

## INFLUENCE OF USING ICT TOOLS IN HIGHER EDUCATION

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### ABSTRACT

In the current education system, the uses of the Information and Communication Technologies (ICT) tools have developed a distinction in the various levels of the education including the higher education. The main objective of this article is to highlight the recognition of the ICT tools in the education field. At all the levels of education field, ICT is useful for enriching the education system. When the instructors and the learners are utilizing the ICT tools and technologies, they are able to do their tasks in an easy and more manageable way. Besides, its application has created a substantial involvement in leading to evolution in the implementation of tasks and roles. Before, the instructors and learners make use of the ICT tools and technologies, it is vibrant for them to enjoy acceptable knowledge and information. The instructors and the learners are needed to be well-equipped with ICT tools and technologies, before implementing them in their education. The key areas that have been considered in this article are the benefits of using ICT tools and the limitations of using such tools and some of the useful tools that can be used in the field of the higher education which are beneficial to both the instructors and learners.

**Keywords:** Higher education, information and communication tools, technologies, learners, instructors.

### 1. INTRODUCTION

ICT stand for Information Communication Technology. ICT tools refer to the devices such as the computers, laptops, printers, scanners, projectors, software tools, online tools and interactive teaching kits. These also include the concepts and techniques used for interaction among the participants, creation, distribution, storage and management of information. The effective utilization of the ICT tools makes the teaching learning process more efficient and productive. It also provides a better way for the teachers for the administration of the classes and the resources. As the evolution of the mobile devices and online tools is enormous in recent years, the students are also more benefited. The Internet and WWW plays a significant role for all these kinds of the activities and makes the individuals and also the institutions to get benefited. Whenever the technological developments are carried out, it is assured that they are beneficial to the individuals, institutions, and societies and overall, to the nation (Meenakshi, 2013). In the recent times, there is an increased interest in how the ICT tools and Internet can be utilized effectively for the formal and non-formal education and older technologies are given less importance. ICT tools have emerged as one of the basic blocks of the modern education system. UNESCO aims that all the countries should have the best facilities of education for the younger generation who will contribute their knowledge for the development of the nation. ICT tools helps for the critical thinking, handling of dynamic environments, decision-making, effective communication and team work.

Technological development, increased growth in the social networks has shifted the education system to a larger extent. The future education system and society depends on the understanding of the strategic education development by all the participants of the learning system (Koryuhina et. al., 2018). ICT has been used from longer days in the assessment process starting from 1920s. Many of the student projects require the communication via the e-mail and the newsgroups from the various states and countries. The students can join in the discussion groups or forums and subscribe to the news or other useful e learning materials. ICT has become a key instrument in the modern world we are seeing and we are living in. Modern business world is executing through the internet with the telephones, fax machines e-mails and other communication systems. This has given rise to the e-commerce, e-governance, e-banking, e-learning etc., (Prof. et. al., 2015).

ICT is a revolution which involves the use of computers, Internet, and the communication technologies in various aspects of human endeavour. Higher Education Institutions have adopted ICT tools for imparting knowledge to the students and the skills required for the education advancement. ICT tools add value to the higher education institutions and also for the management of the institutions. All countries are adopting the ICT in higher education. The faculty and the teaching professionals are to be trained with the ICT backgrounds, to meet out the challenges in the ever changing education system (Sunday, 2015). The use of ICT in the education system is notable especially among the instructors, which in turn lead to the evolution of an approach of multi-dimensional learning approach.

The Internet and ICT are used to add value to the education, manage the classroom and improve the planning and add new dimension to the teaching. The students are to be motivated in the learning. Researches are carried out around the globe and the results shows that the ICT led to the improved teaching learning methods for the students. A study from

National Institute of Multimedia Education in Japan showed that the usage of ICT through curriculum integration has a major impact on student achievement, particularly in subject areas such as mathematics, science, and social studies. The accessing of the technology that supports the learning is a major job (Laronde et al., 2017). The teachers should have enough knowledge to use the ICT which contributes the higher order thinking skills and provides students with the innovative opportunities to utilize their understandings in their society and workplace. There are some issues that are to be handled such as :

- The impact of the technological progress in the society, the needs of the education system and the institutions
- The handling of the developments by the countries and the education institutions
- The skillset needed to change the market
- The response of the higher education institutions in changing demands of learning.
- The impact of the new technologies and the online resources on people's learning.

