



A Framework to Test the Readiness towards Online Education through Pedagogical Stakeholders after Facing the Challenges and Opportunities during COVID-19

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Abstract

Corona virus has seriously affected the education system at global levels. Most of the educational institutions had opted for online education as an alternative, to continue the teaching and learning process. Literature reveals that most pedagogical institutions have their individual practices and measures to test the level of readiness towards online education, based on teachers and learners, without involving other key stakeholders of an educational system. Consequently, there is a dire need of a standard framework to test the level of readiness towards online education, involving all the major stakeholders of a pedagogical system that requires a precise combination of different practices and areas those are essential for gauging it. This paper highlights the necessities of productive online education; key challenges and opportunities faced by educational institutions during COVID-19 pandemic and areas required to be focused in the future, centred on existing literature, and offers a framework to test the readiness of online education through required areas in the form of checklists, involving all the key stakeholders. Consequently, this framework is a benchmark for educational institutions in the direction of gauging the level of readiness towards online education.

Key words: Challenges, COVID-19 Pandemic, Framework, Online Education, Opportunities, Stakeholders, Readiness towards Online Education

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INTRODUCTION

Education is an important tool and a valuable asset for nations. It is a way to deliver the information and skills to learners. Human viruses are in millions and only a small number of them are listed with comprehensive particulars; therefore, mysterious and unknown viruses are forming huge difficulties to humanity and the atmosphere (Breitbart & Rohwer, 2005).

COVID-19 virus has adversely affected the entire world and damaged the process of teaching and learning, internationally. Humans around the world had to follow the safety measures, rules and regulations of social distancing, to be protected from the virus and to break the chain of its propagation. UNESCO observed that the termination of pedagogical practices during COVID-19 had affected sixty percent of the students in 200 countries, which is around 1.5 billion students (Ccfu, 2020). Overall, the pedagogical processes were shifted towards online education in the beginning of the pandemic, globally. Therefore, the educational industry had experienced a lot of challenges and opportunities during the last three years. It is globally observed that usual daily practices start moving back to normal, and suddenly the trend starts moving up, with a sharp rise of COVID-19 infections in different areas of the world; re-emerging as new variants. Consequently, the process of pedagogy during pandemic is facing huge challenges.

Subsequently, the educational sector is in a desperate need to resolve these challenges. Researchers, field experts and specialists are struggling to find diverse solutions. Currently, the most important question is about the level of readiness of an educational system towards online education after facing the challenges and opportunities during COVID-19. Literature reveals that there are a number of areas involved in testing the readiness towards online education. However, existing studies are focusing on the readiness of teachers and learners, without concentrating on other key stakeholders of the educational process. This paper offers a framework to test the readiness of online education through different areas, after getting the wisdom from existing literature towards the challenges and opportunities faced by educational institutions during COVID-19 pandemic. Educational legislators, teachers, learners, administrative heads of pedagogical units and institutions, and parents are major stakeholders of a pedagogical structure (OECD, 2021). These key stakeholders of an educational system are involved in the offered framework to gauge the level of readiness towards online education.

Next sections of the paper explain the following areas: “Literature Review”, “What is Online Education?”, “Components of Productive Online Education”, “Challenges and Opportunities of Online Education during COVID-19 and Areas to be Focused after the Pandemic”, “A Framework to Test Readiness towards Online Education”, “Conclusions” and “References”.

LITERATURE REVIEW

What is Online Education?

Online education is a method of teaching and learning where learning stuff is accessible to the learners via the internet using electronic devices (Clark & Mayer, 2016). Online education is a process that supports a learner to learn from a distant location (Nagrare, 2013). Online education is also known as Electronic Learning that uses electronic resources without the inclusion of papers (Goyal, 2012). Online education is a method of exchanging the information thorough web based services; moreover, it is a platform that gives the ease of being connected and acquiring the knowledge from any location and supports self-learning (Bildik & Altun, 2020).

Components of Productive Online Education

According to the affirmation of Ahmad (2021), following are ten major components of productive online education:

A Blend of Modes for Online Education

There are different modes of online education, such as synchronous mode, asynchronous mode, adaptive mode, collaborative mode of online education (Sander, 2021). A blend of diverse modes supports towards productive online education.

Preparation of Mixed Study Materials for Online Education

Preparation of mixed study materials is extremely helpful towards productive online education, such as audio, video, read and write, and gamification based materials for learner control (Ahmad, 2021; Ahmad, 2021).

Selection of a prominent web conferencing software

Productive online education requires the selection of a well-known and easy to use web conferencing software for online teaching and learning, such as Google Meet, Skye and Zoom.

