FIGHTING COVID-19 THROUGH DIGITAL EVOLUTION AND TRANSFORMATION IN THE EDUCATION SECTOR

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Abstract: The COVID-19 and the social distancing that followed since the advent of epidemic have affected all walks of society including the education sector. In order to keep going, all the educational institutes have adapted to the changing situation depending upon the need of the hour. This has given a rise to the online learning. In the closures since March 22, 2020 form Nursery to University Level; all scheduled examinations during this period were postponed. The entire education forum was in a dilemma and is still in a dilemma with regards to the present and upcoming academic sessions. This pandemic situation has given a momentum to the online teaching with a transformation from chalkboards to digital platforms like Cisco WebEx, Google Meet, Zoom, etc. The present study is an attempt to assess and understand the impact of COVID-19 on online teaching and learning process.

Keywords: COVID-19, online learning, social distancing, epidemic, pandemic, momentum.
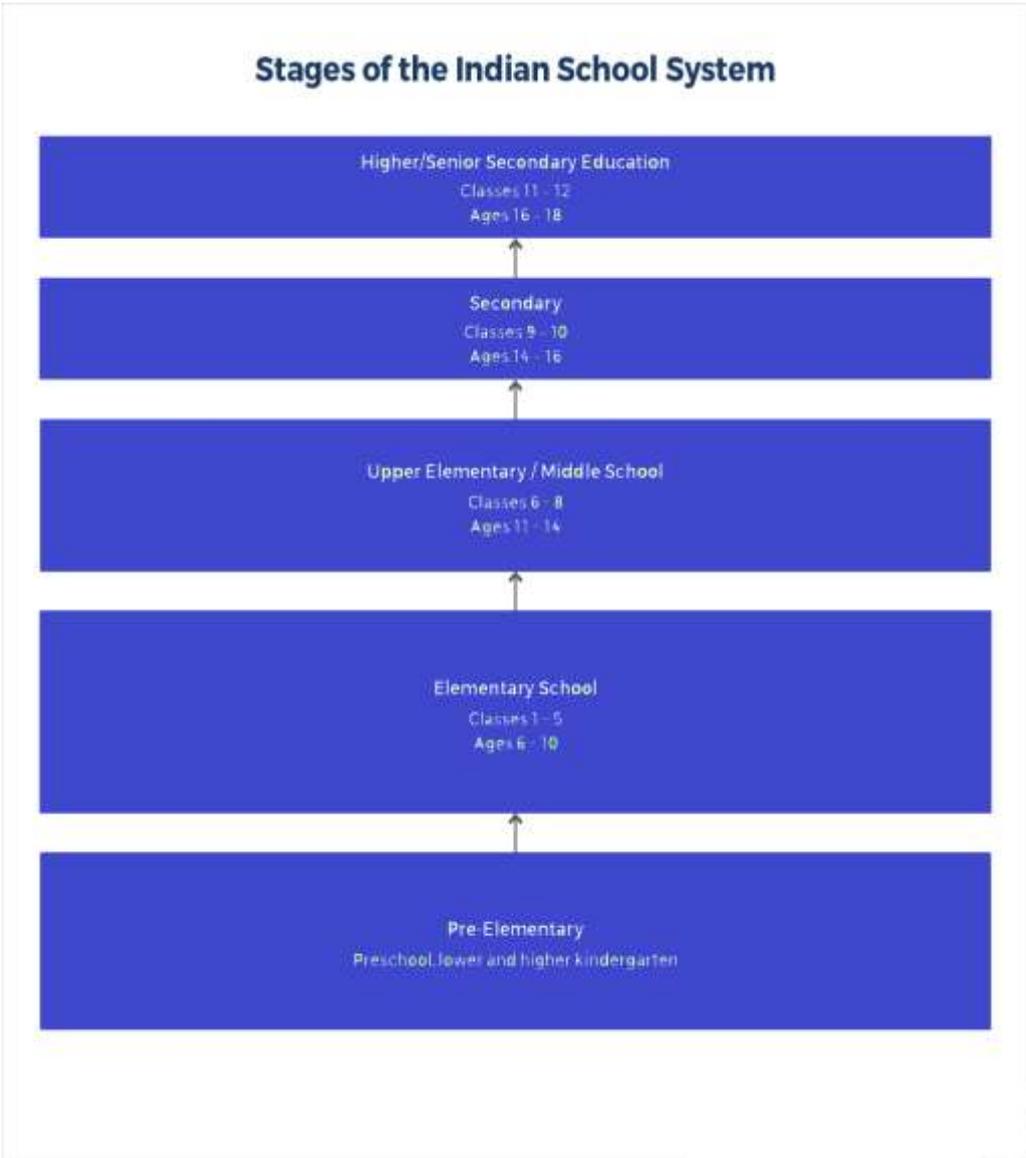
I. INTRODUCTION:

