

A CRITICAL REVIEW OF TOOLS IN ICT (INFORMATION AND COMMUNICATION TECHNOLOGY) FOR THE ENHANCEMENT OF QUALITY EDUCATION IN THE SCENARIO OF COVID 19 CRISIS

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ABSTRACT

A lot of challenges aroused in the field of education during the period of Covid 19 crisis. The present paper throws light on the tools in ICT which played a significant role in the improvement of quality in education in the respective period. In the existing scenario of the knowledge based global world and the prevailing pandemic, the acquisition of knowledge and the process of receiving of knowledge are both of equal importance. Therefore, ICT holds the main responsibility in the information technology and the communication technology. Due to usage of ICT, the teaching learning process is becoming useful, easily accessible and interesting. To reach the highest standards in education, there is a dire need to explore and critically recognize the novel tools in ICT for the progress of the nation. The paper will present a discussion on the different tools and will focus on validating them as trendsetters in the future education scenario to contribute in quality Education.

Keywords: ICT, Tools, Quality, Education

INTRODUCTION

ICT is leading to dynamic changes in the society. ICT forms the basic building block of the modern society. ICT in collaboration with the internet and interactive multimedia is laying

a strong foundation of literacy for the future education. UNESCO(2022) defines ICT as “Diverse set of technological tools and resources used to transmit, store, create, share or exchange information. These technological tools and resources include computers, the internet (websites, blogs and emails), live broadcasting technologies (radio, television and webcasting), recorded broadcasting technologies (podcasting, audio and video players and storage devices) and telephony (fixed or mobile, satellite, vision/video-conferencing, etc.)”Major Owens (1936) “Education Technology and School Construction go together. Modernization, updating education facilities, and making a capital investment in education are all included.”

During the long pandemic period ICT maintained and enhanced the effectiveness of the teaching learning process. A critical incident is an unexpected situation which hinders the development of the planned activity and that, after exceeding a certain emotional threshold, it puts the identity in crisis and obliges that the teachers review their concepts, strategies, and feelings. Thus, these incidents allow us to review our deep beliefs, they can become meaningful resources for training and for upbringing change in the teaching and learning practices (Monereo et al., 2015). Thus, the global crises generated by Covid 19 led to the origin of virtual classrooms, digital technologies and rethinking of the teaching strategies. Thereafter, Education has changed dramatically and the teaching learning process has shifted to digital platforms. According to the Vice President of Tencent Education “I believe that the integration of information technology in education will be further accelerated and that online education will eventually become an integral component of school education.” (World Economic Forum, 2020).

REVIEW OF RELATED LITERATURE

Bajpai et al. (2020) summarized the best practices for ICT usage in a pandemic which have emerged during the global COVID-19 response. The best practices included rapid intervention and prevention, safe and frequent testing, contact tracing and quarantine enforcement and public participation. As per the study, use of ICT for immediate relief and medical response included testing and diagnosis, patient-centric record keeping and case

management, contact tracing and investigation and the treatment included use of ICT in enforcing quarantines and social distancing, application of AI and machine learning for tracking and treatment and hospital management. The paper also highlighted theme of ICT for prevention and long-term resiliency which included more robust and elastic medical supply chains, preserving labour-intensive supply chains, mitigating economic impacts, social media and disinformation. Challenges and pitfalls of ICT were also discussed which showed concern about privacy, inclusion of poor and elderly and maintaining the social contract.

Mohite (2020) studied how ICT can be used for obtaining an effective teaching learning process in today's situation. It was proposed that ICT tools can be used for higher education learners as well as teachers also. Further, it was highlighted that ICT will be useful for enhancing skills such as listening, speaking, reading and writing. Further it was concluded that use of ICT in today's scenario was very helpful to overcome the problem of COVID 19 and the tools were considered as a contact between each other and the continuing education process. Thus, ICT was recognized as on demand.

