



RISING CHALLENGES OF E-LEARNING: EFFECTIVENESS ,SOCIAL IMPACT AND HEALTH ISSUES

SYNDICATE 17

INTAKE 37

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COVER SHEET

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effectiveness, social impact and health issues.
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DECLARATION

1. We declare that this is not incorporate, without acknowledgement, any material previously submitted for a degree or a diploma in any university and to the best of our knowledge and belief, it does not contain any material previously published and written by another person or ourselves except where due reference is made in the text. We also hereby give consent for our dissertation, if accepted, to be made available for photocopying and for interlibrary loans, and for the summary to be made available to outside.

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DEDICATION

2. We dedicate this dissertation to our family, friends, officers, instructors and all those who supported us, gave us encouragement and provided insight throughout this study project. We also pay special gratitude to our loving parents without whom we would not be here today. We appreciate all the troop commanders, squadron commanders and all other military officers who were always behind us, guiding us on the right path forward and encouraging and showing us that anything is possible with hard work and integrity.

AIM

3. The aim of this project is to identify the rising challenges of e – learning : effectiveness, social impact and health issues .The study elaborates the difficulties faced in implementing E learning in the present environment with the Covid 19 pandemic. It also discusses about the actions that could be taken to overcome such challenges in general considering both the student and instructor parties in the Global Education system.

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CONTENT

Topics	Page no.
1. Chapter 1: Introduction.	1
2. Chapter 2: Overview of E – Learning Methodology.	2-4
3. Chapter 3: Rise and Implementation of E-Learning.	5 -6
4. Chapter 4: Rising challenges of E- Learning : effectiveness , social impact and health issues.	7-14
5. Chapter 5: Actions taken to overcome the rising challenges of E Learning.	15-20
6. Chapter 6: Conclusion and Recommendations.	21-23
7. References.	24

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CHAPTER 1

INTRODUCTION

4. With the ongoing Covid 19 pandemic situation all across the globe , the use of standard and primitive physical methods of learning has been aged to disappearance as per the precautions taken to ensure safety and health of the citizens.

5. Like all other countries , Sri Lanka also has adhered to implement these safety precautions and as a solution we have also shifted the education system into the online platform.

6. Therefore since the beginning of the Covid 19 Pandemic Universities , schools and educational organization have taken rapid actions in continuing to educate the students by facilitating them to learn through these online platforms whereby teaching is undertaken remotely and on in digital platforms as stated before.

7. With this sudden shift away from the classroom in many parts of the globe, some are wondering whether the adoption of online learning will continue to persist post-pandemic, and how such a shift would impact the worldwide education market. There are around 1.2 billion children in 286 countries affected by this cause which has been addressed by the shift to e-learning.

8. The government of Sri Lanka made a remarkable transition to online tertiary education after closing its higher education institutions in response to the coronavirus disease (COVID-19) pandemic. Studies say that, nearly 90% of student respondents have been able to access online education. This rate is comparable to developed countries like Japan.

9. With the change to e-learning, the students, users, and the involved parties have come across certain challenges which can be categorized mainly into effectiveness, social impact, and health issues which were caused due to the shift towards e-learning. This study will address to these challenges and provide necessary ideas about the sector in brief.

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CHAPTER 2

OVERVIEW OF E – LEARNING METHODOLOGY

10. The focus of e-learning methodologies is on both asynchronous and synchronous methodology. This environment would be primarily asynchronous with background discussion, assignments and assessment taking place and managed through synchronous tools.

11. Here are some of the eLearning methods that a any educational institute can include for its teaching programs:

a. Web eLearning. Web E-Learning is based on website content. Students can access this website from their personal device or through the university’s internet. Websites provide students with the flexibility to learn as and when they can or want to. It does not limit learning to a particular space and allows users to access the information whenever they wish to do so. A website also gives the flexibility to add multimedia, such as text, videos, images, and more. This adds a new dimension to eLearning and makes it more interactive and engaging for the students. It also familiarizes students with web-based tools so they can get acquainted with modes of internal communication at your university.

b. Virtual Classrooms. Virtual classrooms are basically the modern version of an instructor-led training session. This allows both instructors and attendees to be involved in the process. Instructors are present in the classroom with the help of video software while attendees are present physically. This can also be done remotely via conferencing software. This eLearning model encourages collaboration, ideation, and engagement, helping to create an environment for personal connections. The ‘presence’ of an expert allows back and forth questioning, a live learning experience, and a human element that other modes lack.