Coronavirus disease 2019 (COVID-19) is a contagious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-Cov2). The first case was identified in Wuhan, China in December 2019. The disease has since spread worldwide, leading to an ongoing pandemic. Before the spread of COVID-19 there were many problems that the world was going through, amongst which education sector was the most important, we can also say this as learning crisis. Each and every country was going through the high levels of learning poverty. The spread of coronavirus not only distributed the normal life but it had a major impact on the education sector as well. Due to the outspread of the disease it led to closure of schools and other educational institutions for a long period of time. These nationwide closures impacted over 90% of the world's student population. The World Bank estimates that because of the closure of schools, it has affected over 1.6 billion children out of school. In India the educational institutions were closed since March 22, 2020 because of the increasing pandemic disease on a large scale. As the young crowd is more at risk, this has affected the learning process. There is concern among most of the people of society regarding the spreading disease but most important is loss of learning as the schools are shut down. Although the learning is going on through online mediums that are available but people are worried about their career as in it would further result in loss of human capital and diminished economic opportunities in the long run. Across the world the governments have bought some mitigating efforts such as utilizing remote learning to manage and cope with the ongoing crisis. Accordingly, the World Bank is working effectively with many countries to offer support to the effects currently being implemented by ministries of education. As the outbreak of COVID-19 is a new occurrence there are very few sources that could help the things to become normal. As such the question arises that how to fight COVID -19 through digital evolution and transformation in the education sector. With this the author investigates the influence of COVID-19 in speeding up the use of Internet tools as a platform for providing learning. The first section will provide a brief description of the education sector in India. This is followed by the literature review and a background of COVID-19. The next section will outline the methodology then result discussions and recommendations.

The Education Sector in India:

The Education sector in India is growing swiftly with large private individuals collaborating with the government to develop this sector. The government is also considering many steps to enhance the quality of education in India. Primary education is increasing and many international schools are earning their appearance felt in India. In India the parents are now willingly enrolling their children into international schools for greater education straight from the primary level. This has changed the whole scene of education system in India. The major share of the total education expenditure goes to elementary

education, rather than the tertiary or higher education, which is the least. Though, the state invests the limited amount on higher education its investment per student is higher than that of elementary. The government of India has also initiated various new loan schemes for students who want to pursue higher education. And the government is coming with new education schemes so that the students will get the best education possible. Indeed, India is now the world's fastest economy outpacing China in terms of growth rates, even though it is still much smaller in overall size. In India the education system is divided into three levels which are primary, secondary and tertiary level. The diagram below will make it clearer to describe the education system of India.

Education System in India:

Stages of the Indian School System

Higher/Senior Secondary Education
Classes 11 - 12
Ages 16 - 18

Secondary
Classes 9 - 10
Ages 14 - 16

Upper Elementary / Middle School
Classes 6 - 8
Ages 11 - 14

Elementary School
Classes 1 - 5
Ages 6 - 10

Pre-Elementary
Preschool, lower and higher kindergarten

Basic Structure of Tertiary Education in India

Doctoral Programs
2 – 5 years

M. Phil
1 – 2 years

Master's Degree
1 – 3 years

Bachelor's Degree
3 years

Bachelor's Degree in Engineering, Pharmacy, or Agriculture
4 years

Bachelor's Degree in Medicine
5.5 years

Dentistry
5 years

Entrance Examination (not required for all programs)

Upper-Secondary Education
12 years

II.   REVIEW OF LITERATURE:

The evidence provided in the literature indicates that the source of the COVID-19 is animals and the virus spread from human-to-human transmission (Sansa, 2020). **Sansa** (2020) went on to state that the COVID-19 virus is transmitted through respiratory droplets that human beings sneeze, cough, or exhale.

