Chapter I

INTRODUCTION

1.1 Introduction

This chapter focuses on introduction about online education, its space in education system during the COVID pandemic period and how people perceived in its implementation. The global state of online learning followed by the Indian context is being discussed in this chapter. The statement of the problem, research objectives, rationale of the study, research questions, limitation of the study and the operational definition of terms are included.

Change is constant and inevitable; therefore, anything, which possess the ability to adapt to change and evolve, secure its position with every new advancement or development, and intelligence. Education is the path that lead to the change. An education system has to cater to the demands of the technological age so that a competitive edge can be maintained In turn, the changes brought by technological surge brings revolution in the era of education.

The education has been increased by latest technological advancements. New developments in information communication technology (ICT), globalization of education and the ever-expanding competitive environment is almost revolutionizing the education scene. The traditional learning environment are getting new outlook with such modifications. The advent of the Internet and the World Wide Web has led educational institutions to change their learning techniques to meet the user demands in providing an ideal online learning environment.

1.2 Online Education

Online education is no longer a trend, but mainstream. It has not only changed the landscape for distance education, but has greatly influenced elementary and higher education as a whole across the globe. Online education is a form of education that uses internet networks with accessibility, connectivity, flexibility, and the ability to generate various types of learning interactions. Online education is known to offer benefit of synergy. Here, the format employed makes room for dynamic communication between

students and teachers. Through the communications sources are shared, an open-ended synergy evolves through a learning process.

Online learning has become popular because of its perceived potential to provide more flexible access to content and instruction by; 1) Increasing the availability of learning experiences for those who cannot or choose not to attend traditional schools, 2) Assembling and disseminating instructional content more efficiently, and 3) Increasing student-instructor ratios while achieving learning outcomes equal to those of traditional classroom instruction.

Online learning requires a profound pedagogical shift "from systems of teaching and supervision of learning to systems of learning and facilitation of learning". To be effective in online learning, an instructor needs to change from "teacher-centered to student-centered, low interactor to high interactor and low-initiator to high-initiator", from being the sole expert to facilitator, coach or mentor. Online learning outcomes are influenced by a variety of factors including students' motivation and demographics, instructional design and strategies, as well as technology choices. These factors can influence online courses in unique ways, thus potentially compromising the validity and reliability of comparative approaches.

In the conventional learning, there is a stage of delivering learning concepts, learning objectives, and developing them. These stages are considered not going well in online learning. Online learning includes five important things, namely: (1) the content presented has relevance to the specific learning objectives to be achieved; (2) using learning methods through examples and exercises to help learners learn; (3) using media such as pictures and words to present content and methods, and (4) developing and building new knowledge and skills according to individual and organizational improvement goals (**Arizona et al., 2020**).

Online/Digital learning tools can offer more flexibility and learning supports than can traditional formats. Using mobile devices, laptops, and networked systems, educators are better able to personalize and customize learning experiences to align with the needs of each student. They also can expand communication with mentors, peers, and colleagues

through social media tools. Digital tools also can make it possible to modify content, such as raising or lowering the complexity level of a text or changing the presentation rate. At a higher level of engagement, digital tools such as games, websites, and digital books can be designed to meet the needs of a range of learners, from novices to experts.

1.2.1 Practical Barriers in Online Education

- Availability of resources

While learning online can mean that some tasks such as accessing learning materials, and participating in discussions, can be accomplished asynchronously, it still requires that the student have access to the digital resources and network connectivity.

- Pedagogy and Technology

Acquiring adequate pedagogical and technical skills are two elements crucial to a successful transition to the online classroom. The educational community generally agrees that the success of online courses and curricula depends largely on the use of student-centered pedagogical practices (**Duffy & Kirkley, 2004**). Thus, the role of the online teacher is to design, create and facilitate rich interactions among learners in order to keep them motivated. In well-designed online courses, students are frequently asked to take on additional responsibilities, some of which used to be the prerogative of teachers.

Teachers need to be proficient in the technologies of online education in order to be able to select the tools that will allow them to carry out their instructional goals. This requirement may represent a significant challenge for teachers who entered the profession at a time when technological expertise was not required.

- Student Readiness

Online learning is often as new to students as it is to teachers. Students need to adjust their studying habits in order for them to be successful online learners. Faculty have reported the lack of student discipline as a main barrier to online learning. As teachers relinquish some of their control over instructional events, students must be willing to accept some of the responsibilities traditionally assumed by teachers. Many students are not prepared for this challenge, which may partially account for high attrition levels online.

1.2.2 Perceptions of Online Learning

Online education is much discussed, but its perception is substantially influenced by where you stand and what you value. Accrediting bodies care about meeting technical standards, proof of effectiveness, and consistency. Institutions care about reputation, rigor, student satisfaction, and institutional efficiency. Faculty care about subject coverage, student participation, faculty satisfaction, and faculty workload. Students care about learning achievement but also view online education as a function of their enjoyment of classes, instructor capability and responsiveness, and comfort in the learning environment. Parents while care about child's development and achievement, support from family, contribution of teachers in learning process.

