

Effective Use of Information Communication Technology in Teaching

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ABSTRACT: ICTs have become commonplace entities in all aspects of life. For last few decades its use has practically brought a big change in all forms of endeavours within Business and Governance. In Higher Education ICT has begun to have a presence but the impact has not been as extensive as in other fields. Higher Education is a very socially oriented activity. Quality education has traditionally been associated with strong teachers, having high degrees of personal contact with the learners. The use of Information and Communication Technology in Higher Education lends itself to more student-centric learning settings and often this creates some tensions. But the world is moving rapidly into digital media and information hence the role of ICT in teaching is becoming more and more important and this will continue to grow in the future.

KEYWORDS: ICT, Online, Digital, Higher Education, Communication, Information, Technologies

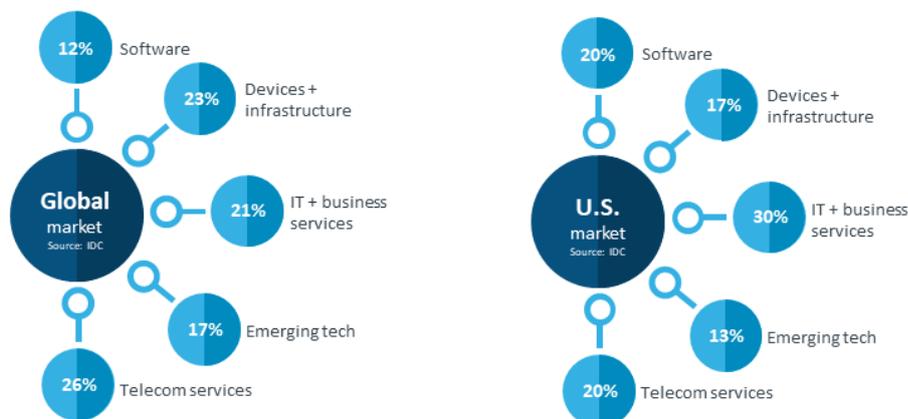
I. INTRODUCTION

Information and Communication Technology is the application of technology in communication and seeking information. It uses computers and software to not only convert and store but also process, transmit and retrieve information. It covers all the products that store manipulates and transmit information electronically in a digital form for example PC, Internet, [2] Email, Web-based subject-matter repositories, learning management systems, Interactive forums, and broadcasting systems.[26]

ICT includes all tools, devices, resources, digital content, forums, and services, and those that can be converted into or delivered through digital forms, which can be deployed for realizing the goals of teaching-learning, enhancing access to and reach resources, as well as management of the educational system. [1]

The higher education system has changed, given that the growth of ICTs has dramatically reshaped the teaching and learning processes implemented in the country [2] Such change is immediately recognizable even as many of the system is comparatively new. Numerous institutions invest substantial resources in building technology infrastructures and offering e-learning professional development programs to faculty[3].

