



# CONSEQUENCE OF COVID-19 PANDEMIC ON WEB-BASED TEACHING-LEARNING: AN ANALYSIS

**Mr. Satadal Giri<sup>1</sup>**

Assistant Professor in Education & Research Scholar  
P.G. Department of Education  
Fakir Mohan University, Vyasa Vihar, Balasore, Odisha-756019  
e-mail- [girisatadal@gmail.com](mailto:girisatadal@gmail.com)

**Mr. Rahul Kumar Nandi<sup>2</sup>**

Research Scholar (Education),  
Fakir Mohan University, Vyasa Vihar, Balasore, Odisha-756019  
e-mail- [tapas.nandi174@gmail.com](mailto:tapas.nandi174@gmail.com)

**Dr. Jyoti Sankar Pradhan, Ph.D<sup>3</sup>**

Associate Professor & Head, P.G. Department of Education  
Fakir Mohan University, Vyasa Vihar, Balasore, Odisha-756019  
e-mail- [pradhanmjs@gmail.com](mailto:pradhanmjs@gmail.com)

## Abstract:

With the rising of Covid-19 pandemic situation, the educative process of the whole world undergoes a drastic change. The lockdown process evolves to fight against the covid-19 pandemic which creates tremendous change in education sector. The teaching institutions are bound to close their physical mode of teaching instructions and shift towards web-based educational process. The traditional chalk and blackboard classrooms transform into technology-based e-learning classrooms. This stops the individuals one-to-one live interaction of students and teacher and move to distant type of learning process with the introduction of various digital delivery model. This new approach of instruction delivery ensured uninterrupted educational delivery in the schools as well as in higher educational institutions. This review paper discusses the various issues faced by the teaching institutions during online learning and assessment process in this Covid-19 pandemic. It also provides some suggestive measures for improvement and how to deal with the problematic situations of web-based learning and assessment system. This study also summarizes the beneficial aspects of e-learning which helps in reshaping the future aspects of education.

**Keywords:** *Covid-19 pandemic, web-based learning, Assessment, Teaching institution, Educational process, E-learning.*

## INTRODUCTION:

With the passage of time every system requires some sort of changes. This is found to be seen in the current era of covid-19 pandemic which greatly forced to reshape the process of education. For more than one year, the entire globe had been confronted an exceptional lockdown situation as a consequence of first and second waves of pandemic Covid-19. All the schools have closed to avoid the infection of the students and staff almost. Because all schools are closed indefinitely, teachers are experimenting with various methods to reduce the effect of Covid-19 on the educational process. Education is the backbone of any nation, and stopping educational activities can adversely affect the development of the nation (Idris et al., 2011; Bansal, 2020). Therefore, the educational administration tried to continue the education by moving from traditional teaching-learning to an online platform. Consequently, to continue the education, the institutions across the globe, from schools to universities, moved virtual mode/ online mode (Todd, 2020; Ray & Shrivastva, 2020; Verma et al., 2020). However, the significant concerns for teaching and learning quality are closely related to how well the content is designed and executed (Muthuprasad et al., 2021). Besides this, the effectiveness of online teaching is directly related to the understanding of constraints faced by teachers and students and curation of content for the online environment. However, many studies show that the online teaching-learning process faces various issues, challenges, and constraints during this Covid-19 pandemic (Allen, Rowan & Singh, 2020; Barak, 2020; Kulal & Nayak, 2020). At the same time, the school teachers are struggling to function in a Covid-19 pandemic as effectively as in a normal situation in the absence of an actual classroom setting through online mode. The issues and challenges faced by school teachers are much broader in comparison to the higher institution teachers. In this line, we have examined high school teachers' experiences regarding the web-based teaching methods during the Covid-19 pandemic and their suggestions to make it more effective and successful.

## LITERATURE REVIEW:

The various teaching institutions and organizations apply e-learning in their teaching approach but they first trained teachers with capability building training platform. The web-based learning skills provide the delivery of instruction at a reduced amount than physical modes of classroom teaching. Thus, it lay out more scopes for students to admitting into educational programs (Murday et al., 2008). Many types of research were conducted to examine the behavior of teachers and students toward the online. A sudden surge of Covid-19 pandemic impetus teaching institutions to implement e-learning without proper planning and preparation. At the initial stage, most of the teachers and other stakeholders were neither prepared to face this unprecedented situation of the covid-19 pandemic nor skilled to use the online platform to teach students virtually. However, various educational institutions (Universities, colleges, and other educational organizations) organized workshops, faculty development programs, short-term courses, and webinars to train the teachers to teach virtually. These courses played a vital role in enabling the teachers to effectively and efficiently utilize the available online resources in their teaching-learning process (Kulal, & Nayak, 2020). The web-based learning become more beneficial and suitable for the learning society, if