Perceptions of quality derive from notions of the capacity of online learning when ideal—relative to both learning achievement and satisfaction/enjoyment, and perceptions about the likelihood and experience of classes living up to expectations. Students' participation is an essential aspect of the successful implementation of online classes in the current education system. Many students believe that an online class has great transformation for the education system, and they prefer it because of its time and location flexibility and broad knowledge base. Understanding students' perception of different types of barriers, and their relative importance, will enable those who are responsible for workforce development to focus upon the most critical potential barriers to successful e-learning implementation.

The other important pillar of online teaching is teacher. Their interest and skills in handling online classes are essential aspects. How did teachers perceive online classes, whether teachers are capable of handling online classes, these are the questions that arise before implementing it because some of the faculty members may not always have the competency to teach courses online (Sims et al., 2002). A cultural background constructs a different perception among teachers.

1.3 COVID-19 Pandemic

At the end of 2019, a series of pneumonia cases of unknown cause emerged in Wuhan (Hubei, China). A few weeks later, in January 2020, deep sequencing analysis from lower respiratory tract samples identified a novel virus severe acute respiratory syndrome

coronavirus 2 (SARS-CoV-2) as causative agent for that observed pneumonia cluster (Huang, C.et al.,2020). On February 11th, 2020, the World Health Organization (WHO) Director-General, Dr. Tedros Adhanom Ghebreyesus, named the disease caused by the SARS-CoV-2 as "COVID-19", and by March 11, 2020 when the number of countries involved was 114, with more than 118,000 cases and over 4000 deaths, the WHO declared the pandemic status.

A big concern amid COVID-19 pandemic and the ensuing lockdown is education, which is at standstill affecting learning of millions of students worldwide. In the absence of any medical treatment and vaccine, social distancing emerged as a potent mitigating factor. The public places across nations have been shut to prevent the spread of this deadly disease and amid all; institutionalized education becomes the biggest casualty. Schools and higher education institutions across the globe have been shut, affecting the learning of over 90% of world's student population. As per UNESCO estimates, COVID-19 related closure affected the study of 1540 million students across 191 nations. In India COVID-19 related educational institutions closure affected the learning of over 320 million students (UNESCO, 2020).

In a normal situation, online education creates fexibility for learning and teaching from anytime and anywhere. However, the COVID-19 pandemic prompted an emergency transition from traditional to distance learning at all levels of education, called emergency remote teaching (**Hodges et al., 2020**). Emergency remote teaching was formed in response to the pandemic. The situation was diferent from the well-planned traditional method to online learning as it was unexpected and unprecedented for teachers, students, and parents. That being said, moving smoothly from an environment of conventional education to distance and virtual learning could not happen overnight. This rapid transformation is linked to various obstacles and challenges at this point (**Crawford, Butler-Henderson, Rudolph, & Glowatz, 2020**).These include disruption in lesson plans, continuation of old unstructured information, breakage of teacher – child – parent interaction & students facing difficulty in the preparation of annual board examinations. With little chances seen in reopening of schools or colleges, educational institutions across

the globe decided to use the already available technical resources to create online learning material for students of all academic fields (**Kaur, 2020**).

Consequently, to cater the needs of students in all the stages of education, starting from preprimary to higher level, online education played an alternative role to face-face classroom teaching. Moreover, efforts are being made by both government and non-government organizations and Ed-Tech companies to support the school system to make a smooth transition to the virtual world.

When it comes to the Indian educational setup, online classes are a newly introduced mode of teaching and not something, that has been a part of regular classes. A sample survey on "Household Consumption on Education in India" conducted by National Statistical Office (NSO) in 2019, revealed that availability of computers and internet facility was very low in India. Internet facility was available to only 23.8% of India's population. As per NSO Sample survey, a huge divide exist between rural and urban population in terms of owing computer and accessing the internet. Only 4.4 % of rural household had computers while 14.4 % had internet facility. In urban areas, 23.4 % of households own computers while 42% had internet connections (**NSO, 2019**). This weak internet connectivity and lack of wider reach makes learning through online teaching inaccessible, unproductive and unworthy to many Indian students. This infrastructural inaccessibility leads to ineffective and unequal distribution of learning that creates obstacle in providing quality learning for all.

Online teaching is a relatively new phenomenon as compared to traditional classroom teaching and this COVID-19 induced sudden lockdown made the transition to online teaching more cumbersome and unworthy to many learners. Meaningful online learning and teaching needs proper planning to cater diverse needs of students. Compromise in this planning leads to unproductive learning, resulting in non-accomplishment of learning objectives and learning outcomes.