Key Categories of the Information Technology Industry

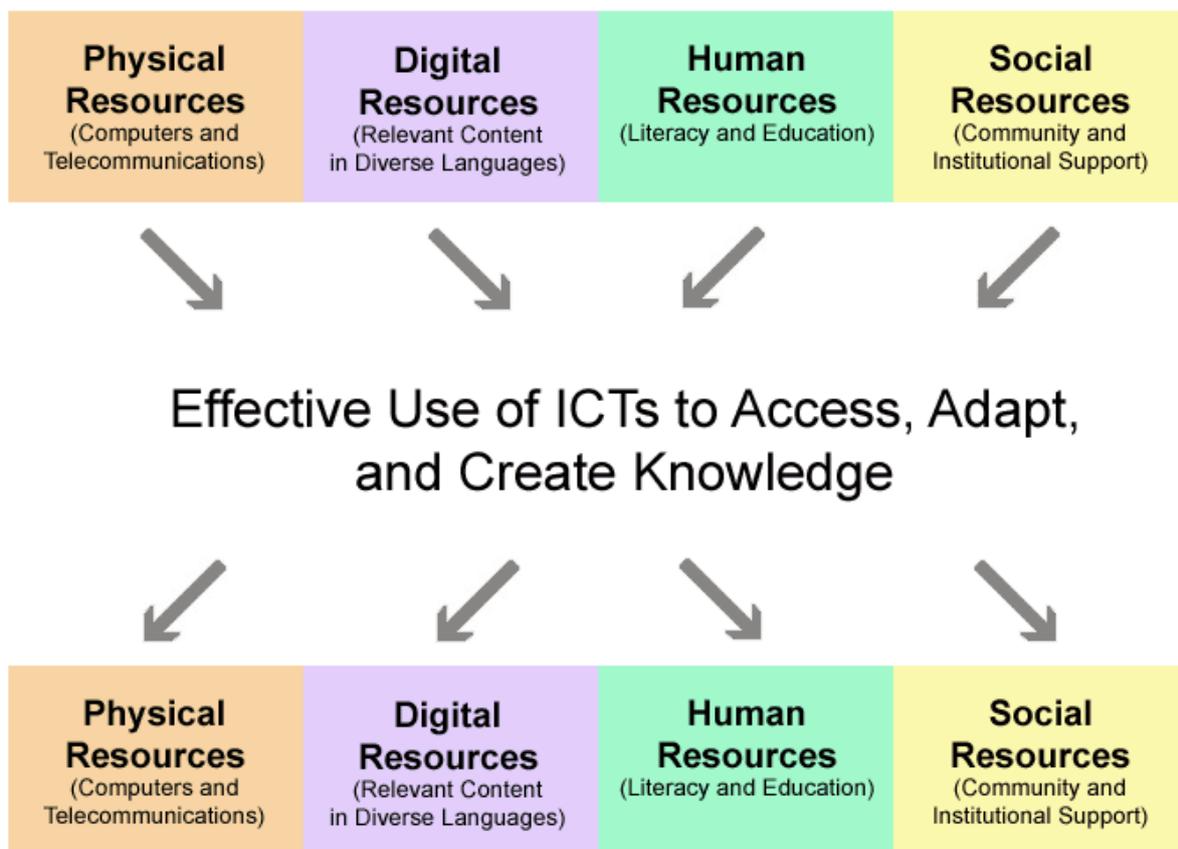


Source: IDC

ICT plays an important role in various sectors like Education, Engineering, Administration, Governance, and multiple services, etc. for many gains. It additionally assists educators with planning their example plans in a compelling, imaginative and fascinating methodology that would result in students' dynamic learning. The compelling utilization of

ICT to help to learn in comprehensive schooling and epitomizes great education for all students. It affects numerous parts of society, including schooling, preparation, and work. Specifically, ICT is an empowering apparatus for individuals with handicaps and extraordinary necessities. One of the primary points of ICT is to assist students to become capable and confident to utilize the fundamental information and abilities procured to help them in their day-to-day routines. It is additionally expected to get the students ready for the future. It intends to assist students with having an open and adaptable brain.[25]

Interaction among the teachers and students becomes easy. It helps them in preparing their teaching, provides feedback. Access to institutions Universities, NCERT, and UGC, etc becomes quite easy. It also helps both instructing and learning, providing innovative study halls with computerized learning devices, like PCs and hand-held gadgets, grows course contributions, encounters, and learning materials, upholds learning 24 hours every day, 7 days per week; constructs 21st-century abilities, expands students' commitment. ICT empowers the utilization of inventive instructive assets and the reestablishment of learning techniques, building up more dynamic cooperation between the teacher and the student and the concurrent procurement of innovative information. It is a lot simpler for them to make group projects, participate and gain from one another. [24]



Information and Communication Technology is an integral part of learning today. Educational institutions are imparting skills in the basic and advanced concepts of ICT. Besides, ICT is used in facilitating distance learning. It enables online Courses of Designing, Delivery, Digital teaching, Assessment, besides the management and networking of a large number of educational institutions. ICT-based system software, CD-based courses, digital libraries, discussion forums, digital portfolios, teleconferences, etc. have made e-learning a reality today.[23]

ICTs have occupied the most important place in all aspects of life. For the last few decades, its use has practically brought a big change in all forms of endeavours within Business and Governance. In Higher Education ICT has begun to have a presence but the impact has not been as extensive as in other fields. Higher Education is a very socially oriented activity. Quality education has traditionally been associated with strong teachers, having high degrees of personal contact with the learners. The use of Information and Communication Technology in Higher Education lends itself to more studentcentered learning settings and often this creates some kind of problems. But the world is moving rapidly into digital media and information hence the role of ICT in teaching is becoming more and more important and this will continue to grow in the future.[22]

II. OBSERVATION

Conventional teaching emphasized content and for years Text Books, Lectures, Tutorials, and Activities were designed to consolidate and rehearse the content. Despite the capacity of PCs to upgrade and change instructing and learning ways, inappropriate execution is a far and wide issue. The contemporary approaches emphasized capability and are more concerned with how the information will be used than with what the information is. Present teaching targets, competencies, and performances via access to a variety of information sources, forms, and types, place the teacher as a mentor or a coach rather than content master. Contemporary ICTs provide strong support for all these requirements and make sound use of the affordances of the technologies which are widely available. Teaching is accomplished by gaining access to higher bandwidths and sharable resources. [21]