There are large numbers of the benefits of using ICT. Through the use of ICT, for example, images and videos can be used to teach and enhance student retentive memory; teachers can used easily to explain complex and difficult concepts; the teachers can make interactive classes and make lectures more pleasant, which will improve student turnout and attention. ICT provides remote learners the capability to use online instructional materials, access and use them easily, and provide supplementary tools for resource-based learning to the learner. In contrast to this, teachers with a lack of experience using ICT software can find it difficult to take part this activity into their teachings; setting up the devices may be challenging at times, not to mention budget restrictions and thus, unable to afford the modern IT devices. ICT can also weaken the creativity critical thinking and analytical skills of the students. Computer-based learning has detrimental side effects, such as eye loss or backache. The plagiarism issue is more because many students choose to focus on copying / pasting from the Internet and find it hard to produce their ideas. People no longer find it difficult to read, write, or analyse without computers because of losing handwriting skills. Web pages are accessible by everybody who can influence their physical and mental well-being by playing and watching vicious games, including young children and adolescents. Groundwork takes more time so that the internet can be used efficiently for education. In addition to designing internet-based plans, we have to browse the Internet in order to download the lecture plans and adapt them to support the course objectives or visit sites to choose suitable places for the modules needed.

### Background Study

In the higher educational institutions, for the pursuance of Bachelor's, Masters and Doctoral degrees, ICT tools has become a major part of education. When the instructors want to lectures on certain topics, they can make use of ICT and internet to make their teaching-learning materials. Further, when students can also make the assignments, articles or projects or whenever they need to prepare for tests or want to make the self-assessment, they can use the ICT and Internet. For the doctoral degrees and the master degrees, the individuals are needed to work on the reports and thesis. To acquire adequate knowledge in the topic, and to work on the project report, individuals can make use of the tools and technologies. Preparing and giving presentations and seminars on the advanced topics is considered as a major task in the higher education. These can be done easily and effectively, when students and the instructors are well-aware of the technologies. So, in order to achieve great academic goals in a suitable manner, it is crucial for the persons involved to enhance their technical skills.

ICT is particularly appropriate for providing individualization with its systems that enable individual tracks of education. Integrating the modifications in level, interest, and learning styles between students has been shown to increase the inspiration of students, and ignoring these differences may lead to decreased performance in some of the students (Haelermans, 2017 & A. Trivedi, 2018). Yet, the effects on mathematics and language appear very different, and differences in effects are seen in development-to-development studies versus developing countries. In total, it is thought that the evidence of educational influence is diverse. It is found that the studies with stronger procedural methods (like Randomized Control Trials (RCTs)) generally find negligible or insignificant effects, while studies with low-quality procedural approaches (like multivariate and IV methods) have superior and larger constructive effects.

From the past, computer-based testing has been adopted for the evaluation of the students, particularly on large-scale assessments such as national level exams and the other language proficiency exams such as English IELTS and TOEFL, and many others. It was pointed out that "fill-in-the-bubble" testing has been used widely in the student assessment activities in local, state, and national assessments since the creation of the IBM Type Test Scoring Machine in 1938 (Marina, 2016). In testing using computer as the scoring tool, the assessments are performed using a paper-pencil test in which the questions are printed on paper, and students are asked to fill in the bubble score sheets, for the appropriate answers on multiple-choice question types, and fill in the gaps in some tests. Then the score sheets

are scanned through the computer to obtain the test score. The computer acts as a scoring tool to help examination administrators in the grading process, which is typically a process which involves a greater amount of time in the assessment process of multiple-choice tests. It is stated that the machine, as a grading method, replaces the traditional paper-based multiple choice or filling in the blank test with electronic versions. Even now there are some of the limitations of multiple-choice tests. Nevertheless, it is significant to remember that the use of computers simplifies a more effective and operative grading system, and errors are expected to be minimized.