Nevertheless, the effectiveness of online learning varies amongst age groups. The consensus on children, especially younger ones, is that a structured environment is required, because kids are more easily distracted. To get the full benefit of online learning,

there needs to be a concerted effort to provide this structure and go beyond replicating a physical class/lecture through video capabilities, instead, using a range of collaboration tools and engagement methods that promote "inclusion, personalization and intelligence".

In India, even though Digital inclusion may be on the rise, but digital empowerment is big challenge that needs to be achieved. There is a necessity in present day to be aware about thoughts of those persons who lived experiences of online teaching to determine its effectiveness and required changes to be made. Therefore, this study will cover the shared experience of teachers, parents and students of rural areas on learning through online mode in rural areas necessitated due to COVID-19 induced closure during pandemic.

1.4 Indian Government Initiatives

The current circumstances are unique; unlike normal digital learning situations, as some might argue, it is more accurately crisis learning. While dealing with the rise of cases in COVID-19, Government also took new stances of learning initiatives to keep connecting the network of learning.

1.4.1 Initiatives Taken By Central Government

In wake of the COVID 19 pandemic, the Indian National Commission for Cooperation with UNESCO (INCCU) has been working online to carry forward the mandates of the respective Sub Commissions.The Ministry of Human Resources Development and its associated institutions are promoting digital education through ONLINE EDUCATIONAL PLATFORMS and through the mediums of TV and RADIO.

- The following are some of the online resources developed by the Government:

1. **DIKSHA:**

   This is an online platform for school education. It offers teachers, parents and students engaging learning material relevant to the prescribed school curriculum. It has over 80,000 e-content items in multiple Indian languages, catering to Grades 1-12. During the lockdown period, these contents have been accessed nearly 215 million times.

2. **e-PATHSHALA :**

e-Pathshala is an initiative by the Government of India. e-Pathshala is a platform which provides free access to all educational e-resources which include e-textbooks, audio, video, periodicals and a variety of content through their website. E-Pathshala platform is developed and maintained by National Council of Educational Research and Training. e-Pathshala platform is very easy to use and navigate and has a Mobile Friendly app. Students, teachers, educators, and parents can access e-books through multiple technology platforms i.e. mobile phones, and tablets and on the web through laptops and desktops.It has 1886 audios, 2000 videos, 696 e-books and 504 Flip Books for classes 1st to 12th in different languages.

3. **National Repository Of Open Educational Resources (NROER)**: A portal equipped with best quality informational content on diverse topics in multiple languages a total of 14527 files including 401 collections, 2779 documents, 1345 interactive, 1664 audios, 2586 images and 6153 videos on different languages.

4. **SWAYAM**:

SWAYAM is an initiative under the Digital India Campaign, which aims at providing free education to individuals over the internet. SWAYAM platform is developed and maintained by Ministry of Human Resource Development and All India Council for Technical Education. SWAYAM offers over 1900 courses School, Out-of-School, Under-Graduation and Post-Graduation Education. Courses offered through SWAYAM platform are available free for Indian students. However, students wanting to be certified should be registered and a certificate will be offered after successful completion of the course, with a minimum processing fee.

5. **National Digital Library**:

This is a digital repository of a vast amount of academic content in different formats and provides interface support for leading Indian languages for all

academic levels including researchers and life-long learners, all disciplines, all popular form of access devices and differently abled learners.

- TV Channels/Radio are being used to reach out to the most difficult areas.

1. The 32 DTH TV channels are available on SWAYAM PRABHA. These channels are available for viewing all across the country using DD Free Dish Set Box and Antenna. The same are being promoted with special emphasis on students in remote areas. 12 channels have been marked exclusively marked for School education (Class 1 to 12). SWAYAM PRABHA Channels pertaining to school education presenting for 2 hours per day to each State/UT. States develops class wise/ subject wise content mapped to their syllabus in local languages.

2. Extensive use is being made of radio channels to broadcast educational programmes .Radio has been used specially for those children in remote areas who are not online (especially for classes 1 to 5). Activity based learning proved be very effective for radio channels. 289 Community Radio Stations are being used.

1.5 Initiatives Taken By Odisha State Government

1. **Odisha Shiksha Sanjog:**

A digital learning programme through WhatsApp group has been implemented to engage students in teaching learning activity.

- The class/subject teachers have created individual WhatsApp groups with students of different classes both at secondary as well as elementary level for sharing study materials. The students of classes II to X are participating in the programme
- The e-content like written explanations, video explanations, audio clips, video clips, etc. are collected from different digital platforms and are also developed by teachers. Those are shared in the class wise WhatsApp groups constituted for the programme.
- The subject teachers also remain online to clarify the doubts put by the students in the concerned WhatsApp group.