Positive Attitudes of Learners towards Online Education

Attitude is belief or understanding of an individual concerning something (Merriam-Webster, 2022). Positive attitudes of learners are crucial for effective online education (Zhao, 2003). Effective implementation of online education is dependent on positive attitudes of learners (Cinkara & Bagceci, 2013). If a tool of online education is rated as friendly, easy to use and counted as an essential fragment of online education by the learners, then overall this attitude benefits the learners in improved learning outcomes (Ahmad & Al-Khanjari, 2011; Ahmad & Al-Khanjari, 2016; Ahmad, 2017; Ahmad, 2018; Ahmad, 2020; Ahmad, 2019; Ahmad, 2020; Ahmad, 2018).

Motivated and Engaged Learners

A determination to act and a spirit to do any task with a particular style is called motivation (Lexico, 2022). An active agreement to implement something is called engagement (Lexico, 2022). There is a direct relationship between motivation and engagement; hence, engagement is openly dependent on motivation (Dörnyei, 1994). Motivation and engagement are crucial components of success in online education (Gedera, Williams, & Noeline, 2015).

Reliable Remote Online Invigilation Methods for Formative and Summative Assessments towards Online Education

Formative assessment is a process of gauging the understanding of students towards gained knowledge through recently studied content, and to improve the process of teaching, based on their responses (Hargreaves, 2008). One of the key components of successful online education is formative assessment (Gikandi, Morrow & Davis, 2011). Summative assessment is a process of testing the knowledge and skills of a learner at a final stage of a particular course that determines the precision in specific areas; summative assessment is the essence of teaching and learning (Ahmad, 2021). COVID-19 had changed the mode of summative evaluation from face-to-face to remote online examination; unnoticed cheating in remote proctoring is the major issue that damages and upsets the testing of learning outcomes. Consequently, reliable methods for remote online proctoring are essential to prevent cheating in online examinations (Ahmad, 2021).

Active Learning towards Online Education through Samples of Real Life Scenarios
Samples of real life conditions, integrated with course materials could link the students towards its real life application, as they would meet these scenarios in the upcoming time, and it is substantial for active learning (Sheridan & Kelly, 2012). Online learning based on scenarios is a productive method to motivate and engage the learners (Kelly, 2015).

Soft Skills Development through Online Education

Productive online education requires the development of soft skills through online instruction, such as communication, critical thinking, decision-making and teamwork (Shaheen et al., 2012). Development of these soft skills is essential for the successful implementation of online education (Ahmad, 2021).

Stakeholders Willingness towards Online Education

Policy makers, teachers, students, managerial heads of pedagogical units and institutions, and parents are key stakeholders those are directly connected with the process of education (OECD, 2021). Productive online education is based on the readiness of all the key educational stakeholders.

Participation of Parents towards the Process of Online Education

Authoritarian, disciplinarian, permissive and uninvolved parenting are the famous styles of parenting (Baumrind, 1967; Baumrind, 1991). Parenting style influences and acts as a moderating variable towards the implementation of online learning. In addition, parental involvement and active participation is necessary for the successful implementation of online education (Ahmad, 2021).

Challenges and Opportunities of Online Education during Covid-19 and Areas to be focused after the Pandemic

Ahmad (2021) conducted a literature review on the research studies, done during COVID-19 at global level and stated following key points given in tables 1, 2 and 3 towards challenges, opportunities and areas to be focused after the pandemic.

Table 1: Faced Challenges towards Online Education during COVID-19 (Ahmad, 2021)

Faced Challenges towards Online Education during COVID-19		
Unattainability of laptops and personal computers during the early phases of pandemic.	Issues with learners' attitudes.	Issues with network connectivity.
Instructors and learners lack in knowledge and skills towards the processes of online education.	Lower levels of motivation and engagement.	Troublesome atmospheres at homes concerning the facilitation of online education.
Issues with online formative and summative evaluations.	Issues in downloading the online materials.	Difference between the instructional resources of face-to-face instruction and online instruction.

Table 2: Opportunities towards Online Education during COVID-19 (Ahmad, 2021)

Opportunities towards Online Education during COVID-19		
Self-paced education	Modification of traditional methods of instruction through online education.	Suggestions for new mobile learning methods.
Increase in research towards online education and electronic learning.	Application of diverse instructional methods through online education.	Conversion of traditional materials to online materials of instruction.
Realization of weaknesses and limitations by the educational establishments in their current structures.	Formulation of new policies and procedures towards online education.	Skills development and enhancement of teachers and students.
Enriched parental contribution and variations in parenting styles.	Exploration and testing of formative and summative assessments towards online education.	