necessary, steps must be taken in the field of arrangement of digital platform and resources by the administrators as well as educational institutions. The more use of ICT resources helps the students to enhance the skills in the field of technology which is a prime requisite in the present days for all (Gautam et al.,2020). In order to revolutionized the existing education system, the educational institutions runed by both government and private agencies should organizing proper training systems for all levels of education before implementing the web-based learning. This will help to reduce the stress level of teachers as they have to face the new approaches of teaching with a sudden change. (Garg et al.,2020). After adjusting with the technological based learning system, it seems a positive and developmental aspects in the field of education. So, the curriculum planner must integrate technology to the classrooms during post covid approach also. This provides the way in extending education process to a new level harmonizing with the global context. As a result, both educators and learners developed a favorable perfection towards e-learning and not face much problem while adopting it (Khan et al.,2021). Various studies revealed that the educators designed their content using ICT resources for delivering lessons and assessing the students. They utilize the web-based teaching and assessment techniques in order to maintain equilibrium with the modernized context of education. (Bordoloi, Das, & Das,2021). The Google classroom, Google meet, zoom app, WhatsApp, YouTube, etc., become essential tools in the hand of teachers to mitigate the distress of the online teaching-learning process. These technological teaching-learning tools enabled educational institutions to pursue creative approaches in education in the concise notice. The educational institutions are asserting to utilize these technological tools to continue the educational system, but it is important to note that the learning quality depends on digital access and efficiency of both students and teachers (Muthuprasad et. al.,2021).

## **RESEARCH METHODOLOGY:**

The prevailing two waves of corona pandemic situation had manipulated the traditional learning style with the current web-based methods learning. The present research study is based on the analysis of literature survey focusing on the digitalized education process during the existing Covid-19 period. This review paper is formulated on the basis of recent findings and publication related with the major emphasis to benefits, problems and issues in online methods of teaching and assessment procedures.

## **RESULTS AND DISCUSSION:**

### **EFFECT OF COVID-19 PANDEMIC ON EDUCATIONAL PROCESS-**

The COVID-19 pandemic has generated the most significant disturbance in the whole educational system, affecting nearly 1.6 billion learners in more than 190 countries and all continents (Sharma,2021). Nearly all schools have been closed for the last one and a half years due to the unprecedented situation of human

history. Every country framed some new policies to cope with the effect of the covid-19 pandemic on teaching institutions by using ICT resources, especially online resources. At the same time, the country faced a complete lockdown for many months and partially to date. The educational institutions, including schools, are closed, and most schools use ICT resources to continue the instructional teaching methods. However, the ability to respond to school closure is proportional to the school's level. The good resources schools are using ICT resources entirely to dominate education among their students, while the resources crunched schools, especially in rural areas, face problems to cope with the problems of the Covid-19 pandemic. This interruption in the teaching institutions will disproportionately negatively impact on the learners. They are central part of every educational system and the learning place for them at home is limited so it is essential to take initiatives to continue their education. The teachers and students use various ICT resources, i.e., social networking, WhatsApp group, Google Meet, Google Classroom, Moodle, Zooms, you tube, etc., in the process of education.

