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Use of information and communication technology (ICT) in education system

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Abstract

Today we are living in the era of internet and technology. In this article, we will look into the use of online education as a means of understanding the emerging educational paradigm (from a teacher to a student-focus paradigm). Specifically, the focus is on the primary school system in which the aim is to comprehend and explore the reasons behind the emerging trend, the flaws in the existing schooling system, the characteristics and effects of our proposed paradigm. Finally, we conclude that the proposed educational paradigm whereby online education is provided to supplement the current traditional classroom based teaching could become a reality sooner than expected.

Keywords: Classroom-based education, information technology, primary school system, online education

Introduction

Information and Communication Technology (ICT) has an important role in the world since COVID lockdown. In today's Internet era, it has become evident that Internet-based technology now plays a significant role in education, whereby it provides educators with the opportunity to implement a range of new teaching and learning philosophies. In particular, the Internet and the World Wide Web are providing students and teachers with a medium through which the development of information technology handling skills and the use of student-focused teaching paradigms can be a reality. With new software and networked multimedia packages, we see a real possibility of a revolution in the education field, whereby the student would now be the focal point of the learning and the teacher would play the role of facilitator, rather than transmitter. Currently, what schools are still practicing is to have students physically present at their place of study to receive their education. The distance travelled is determined by the school's location from their homes. Lessons are taught by a teacher standing in-front of the class wielding a generally accepted textbook and a ministry of education approved syllabus. The learning is passive. The teacher is merely a transmitter of knowledge, information and facts.

If the transmitter is ineffective, the learning process will thus be prone to failure. In order to ensure that our education system does not become outdated, we need to begin to understand the impact of the Internet on education. If the transmitter is ineffective, the learning process will thus be prone to failure. In order to ensure that our education system does not become outdated, we need to begin to understand the impact of the Internet on education. One of the best words on ICT education by David Warlick.

“We need technology in every classroom and in every student and teacher's hand, because it is the pen and paper of our time, and it is the lens through which we experience much of our world.”

– David Warlick

ICT opens a world of possibilities for the betterment of the education sector. But before we learn of its benefits, we need to understand what ICT is in education management.

Research purpose

1. Importance of Information Technology in Primary Schools
2. Introduction of Information Technology
3. New Teaching Methods
4. Emergence of Student focused ICT Education

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Research Methods

In this research, the results of the work done by other researchers have been used. Therefore, this research is a library-based research using qualitative method.

ICT in Education

ICT or Information and Communications Technology broadly refers to tools and services that handle and communicate information. Some of the most common examples of ICT are mobile phones and televisions.

ICT is widely used in our everyday life, and its need is ever-growing in the education sector. Images, audios, videos, presentations, or a combination of these used for teaching constitute ICT in education. So, ICT in education meaning would be using information and communication to improve the delivery of education in every way.

Technology in education isn't something new, but not many have information about ICT in education industry. This is because ICT comes with several constraints, one of which is ensuring access to electronic devices for every kid. But with more institutes investing in ICT, the problem should soon be resolved.

What is the need and importance of ICT in education?

Today's classrooms are full of young minds who are technologically conscious. By using a combination of audio-visual learning resources alongside the traditional blackboard, institutes can facilitate better learning opportunities for students.

For these children, electronic devices have become a way of life. By using ICT in classrooms, children can be eased into education using tools they are already familiar with.

Apart from making learning fun, there is a lot of impact of ICT in education, such as:

Education For Everyone

ICT provides the flexibility and availability of learning materials to all students. While all resources are available in classrooms, students can also access them outside schools. This especially benefits students who are slow learners or have learning disabilities. Such students can go over the lessons as many times as they need and understand their subjects thoroughly.

The availability of learning resources also benefits students who can't afford to attend classes every day. For students with financial constraints, low-cost electronic devices specially meant for education are available.

Efficient Teachers Training

ICT in education management is not only meant to educate students but also teachers. Regular teacher training programs are essential, and ICT helps train them in their own institutes through online learning.

Training modules saved in devices that can be accessed anytime help teachers complete the training in their spare time. They can continue training without missing classes, which is a win-win situation for students and teachers. Additionally, this training also explains how to effectively use ICT in the classroom and distance learning.

Higher Knowledge Retention

Visual learning is more effective for students than regular chalk and talk. This is because our brain processes and retains images and videos faster than text. ICT equips audio-

visual teaching methods, which boost learners' knowledge retention and interest levels.

But ICT in education system is not limited to resource-based teaching. Educators can also create interactive on-screen and off-screen tasks using ICT. This allows students to explore fun physical and mental activities while learning. Educational games, interactive museum tours, and virtual labs are examples of a few activities accessed through ICT tools.