The testing method by means of a computer and the related technologies, in which the computer acts as the assessment liberator, is known as the Computer Based Testing (CBT). Computer based testing has been used to simplify the assessment process for educators and managers and to enable faster grading of the involvement of instructors by using scanned sheets and making students to take the assessment on a computer. The computer acts in computer-based testing areas the assessment medium, and as the scorer. Also, the computer will assess the test results to check the performance of the test element. It is also noted that to many licensing, qualification, and admission tests currently are carried out using CBT as a typical form of assessment distribution. CBT was a choice or a solitary means of distributing assessments through many large scales, high rewards involving assessment programs. In brief, the assessment process involving the computers and the related technologies has a major role in the modern assessment system.

In the management education, the main aspects that have been taken into consideration are, the improvements in learning accomplishment; putting importance upon adult illiteracy and the elimination of the female illiteracy; increase upon the requirements of basic education and skills expansion programs among the persons and increase in the acquisition of education by the individuals and their families, primarily in terms of knowledge, skills and abilities, which are required for the nourishment of the existing circumstances. In order to pay acceptable consideration on these factors, it is energetic for the individuals to supplement their knowledge and understanding in terms of ICT. The role of ICT has been broadly recognized in progress of skills and abilities among the individuals, so they are able to meet their living opportunities (Desai, 2010).

In higher educational institutions, distance learning is also a significant methodology of learning. Distance learning is the method of learning, when the instructors and learners are living remotely from each other. When they are living at remoteness, then technology is observed to be of greatest implication in enabling education. The learners and instructors communicate with each other through emails, the students send their projects and reports and receive response. They collect and spread the educational information and support the increase of technology knowledge. In this type of teaching learning, students usually acquire an effective understanding of academic perceptions through the internet. Class talks are not planned and this is one of the major weaknesses of distance learning.

With the help of ICT and the related tools, it is possible to encourage revolutions within the system of education. It is vital for the instructors to put into practice, the teaching-learning methods and instructional policies in such a manner that they prove to be beneficial to the students. The ICT can promote student centred learning by making use of internet on a wide-ranging scale. Apart from the use of internet, the students generally make use of MS Office and related open-source tools to prepare assignments, presentations, spread sheets, projects and reports.

## 2. RESULT AND DISCUSSION

### Key Issues related to the significance of ICT in Higher Education

The following are some of the issues to be remembered related to the significance of ICT in higher education:

Provision of Inclusion: - The major benefit of ICT in the higher education is that all the learners of a particular classroom can learn from the subject related materials. Learners can use distinct ICT tools so that they can use them in their educational requirements. In spite of this, it creates up new problems related to the 'digital divide' and offers those who are less privileged with access to ICT resources and tools.

E-Learning: - The ICT tools provide a new way of learning for learners and instructors. Online or E-learning is getting common. Various unexpected events are happening in the lives, opening up chances for the students to ensure that they can access course resources while in the classroom. External learners are also permitted to make sure. One can also learn in class, such as at home or in some other places.

Enhancement of Subject Knowledge: - Now a days, it is known that in the education, ICT tools adds an enormous value to main education areas like proficiency and literacy.

Inspiration Learning: - The demand of new technology for the society has not left out the students and their requirements. With the new technology, learners are captivated, motivated and cheered up to learn the new things in the classroom.

Effective Differentiation Instruction with Technology: - We all acquire and recognize things differently at diverse levels, styles, and the technology offers likelihoods for this to occur.

Improvement in Engagement and Knowledge Preservation: - Learners become more complicated in their work if the ICT is combined into teachings. And the reason behind that is the technology offers numerous chances to make it more pleasurable and fun in the framework of teaching similar things in a number of ways.

Encouragement of Collaboration: - We only need a computer, iPad or laptop in the classroom to recognize how it works. Logically, ICT brings learners together so that the learners can discuss and talk about what they are accurately doing for their work. This in turns opens communication paths that lead to the expansion of language.

Literacy and Capability: - Literacy and Capability are the skills of the current century which are best established in ICT and remain clear in the subject learning framework. Offering them meaningful activities that are embedded in purposeful subject-related frameworks is a great way to develop the ability of ICT.