## **BENEFITS OF WEB-BASED TEACHING AND LEARNING:**

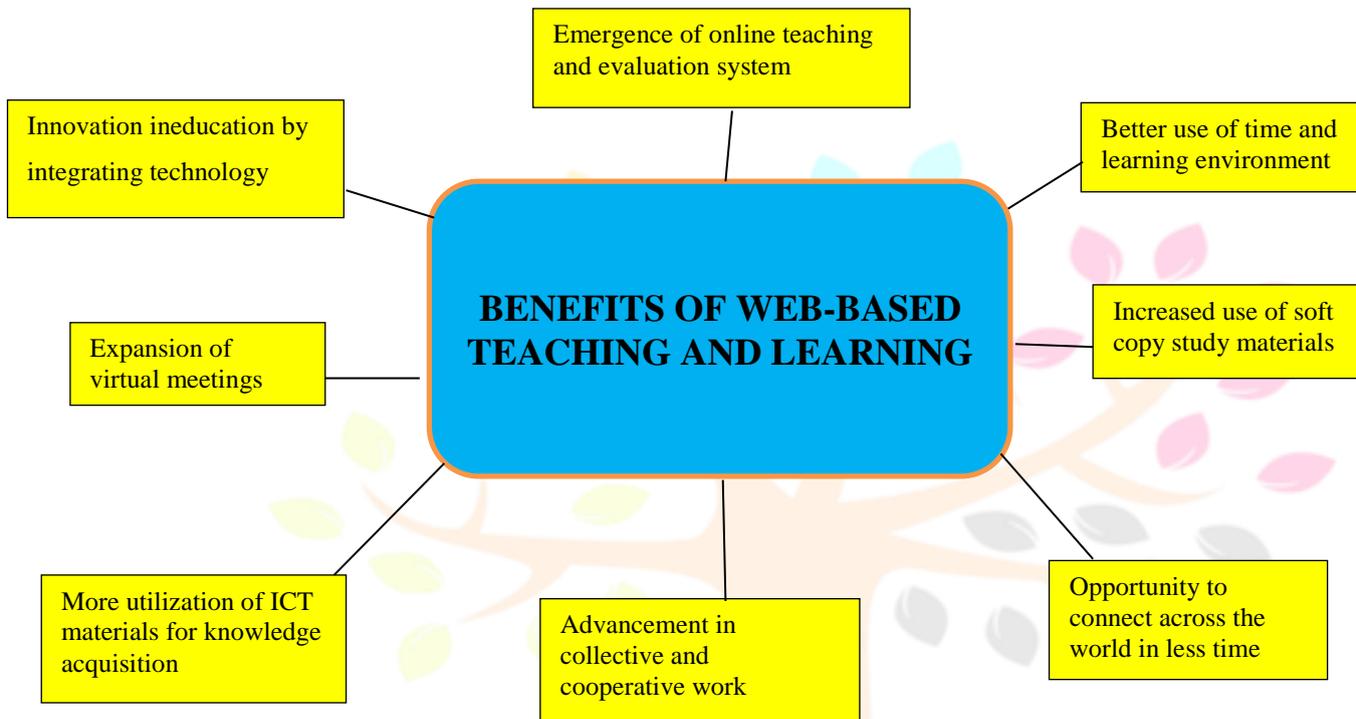
The online-learning provides several benefits to the students such as suppleness of position and well managed time, enrichment of the teaching resources, elimination of barriers which hinders in participation of the students, use of discussion forum, motivates students for alternative instructional approach, cost-effectiveness, consideration of individual differences, and learn according to their own pace and time (Marc 2007; Fedynich,2014; Rahayu& Wirza,2020; Todd,2020). Aithal & Subhrajyotsna (2016) described the advantages of online learning according to the learners' points of view in these words; accessibility, protection of time, decreased price are welcomed as major and helpful properties that drive them towards implementation and prolonged use of web-based learning. Online learning also supports advanced mental ability students, nurturing student reflection and abstract thinking and flattening the playing field between participants.

The covid-19 pandemic forced the schools to move from traditional to the online teaching-learning environment. Parvat(2020) mentioned various benefits of web-based teaching during covid-19 pandemic some of which are stated as below:

- Students obtain education residing at home and also able to maintain social distance.
- Social distance reduces the chance and possibilities of covid-19 infection.
- Children get the scope to learn in the suitable learning environments.
- It provides complimentary collaborative provision which permit learners for studying at any speed suitable to them.
- The scheduling of teaching is not so rigid one.
- It offers education to students at any place and at any time by using their electronic gazettes (mobile, computers, tablets, etc.) by connecting with internet.
- Though it is online teaching methods but educators monitor and report students' progression by

providing effective feedback just like to physical mode.

- It expands the role of teaching institutions by utilizing technology for solving actual difficulties facing in real life.
- The covid warriors like police, doctors, and nurses, who does not get opportunity to take part in e-learning teaching utilize class video recording of classes to continue their studies throughout the pandemic.



**Figure 1:** Benefits of web-based teaching and learning during Covid-19

The support and collaboration of all stakeholders, i.e., government, policy makers, curriculum developers, school administration, experts, teachers, parents, community, and students are necessary to benefit from an online teaching-learning environment (Rasmitadia,2020).