An approach that arouses keen interest in the didactic areas and stimulates an individual is communicative. The development of both teachers' and students' motivation in a higher education setting is a crux issue that must be coped up within our educational practice that gets affected by various factors.[20]



The United Nations Educational, Scientific and Cultural Organization (UNESCO), a division of the United Nations has integrated ICT into education, the delivery of quality teaching, teachers' professional development, more efficient educational management, governance, and administration. The United Nations takes an integrated approach to promote ICT in education.[19]

Internet is the most effective way to increase one's knowledge. A highly skilled and educated workforce with aptitude and skill is needed and has become inevitable for every country to compete in a global scene environment. These are the most potentially powerful tools for extending educational opportunities to all who for reasons of cost or for time constraints are unable to enroll themselves in academic institutions.[18]



In diverse cultural and socio-economic contexts, ICTS can be successfully leveraged to reach out to a greater number of students, including the marginalized thereby helping them to understand the technical skills required for many occupations.[17]

ICT improves the quality of the whole education system by facilitating new forms of interaction between teachers and learners. It brings education to the very doors of one's home. It combines technology with traditional education providing greater flexibility and individualized learning facilities.[16]

It has high-speed delivery at a very low cost. Educational administration is also effectively managed. At this time of educational expansion, ICTs can enhance the quality of education in many ways. When the audio-visual is combined with the textbook and the syllabus, it can work wonders by making the students understand the abstract concepts and logic in a very short time. But the manner each technology is used varies. [15]

III. DISCUSSION

E-learning is a concept where learning is via the internet. Similarly, open-source e-learning is fast-growing in education. Educators may use it for free under a software license. The best online learning system is based on Moodle. Moodle is a tool that can be used anywhere for knowledge. It is a free online system for learning a plethora of subjects. The word Moodle was initially an abbreviation for Modular Object-Oriented Dynamic Learning Environment, which is mostly useful to software engineers and trainees. Moodle is a learning stage intended to give teachers, heads, and students with a secure, robust and coordinated framework to establish customized learning conditions. One can download the software onto one's web server. Moodle's development practices include security by design. This means that a security mindset is embedded right from the start in all of the development to deliver a secure platform. For those hosting their own Moodle site, guidance and best practices to enhance the security of installation is offered. It is one of the most trusted and customizable open-source systems. [14]



Moodle is a great place for educators as well which empowers them to take online courses, add tasks, and watch out for their students' advancement and monitor them in a better style. It additionally permits you to speak with the students and support correspondence between them in discussion forums. [13]

It is used by countless schools, universities, not-for-profit organizations, and companies to respond to their education and training needs. Moodle is free software, a learning management system providing a platform for e-learning and it helps the various teachers a lot in conceptualizing the curriculum. Various courses having different course structures and thus facilitates interaction with online students. [12]

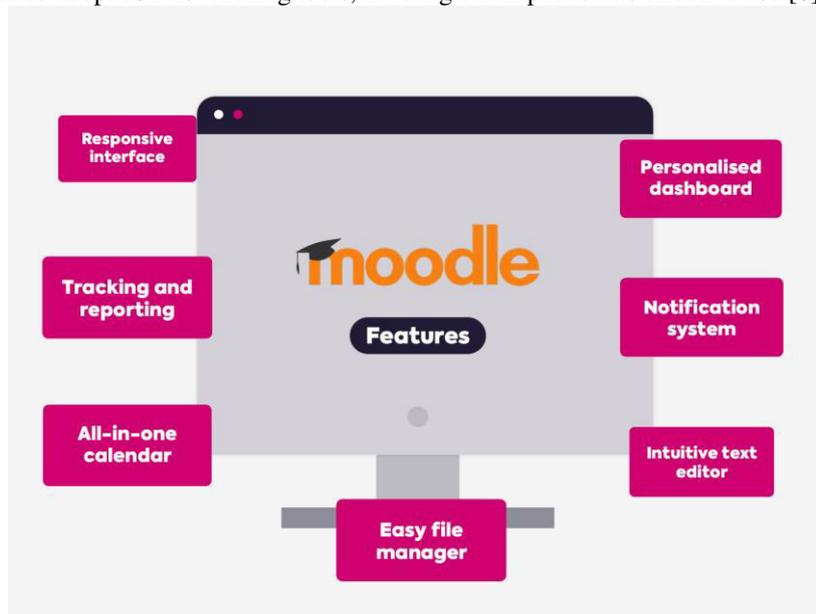
The leading reason why organizations love Moodle is large that it is configurable, highly flexible, and feature-rich. On top of being able to modify Moodle's open-source code, there are hundreds of Moodle plugins that allow one to configure Moodle so it performs just the way one likes. Developed on pedagogical principles, Moodle is used for blended learning, distance education, flipped classrooms, and other e-learning projects in schools, universities, workplaces, and other sectors. [11]

