

Role of Information and Communication Technology (ICT) in Education System in COVID Times

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Abstract- Information and Communication Technology has helped the humankind in almost every facets of life. Since its evolution, the applications of ICT finds its presence inevitably in the fields of governance, education, medical, transport, aviation and in household equipment etc. The role of ICT has become more meaningful in the days of pandemic COVID-19. The whole world has become dependent on the successful working of ICT to execute various functions, specifically related to the professional lives. This paper discuss the role of ICT in the field of education to help children, young students and scholars to keep in touch with their teachers and mentors, to keep their study in continuity, in the adverse times of pandemic.

Keywords- COVID-19, Digital divide, e-Education, ICT.

I. INTRODUCTION

COVID -19 has started spreading in India in the beginning of the year 2020. Covid-19 is caused by severe acute respiratory syndrome coronavirus- 2. It is highly transmittable and pathogenic viral infection [1].The rate of infection of the individuals of India from COVID-19, is represented in Figure 1. Due to the contagious nature of COVID-19, the only way to keep oneself safe from it, is to keep proper hygiene, strong immune system and to maintain physical distancing. The government bodies across the world have responded actively to combat COVID-19. Various advisories on the protocols that are to be followed to contain the spread of COVID-19 are issued by the government bodies and the individuals of a country/ region are ought to follow the advisories/ protocols issued from time to time.

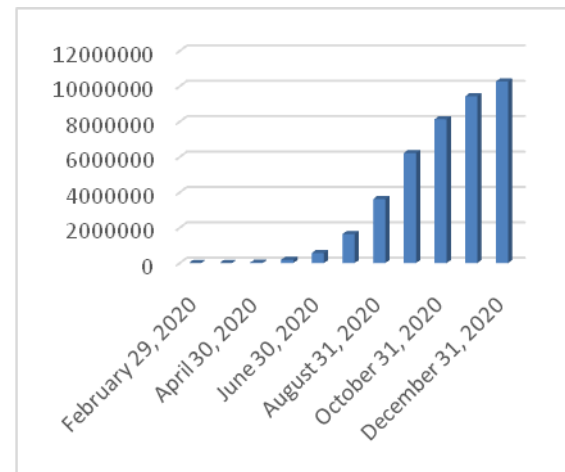


Figure 1: Rate of Infection from COVID-19 in India[2,3].

Penalty in the form of fine or imprisonment have been put in place by the government bodies, so that people shouldn't ignore the advisories/ protocols on COVID-19. The effect of COVID- 19 on education system is discussed in Section 2. Section 3 discuss the role of ICT in education system, to help the stakeholders to keep the teaching- learning process in continuity, when social distancing has become a norm. Section 4 identifies the challenges involved with e-Education system in India. Section 5 is about the conclusion of the present research paper.

II. EFFECT OF COVID-19 ON EDUCATION SYSTEM

In the month of March 2020, Ministry of Human Resource Development (HRD), Government of India has issued the advisory to the chief secretaries of all the states to aware people, schools and students about the threats and risks associated with the novel Coronavirus and how to take preventive and protective measures to combat it. It has been specifically advised to avoid public gatherings [4].It has been argued by Aaron E. Carroll that closing schools can be a right step to contain the spread of a contagious disease like Coronavirus. This is because of the fact that children are more sensitive to COVID-19 as compared to adults and as a result thereof, children are the most possible carriers of the virus [5].Educational institutions such as universities and colleges

including schools in India are closed since March, 2020, when the first lockdown was imposed in the country [6]. Since then, the majority of the educational institutions have been shifted to e- Education. e- Education has been used in the present paper to refer to delivering education to the students through digital means using the applications of ICT.

III. ICT AS A BOON FOR EDUCATION SYSTEM

ICT is an umbrella term that covers various fields of computer science and its applications such as networks, database systems, computing devices etc. ICT has started its participation in the public sector activities in 1970s [7]. After the outbreak of the pandemic and subsequently after closure of the educational institutions, the physical mode of education has been shifted to online mode and has given rise to e- Education. The educational institutions have taken initiatives in the direction to provide education to the students in an online mode by harnessing the capabilities of ICT. Various social media applications as well as specially developed applications for conducting virtual group meetings have become de facto solutions for conducting online classes. The faculties have created their accounts in various meeting apps such as google meet, zoom and such other apps. The online mode of classes has helped the students to actively participate in the learning process. e- Education has resulted out to be a fruitful alternative to continue teaching- learning process in the difficult times of pandemic COVID- 19, when social distancing is the basic rule to follow. However, it has resulted in various challenges. The following section discuss the challenges that have been emerged with the adapted digital teaching- learning process.

IV. CHALLENGES WITH ICT BASED e- EDUCATION SYSTEM

The government in India is working to make India a digitally empowered economy by enabling every resident of the country to have access to the digital resources [8]. However, not whole population of the country has reach to the mobile phone/ computer and internet, which are the basic requirements to realize digital access. About half of the population in India do not have access to internet [9,10]. It has resulted in a digital divide among the population of the country. Digital divide refers to the gap between the population of a country or of a region who have access to the ICT resources and who do not have access to such resources or have restricted access to such resources. Usually, the poor population of the country lacks access to digital resources and as such they remain excluded from the services offered by the government and non- government organizations in a digital mode. The digital divide has resulted as a major roadblock in

the direction to impart education through ICT based mechanisms, to the students who belongs to poor families. As such not all the students of the country are able to keep pace with the adapted digital teaching- learning process [11,12,13].

V. CONCLUSION

The present paper specifically discuss the role of information and communication technology in imparting education to the students of the country in a digital mode in COVID times. It has been found that ICT has enabled the teaching- learning process in the times of pandemic, where physical distancing is a basic protocol that has to be followed mandatorily as per the guidelines issued by the government bodies from time to time, in order to contain the spread of COVID- 19. Due to the presence of digital divide, the challenges involved with the adapted digital teaching- learning process has also been discussed. A further study could be carried out in the direction to provide solution to the challenges discussed in the process of adapted teaching learning process, so that no individual student should be deprived from e- education.

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