Despite these advantages, online teaching-learning has several disadvantages, such as the learners feel isolated due to lack of interactions, a distraction from the path of learning due to the availability of tons of distracting content, and lack of hands-on activities. The ability of teachers and students to use the technology effectively in teaching and learning is another significant limitation of online teaching (Fedynich,2014). These drawbacks are quite obvious for school-going children who may not get the scope to use ICT instruments like computers and smart phones and also not acquainted with the e-learning methods and instructions.

These limitations are more evident for school-going students who may not have online access or have limited experience with online learning tools, such as computers. The lack of needed skills for online teaching-learning can make online teaching-learning less effective than the traditional teaching-learning method.

# MAJOR PROBLEMS OF ONLINE TEACHING AND LEARNING

## PROCESS:

Every new thing while entry to the current system it meets variety of problems and difficulties. To remain exist completely it requires a little bit time. Similarly, the teaching institutions along with their all-stake holders find confronts while using web-based learning approach. There are various issues that a teacher and students can face during the online teaching-learning process. Some of them are discussed here.

1. **Network, battery, and power supply issues-** The most significant issues teachers and students face with ICT devices. Sometimes the network does not work smoothly and causes disturbance in communication between teacher and student. The teacher often feels that students are not listening to him and just talking to the screen. Besides this, the mobile battery and power supply can also hamper the teaching-learning process. Frequent disruption in the power supply can hinder mobile charging and halt the teaching through the computer.
2. **Accessibility of ICT devices-**This is another big issue that is hindering the teaching-learning process online. Teachers of significant and sound schools would have these ICT devices, but rural and small-town teachers do not have sufficient resources to purchase these devices. In the same way, some families cannot afford smartphones or other digital devices due to their financial conditions for their children. This issue is more severe with the students of government schools because most students in government schools belong to Economic weaker section (EWS) of society. Most of the families belonging to EWS generally have a single mobile phone or simple feature phone owned by their father, and at a time, only one person can use it. It became a challenge for a teacher to organize the online class on time. Many parents take their phones with them, and they come home at night; that is why many students cannot join the class and complete their work on time.
3. **Use of teaching-learning applications in mobile and other digital devices-**  
This is another issue of online learning. Almost all the teachers faced problems using digital devices and tools in the process of educational instruction initially but gradually learnt how to use these devices in the teaching-learning process. However, this is the accepted view that every ICT device and tool has different functions from others; they are not fully skilled in using those functions. They face problems presenting the screen, preparing the power point presentations, preparing videos for students, creating google forms, and sharing links with students. These things are new for them. That is why some of the teachers give lectures like they are reading in front of the screen. These problems are not only faced by the teachers but students also. Sometimes the students are unable to understand what to do with ICT tools. They had difficulties in joining the class; they did not know how to keep the mic off/on and when to respond in online class".
4. **Time management at home and privacy-**Using ICT tools, especially online classes from home, creates many time management problems for the teachers. At home, they have some other responsibilities and family members, such as small kids. Sometimes these things create a hurdle for them to take or continue online classes. In the same way, the home environment of students can

also create disturbance in their learning process. Teacher's privacy, predominantly female, are also at higher risk, as teacher has to share their personal contact with the students in WhatsApp group, the students can misuse it and make fun of the teachers.