Moodle permits students to get to course materials, gain input, contact mentors, transfer work, see grades, and a plethora more just by signing in to their own dashboard. [10]

If one wants to use Moodle in a real situation with students, one needs either to download and install an instance of Moodle to a server online (which, one is free to do if one has the technical knowledge) or engage a hosting company such as a Moodle partner to do this, allowing to create courses. [9]

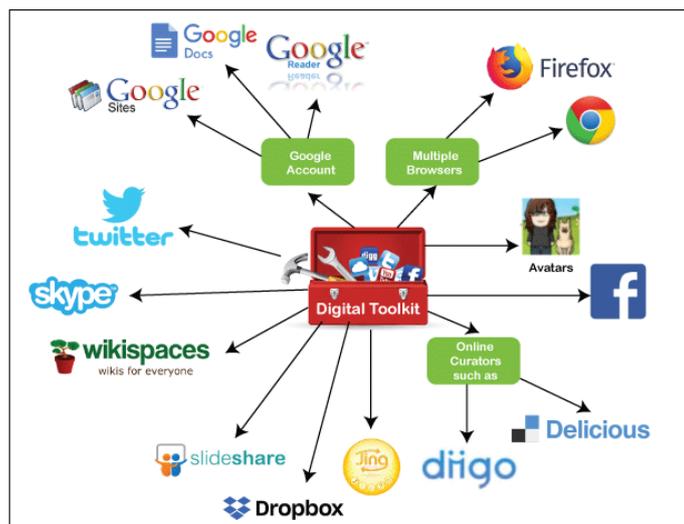
Moodle can be programmed to detect cheating in online classes or during online exams through the use of several tools like proctoring software, plagiarism scanning, or using lockdown browsers. But, still Moodle isn't completely evolved to adapt to enormous large-scale integrated projects. While it could be valuable for universities or colleges of little to medium size, the framework probably won't work productively with bigger schools or fill in an incredible manner as for normal ones. [8]

Moodle shares features, such as mobile functionality, the ability to create tests, assignments, and a content library. [7] Making education Online is one major application of ICT for example, Automation and technology-enhanced presentation (PowerPoint, Video, etc.) A variety of ICT tools and software may be chosen for supporting students learning. When one looks at the teaching in Higher Education, there seems to have been an uncanny lack of influence and far less change than other fields have experienced. Poor infrastructure and funds show little evidence of integrating ICT into everyday teaching. Intrinsic barriers such as belief in more traditional teaching practices, Individual attitudes as well as the teacher's own comfort and their ability to use ICT result in varying effectiveness in Higher Education. Factors like lack of funding to support the purchase of technologies, lack of training among teaching practitioners, lack of motivation and need to adopt ICT as teaching tools, have a great impact on its effective use.[6]



IV. CONCLUSION

In recent times a number of factors have emerged to adopt ICT in teaching and provide support for customized educational programs to meet the needs of the individual learner, growing use of the Internet - www as tools for information access and communication. [5]



ICT plays an important role in transforming the teaching methodology and the way programs will be offered and delivered in the Universities and Colleges of the future. ICT acts as a catalyst for the change in the domain of teaching. ICTs by their very nature are tools that encourage independent learning, flexibility in teaching, distance or off-campus teaching, any time and any place teaching-learning. Examples can be cited from IITs and Higher Institutes where teaching with the help of iPad, Projectors, Smart Screens, etc. saves time and content which is instantly sharable. Online courses which not only enhance the academic status but improve the employability of the students should be

introduced in the curriculum. Courses should be so designed to achieve the three cardinal principles of education policy viz. Equality, Access, and Quality which will bridge the digital divide and help the students to join the mainstream of knowledge. These should comprise video lectures, specially prepared reading material, self-assessment tests, and an online discussion forum for clearing doubts. The best part will be that they will be free of cost and if the students needing certification on successful completion of the courses will have to pay for it.[4]

As Change is the law of Nature so we should prepare ourselves for changing times and adopt various approaches in effectively using Information and Communication Technology in the teaching and learning process.[3]

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