### **ICT Tools for Development of Knowledge**

- Drawing and Graphics Programs: - Today, visual knowledge is equally important as before making the students to use the drawing or graphics programs to use it for their creativity, adding an image to an article, showing different words by colour, gesture etc., are some of the applications.
- Web Creation and Design: - Essentially, these are the online tools for creation of the web pages. Henceforth the options in knowledge educations are never ending but may be restricted to the instructor's capabilities in ICT.
- Digital Video: - It is a more powerful tool to make the students to develop the language skills.
- Emails: - Emails are one of the best tools for development of the skills in online knowledge. The people are writing online in a different way for the different set of the addressees.
- Web Searching: - In the current century, the skill to find data is an important ability. The existing approaches for steering the internet and e-texts are to be considered.
- Wikipedias: - These are a great information storehouse for the learners and the possibilities for the Wikipedias are widespread, such as web blogs.
- Word Processing tools: - Word processing tools are closely related to the growth of knowledge and linguistics.
- Blogs: - Blogs are a boundless method for learners to cooperate and connect using the online word processing tool.

### **ICT Tools for the Presentation**

- Slide Share – Slide Share is used for the presentations, documentations, graphics, etc.
- Buncee - It is a great tool for the construction and presentation.
- Prezi - It is a great tool used for creation of the online slideshow.
- Prowise - It is a tool for building up a learning atmosphere which is more inspirational and attractive and elevates association.
- Google Slides - By using the Google slides, multiple users can work on the same presentation concurrently.
- Nearpod - Used for the creation of the slideshows those are collaborative using puzzles, pictures, text and queries.
- Peardeck - Through the use of Peardeck, the users can create more collaborating presentations, trainings and valuations to engage each instructor.
- Sutori - By using the Sutori, the users can create presentations for the classroom in a sole timeline format.
- Lesson up - Lesson up is used to create the digital lessons that are enjoyable and charming.
- Mentimeter – It is a great tool for creation of the graphics at an instant.

### **ICT Tools for Imaginative Conceptions**

- Infogram - The Infogram is a tool is used for making and publishing an extreme view of the data in the process of graphs and infographics. It is highly responsive, collaborative and attractive.
- Storybird - By using this tool, the users can create their own book.
- BlendedPlay - The users can create the blended games using their own content.
- Pixton - It is one of the best tools for the creation of the comics.
- Vizualize - With the help of this tool the users can visualize their resume in just a single click.
- Wordle - Wordle tool is used for the creation of the posters.
- ScribbleMap - ScribbleMap is one of the simplest ways of sketching and distribution of the maps.
- Canva - It is a simplified tool used for the creation of the design for print or web content, blog graphics, invitations, brochures, presentations, posters, etc.,
- Visme.co - Visme.co is the ICT tool which is mainly used for pictorial communication necessities.



- Easel.ly - It is a great tool for the creation of the multimedia graphics.
- Vennage - Through the help of this tool we can create and publish the graphics.
- Piktochart – By using this tool, the users can create the multimedia graphics.

#### **ICT Tools for Online Association**

- Asana - For teams, it is the easiest mode to track the work and achieve results.
- Google Spread sheets - In Google Spread sheets, the users can work concurrently on the same worksheet.
- Meister Task - The most instinctive tool on the web for job organization is Meister Task.
- Stoodle - Stoodle makes the process of learning and teaching online from a partner in an easier way.
- Edmodo - With the help of the Edmodo, instructors can attach and collaborate with the participants in the easiest and safest way.
- Seesaw - It is a digital collection for the learners. It is easier to get the tasks done by the learners.
- Google Docs - Google Docs provides the users with the facility of working on the same document at the same time in a collaborative manner.
- Talky - Talky is used for the video chatting and screen sharing for a group of participants.
- Google Slides - Google Slides provides the users with the facility of working on the same presentation at the same time in a collaborative manner.