#### 5. **Issues related to assessing students' progress-**

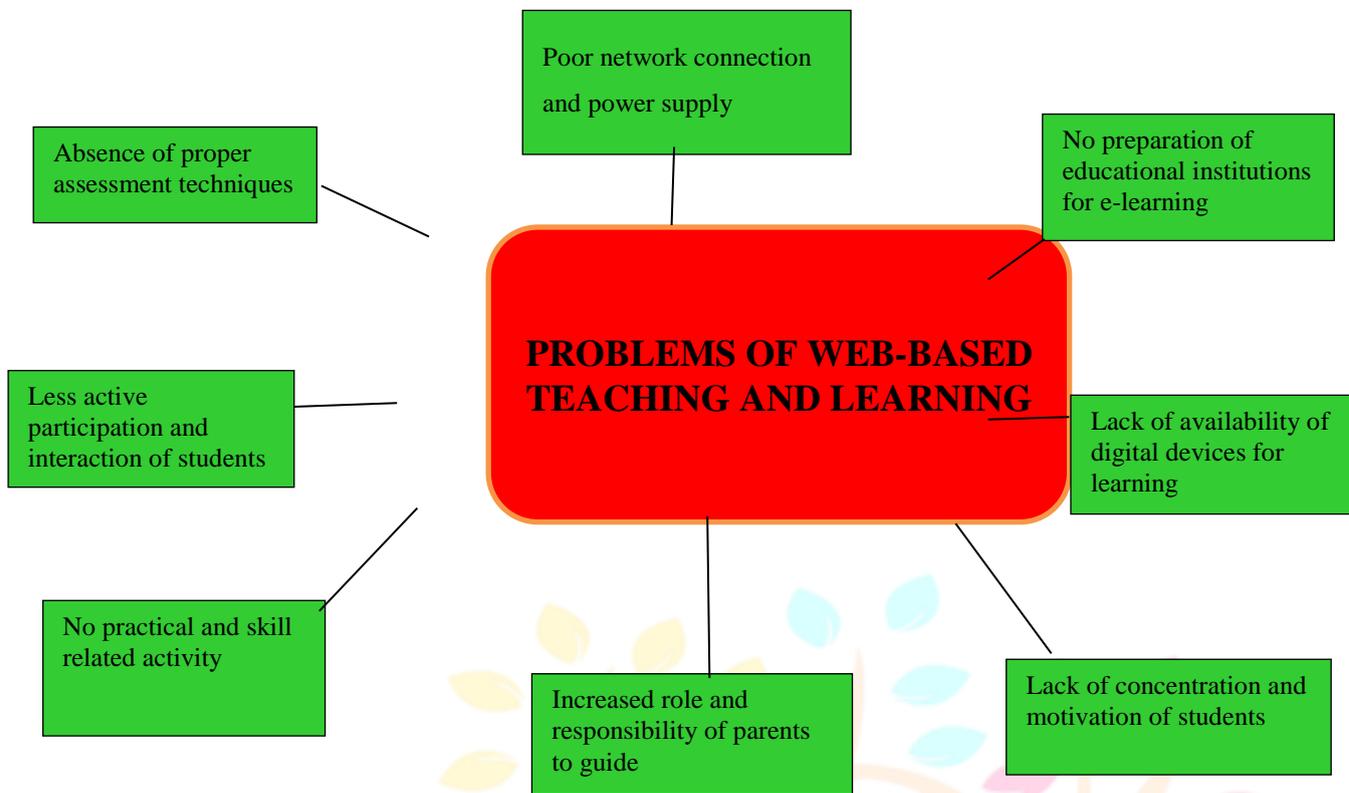
The process of teaching-learning is incomplete without assessing the students' progress. The online teaching-learning process is entirely different from the traditional teaching-learning process. Teachers use different assessment approaches to assess the students' progress, i.e., sending homework on WhatsApp, viva voce, providing assignments and projects. These are some approaches that are teachers using now. Students and teachers both face the problem in the case of assessment. The teacher fails to measure the exact learning outcomes what the students have achieved in a specific course content.

6. **Health issues-**During this pandemic, the use of screens has increased manifold for a teacher and students. This increase in screen timing causes mental health problems to the teachers as well as the students. The teachers and students can face headaches, eye pains, posture deformity, stress, etc., due to increased time in front of the screen. However, teaching online, providing learning materials to students, and even responding to their queries at text affect the teacher's whole routine and health, such as strain in eyes, headache, and backpain.

7. **Student's discipline-** The covid-19 pandemic made students careless as students now do not take the class seriously. If they have to submit an assignment, they make excuses like network issues, or we do not have rough pages, and we cannot go outside due to Corona, do not or did not have power in the phone, etc. in some cases, it can be a genuine reason, but in several cases, it is a fake excuse. Sometimes, students think the teacher cannot use the online teaching-learning platform properly to make fun of them. Some time they ruin the whole class with fun, like this;

The teacher is teaching online, and a student started shouting, "hello, hello, hello.....anyone listening to me? Anyone listening to me?"

Sometimes, this is most irritating for a teacher because one student ruins his/her class discipline even though he/she can hear everything, and it is known by students also.



**Figure 2:**Problems of web-based teaching and learning during Covid-19

## **SUGGESTIONS FOR IMPROVEMENT IN THE WEB-BASED TEACHING-LEARNING PROCESS:**

To become more efficient, the education system has to be accepted the recommendations in a positive way. One can learn and developed more by analyzing the previous experiences gained during challenge period and integrating the suggestions. Thus, all the educators are provided some suggestions to make the online systems of teaching more efficient during this pandemic period of Covid-19. Those suggestions can be summaries as follows:

- Teachers have to motivate students from time to time to participate in the online classroom actively.
- Teachers should take care of time in online classes as students sit in front of a screen or mobile phones for so long, so they should try to keep classes short.
- To resolve the student's carelessness during the online classes, teachers should inform the activities of students to their parents to check their child's activities from time to time.
- Teachers should encourage the students to write in the chat box about their problems if they have any. This will not derail the whole online class from their original path.
- Teachers must set some rules and regulations similar to their offline class, such as asking students to mute and unmute whenever asked.