c. Video Modules. Video modules are produced by learning videos that have been made in advance for the reference of the students. These modules can be animated or with a human instructor. The opportunities are endless when it comes to creating videos for a corporate training program. This is also a highly-flexible mode of eLearning, as the videos can be accessed by users anytime they want. They also have the ability to play the videos as many times as they wish. When it comes to grasping a concept, videos often perform much better than text because humans love graphic-based delivery. The colors, seamless explanation and video format make eLearning easier for the students.

d. Specialized E-Learning. Every organization has different corporate training needs and every students or group of students has different needs when it comes to their corporate training. In such scenarios, mass-produced and general corporate training modules just don’t cut it. With custom eLearning development, there is the flexibility of having the ability to choose and customize

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corporate training programs. With eLearning, employers can establish a personal connection with their students as they are able to accurately fulfill their needs and not have them learn something that they might either already know or have no need to learn.

e. **Social Media Training.** The world has gone social and employers are just catching up, especially when it comes to corporate training. This eLearning model creates a collaborative environment for the students and taps into the power of social media. Through a platform like Facebook, Instagram, and Twitter, this program delivers the required knowledge and does so in a cohesive way that encourages teamwork and collaboration. If social media is a key part of your university, this will improve students' familiarity with important methods of internal and external communication.

f. **Microlearning.** Microlearning refers to the delivery of eLearning content in the form of information nuggets. Each module spans is typically not more than 10 minutes and comprehensively addresses one learning objective at a time. With microlearning, each module focuses on just one topic, this allows users and readers to retain information in a more efficient manner. With microlearning, corporate training reaches a new level of efficiency as it allows better retention rates and finds a way to battle the forgetfulness curve. After adopting this eLearning method, the corporate training strategy dives into establishing a strong personal connection with its students. The average attention span of humans is not more than 8 minutes and microlearning battles this with create short, relevant and concise pieces of eLearning modules that make corporate training more of a success.

g. **Mobile learning.** When it comes to eLearning, accessibility plays a crucial role. What better way to stay accessible than to go the mobile route. Through mobile eLearning, students have access to the needed information at the comfort of their homes or even during the train ride to work. Mobile learning puts corporate training right into the palms of the students thus allowing them the freedom to refer to it as and when they wish.

BENEFITS OF E-LEARNING

12. Your education does not have to stop because of a pandemic. Online learning caters to the modernized learner, and it's rising in popularity, especially during the COVID-19 situation. Here are five advantages of e-learning.

a. **Saves Time and Money.** When it comes to online learning, you can access the platform anywhere and anytime. You don't need to take time off of work to attend the lecture. In addition to that, it's cost-effective. You wouldn't have to waste money on gas and printing out material.

b. **Better retention.** Modern learners retain information better if it's more interactive and bite sized. People rather listen to a podcast or watch a video than read through a textbook.

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- c. **Consistent.** The problem with face to face sessions is the lack of consistency, especially if every professor has different teaching styles and preferences. Fortunately, online learning offers consistent training, which means that everyone goes through the same experience, regardless of where or when they take the course.
- d. **Scalable.** You can use as many employees as you need, and it's only a one-time investment. The more students you have, the faster you can write off those expenses.
- e. **Personalization.** Everybody has different learning goals and preferences. Online learning makes it possible to cater to everyone's needs. Students can choose their path and navigate at their own pace. They decide what to learn and when to learn the material, leading to better personalization.
- f. **Flexibility for your employee.** Today's employee's workplace solutions that fit their lifestyles. Providing training that can be accessed when it works best for them accounts for your employee's need for flexibility, thus improving overall employee morale.

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CHAPTER 3

THE RISE AND IMPLEMENTATION OF E-LEARNING

13. Long before 2020, the state of education was evolving into something new and interesting, but this year appears to be the year when the e-learning business is truly flexing its muscles. As society embarks on this massive experiment to figure out how to make online education work for the students, it's a good occasion to reflect on what we'll learn and where we'll go.

14. To comprehend the future, we must first comprehend the past. Although the advantages of e-learning have existed from its inception, it has been regarded as a lower type of education, probably due to the fact that in the 1990s and early 2000s, certain more shady parts of the internet offered “degrees” for sale that needed no effort or study. It was a difficult barrier to overcome until the last decade. This began to change in the 1990s, when reputable universities of United States of America such as Duke and Cornell began to provide online certifications. By 2010, there were almost 3 million online students in the United States.

15. The demand for professional skills increases rapidly as the job market evolves. Things like coding, modern business skills and digital design were becoming increasingly popular with the new workforce entering the job market. But it's a demand that traditional educational institutions seemed unable to meet. This led to the creation of tertiary providers that focused on one specific skill set or industry. When hiring, companies are now recognizing the value of certifications that come from specialized providers, as opposed to solely prioritizing those from traditional institutions. These tertiary providers are known to be just as capable, or even more so, of providing training as universities and colleges.