Table 3: Areas to be Focused towards Online Education after COVID-19 (Ahmad, 2021)

Areas to be Focused towards Online Education after COVID-19		
Selection of several reliable methods for online formative and summative assessments.	Revision in curriculum towards online and blended education.	Implementation of different online learning techniques.
Modification and accumulation of educational policies and procedures towards online education.	Virtual reality, augmented reality and artificial intelligence based online instructional resources.	Selections of suitable parenting styles required for online education.
Exclusive and enriched financial resources for research towards online education and purchase of related software.	Persistent surveillance, assessment and improvement of online instructional exercises.	Practices for online implementation of soft skills, such as improvement of learners self-efficacy through communication, critical thinking, decision-making and teamwork skills.
Development and implementation of policies towards the increment of stakeholders' confidence in online education.	Active practices towards the knowledge and skills development of teachers and students to combat an invisible disaster.	Application of different mobile learning methods.
Selection and application of multiple methods and resources for self-directed/personalized learning towards online education.	Formation and implementation of parental training programs.	Enrichment of motivation and engagement through online scenario based learning methods.
Development of mitigation plans and facilities of urgent technical assistance towards online education in a case of crisis.		Self-efficacy towards internet connectivity and computer usage.

As explained by (OECD, 2021) main stakeholders of an educational process are policy makers, instructors, students, managerial heads of educational units and institutions, and parents, as shown in figure 1.

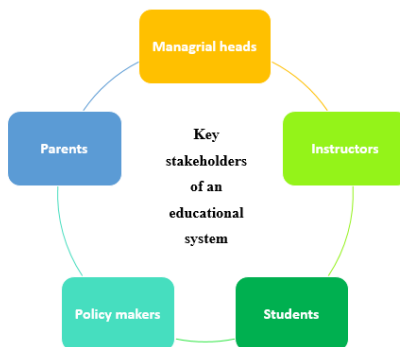


Figure 1. Key stakeholders of an educational process.

Currently, there are debates in the educational sectors regarding the ways to test the level of readiness in educational systems towards online education after facing the challenges and opportunities during COVID-19.

Ranganathan and Kumar (2021) conducted a research on the students of physiotherapy and evaluated the readiness towards online learning before starting an online course. This research was purely focused on students. Moreover, there is another study conducted by (Tang et al., 2021) concentrating and evaluating the readiness of students towards online learning during COVID-19. Hosny et al., (2021) measured the readiness of teachers towards online teaching during the pandemic (COVID-19). Likewise, investigators (Junus et al., 2021) tested the readiness of teachers towards online classes during COVID-19 pandemic. Researchers (Hung et al., 2010) produced a scale of testing for the learners' readiness towards five areas, including computer/internet self-efficacy, self-directed learning, learner control, motivation for learning, and self-efficacy in online communication. Khairuddin et al., (2020) explored the readiness of students' towards online learning; although, the research had used a worthy methodology and outcomes of the study were useful. Nevertheless, the research was focused on students' readiness towards online education; and missed the involvement of educational key stakeholders. Furthermore, this research had not provided a framework to test the readiness. Therefore, these research studies had entirely focused on teachers or learners' readiness towards online education, without including the major stakeholders of an educational system.

Consequently, these studies reveal that the existing literature is focusing on students and teachers readiness towards online education that is not enough to gauge the overall readiness of an online educational system; hence, there are limitations in existing literature regarding the involvement of major educational stakeholders. Moreover, challenges, opportunities and areas required to be focused towards online education are not considered from an organized perspective, and a structured framework is unattainable; the provision of this type of framework would be helpful and applicable for the educational institutions at global levels, concerning the testing of overall readiness towards online education.

Depending on the existing literature, available in the section ("Components of Productive Online Education") of this paper, and its subsections, plus, points available in tables 1, 2, and 3, together with the key stakeholders of an educational process; a framework is offered in the next section of this paper, including the areas towards the testing of online educational readiness (Figure 2).