#### **ICT Tools for Innovations**

- Coggle - Coggle is the greatest way to share complex information. Coggle is a cooperative mind planning tool which helps the users to make sense of complex things.
- Mindomo - It is a tool used to make and share the Mind Map, Skeleton, Duty Map, and Perception Map. It is a mind mapping software for desktop, web, android, and iOS.
- Answer garden - Answer Garden is a tool which enables learners to present their answers
- Postermymwall - With the help of the Postermymwall, the learners can make an interactive poster.
- Popplet - Popplet is used to organize and capture ideas.
- Tagxedo - Tagxedo is a word cloud in diverse motivating shapes.
- Huzzaz - Huzzaz is a place to showcase, collect, and determine the most significant videos.
- Lino it - With the help of the lino it, the users can create and share the canvas with the user and the other online tools.
- ChartGo - ChartGo is a tool for making of the online charts. By the use of this, the users can create a rich and colourful chart.
- Xmind - Xmind is a great tool for mind planning and innovation.
- Timetoast - Timetoast is a great tool used to share the past as well as the future.
- Thinglink - By using the Thinglink, the users can create interactive posters.
- Timeglinder - Timeglinder is an online software program for making and sharing antiquity and forecasting of the project.
- Note App - Note App brings sticky notes, in real- time, to your team.
- Trello- By using decks of lists/cards, it works together on a brainstorm.

#### **Benefits to the Learners by using ICT tools**

The Internet and the ICT tools provide the learners with the resources they need to acquire, and with their knowledge. The learners are also provided with the models that the learners need to attach information to the long-term memory. There are several advantages to the learners through the use of the ICT tools (Trivedi, 2018).

- ICT tools provides a cost-efficient learning system
- It provides the facility for the simplified learner management
- It provides a direct classroom teaching mechanism
- It also provides an improved methods of announcement
- It provides an environment friendly system of learning by the elimination of the usage of paper
- It also minimizes the cost and saves time in the preparation of the learning resources.
- It provides a mechanism by which there is a way for the improved data and information security
- It provides web-based tools that link the instructors, learners, investigators, and intellectuals and edification together.

- Teachers are capable of teaching in a better way with the help of the graphics, video and other illustrative mechanisms.
- The instructors can generate motivating, elegant and appealing classroom doings.
- It provides a convenient and a better methodology of the teaching and learning process.
- It acts as a medium to spread the consciousness about the communal impression of technical transformation in education.
- It helps in the promotion and improvement of the digital culture in the higher education institutions such as the universities, colleges etc.,
- It provides automated solutions to the paper-based physical events and progressions.

#### **Limitations of using the ICT tools for learning**

There are some of the limitations in using the ICT tools for the teaching and learning process which are discussed below. (Miraesiwina, 2020)

- By the use of the internet there are some possibilities for the misleading and misguiding information for the learners.
- There are risk of cyber-attacks and the information hacking in the usage of the internet and the online media.
- It creates a risk in the depletion of the traditional book and handwriting methods which makes the learners to forget those things and rely on the digital media.
- The implementation of the computers and the internet for the education replaces the convention education prospectuses.
- For some of the courses, the management is difficult with the help of the ICT tools and techniques.
- There are many possibilities for the misuse of technology which makes the learners to get diverted.
- Because of the lack of the IT infrastructure in some of the areas, it is not possible to access everywhere.
- The instructors are to be provided with the required knowledge which makes them to handle the ICT tools in an efficient manner.
- The implementation of the computers and the required technical infrastructure is expensive for some of the institutions.
- There is a belief in some of the people that the computers can limit the thinking power of the instructors and learners.

### **3. CONCLUSION**

The use of ICT tools in the higher education has provided a remarkable contribution to both the teaching and learning community. The participants of the teaching learning community not only got enhanced their knowledge but also the tasks are carried out in a progressive manner. The tasks are becoming more manageable with the help of the ICT tools. The benefits attained by both the learners and instructors are enormous in terms of the teaching-learning processes, quality and availability of teaching, education environment, learning inspiration and pedagogic performance. Whenever the higher education institution becomes well-equipped in terms of usage of the tools and technology, then they are able to bring about enhancements in all terms and they can reach their goals in a productive way. The ICT brings the changes in learning are in terms of the many aspects in various kinds of the higher education. In the field of education, the ICT tool brings out the transformations in various aspects. After getting an operative understanding in terms of these aspects, an individual is able to recognize that ICT tools has been interpreting a crucial contribution in enlarging the complete system of education. When individuals get improved their understanding in terms of ICT tools, then they are able to enhance their communication skills. Through this article we have discussed about the several tools that are used in the higher education. The advantages and the limitations of using the ICT tools are also discussed. Even though there are some limitations, the advantages offered by the ICT tools are enormous to both the teaching and the learning community. It is concluded that ICT tools are having a significant influence on the modern higher education system.

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