

A study of Himachal Pradesh universities' use of ICT in higher education

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Abstract:

This paper endeavours to focus on the role of ICT in higher education for the 21st century. In particular, the paper has argued that information and communications technologies (ICTs) have had very little of an impact on educational practise in education training to date, but that this impact will grow significantly in the years to come and that ICT will become a strong specialist for change among a variety of different instructive practises. The findings of the study make it abundantly clear that the application of ICT in higher education is rapidly spreading across the many states that make up India. The utilisation of information and communication technologies (ICTs) in educational settings presents a number of challenges, one of the most prominent of which is the requirement to make selections on inventive possible outcomes rather than instructional requirements. There is an increasing amount of pressure, particularly in developing countries, to ensure that creative potential results are perceived with relation to educational needs. This is because higher education in many countries is fraught with serious issues at several levels. The implementation of information and communications technology (ICT) in education provides for more student-cantered learning environments, which frequently results in a range of demands for a number of educators and students. Despite this, the fact that the world is rapidly transitioning into digital media and information means that the role of information and communications technology (ICT) in higher education is becoming increasingly important, and this significance will continue to develop and grow in the 21st century.

Keywords: Communication, Technologies, computerized

INTRODUCTION:

The Higher Education System in India is comprised of the educational programmes that are offered to candidates to enrol under colleges, institutes, universities, and research centres in order to enhance their knowledge for practical implication. These programmes include Diploma, Graduation, Post-Graduation, Doctoral, Post-Doctoral, and Fellowship. There have been a significant number of educational establishments established in India, many of which are held by the government or by private entities. The dissemination of information in the most efficient manner possible is the primary goal of educational institutions. This is accomplished through the efficient use of their various input resources, which include instructors, learning spaces, resource centers, and laboratories. The inculcation of knowledge among incumbents for the purpose of further study or professional competencies is the most common outcome of most programs; however, each programme has its own unique outcomes.

In the realm of information technology (IT), one of the most crucial phrases to know is "information communication technology," or "ICT." Our way of life as well as the society we live in has been transformed as a result of this. It permeates every aspect of our lives and has become second nature to us. Its influence

can be seen in the banking and insurance sectors, as well as in the postal services, biotechnology, bioinformatics, biomedical sciences, the health care sector, telemedicine, media and communications, teaching –learning, library and information services, printing technology, e-resources, digitization of documents, digital library, library networking, e-commerce, and trade, entertainment, and what else? It has made its way into every aspect of our lives, making them more convenient and pleasant.

The term "Information and Communication Technologies," or "ICTs," refers to all digital and non-digital devices, tools, content, resources, forums, and services, including those that can be converted into or delivered through digital forums, that can be used to realise the goals of teaching and learning, improving access to and reach of resources, constructing capacities, and managing the educational system. ICTs can be deployed for the purpose of realising these goals. Not only will these include hardware devices that are connected to computers and software applications, but they will also include interactive digital content, internet and other satellite communication devices, radio and television and telecommunication services, web-based content repositories, interactive forums, learning management systems, and management information systems.

The field of information and communication technology is constantly expanding, and as a result, the range of applications for the services that it produces encompasses almost every facet of economic growth, from education and employment to the implementation of new policies in government. Because of the fluid nature of information and communications technology (ICT), adaptation is required, and the necessity of the same is particularly apparent in the sphere of education. ICT is relevant in bringing together the processes for digitization, development, deployment, and management of content; platforms and processes for capacity development; and the creation of forums for interaction and exchange because it is an effective medium to impart education across the spectrum of educational settings, from the traditional classroom setting to open or correspondence learning. This range of educational settings includes both open and correspondence learning.

The origins of information and communication technology can be traced back to the foundational principles of educational technology (ET). ET is defined as the effective organisation of any learning system through the adaptation or adoption of methods, processes, and products to serve specific educational goals. The inception of information and communication technology can be traced back to these principles. Education technology is involved in the process of systematically identifying the purposes of education, recognising the diversity of the requirements of learners, the situations in which learning will take place, and the range of provisions that are required for each of these. The described has been done since cheap teaching by two different ways. One of these entailed producing considerable qualitative advancements by developing flexible systems and inexpensive learning materials, to name a few of such efforts. The establishment of infrastructure and support systems in relation to ET needs of the institutions was the goal of the other approach, which required the introduction of government-sponsored initiatives that included collaborations with global actors. The government as well as the volunteer sector have made a variety of attempts to mobilise the potential of ET, some of which have been successful, such as those performed by the Maharashtra Knowledge Corporation Limited and Computers of the report.