Yang et al. (2020) discussed their current work in social informatics or health informatics as it relates to the panel's theme and key issues in order to give a comprehensive picture of the function of ICTs during this pandemic around the world. They highlighted the role played by ICT in a global crisis, the effect of ICT on social order when tensions between control, autonomy, and power shift and the consequences of ICT use in a global health crisis, both theoretically and practically. The panel offered a comprehensive analysis of the interactions between ICTs and society during a major crisis. The panelists presented their views on ICT use by non-profit organizations in responding to covid19, global crisis relief through art in imagined communities, governing privacy as contexts overlap during crisis, the covid19 mis-infodemic: reactions from national governments, muddling through an infodemic: ICT acceptance and utilization under the covid19 health crisis and trust in public health information during a pandemic.

Pathan (2021) revealed that the education system was moving online and regardless of the effectiveness of ICT in specific cases, during the pandemic period, ICT still was the main alternative to continuing various types of communications. It was concluded that in reality, the ICT-based or computer-based advancements make little difference for many of their livelihoods. It was observed that the issue that was considered as the most relevant was the ease of communication or information exchange between people. Finally, we came to the conclusion that ICT is nothing more than a way-paver.

Pozo et al. (2021) analysed the activities carried out during the Covid Times through digital technologies and the conceptions of teaching and learning that they reflect. The sample of the study was 1,403 teachers from Spain. The major result of this study was that teachers used reproductive activities more frequently than the constructive ones. It was also found that most of the activities favoured verbal and attitudinal learning and the cooperative activities were the least frequent. Finally, using a cluster analysis, four teaching styles—Passive, Active, Reproductive, and Interpretative—were identified based on the quantity and type of digital tools used. The study found that prior use of digital devices resulted in the most consistent changes.

Sharma (2021) studied Education through ICT Initiatives during the Pandemic in India. She examined a few such initiatives which have significantly contributed in making it possible for education to reach the remotest corners of the country with the help of technology related tools. The initiatives which were recognized were ICT initiatives for continuing the Learning Process; National Level ICT Initiatives which included DIKSHA (Digital Infrastructure for Knowledge Sharing, Manodarpan, Swayam Prabha TV Channels, All India Radio ; State Level Initiatives which included Chhattisgarh - Education at your doorstep Initiative, Kerala - KITE initiative, Madhya Pradesh - DigiLEP Initiative, Maharashtra - The Learning from Home Package; Individual Initiatives which included SmarterED Platform, Digital Daan, Individual Efforts of the Teachers.

Thaqi and Thaqi (2021) shed light on the importance of ICT sector via students/pupils' perception of the effectiveness of online learning methods during the COVID-19 pandemic

in case of Kosovo. This paper uses an online survey that is disseminated via social media to accomplish its aim.. The sample in the analysis were pupils and students from the private and public schools/universities in Kosovo. IBM SPSS Statistics which was used for data analysing included Descriptive Statistics, Frequencies, Pearson Correlation and Chi-Square Test of Independence. The paper gave the conclusion that private schools/universities in comparison with the public ones in case of Kosovo are in advantage, they are well prepared regarding ICT and during online teaching have used more effective methods including Google Platforms such us: Google forms, Google meet, etc. The study included further recommendations for schools/universities in particular and in general for the Government exactly Government Spending in ICT Sector in case of Kosovo.

Lynch et al. (2022) seeked to explore social work educators' experiences of using technology to teach during the COVID-19 pandemic. The study analysed the data gathered from an international study that sought educators' views on various issues related to working during COVID-19. The data was analysed using a thematic approach and the results showed that social work educators, in general, were favourable to online teaching. Despite the fact that the results pointed up important issues that needed to be taken into account in the context of growing digitalization and the lack of clarity surrounding when a return to a comfortable teaching environment would be possible. The findings of the research were considered in terms of a social work education informed by critical pedagogy. The results of the study had implications in terms of finding a workable balance between face-to-face teaching and online instruction.

ROLE OF ICT IN EDUCATION

ICT in Education is a mode of education which makes use of technology (both information and communication) for the support, enhancement and optimization of the delivery of information. The advantage of ICT in the field of Education is to the stakeholder in education and in revolutionizing the system of education. According to Eng (2005) "ICT is relevant, that it positively contributes to learning in schools, and for it to be effective, it

takes intentional effort of all the species in the school ecosystem, that is the principal, teachers, parents and students to make it work.”