Encourages Collaboration

ICT lets you collaborate with any institute in any part of the world. And students can do so in the comfort of their classrooms. This considerably saves time and resources while giving access to collaborations with some of the best institutes.

They can also collaborate with multiple institutes at once, organize meets and conferences, and share their knowledge with peers worldwide. Such global knowledge exchange is only possible due to ICT in education management.

Improves Transparency

One of the importance of ICT in education is to maintain a transparent attendance and grading process. The data can be shared with the school authorities, students, other teachers, and also parents. Any issue with a student, such as absenteeism, dropping grades, or bad behaviour, can be discussed with concerned people with the data as a reference.

Data stored using ICT can also serve as proof for any action the institute takes. This eliminates uncomfortable questions and accusations, as all actions are based on proof.

Learner Centred Approach

The need for ICT in education is to create a learning environment that focuses on students. ICT tools address the gap between teacher and learner-centred environments. As ICT gives access to a wide range of information, all students' unique educational requirements are met. Teachers can assess the use of such information through quizzes and exams.

Teachers can find adequate supplementary material off the internet for students who require extra attention. Using ICT, teachers can share those materials either with the entire classroom or with individual learners. Either way, every student has a personalized learning experience due to ICT.

New Teaching Methods

ICT is making it possible to adopt new teaching techniques in institutes. One such technique is the "flipped classroom," where students learn their lessons at home and practice them through practical activities in class. Through ICT, students can effectively learn at home using videos, while at school, ICT engages them in fun learning activities. Teachers can also experiment with different learning techniques and directly check their impact by tracking students' grades through ICT.

Emergence of Student Focused ICT Education

The human factor is still an important part of education. The shift of the teaching paradigm will be facilitated by the use of modern Internet and software technologies. The integration of IT into the education system could be implemented by substituting 1 or 2 days of classroom

teaching with remote teaching from the student’s homes, via the Internet. Student motivation to do work is increased: ”Technology rich schools report higher attendance and lower dropout rates than in the past. Students are found to be challenged, engaged, and more independent when using

technology” (NatTechPlan, 1996)^[3]
 Emergence of use of information and communication technology in education can be easily explained with this table given below:

Table 1: Emergence of use of information and communication technology in education can be easily explained

Problems	Solution
Student not able to apply the knowledge Learnt to different situations	Exposure to and required research from the Internet gives students exposure to variations of the same topic. The Internet provides the materials, but the filtering, selection and content depth of information gathered is up to the individual.
‘One size fits all’ in terms of syllabus being taught, neglects the individual’s potential in Different fields	
Does not encourage knowledge seeking, Advocating only passive learning.	
Content of material limited by the standard Textbook and knowledge of the teacher.	The use of small project groups to work on assignments whereby the students will work together like a virtual team, with discussions done on the Internet.
The teacher not able to monitor the progress of each individual during teaching.	Assessment software to be used to monitor the group’s progress

Enthusiastic environment of teaching learning with ICT in Primary Schools

ICT helps a lot at primary level schools in enhancing child mental abilities and their overall behaviour in school. Students feel enthusiasm and joy while studying through rhymes with music and playable activities through audio-visual aids.

I also implemented ICT in my own school from the past 5 years and found many positive outcomes as increment in student enrolment, excess in attendance percentage, zero dropout student rate, boost the learning power of individuals, enhance interest of students in learning and also helps in achieving the targets of Nipun Bharat Mission.

For proper implementation of ICT in government schools at primary level there is a lack of resources as compared to private schools. We all know government schools have well trained faculties but the problem is the lack of resources in schools. If all the schools be equipped with full ICT resources then the results will be more and better.

ICT such as videos, television, and multimedia computer software that combine text, sound, and colourful, moving image can be used to provide challenging and authentic content that will engage the student in learning process. ICT provides the flexibility and availability of learning materials to all students. While all resources are available in classrooms, students can also access them outside schools. This specially benefits students who are slow learners or have learning disabilities such as autism, dyslexia, dysgraphia, dyscalculia, nonverbal learning disabilities, oral/written language disorder and specific reading comprehension deficit etc.

We can overcome many difficulties and deficiencies in education field with ICT. ICT has proved and done wonders in the field of education.

Conclusion

ICT plays a significant role in the field of education. It helps teachers to adapt the tools and provide and disseminate effective knowledge to the students. It implemented the principle of life-long learning.

ICT in schools effectively promotes the culture of learning by sharing experiences and information with others. It has developed technology literacy among students. It supports activities involving information. These activities include gathering, processing, storing, and disseminating

information.

ICT has proved and done wonders in the field of education. Use of ICT in schools helps in increasing daily attendance report, decreasing dropout rates in schools and also improves in students learning skills.

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