ICT in Education Curricula for School System

ICT in Education Curricula have been designed at the national level for students, teachers, and teacher educators, and their implementation is currently taking place across the country. 805 MRPs and KRPs from 36 states and union territories received training on the implementation of an information and

communications technology (ICT) curriculum for students and instructors in their respective jurisdictions. been presented in print.

Role of ICT higher education:

At this point in time, the function of information and communication technology (ICT), particularly the internet, in the educational sector plays an essential role. This is especially true in the process of empowering technology to be included into educational endeavours. The education sector has the potential to be the most successful in preventing and removing the adverse effects of information and communications technology (ICT). The role of information and communications technology (ICT) in higher education is being sought after for the purposes of boosting quality, broadening access, and improving operational efficiency across all functions in the higher education sector. Additionally, this is being done in an effort to introduce new dynamics into higher education on both the micro and macro levels.

The curriculum for Information and Communication Technology (ICT) offers students a comprehensive understanding of the fundamentals of technology, including how to operate and use a wide range of technologies, as well as the influence that ICT has on both the individual and society as a whole. Technology refers to the procedures, instruments, and methods that modify the actions of humans. It also includes the ways in which things are done. The advancements in communication, inquiry, decision-making, and problem-solving made possible by ICT are the focus of this field. It is of the utmost importance, particularly at this period of educational expansion and growth, to continue working toward improving and elevating the level of education and teaching that is provided. The use of information and communications technology has the potential to enhance the quality of education in a variety of ways, including fostering more zeal and dedication among students, facilitating the acquisition of essential skills, and enhancing the preparation of educators. ICTs are also instruments that enable and bring about transformation, which, when utilised appropriately, may stimulate the move toward an environment that is learner-centered. ICTs are also tools that enable and bring about transformation. ICTs, which can come in the form of videos, television, and also computer multi-media software that combines sound, transcripts, and multicoloured moving imagery, can be used so as to make available stimulating, thought-provoking, and dependable content that will keep the student interested in the learning process. This content can be used to keep the student interested in the learning process. There has been a recent uptick in the number of colleges and management institutions that are using online teaching methods. Additionally, the development of the Wi-Fi system has contributed to the expansion of the high-tech education system. Within this system, accessibility and accountability of subject information are made readily available to students. The students may now study at their own pace and fully absorb the relevant knowledge whenever it is most convenient for them. Learning through textbooks has been given a lot of weight in the traditional model of teaching, which centres instruction around the subject matter being covered. The instructors ran the classroom and assisted the students in comprehending the topics that were being covered using a combination of lectures, tutorials, and presentations. Students are no longer limited to gaining knowledge through the textbook, classroom lectures, and presentations thanks to the proliferation of numerous educational technology tools and the advent of ICT. Learners in higher education have access to a wide variety of knowledge sources thanks to the internet and technologies provided by ICT. These sources include movies, documentaries, podcasts, and speeches delivered by industry professionals.

The growth of education technology and tools for the creation of digital material has increased the number of people who have access to personalised learning experiences. According to studies and anecdotal evidence, the use of information and communication technologies in education has a number of benefits:

- The presentation of material using ICTs may be made more interesting and appealing.
- Information and communications technologies enable educators to record and continuously monitor the progress of each individual student.
- Information and communication technologies make it possible to personalise the dissemination of educational content that is pertinent to each learner.
- Using information and communication technologies, various educational institutions, groups of students, or groups of teachers can build virtual social communities.
- The use of ICTs makes it easier to learn how to learn.
- The most recent developments in information and communication technologies (mobile tools, cloud-based solutions, etc.) make it possible to implement continuous learning processes in a variety of learning contexts and to provide students with support on demand.