The usage of ICT prepares a student to face the upcoming challenges and fulfill various responsibilities while the teachers need to use it as an integrated tool in the field of education (Kumari & Kiran, 2016). ICT integration has proved to be very effective for both teachers and the students. The well-equipped preparation of teachers with ICT tools and various required facilities along with the professional development programs are the main factors in success of technology-based teaching and learning and in the enhancement of quality education (Ghavifekr and Rosdy, 2015).

ICT leads to effective delivery along with the easy accessibility of education regardless of time and geographical barriers. Due to the feature of flexibility, it can influence the scenario of teaching learning process. Further, ICT leads to the provision of rich environment and motivation for teaching and learning. It offers new possibilities for learners and teachers, which has a great impact on the learning outcomes and achievement. The availability of scholar materials fosters better teaching and improved intellect of students. ICT integration proves to be successful in education (Amin, 2013).

According to a study by Zafar (2019), “ICT has significantly increased human knowledge seeking, turning the world into a small village with higher living standards.” Teaching with educational ICT can enhance students active learning only through joint, coherent and multi-level efforts. Rapid changes in technologies are indicating that the role of educational ICT in future will grow tremendously in the education. Hence, educational technology holds the key to the future of education, and we must support, coordinate, and integrate our efforts to create a progressive techno-civilization.” ICT is more often used for reproduction than for constructive purposes, which makes it difficult to incorporate efficient digital tools into the curriculum and help students develop 21st-century skills (Pozo et al.,2021).

INNOVATIVE TOOLS OF ICT IN EDUCATION

“Teachers within the school have used pedagogical approaches through which they have encouraged the active participation of students in lessons.” (Duraku and Hoxha, 2020).

ICT makes use of various tools to enhance quality in the field of education and they must be critically reviewed.

- Firstly, the role of internet has encompassed all the levels of education and infact all the aspects of life. According to Chomsky (2002), “The internet could be a very positive step towards education, organisation and participation in a meaningful society.” The existence of web in the schools leads to integration of technology and a modified delivery of curriculum. On the whole, World Wide Web can be used as a resource for preparing learning objectives for each grade, for building up the instructional content, for planning a range of different activities, for providing information to the students, parents and at large the community about the school, online resources for the staff such as email, information about educational issues and educational scenario, information for schools along with legal information and content for state education agencies such as state curriculum frameworks. Thus, the websites which are well developed and maintained, further lead to the enhancement of community relations for the educational agencies. Web – Based Conferencing also uses internet and it involves the transmission of text, graphics, audio and visual media; further making communication possible which can be both synchronous and asynchronous. ICT also plays a significant role in live chatting through various internet services such as Internet Relay Chat (IRC), which helps in group discussion. Group Discussion will include a group of individuals with common interests and it will serve as a platform for exchanging views and opinions with each other. Another contribution is E-Modules which are written, converted and stored into the digital version in a computer, which can be easily accessed by any

user through the internet. During the pandemic, the world wide web was significant in the field of Education.

- Secondly, E-Learning is an effective tool of ICT which is a mode of learning in which electronic devices and internet are used. E-Learning is also called Online Learning. It uses internet, intranet, extranet and all the stakeholders in education are connected. The tool of E-learning is found to be effective but the effectiveness varies from individual to individual. The factors which are essential for making use of E- Learning initiatives to improve performance are time, technology and support from IT experts. During the pandemic, E-Learning proved to be a boon in the field of Education. Gradually, the concept has gained importance and online learning is obtaining prevalence, although the large orientation of the concept may present challenges. In the broader view, the acquisition of new understandings due to the E-Learning initiative gives direction to the learning outcome. For online education various platforms such as Google meet, zoom, Microsoft teams webex etc. are used. Open and Distance Learning is also a significant benefit service which is availed through ICT. It allows easy accessibility to all and greater participation and interaction. It facilitates directed instruction, learning by doing, self-learning, problem solving, information seeking, analysis and critical thinking as well as the ability to collaborate, communicate and learn.
- Thirdly, teleconferencing in education has also played an important role. The two types of conferencing are: audio conferencing and video conferencing. Audio Conferencing involves the exchange of voice messages over a telephone. It also allows low – band width text and still images can also be exchanged. Non-moving visuals can be added using a computer keyboard or by writing or drawing on the graphics tablet or a whiteboard. Video Conferencing allows the exchange of voice and graphics both along with the moving images. Video-Conferencing technology does not use telephone lines instead it makes use of a television network or a satellite link.(Ratheeswari, 2018)

