

Modern Trends in Education: Computer and Information Technology in Rural Education System in India

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Abstract

In today's information age, computers play a significant role. Education, in particular, benefits greatly from their efforts, as they have a significant impact on both the quality of instruction and the quality of student learning. Various resources and technology have been used to improve the educational system. The impact of computers on education and the subject area must be considered by both aspiring teachers and instructors currently in the field. Teachers will gain a better understanding of how utilising cutting-edge technology in the classroom can enhance student learning. An effective learning and teaching process can be achieved using a wide range of computer applications, which will be examined in this paper.

There has been a significant shift in the way students are taught, how they learn, and how schools are run. This transformation is made possible by the use of technology. E-learning, virtual classrooms, and other innovative learning paradigms have been introduced thanks to this technology. Access to classrooms and materials from remote networks is now possible thanks to this feature. A major focus of this study is on the integration of computer technology and information into the educational system in rural India.

Nowadays, information technology is critical in virtually every aspect of daily life. Computer and information technologies have unquestionably had a significant impact on our educational system. The teaching and learning process has been improved by the use of various technologies. Our educational system is more engaging and effective because of the use of modern technology. The government can save a significant sum of money on teacher education programmes by including ICT. Furthermore, resource personnel for training can be the greatest in the world, which can lead to significant improvements in quality.

Keywords: Education system; Computer technology; Effective learning; Technological support; Qualitative improvement.

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INTRODUCTION

During the last two decades higher education institutions have invested heavily in Information and Communication Technologies (ICTs). ICT has had a major impact in the improve teaching and learning quality university context, in organization and in teaching and learning methods (Ben Youssef and Dahmani, 2008).

In today's global and competitive environment,

interactive computer technology is becoming a widely accepted tool for multi-facet development in view of the flexible, quality services it offers and the potential to revolutionize the traditional education system (Sampath Kumar and Manjunath, 2013).

Information technologies in education include computer technologies used to generate course materials such as word processing, presentation programs, database programs, electronic mails, websites, blogs, social networking sites etc. Further, the Information Technologies can be used by faculties for lesson planning, electronic research purposes, for recording and presenting classes online etc (John, 2015).

Computer technology in India has become an almost integral part of school, college, and university education as an additional specialised professional qualification. Students use the internet for communication, entertainment, socializing and education. The web search engine, Google, has become an important source of information. The web searching of these students is strengthened all the more when they enter the university system (Kumar, 2012).

Worldwide opportunities to access the computer and Internet vary dramatically among the different countries and individuals. Among the developing countries, India reached a significant position in development of ICTs. Particularly in the field of education, its development is tremendous. There is no doubt that in the near future, development will be based on ICTs. However, benefits of ICTs have not reached the expected level in the rural areas, and the Indian rural population still lives with minimum level of ICTs.

As per the 2011 census, 72.2 per cent of the population lives in rural areas and the remaining 27.8 per cent lives in towns and urban agglomerations (Sampath Kumar and M.T. Basavaraja, 2016). Keeping the importance of ICT in teaching and learning process, the present study has been undertaken to explore the role of computer and information technology in education system in rural India.

REVIEW OF LITERATURE

McMahon's study (2009) found statistically significant links between the use of ICT in the classroom and the development of critical thinking skills. More time spent in an ICT-rich setting can improve students' ability to engage in critical thinking.

According to Brush, Glazewski and Hew (2008), ICT is a tool students utilise to find out about and learn about new topics as well as difficulties they encounter in the learning process. Information and communication technology (ICT) facilitates the acquisition of new knowledge and helps students better understand core academic concepts through the use of ICT.

Using ICT allows students to interact, exchange, and collaborate anywhere and at any time, according to Koc (2005).

As Weert and Tatnall (2005) have pointed out, learning is an ongoing lifelong activity in which learners modify their expectations by pursuing knowledge that departs from established techniques. If they don't keep up with the times, they'll be forced to look for other sources of information. ICT proficiency will be essential for these students.

ICT has a tendency to extend educational opportunities. Learning may take place at any time and in any place thanks to ICT. If you're taking a course online, you can access it at any time of the day or night. In teleconferencing classrooms, both the student and the teacher can participate at the same time with simplicity and convenience. We can no longer rely on printed materials for education and training in the digital age. Video clips, audio files, and other forms of audio and visual presentation are all readily available on the Internet.

For Kent and Facer (2004), a wide range of computer activities are possible at school, while the home serves as a complementing place for a more limited set of computer activities. ICT is increasingly being used successfully in education, training, and evaluation. ICT is seen as a significant tool for educational reform and change.

