Chapter 58
Role of ICT for Community in Education During COVID–19

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ABSTRACT

COVID-19 is an infectious disease caused by a novel strain of Coronavirus. COVID-19 was declared a global pandemic on 11th March 2020, and it has impacted almost every aspect of human life. Education is crucial to individuals and society, and COVID-19 has affected educational systems worldwide. According to UNESCO monitoring, over 100 countries have implemented nationwide closures, impacting nearly 90% of the world's student population. In this chapter, the authors discuss how ICT is helping the community during COVID-19 and how it is catering to the young population's education needs. The demographics of COVID-19, along with an aging population, are explored. The authors then focus on the education sector and the challenges for education from school to universities. Furthermore, they look into how ICT facilitates education in the COVID-19 pandemic and the issues and challenges ICT faces in implementing online education. In the end, they discuss the role of ICT in developing communities and the future directions of online education for the development of smart communities.

INTRODUCTION

Education raises people's productivity and creativity and promotes entrepreneurship and technological advances. Also, it plays a very crucial role in securing economic and social progress and improving income distribution. Countries all over the world understand the importance of education and are working

hard to improve educational needs by implementing various government policies (Abbott et al., 2019). These policies directly impact all the forms of the education sector, such as pre-schools, kindergarten to higher education, and then the university level education. The students and teachers are affected most by these educational policies. Therefore, policymakers play a very significant role in economic education growth. That is why an enormous amount of attention is paid to create a productive learning environment by designing a smart curriculum and infrastructure for quality education.

ICT enhances the ability of learning. It provides a medium where teachers and students, and other education community members can interact and improve the education management system from the class level to the education sector on a national level.

For centuries teachers are teaching by using books and delivering lectures using traditional methods, which are quite hard, and teachers must work a lot to make lectures interactive. Quality education depends on the factors like keeping learners motivated, continuously developing their skills, and training teachers to stay updated by providing the latest knowledge and information about their courses and area of research. ICT serves as an educational transformation tool. It creates a learner-centered environment. ICT applications and tools training help the teachers integrate the traditional teaching method to the state-of-the-art ICT based effective education system. In a smart ICT education system, teachers can access the recently published material and break down the learning outline into activities and lessons to gain more content consolidation and rehearsal for the students. The interactive lectures keep the students motivated and satisfy their learning curiosity. Student learning outcome has increased rapidly. Students have developed the necessary skills which are required in real-time. Accessibility to the learning content is improved with advancements in technologies; teachers and students can upload and download learning material in the system by using their phones or laptops anywhere.

ICT based modern technologies in the education system benefit the teacher and the student to get the education of real value. These tools are used to improve the skills of the student. The hybrid combination of traditional teaching methods and learning management system is used in developed and developing countries. However, this hybrid combination of education and learning management tools were never taken seriously. The ICT was not entirely integrated into the learning management system as we have learned that during the current world pandemic, COVID-19.

In recent months humanity is facing a new challenge in the form of COVID-19. Most of the education system around the world is shut down. This pandemic is forcing ICT in the limelight more than ever to adapt and help community educational needs. Institutes are forced to use technology in the education sector. The world understands now that education is not bound to venues anymore.

In this chapter, we will discuss the community needs and how ICT can cope with those needs effectively. Afterwards, COVID-19, and educational challenges are discussed. In the end, the conclusion and future works are provided.

Literature Review

Centuries have passed that people are learning from their surroundings and the institutes. Like every other system, the educational sector is also taking smart steps to improve education quality (Mikropoulos, 2018). In today's era, where the Internet is ubiquitous and is easily accessible, especially in developed countries, educational policies are now changing from the traditional teaching approach to electronic education. With the exponential growth in ICT tools and technologies, people can learn, unlearn, and

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