McKibbin (2020) in the article, the global macroeconomic impacts of COVID-19: Seven scenarios argued that the evolution of COVID19 is uncertain and making it difficult for policymakers to formulate an appropriate macroeconomic policy response. In a way to understand possible economic outcomes, McKibbin, (2020) explored seven different scenarios of how COVID-19 might evolve in the coming year using a modeling technique. It examines the impacts of different scenarios on macroeconomic outcomes and financial markets in a global hybrid DSGE/CGE general equilibrium model. The study finds that even though the pandemic is contained, it could significantly impact the global economy in the short run. These scenarios demonstrate the scale of costs that might be avoided by greater investment in public health systems in all economies but particularly in less developed economies where health care systems are less developed, and population density is high.

In their work **Wenham et al**. (2020) found that, 'there was gender analysis of the outbreak by global health institutions or governments in affected countries or in preparedness phases'. Wenham et al. (2020) went further to argue that the closure of schools to control COVID-19 transmission in China, Hong Kong, Italy, South Korea, and beyond might have a differential effect on women, who provide most of the informal care within families, with the consequence of limiting their work and economic opportunities ported by data under consideration than CAPM.

Richa Choudhary (2020) in the article, COVID-19 Pandemic: Impact and strategies for education sector in India. The pandemic has significantly disrupted the higher education sector as well, which is a critical determinant of a country's economic future. A large number of Indian students—second only to China—enroll in universities abroad, especially in countries worst affected by the pandemic, the US, UK, Australia

and China. Many such students have now been barred from leaving these countries. If the situation persists, in the long run, a decline in the demand for international higher education is expected.

Dr. S. K. Agarwal, Anuradha Sharma (2020) studied the digital transformation of education in India during the period of lockdown due to COVID-19 and found that in this study a secondary research was done to understand the impact of COVID-19 in influencing the digital transformation in the education sector. In essence, the study investigated how the education sector adopted the use of virtual tools during the COVID-19 lockdown period. The study was based on the reviewing of secondary data sources; mainly newspaper articles, magazines, peer-reviewed journals and recently published journals and policy reports from national and international organisations. Our finding is that in India, during the lockdown, the education sector massively adopted different virtual tools (digital transformation) from primary education to higher and tertiary education. The lockdown motivated the creation of virtual learning, the use of free applications and educational websites and finally, the sector generally switched to online learning.

Impact of COVID-19 Pandemic on Teaching and Learning (2021) Sumitra pokhrel, Roshan Chhetri study on the impact of the COVID-19 pandemic on teaching and learning across the world concludes that although various studies have been carried out, in the case of developing countries, suitable pedagogy and platform for different class levels of higher secondary, middle and primary education need to be explored further.

III.   RESEARCH METHODOLOGY:

The study is mostly based on the review of secondary data sources mainly the newspaper articles, magazines, journals etc. The study benefited for recently published journals, policy reports from national and international organizations. The conceptual nature of the article presents a particular limit due to the limited nature of data and the fact that both the COVID-19 is a current event.

Fighting COVID-19 through Digital Evolution and Transformation in the Education Sector:

The COVID-19 pandemic initiated an extensive, sudden and dramatic digital transformation in the society. The pandemic forced us to take an extraordinary digital leap in our everyday life and practices, including our children and their education. In a flash, their education was transformed from a traditional classroom practice to a remote, digitalized one.

In India on 16 March, declared a countrywide lock-down of schools and colleges. More than 370 million children and youth were not attending school because of temporary or indefinite country wide school closures mandated by governments in an attempt to slow the spread of COVID-19. By 29th March, nearly 90% of the world's learners were impacted by closures.

Most of the schools in the country have started to provide online classes to help students continue their education from the comfort of their homes. We are of the view that this pandemic has acted as a driving force towards digital transformation in the education sector. In order to continue the learning and the students should not suffer the government and the ministries of education has come up with various tools. These tools have taken the traditional classroom learning to a whole new digital level.

Virtual Learning Tools during Lockdown:

Television: Students are able to learn from their teachers through television, the state council of educational research and training (SCERT) and the national council of educational research and training (NCERT) collaborated for live telecast of lectures on television.

