing the use of ICTs by secondary school teachers opined that the teachers perceived ICT as being easier and useful in teaching and learning. It was recommended that teacher training and professional development oriented policies should support ICT related teaching modules that encourage both students and teachers to play an active role in teaching learning activities.

Sanchez Jaime and Salinas Alvaro (2008) evaluated ENLACES Network, a national Information and Communication Technologies (ICTs) and Education initiatives designed as part of a series of programs to overcome inequity and quality issues of public education in Chile, by integrating teachers and learners into the knowledge society. Inspite of the structural bottlenecks in the educational and social system, learners have been benefited marginally in terms of class room learning and other competencies according to the study.

A peek into the status of infrastructure in Indian schools indicates that there are inadequacies, especially in Government run schools. Shortage of teachers, lack of sufficient space, and absence of teaching aids are some other ills. The above mentioned structural drawbacks render the schools inefficient in terms of their performance. Poor teacher taught ratio coupled with lack of facilities make the system unviable and hence lead to poor enrollment, higher repeater rate and escalating dropout rate.

The schools run by the Government in Hyderabad are no different. In view of the above Mr. Asaduddin Owaisi, Member of Parliament, Hyderabad provided funds through MPLAD scheme to install ICT devices in 20 schools in his constituency. The present paper is a Case Study of the Use of K-yan Technology in Urdu medium schools in Hyderabad. The details of the case study follows.

III. About K-Yan

The device is called K-Yan, K stands for knowledge and Yan is a Sanskrit word meaning vehicle. Hence K-Yan is a knowledge vehicle. K-Yan was designed and developed by Infrastructure Leasing & Financial Services Limited (IL and FS) an organization dedicated to development of educational infrastructure in India. IL and FS collaborated with IIT Mumbai in the development of K-Yan to meet the urgent need for a low-cost media product specially designed for group learning in schools and other learning communities.

K-Yan community computer combines the functions of a multimedia computer, large format flat screen TV, DVD/VCD/CD player, CD Writer, Projector, Internet, Video Conferencing and Audio – Visual system in a single compact unit. The computer is equipped with 120GB Hard Disk, Pentium IV Processor, 512 MB Ram, Wireless Keyboard and a Wireless Mouse which doubles is a TV remote.

K-Yan has been primarily designed as a group learning device in the classroom setting, for community centric activities etc. K-Yan can be used as a very large screen computer cum television – to enable delivery of interactive multimedia educational content. The cable connection can be plugged into the system akin to a TV without the need for any external interface. This transforms the role of the teacher to that of a facilitator and encourages students to develop an innovative and curious mindset.

K-Yan can be used to view television programs/ videos and can also be used to surf and download appropriate material from the Internet. The high storage capacity (120GB) enables multimedia content to be loaded on to the Hard disk, enabling easy access.

K-Yan’s high performance processor can be leveraged to support multiple ‘dumb’ terminals in a ‘thin-client’ system. Thus with the use of appropriate software, K-Yan can function as a server – thereby reducing the cost of setting up PC-based learning centres for delivering learner centric education (IT skills training).

K-Yan also has a built-in CD writing facility, which can be used to share resources created locally by communities; sharing of lessons plans among teachers, for instance using optional features like the web camera and microphones, K-Yan can be used as a collaborative learning tool with interaction across communities without geographical limitations. It can also be used as a computer for the effective administration of various technology enabling tools for improving administration processes including payrolls, taxation and records management.

The integrated nature of the device therefore makes it amenable for the following applications.

(a) Infotainment: The projection system provides the equivalence of a large flat screen television, which
can be used for community centric infotainment activities, movies, TV etc. These in turn could provide local communities with additional income streams / cost savings.

(b) Networking: Internet connectivity could support extension activities in agriculture, health & nutrition, and provide an e-commerce platform for rural produce. Access to the internet would help rural communities subscribe to other national & international education networks, thereby broadening the horizons of learning.

(c) Mobile Communications: Its portability makes it suitable as a mobile communication center for promotion and awareness programs.