Teachers, according to Watts Taffe et al. (2003), can act as catalysts for ICT integration in the classroom. Teaching ICT classes will be easier if institutes provide teachers with encouragement, equipment, and the required technological assistance. Their key duties will include reorganising their classes, devising and implementing new assignments, and coordinating the use of the computer lab through their technology learning specialists or assistants.

According to Reid (2002), ICT provides students with greater time to investigate concepts outside the mechanics of the course content. The teaching and learning relationship is also altered by the usage of ICT. Teachers noted that the relationship between teacher and learner is often flipped when it comes to the use of information technology in the

classroom. Teachers and students have a close bond as a result of the kids being able to assist them with classroom technology concerns. Consequently, the conventional teacher-centered approach has been altered by ICT, and teachers must now be more creative in tailoring and modifying their own course materials to meet the needs of their students.

NEED FOR ICT IN EDUCATION

Information and Communication Technologies are defined as all devices, tools, content, resources, forums, and services, digital and those that can be converted into or delivered through digital forms, which can be deployed for realising the goals of teaching learning, enhancing access to and reach of resources, building of capacities, as well as management of the educational system.

These will not only include hardware devices connected to computers, and software applications, but also interactive digital content, internet and other satellite communication devices, radio and television services, web-based content repositories, interactive forums, learning management systems, and management information systems. These will also include processes for digitisation, deployment and management of content, development and deployment of platforms and processes for capacity development, and creation of forums for interaction and exchange.

ICT has become part of everyday life and all sectors from banking to tourism now depend heavily on ICT for carrying out their transactions. ICT is the convergence of computer, communication and content technologies. It has attracted the attention of academia, business, government and communities to use it for innovative profitable propositions. In order to compete in a global competitive environment, a highly skilled and educated workforce with aptitude and skill sets in application of ICT is inevitable for every nation.

ICTs are a potentially powerful tool for extending educational opportunities, both formal and nonformal, to previously underserved scattered and rural populations, groups traditionally excluded from education due to cultural or social reasons such as ethnic minorities, girls and women, persons with disabilities, children with special needs and the elderly, as well as all others who for reasons of cost or because of time constraints are unable to enroll on campus.

Use of ICT will catalyse the cause and achieve the goals of inclusive education in schools. There is no conclusive research to prove that student

achievement is superior when using ICTs in the education space, either in the developed or in developing countries. However, there is a general consensus among practitioners and academicians that integration of ICTs in education has an overall positive impact on the learning environment.

Role of Computer and Information Technology in Education System

Both rich and developing countries use ICT as a tool for economic growth. It can have a profound effect on society by allowing individuals to connect with each other and raising awareness. It is possible for poor people to have access to markets, health care, and education through the use of ICTs. ICT isn't only about the internet, computers, or telecommunications; it's a conglomeration of many electronic technologies that facilitate information processing and communication, including transmission and presentation.

The use of information and communications technology (ICT) in education has been proven to be successful. An important driving force behind ICT Policy in School Education is the technology's enormous potential to expand access to and improve the quality of education for all students everywhere. The goal of this policy is to provide states with guidance for maximising the use of ICT in school instruction while still adhering to national policy.

The Indian government has designated 2010-2020 as the decade of innovation, with a particular emphasis on ICT-enabled education and the acquisition of ICT skills for students. National policy on education aims to promote an integrated development for rural students' educational and financial emancipation.

Efforts have been made to improve rural education, including

IT buses as mobile classrooms; E-Learning centres and kiosks to improve online education for rural society; Community Tele-centres to meet the needs of ICT learning outside of formal school setting; Bicycle-based connectivity in rural areas; National award for teachers using ICT in schools in the teaching learning process; IT development and the provision of comprehensive formal instruction in information and communications technology (ICT).

SPECIFIC BENEFITS OF USING ICT IN EDUCATION

Student learning is enriched by the use of ICT (Chai,

Koh and Tsai 2010). Now more than ever, students are actively utilising computers in significant ways.

Education has become increasingly dependent on information and communication technology (ICT), a term that includes computers and the Internet as well as electronic delivery devices such as projectors. ICT helps pupils focus on higher-level topics rather than less significant tasks (Levin and Wadmany 2006). ICT aids in the transformation of a classroom into a learner-centered one (Castro Sánchez and Alemán 2011). Students in ICT classrooms are given the authority to make decisions and plans by the teacher since they are actively engaged in the learning process (Lu, Hou and Huang 2010). As a result, both students and teachers benefit from the increased educational flexibility and options provided by ICT.