Using ICTs for assessment of learning

Assessment in a traditional educational setting is often restricted to a series of tests at the conclusion of the course after students have completed the curriculum. The comparison of students' accomplishments to a predetermined standard set is the major purpose of the assessments, which are often executed through the use of grades or marks. It has been impossible up until this point to conduct a more in-depth evaluation of the requirements, capabilities, and development of each student. Adaptations of Academic Management Systems, often known as AMS, aim to make assessment easier to handle and better optimised all the way through the learning process. The complete data on students' progress, including the results of multiple-choice tests, portfolios, works in progress, feedback from classroom performances, and so on, can be collected at the desired rate and compiled in the desired format. This includes the data on students' progress in the following areas: These details can be utilised by educators in order to arrive at data-driven conclusions concerning the modification of instructional strategies for each specific pupil.

Using ICTs for effective teaching and learning

When it comes to delivering content to students in the more traditional setting of the classroom, even the most experienced educators are required to rely on tried-and-true instructional methods. As a coercive tactic to maintain attendance in classes, the "one size fits all" approach is therefore problematic.

Through the customization of teaching methods and subject matter to the needs of each individual student, which is made feasible by information technology, education may now be more individualised. This method has recently gained a lot of traction in the realm of e-Learning, but it is also something that can be used in the traditional classroom setting, particularly when individualised education involves the selective distribution of digital information.

The practise of combining several instructional methods into a single instructional plan is known as blended learning. It is typically used to describe a scenario in which a number of different distribution techniques are put together in order to provide a certain course. A combination of traditional classroom instruction, independent study, and virtual instruction over the internet may fall under this category.

IMPACT OF ICT ON HIGHER EDUCATION

Tools that might help professors and students handle writing projects in a way that detects and avoids the dangers of plagiarism and copyright infringement are now available on the internet. When it comes to education, one of the primary advantages of the use of ICTs is that they have the potential to increase both

the quality and the amount of educational provision. However, in order for this to occur, they need to be utilised in the suitable manner:

- Improvements in overall system quality have been brought about as a result of changes to teaching and learning brought about by the increased use of information and communication technologies (ICTs) at all levels of higher education systems (HES).
- Information and communication technologies revolutionise the idea of education taking place within the confines of a building by making it possible for students to study anywhere at any time, freeing them from the constraints of traditional educational institutions such as universities and colleges. The individuals can access the data whenever they want and from wherever they may be learning occurs, giving them a lot of flexibility in their educational pursuits.
- This shift in professional practise enables teachers to design lessons that incorporate more difficult real-world projects by making use of the tools and resources provided by information and communication technology (ICT). This helps develop new educational approaches.
- It introduces a novel approach to the educational settings of the institutions, thereby elevating the standard of education and allowing for the production of high-quality goods.
- since the beginning of this century, the Indian government has come to the realisation that one of India's greatest strengths is its educated population. As a result, higher education has become an increasingly important component of India's ever-evolving policy landscape.
- Because there is a disparity between the demand for and supply of higher education, governments and institutions have been forced to develop policies for making more effective use of information and communication technology (ICT). And in order to close the gap, it is essential for the public and private sectors to work together in order to ensure that information and communication technology is successfully implemented in higher education.
- There has been a noticeable shift in the educational process as a direct result of the introduction of ICT into universities.

Not only is it possible to work with distance learning and achieve a closer collaboration between different universities, but it is also paving the way for a new pedagogical approach in which there is an unparalleled ability to spread knowledge and disseminate information. In other words, it is not only possible to work with distance learning and achieve a closer collaboration between different universities, but it is also paving the way for a new The rapid acceleration of change that has been brought about by advances in technology has had a significant impact on the way people all over the world work, live, and play.