16. Another reason for the shift toward online learning was that the age group most likely to be attending higher education (18-21) was increasingly tech-savvy. In 2016, 56% of U.S. college students stated that they brought their laptops to class, and in 2019, 81% of U.S. college students claimed that digital learning technology helped them to improve their grades. Even when not required by their course, students were starting to turn to digital tools. At this time, more of us are living online than ever before. Zoom online learning software's daily active users skyrocketed from 10 million to over 200 million in Q1 of 2020. Workshops and boot camps are being replaced by webinars, and classrooms are moving online to meet the demand for education.

THE IMPACT ON COVID 19 PANDEMIC

17. And when it comes to the 2021 era, the rise and the spread of the covid 19 pandemic was the main impact on the rise of the need for e-learning facilities globally. While countries' COVID-19 infection rates vary, more than 1.2 billion children in 186 countries are being affected by school cancellations because of the pandemic.

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18. Due to the temporary shutdown of educational institutions during the pandemic, the worldwide education landscape has shifted dramatically in favor of online learning. Digital platforms and applications, digital learning management systems, live-video communication collaboration platforms, massive open online courses (MOOCs), and tools for developing learning content have all gained in popularity as a result of this situation.

19. Some platforms have offered free access to basic services during the pandemic, which higher education institutions used extensively among academic staff and students with digital experience. For example, 90.3% of universities in Japan were providing e-learning as of June 2020. In upper-middle-income countries, 88% of youth has continued learning, 54% by video lectures, and 40% by online testing.

CHAPTER 4

RISING CHALLENGES OF E LEARNING

EFFECTIVENESS

20. E-learning is a growing trend among many higher educational institutions. Learners and teaching professionals are attracted by the many benefits of e-learning, such as the flexibility of learning anywhere, at any time and at an individualized pace.

21. Learning experiences using various electronic devices (e.g. computers, laptops, smartphones, etc.) with internet access in synchronous or asynchronous environmental conditions are referred to as online e-learning. Online e-learning has the potential to make the educational process more student-centered, creative, and flexible.

22. Awareness about the e-Learning methodology is the most crucial factor in the effectiveness of e-learning as Awareness of e-learning among the Universities and educational institutes is a very crucial factor but investment and commitment to developing an e-learning application for own use of an institute are very poor and below expectation, while almost everyone trends to use common platforms and materials.

23. Methods of assessing the effectiveness of e-learning systems are a critical issue in both practice and research. The success of the e-learning systems can be measured by using the six factors from Ozkan and Koseler (2008) model which was a methodology introduced for evaluating the e-learning systems, which consists of system quality, content quality, service quality, instructor attitudes, learner perspective and supportive issues.

a. **System Quality.** System quality refers to the quality of the functionality of an information system itself. Supportive factors, system quality, learner's perspective, instructor perspective, information quality, and service quality are the factors that have a significant effect on e-learning in universities worldwide. low-complexity, authenticity, and technical support were found to be useful predictors for future use intention and satisfaction. System quality, information quality, and instructional quality positively influence user satisfaction hence increase the e-learning benefits. From this point of view, the e-learning system itself is one of the most important factors and should be of the highest quality in terms of ease of use, ease of access, flexibility therefore the student would love to engage on it. Studies have explained that one of the five barriers in e-learning in 5 dimensions and one of the dimensions is quality of the software. This can be said that lack of system quality would prove to be difficult for student to interact with lecturers hence affecting their e-learning.

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b. **Service Quality.** Service quality can be defined as the judgment of service that perceptions on service quality and ease-of-use contribute to customer satisfaction. Where quality is concerned, a user does not have any physical product that he/she can hold, feel and assess. Therefore, experience in interacting or accessing the e-learning services will play a vital role in ascertaining the level of quality. Easy navigation, easy to find the required information and available help information are important aspects of service quality in encouraging learner's habits. In the diverse context of information system, service quality have been found out to have direct influence on user satisfaction. Meanwhile in the context of e-learning service quality also have direct influence on user satisfaction. In 2014 Lawal and Akintunde support this fact by proving it in their research in the university of Jos, Nigeria. The quality of the service provided by the e-learning systems could improve student interactivity hence could increase the willingness to explore the content. The willingness to explore and interact within the system could significantly influence user satisfaction.