(d) Sharing: Video conferencing enabled by the web-camera and microphone will allow communities in distant parts of the State to exchange and discuss experiences and problems.

(e) E-Governance: Linking the people with government functionaries and administrators through large size web conferencing would facilitate the administration in its public interface.

(f) Technology-assisted education: Being portable, K-Yan can easily be carried from class to class without the need for dis-assembling and re-assembling the equipment. K-Yan, being cost efficient, also helps avoid large-scale investments, which would have otherwise been required for setting up specific Computer Room / AV Room in the school and is an ideal platform to deliver teacher centric multi-media content.

(g) IT Skill Education: K-Yan can be function as a server and configured with multiple terminals through a ‘thin-client’ solution to enable student centric learning and IT skill enhancement.

With the help of K-Yan a physics teacher will be able to explain how a hydraulic brake works. Each part of the machine is highlighted in a different colour while the rest of the screen becomes dark. The movement of each part with corresponding effect on the other parts is shown vividly and remains etched in the child’s memory. All the concepts can be visually shown and explained in the similar fashion. At the end of each module an assignment is given to allow a quick recap of the concept. K-Yan is also equipped to explain concepts from not only from Sciences like chemistry, biology and mathematics but also subjects like history and geography.

IV. K-Yan: A case study

Specifically it was proposed to study K-Yan as a case of ICT Assisted teaching learning tool and its impact in terms of the benefits that are likely to accrue to the students, teachers and the school system.

Data Gathering:

Data was gathered through the Observation method the researcher observed the class rooms while K-Yan was in use and through interviews with teachers and students and principals. The case study was conducted in 20 Urdu Medium Schools in Hyderabad. The process was also documented on Video and part of it was made into a documentary film.

V. Discussion of the findings

The impact of the K-Yan project is perceived to be multilayered and the benefits seem to be many. The following observations have been made by the investigator while watching the K-Yan class rooms in progress and through interviews of students, teachers and the principals.

Group learning is facilitated by K-Yan. Student comprehended concepts better through K-Yan. Even abstract concepts are explained in an easy to understandable manner. Learning was no more a drudgery and is a joyous experience. As the student attends more and more K-Yan classes his/her intellectual horizons improved as revealed through informal interviews. With K-Yan curiosity among students becomes a way of life and questioning and finding answers becomes a habit.

There was interaction between students and teachers in K-Yan classrooms. This is greatly facilitated by wireless keyboard and wireless mouse. The intellectual stimulation in the classroom turned out to be a motivational factor for students to attend to classes. Not only students enjoyed K-Yan classroom but also gathered useful concepts and information thereby helping them perform better in class as well as in examinations. Since attending a class is no more a painful experience students were eager to attend classes without fail.

VI. Benefits to schools

K-Yan is also beneficial to the school system as well. By getting ICT devices installed in the classrooms, the school system can overcome the short supply of teaching aids and non-availability of sufficient number of teachers. In schools where K-Yan was installed, student attendance was far better compared to attendance in other schools. Student’s performance in classrooms is also better than earlier. Some of these factors are likely to reduce the rate of repeater and also may help reduce the dropout rate. It was noticed that there were some structural short comings that hinder the introduction of ICT (in this case K-Yan) like administrative hurdles,
undue delay in installing the systems and power outages. It may be worthwhile for the authorities and school managements to sort out these problems and facilitate speedy introduction of the ICT devices.

VII. Conclusions

1. The ICT device namely K-Yan is helped the students to comprehend concepts better.
2. Student-teacher interaction is on the increase in the classrooms where K-Yan is used.
3. Students are being motivated to attend the classes on a regular basis due to the use of K-Yan.
4. The ICT device (namely K-Yan) is perceived by teacher as a valuable supplement to their teaching efforts.
5. Teachers are not threatened by the ICT device and they are in fact positively disposed to it.
6. Introduction ICT devices like K-Yan is likely to increase the enrollment, reduce repeater rate and also dropout rate.
7. In order to achieve better results from ICTs the school system and the managements ought to eliminate the structural short comings that hinder the introduction and sustained functioning of ICT devices in schools.

VI. References