CHALLENGES OF ICT IN HIGHER EDUCATION

There are a number of clear advantages to incorporating ICTs into educational settings; however, there are also a number of challenges. The high cost of acquiring, installing, operating, maintaining, and eventually replacing information and communication technologies comes first. The use of information and communication technologies (ICTs) in education is still in its infancy despite the fact that it has the potential to be of great importance. There is a particularly high opportunity cost associated with the implementation of information and communications technology (ICT) systems for educational purposes in developing nations. This is due to the fact that their installation is typically more expensive in absolute terms than it is in industrialised nations. In contrast, alternative investments (such as buildings) are relatively less expensive:

1. A reluctance, on the part of both students and academics, to move away from more conventional teaching strategies and toward those that are more cutting-edge and dependent on technological advancements. In some cases, the attitudes of various managements in and outside of institutions towards the development of ICT-related facilities such as the Internet and the acquisition of computers is relatively slow, and in other cases, the government does not provide any assistance or support at all.
2. Inadequate information and communications technology (ICT) infrastructure, including computer hardware and software as well as capacity and access; although, the advent of 4G technology has helped address the problem of internet bandwidth to some extent.
3. A shortage of trained employees in information and communications technology The majority of educational institutions are lacking in the number of computer-literate instructors and information and communications technology (ICT) professionals who might support and manage the institution's Internet access and/or the application of computers in the teaching and learning process. In a country like India, where the economy is struggling and the rupee has lost a significant amount of its value, the cost of equipment is quite high. On the other hand, it is important to point out that the issue could neither be a lack of cash nor of technology, but rather a lack of will on the side of the government.
4. India does not have the appropriate infrastructure in place to reap the benefits of information and communication technology. Again, the majority of India's information and communications technology (ICT) infrastructures, such as the internet, telefax, and email, are dependent on various service providers. These services are delivered in a jerky manner and come with costs that are unreasonably exorbitant.
5. The implementation of information and communications technology in educational institutions is one of the most significant challenges because of the high costs that are incurred for the purchase and installation of the most recent software, in addition to the various opportunity costs to institutions for the development of infrastructure. The creation of an information and communications technology (ICT) infrastructure on its own is insufficient to accomplish the objectives of successfully integrating ICT into educational institutions. However, the development of electronic content, as well as its dissemination, selection, and evaluation, calls for extensive networking between users and producers, and the protection of intellectual property rights among the various stakeholders is the primary concern for the comprehensive integration of information and communication technologies in education.
6. There are a number of universities located all around India that provide online degree programmes; however, it is unclear whether or not these online degree programmes are recognised for the purpose of finding work in India. Are these courses considered on an equal level as those that are traditionally offered? Are these educational establishments authorised to provide these online classes? It is necessary to provide responses to these questions.
7. The successful implementation of information and communication technology in educational institutions was made more difficult by a lack of infrastructure that could house the technology, problems with electricity and network availability, a lack of awareness of the importance of the technology, and the use of the technology with incorrect knowledge.

OBJECTIVES OF THE STUDY

1. To have an understanding of the idea behind Information and Communication Technologies (ICTs).
2. To conceive the need for information and communications technology in the context of India.
3. To determine the problems and obstacles that are present in the process of integrating ICTs into the educational system.

CONCLUSION

The realisation of citizenship and the majority of the working force that serves a nation are both developed via the process of obtaining a higher education, making it a very significant subject for any nation. At the moment, higher education structures are expanding at a rapid rate. It is essential to include creative teaching strategies and the most recent technology breakthroughs into the educational system if one want to guarantee both the quality and quantity of the students' education. The use of information and communications technology is spreading across many industries, including education. On the other hand, the relatively delayed adoption of ICT in educational settings might be attributed to the challenges discussed in the article. The increased use of information and communication technologies (ICTs) has resulted in changes to the ways in which teaching and learning are carried out at all levels of higher education institutions, which has led to improvements in quality. The incorporation of information and communications technology into the framework of higher education opens up a world of unfathomable opportunities. The implementation of information and communications technology in higher education not only makes the teaching and learning process in the classroom more effective, but it also makes e-learning possible. The use of ICT has made learning at a distance more effective. Learners are able to access a high-quality learning environment from anywhere in the world and at any time, and the teaching community is able to reach out to more remote locations. It is essential that educators, whether they are instructors or trainers, be encouraged to integrate technology into their lesson plans in order to maximise the pedagogical and educational benefits for their students. Rather than focusing on acquiring computer skills and acquiring software and equipment, a successful implementation of information and communication technology to lead change is more about influencing and empowering teachers and supporting them in their engagement with students in the learning process.

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