A FRAMEWORK TO TEST THE READINESS TOWARDS ONLINE EDUCATION

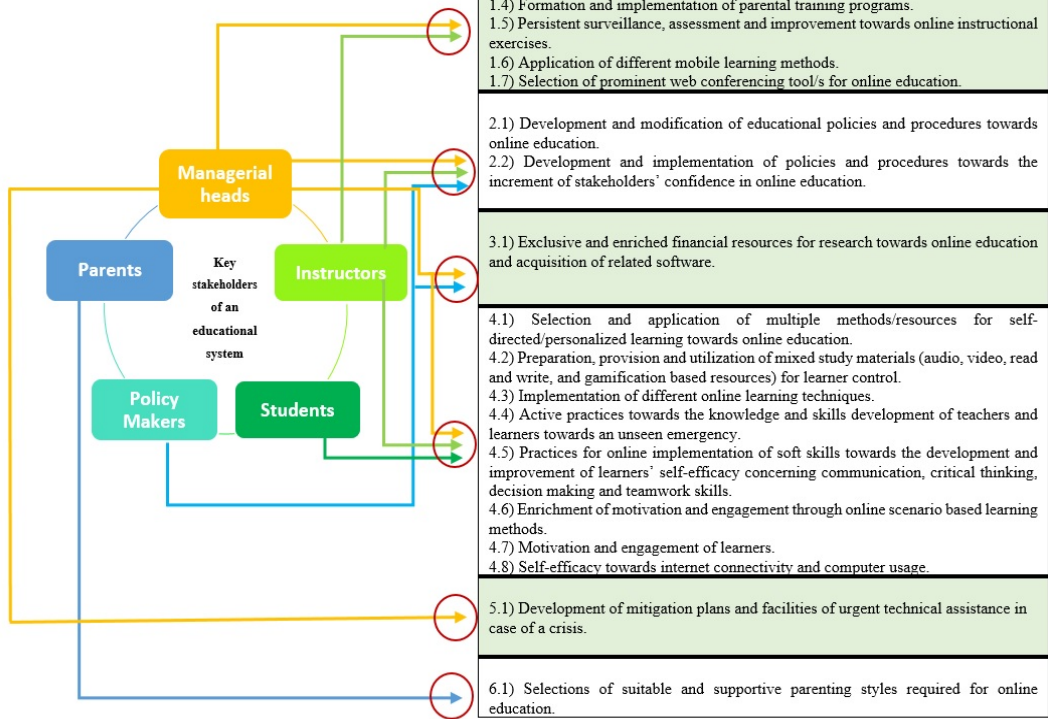


Figure 2. A Framework to Test the Readiness of Online Education (all stakeholders should test the areas of readiness as a checklist; related to their domains, as shown above).

The framework illustrated in Figure 2 shows the areas required for the testing of readiness towards online education. All the concerned stakeholders (policy makers, managerial heads of educational units and institutions, instructors, students, and parents) have to look towards the areas of their domains among twenty (20) key areas, as given in Figure 2, and use concerned areas as checklists to test the readiness towards online education. Therefore, these areas cover the major requirements to test the readiness of a system towards online education; consequently, each part of these areas is essential and should be used as a checklist by the concerned stakeholders. Hence, offered framework is a state-of-the-art solution through the presented areas to test the readiness towards online education.

CONCLUSIONS

Education sector has faced the adverse effects of COVID-19 pandemic, internationally. Online education was the mode of education, adopted to continue the pedagogical processes. There were many challenges faced by the sector towards

the continuation of its teaching and learning processes at early stages. Consequently, the industry of education has learnt greatly through emergency implementations, piloting, experimentations and research. Existing literature discloses that majority of the educational organizations are limited to their specific methods and evaluations, concentrating on teachers or students to gauge the readiness towards online education, without including major stakeholders of an educational system. Policy makers, managerial heads of educational units and institutions, instructors, students and parents are key stakeholders of this process. Hence, there is a call out for a state-of-the-art framework that works towards all essential areas linked to the stakeholders.

Bearing in mind the literature review section of this paper, it is underlined that existing research is aiming at the testing of students' and teachers' readiness towards online education. However, other major stakeholders of an educational system are missing; a system cannot be evaluated, based on the teachers and learners, only, without the involvement of other key stakeholders of an educational system. In addition, a systematized framework is missing from the available research, keeping in view the challenges, opportunities and areas required to be focused towards online education.

This paper offers an organized framework that emphasizes on key themes, discusses challenges and opportunities during COVID-19 and focuses on required areas to be concentrated in the future, concerning the testing of readiness towards online education, including key stakeholders of an educational system. Consequently, this framework is a novel and contemporary solution that should be used as a benchmark to gauge the readiness of an educational institution through all the pedagogical stakeholders towards online education.

Dear educational institutions, instructors and field experts, what are waiting for? A state-of-the-art framework to test the readiness towards online education through containing the major stakeholders of an educational system is in your hands; use this framework to test the readiness and achieve the intended learning outcomes.

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