USE OF ICT TOOLS TO THE STAKEHOLDERS

For Teacher

ICT is supportive in the professional development of the teachers as a teacher can learn various skills, fulfill various certification courses, attend various in-service trainings and workshops and above all the subject content to be taught can be made better, lucid and more appreciable. A teacher can improve upon knowledge, update numerous information through e library and other e-resources and various expert talks and conferences can also be attended online. ICT has provided with various platforms such as e-classes through which projects, assignments, content, homework, all can be easily managed and made available to the students. For a refined teaching learning process to take place, a teacher can use online materials as learning materials for the learners. ICT also assists in the framing of curriculum and handling of various sociological and psychological issues. (Mohite, 2020)

For student

ICT helps the students to learn from online resources and they can learn with flexibility of place and time. Online meetings can bring teachers and students close and they can share their experiences effectively. Due to ICT tools, the teaching and learning process of the student did not stop, even in the pandemic scenario. Quality education depends on different factors such as continuous development of skills, keeping the learners motivated. ICT serves as an effective tool of educational transformation and it builds a learner-centric environment. (Mohite, 2020)

The interactive lectures prepared using the technology keep the students highly motivated and satisfy their curiosity about learning. Due to the new educational setup and the ICT tools, the learning outcomes, skills of the learner have increased drastically and has achieved higher standards. With the advancements in technologies, accessibility to the learning content has improved. (Usmani, 2021)

For Parents

ICT has been a boon for the parents also as now they are in close linkage with their child's performance and academic growth. Using the world wide web, they can learn different strategies to nurture their child, handle them and provide them with an environment which is needed for the adequate development and progress. E-Learning platforms has provided a transparency to the parents and they can understand their child in a better manner and can act as an efficient mentor and guide. The worldwide ways of effective parenting can help them in growing up their child, physically, mentally, socially and emotionally strong.

For administrators

Due to ICT, the educational administrators and planners fulfil their professional responsibilities appropriately and they remain informed about the recent advancements in the field of education. They remain aware about the working of the teachers, functioning of the educational setup, the achievements of the students and work performed for the development of the school. Thus, on studying the whole process, they can chalk out activities for the welfare of the educational levels and further they are in a state to make further decisions about aims, objectives, plans, strategies, resources etc. (Mangal & Mangal,2005)

For Counsellors

ICT provides great benefit to the counsellors as well, which are a significant part of the teaching learning process. The technology helps them by giving proper access to the required sources and allows an effective communication and interaction with the needy individuals. ICT leads to the desired outcomes in the educational, psychological, personal, vocational guidance and counselling to the parents along with the learners. With the use of various electronic devices, the counsellors can manage all the data i.e. interests, aptitude etc. which can be used for guidance. (Mangal & Mangal,2005)

For Educational Researchers

ICT provides with the details of latest environment in the educational field which help the researcher in finding their area of research for further development. There are many sources on the internet which enable the researcher to get a diversified, pinpointed information which is reliable and based on which the research activities are carried out. The product and process of education throughout the world can be accessed anytime, anywhere, which helps in a good research work and the scientific management leads to an efficient educational effort. Thus, the educational goals and objectives are realised in the true spirit with the support of ICT.(Mangal & Mangal,2005)

CONCLUSION

The combination of traditional teaching methods and the learning management systems will work as a blessing even after the pandemic and will contribute in improving the teaching learning outcomes leading towards the progress of the nation.It is essential to design a well-equipped teacher training program related to ICT,to meet the demand of teachers in the present scenario. Thus, the stakeholders must critically understand the different approaches to ICT, so that quality education can take place.

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