- To overcome students' absenteeism online, the teacher should ask students randomly to pen their video during the online teaching.
- Teachers should create attractive teaching-learning materials like videos, power point presentations, etc. the videos should be short and simple. Teachers also search various online sources; YouTube videos and provide those links to the students. In creating these learning materials, the teacher must consider the following points;
  - Why we use this as a teaching-learning material?
  - What other resources material can they use?
  - How to include such teaching materials into their teaching learning process.
- Teacher should change their pedagogical approach and include power point presentations, quizzes, google forms, animations, simulations, etc.

### **SUGGESTIVE MEASURES AND STRATEGIES FOR EVALUATION SYSTEM-**

Evaluation plays a very significant role in the teaching-learning process. Without assessment and evaluation, the education process is uncompleted. So, to know the real achievement of students in their respective fields of education an educator has to correctly evaluated the learning outcomes. In this pandemic period the teachers are not able to judge properly the performance of learners. So, the educators must facilitate students and provide some strategy by which they can evaluate themselves. This provide the basis for students to being more competent and more skillful in the field of education. Ultimately it will help to create motivation and interests among the learner for attaining more knowledge and skills. Feedback is one of the most important attributes for the child's development which is also not correctly provided after each assessment process. Regular and effective feedback process is also stopped due to this covid-19 pandemic situation. Thus, the students are not able to find their learning progress and also the teacher can not detect the effectiveness of their methods and strategies adopted in instructional process. Some cases are also found that as per the recommendation of government of both nation as well as state there must be promotion to higher class without any assessment system. Students are not properly screening promoted and their lacunas and problems are still attached along with them. In these types of situations some case may also arise that student are not able to know on which criteria basis they are evaluated and certified. So, to make the evaluation process more effective and beneficial the evaluators must use different strategies to assess and evaluate the student's progress. The teachers can use the following strategies;

- Provide students with scenario-based learning.
- Avoid direct question and scenario-based assessment.
- Use of concept and understanding based questions.
- Ask to prepare short videos on some topic.

- Use objective type of questions instead of subjective.
- Questions for answering must use critical thinking skills.
- Use quizzes to assess the students' progress.
- Ensure that the students do not copy and paste in writing assignments.
- Direct to prepare some creative project-based work.
- Instruct to participate in discussion as a part of assessment criteria.
- Provide learning materials and ask them to write a summary of them.
- Alternative methods of feedback must be used.

If we use various strategies to assess the students' progress, we can engage them actively in the teaching-learning process. Active involvement and active participation of students must require for effectiveness of teaching. Then the educational systems proceed in an advanced way and the learners provide a positive contribution towards the development of nation.

## **CONCLUSION:**

The teachers' reflections revealed that they are facing various issues in the online teaching-learning process. However, this new context of teaching-learning is accurate, and it enables the teaching-learning process to be continued in this pandemic era when other things were closed entirely. Everything in nature has some positive as well as negative aspects. Similar situation also happened in the case of Covid-19, it has both valuable and deleterious effect. The reshaping in the educational instructions and procedures provide an indication to balance with the modern technological based education system. The modern trends of teaching and assessment techniques are developed and integrated to the old process of learning. This up-to-date e-learning system indeed advantageous emphasizing specifically for the developmental of curricular aspects of education. The knowledge gained through digital technology encapsulated that it discovers the recent techniques, methods and approaches of teaching as well as evaluation. But the web-based learning system gives less attention towards the co-curricular part like arts, craft and physical education, etc. So, the students are lacking skills related to practical and utility approach. The children of rural and remote areas find lots of complexities for using e-learning due to unavailable of ICT devices and low internet connection. There is a need for more systematic, shared, and strategic approaches to harness the potentials of the online teaching-learning process. In place of focusing on negative aspects of the covid-19, our focus should be to strengthen the partnerships among different stockholders of the education. Thus, the we-based learning methodology while incorporate with the conventional methods of education it become more successful. The potentials of this partnership can mitigate the adverse effects. In this way, the teachers and other stockholders of the education can enhance the quality of instruction for their learners by providing support, guidance, and a helpful hand.

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