2. **Telecast of video lessons in Doordarshan, Odia**

Video lessons are being telecasted for Class-X students from 20th April 2020 for two hours a day i.e. from 11.00AM to 12.00Noon and 03.30PM to 4.30PM (from Monday to Friday). The content development is under process for Class-XII students.

3. **Madhu App**:

A syllabus based e-learning App in Odia language has been developed to provide mother-tongue based virtual classroom experience for self-learning and self-assessment. To begin with, videos in Math and Science Subjects from Class V to X have been uploaded along with chapter-wise textbooks, self-assessment tools. The students can easily access the portal through mobile, download videos, and assess their learning achievement online. It helps the child clarify doubts at his/her own space of learning and helps parents to guide their child's learning at home.

4. **E-class through Microsoft Teams/ Zoom/ Google Meet Platforms:**

The online classes are going on for students of Secondary Schools, different kind of e-learning activities are being taken up in DIETs and Odisha Adarsha Vidyalays through Zoom and Google meet. Experts through different virtual platforms have done the capacity building of teachers, other field functionaries and administrators.

5. **Odisha Education Resource Portal (OERP):**

Odisha Education Resource portal is a comprehensive one-stop portal, catering to the educational needs of the students, teachers & parents. The OERP is a unique initiative of Center for Modernizing Government Initiatives (A society under GA (AR) Department, Government of Odisha) for utilization of the School and Mass Education Department, Government of Odisha.

6. **Distribution of books to children at their doorstep by the teachers.**

1.6 Rationale of the Study:

The outburst of COVID-19 pandemic forced the government worldwide to declare shutdown in an endeavor to contain the spread of virus. To cater the need of the period,

Education through online teaching becomes a new normal though it is fairly a very new concept for majority of students and teachers. When it comes to the Indian educational setup, online classes are a newly introduced mode of teaching and not something, that has been a part of regular classes. The lack of preparedness in digital resources, skill and competencies of teachers in online teaching and connectivity issues, brought a lot of questions and controversies on the education system. Although in a very limited period, the online setup took over to replace the face-to face traditional learning. However, its effective implementation in a vast populated developing country remained a question. The news medias reported a very few students really benefited with the new normal online education.

Therefore, to check the grass root reality in the remote area of the country, the researcher took interest in carry her research work on online classes are being perceived and experienced by the key stakeholders (students, teachers and parents), who are in the process of teaching and learning.

1.7 Statement of the Problem

The present study is devoted to from the key stake holders of school education namely teachers, students, parents seeking their perception on different aspects of online education such as orientation of teachers on online education, complications faced, time and duration of classes, attendance rate of students, use of technology tools, Pedagogical practices etc. and stated as,

"Perception of parents, teachers and students about implementation of online education in rural schools."

1.8 Objective of the Study:

1. *To study the perceptions of following stakeholders on implementation of online education during pandemic at their schools*:
    a. Teachers
    b. Parents
    c. students

2. *To study the suggestions given by stakeholders on effective implementation of online education in future.*

1.9 Research Questions:

1. What are the experiences of students, teachers and parents concerning online learning during COVID-19?
2. How teachers prepare themselves with current trend of online teaching?
3. What technological platforms are being used for online learning?
4. What are the most preferred pedagogical practices used for efficient content delivery?
5. How teachers assess the performance of the learners?
6. What are the stakeholders' perceived difficulties of online learning?

1.10 Delimitation of the Study:

1. The ongoing study will confined to population of certain rural areas in Cuttack district.
2. In addition, the small sample may not be completely representative of the majority of students and teachers taking online classes.
3. CWSN are not included in the list of sample of children.

1.11 Operational Definition of Certain Terms:

1. **Perception:**

   Perception is the way in which something is regarded, understood or interpreted.

2. **Face-to-face learning:**

   Face-to-face learning is a teaching methodology where the teacher and students interact with each other by being physically present in a classroom or in open space and conduct teaching where students learn different subjects by interacting with teachers, reading and learning textbooks, clarifying their doubts about a particular topic etc.

3. **Online learning**:

   Online learning" refers to instructional environments supported by the Internet. Online learning comprises a wide variety of programs that use the Internet within and beyond

school walls to provide access to instructional materials as well as facilitate interaction among teachers and students.

4. **Blended learning**:

   Blended learning (also called hybrid learning) allows students to receive significant portions of instruction through both face-to-face and online means. These programs provide a small number of online courses to students who also attend a physical school Researchers see blended learning in the middle of the spectrum between fully face-to-face and fully online instruction.

5. **COVID-19:**

   A highly contagious respiratory disease caused by the SARS-CoV-2 virus. The COVID-19 virus spreads through droplets of saliva or discharge from nose when an infected person coughs or sneezes. On March 11, 2020 when the number of countries involved was 114, with more than 118,000 cases and over 4000 deaths, the WHO declared the pandemic status.