Radio: Students are now able to learn from their teachers through all India radio, the state council of educational research and training (SCERT) and the national council of educational research and training (NCERT) collaborated for live telecast of lectures on all India radio.

Diksha & Nishtha: The DIKSHA platform offers teachers, students and parents engaging learning material relevant to the prescribed school curriculum. Teachers have access to aids like lesson plans, worksheets

and activities, to create enjoyable classroom experiences. Students understand concepts, revise lessons and do practice exercises. Parents can follow classroom activities and clear doubts outside school hours.

NISHTHA is a capacity building program for "Improving Quality of School Education through Integrated Teacher Training". It aims to build competencies among all the teachers and school principals at the elementary stage. The functionaries (at the state, district, block, cluster level) shall be trained in an integrated manner on learning outcomes, school-based assessment, learner – centered pedagogy, new initiatives in education, addressing diverse needs of children through multiple pedagogies, etc.

Microsoft teams: This is designed by Microsoft and is used mainly by staff and learners in tertiary institutions for lectures and discussions.

Skype: Skype is a video calling application available for computer, laptop and mobiles. This is used by staff and learners in tertiary institutions for lectures and discussions.

Zoom: Zoom is a cloud-based video conferencing service you can use to virtually meet others - either by video or audio-only or both, all while conducting live chats - and it lets you record those sessions to view later.

Google Classroom: This is an open-source Web service provided by Google for education and training with the sole aspires of online evaluation of test and assignment in a paperless way. Here teachers can deliver lessons and give assignments and homework.

Google meet: Google is making enterprise-grade video conferencing available to everyone. Now, anyone with a Google Account can create an online meeting with up to 100 participants and meet for up to 60 minutes per meeting. This is used mainly by staffs and learners of tertiary institutions.

Cisco WebEx: A WebEx meeting is an online meeting that allows you to virtually meet with other people, without leaving your home or office. This is used by teachers and students of tertiary institutions to hold discussions conduct lectures, etc.

In focusing on the education management of the COVID-19 crunch, 90% of schools started using software tools, 72% used live streaming videos, 40% offered links to proceed with online materials, 68% contributed towards virtual organization meeting and social media groups, less frequency, and small-scale working groups. Electronic platforms like Email, Education Tools, Skype, Facebook, Telegram, and Google are intensively used globally for theoretical content and currently adapting to this new technique. Now most of the Educational Institutions present electronic educational platforms as an official alternative for classroom activities.

COVID-19: Recommendations to plan Distance Learning Solutions:

School closures in a growing number of countries to contain the spread of COVID-19 are disrupting the education of millions of students across the globe. Here are few recommendations how to plan distance learning:

➤ Teach students the habit of participating; the initial challenge is just motivating students to show up or complete assignments.

➤ Focus on content, not comprehension skill**s.** Once the students show up, the next question is what to teach. At the elementary level, some districts are having teachers stick to reading and math, making social studies and science optional—the same approach many schools take in face-to-face settings.

➤ Keep it simple. Simple, clear, crisp directions and expectations are always important, but never more so than in a situation where teachers can't easily gauge when students are confused.

➤ Make online learning as interactive as possible. Students need opportunities not just to listen or read but to actively process the information being presented. Some platforms allow teachers to give brief quizzes and get immediate results.

IV. CONCLUSION & RECOMMENDATIONS:

➢ The COVID-19 pandemic initiated an extensive, sudden and dramatic digital transformation in the society. The pandemic forced us to take an extraordinary digital leap in the basic education of children as well.

➢ In this study a secondary research was done to understand the impact of COVID-19 in influencing the digital transformation in the education sector.

➢ In essence, the study investigated on how the education sector adopted the use of virtual tools during the COVID-19 lockdown period.

➢ The study was based on the reviewing of secondary data sources; mainly newspaper articles, magazines, peer-reviewed journals and recently published journals and policy reports from national and international organisations.

➢ Our finding is that in India, during the lockdown, the education sector massively adopted different virtual tools (digital transformation) from primary education to higher and tertiary education.

➢ Online Learning is the best method of learning at this hour of need due to the outbreak of COVID-19 and further in-depth statistical study may be undertaken on impact of online learning during pandemic lockdown period.

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