EFFECTIVENESS OF ICT IN HIGHER EDUCATION SYSTEM

This reliant on flexible reveals how understudies might use ICT in their course educational programmes to strengthen the Indian advanced education system.

1. One benefit of ICT is that residents can improve their educational ability.
2. Second, ICT provides massive online learning resources to office workers via computerised libraries and the internet.
3. To assist students learn more effectively, visual and aural frameworks are often employed.
4. Student-teacher interactions in the classroom can be monitored and analysed using a video-conferencing system, allowing for personalised feedback.
5. It is possible to improve educational output at the local, territorial, and national levels through the use of ICT.

CONCLUSIONS

Our lives have been completely transformed by computers and related technology. With the advent of modern technology, it's become essential to live a normal existence. Computer and information technologies have unquestionably had a significant impact on our education system. Teaching and learning can be improved with the use of a variety of technology. Our educational system is more engaging and successful thanks to technological

advancements. Students will be able to learn more effectively if they don't become bored or frustrated.

ICT-enhanced education will have a positive impact on society if stakeholders are educated about its benefits. Using ICT in various stages of education can improve the quality and standards of education. ICT may be used in both formal and non-formal education, and it will eventually make the students employable and helpful members of society. The government may save a significant amount of money by incorporating ICT into teacher education. Furthermore, resource individuals for training can be the best of the world in terms of qualitative improvement.

REFERENCES

1. Ben Youssef, A. & Dahmani, M. (2008). The impact of ICT on student performance in higher education: Direct effects, indirect effects and organisational change. *RUSC*, 5(1), 45-56.
2. Boualem Benatallah, Fabio Casati, Faouk Toumani "IEEE Internet Computing", Volume 8, Number 1, January 2004, pp. 46.
3. Brush, T., Glazewski, K. D. and Hew, K. F., 2008. Development of an instrument to measure preservice teachers' technology skills, technology beliefs, and technology barriers. *Computers in the Schools*, vol. 25, pp.112-125.
4. Castro Sánchez, J. J. and Alemán, E. C., 2011. Teachers' opinion survey on the use of ICT tools to support attendance-based teaching. *Journal Computers and Education*, vol. 56, pp.911-915.
5. Chai, C. S., Koh, J. H. L. and Tsai, C.-C., 2010. Facilitating preservice teachers' development of technological, pedagogical, and content knowledge (TPACK). *Educational Technology and Society*, vol. 13, pp.63-73.
6. John, S. P. (2015). The integration of information technology in higher education: A study of faculty's attitude towards IT adoption in the teaching process. *Contaduría y Administración*, 60, 230-252.
7. Kent, N. and Facer, K. 2004., Different worlds? A comparison of young people's home and school ICT use. *Journal of Computer Assisted Learning*, vol. 20, pp.440-455.
8. Koc, M. 2005., Implications of learning theories for effective technology integration and preservice teacher training: A critical literature review, *Journal of Turkish Science Education*, vol. 2, pp.2-18.
9. Kumar, S. (2012). Use of computer, internet, and library OPACs among rural and urban postgraduates in Indian universities. *OCLC*

- Systems & Services: International digital library perspectives, 28(3), 144-163.
10. Levin, T. and Wadmany, R., 2006. Teachers' beliefs and practices in technology-based classrooms: A developmental view, *Journal of Research on Technology in Education*, vol. 39, pp.417-441.
 11. Lu, Z., Hou, L and Huang, X., 2010. A research on a student-centered teaching model in an ICTbased English audio-video speaking class. *International Journal of Education and Development using Information and Communication Technology*, vol. 6, pp.101-123.
 12. McMahon, G., 2009. Critical thinking and ICT integration in a Western Australian secondary school. *Educational Technology and Society*, vol. 12, pp.269-281.
 13. Reid, S., 2002. The integration of ICT into classroom teaching. *Alberta Journal of Educational Research*, vol. 48, pp.30-46.
 14. Sampath Kumar, B. T., & Basavaraja, M. T. (2016). Computer access and use: understanding the expectations of Indian rural students. *Quality assurance in education*. 24(1), 56-69.
 15. Sampath Kumar, B. T., & Manjunath, B. (2013). Computer Literacy Among the Students and Faculty Members of Dental Sciences. *Asian Journal of Information Science and Technology*, 3(1), 36-40.
 16. Watts-Taffe, S., Gwinn, C. B. and Horn, M. L., 2003. Preparing preservice teachers to integrate technology with the elementary literacy program. *The Reading Teacher*, vol. 57, pp.130-138.
 17. Weert, T. V. and Tatnall, A., 2005. *Information and Communication Technologies and Real-Life Learning: New Education for the New Knowledge Society*, Springer, New York.
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