c. **Content Quality.** Content quality is also known as information quality. It refers to the perceived output produced by the system. The common characteristics of information quality include accuracy, relevance, timeliness, sufficiency, completeness, understandability, format and accessibility. In the e-learning context, information quality is measured by indicators related to relevance, timeliness, sufficiency, accuracy clarity and format, and proved that information quality directly significant on learner's satisfaction and indirectly on perceived usefulness. Likewise content quality was significant on learners' perceived usefulness. In the Middle East, an exploratory study in Oman, indicated that information quality as sufficiency, accuracy, relevance, timeliness, and understandability to some extent was cited as a determinant of learners' Learner Management System use. Carefully designed course content has a positive effect on student motivation towards e-learning. We can include instructional quality as factor that effects e-learning and instructional quality has positive effect on course management system. Content of the course should be carefully designed by instructor to garner the effectiveness of e-learning in which students are willing to explore the quality content for their learning. Making the students exploring the contents by themselves is one of the main objective for an effective e-learning.

d. **Learner's Attitudes (Human Factors).** Learner's attitudes towards technology and blended learning have significant effects on the success of e-learning. Learner characteristics, such as attitudes, motivation, belief, and confidence need to be identified first. Learner's attitudes are measured through the dimensions of self-efficiency, enjoyable experience, interaction with other student and lecturer, and learner's study habits. The students who had have attitude to willingly explore the content by themselves have higher engagement with the content, thus increasing their own mastery of the subject content. However, learner's attitudes are not the most important factor for user satisfaction. The learner's attitudes could have significant effect on e-learning in which there is the self-explored, self-paced, and self-monitored learning system. An e-learning application might be rich in their system quality, service quality, and its content, but if the attitude of the learners is not right it might decrease the effectiveness of e-learning.

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e. **Instructor Attitudes (Human Factors).** Normally An instructor is defined as a continuing oral presentation of information and ideas gained through their reading or experiences. Lecturer is also involved in student participation and as the primary agent in an instruction. Lectures are at their best when they stimulate students to become active learners. The instructor is the most important success factor in e-learning whereby he/she increases user satisfaction and encourages students to become engaged in various learning opportunities. Instructors could play a pivotal role in helping the student to achieve educational objectives. Therefore, instructors need to be highly active using e-learning systems by providing fast response, motivation support, suggestion, and assessment can positively increase student satisfaction. And considering the importance of interactions for learning purposes in e-learning, students need to have greater interactions with other students and lecturers as much as they interact during normal physical learning methodologies. Moreover, students also improve their own mastery of the course content compared to the course that does not use social technologies. It is clear that motivation is one of the key factors and the instructor is the best possible person to motivate them.

f. **Technological Factors.** When considering technology, access to electronic devices is a major constraint in online education. Not all students have electronic devices, especially in developing countries, so they would be unable to even use the online learning materials. In some cases, electronic devices may be available, but of too poor quality (e.g. too slow) to ensure a positive learning experience. Another major technological barrier to online education is internet connectivity. Even if students have a sufficiently powerful electronic device to consume digital educational materials, they still need to be able to access those materials via the web. In poorer areas and equally, in rural areas with limited internet infrastructure lack of internet access can single-handedly prevent the rollout of online education. Even when the human factors and quality factors mentioned above are in a good state, e-learning will be useless without satisfying the technological requirements.

g. **Assessments.** The other challenge related to E-Learning is assessing students remotely. In higher institutions, assessment has three major purposes:

- i. Support learning.
- ii. Execute accountability.
- iii. Provide certification, progress, and transfer.

Formative and summative assessments in conjunction with appropriate feedback systems are used to support learning in higher education. As part of the online courses, an area of focus that deserves special attention is the assessment of student learning. This includes how instructors design and implements formative and summative assessments to measure the student progress and learning, providing

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effective feedback, and insuring academic integrity. Online assessments have their own sustained and inherent advantages and challenges. However, higher education institutions have faced another additional challenge during the current unprecedented COVID-19 incident due to lack of preparation of institutions, teachers, and students. A variety of remote assessments are available to evaluate students' online learning. These assessments are broadly classified as:

- i. Remotely proctored exams (time-constrained) like quizzes, Open book take-home assignments, Professional presentations, Viva presentations, E-portfolio.
- ii. Open-ended assessments.

SOCIAL IMPACT

24. The concept of e-learning during the covid 19 pandemic has been solidified to the present society which mainly considers seeking knowledge and delivering it . Nevertheless of the place, cast , ethnicity and social status you can participate in continuing to learn if you are able to access the internet.

25. Further impacts that specifically post-primary education has been to have Enclose reducing poverty, delaying girl's marriage, and consolidating decision making power. Secondary education plays a vital role in preparing for a long-term learning perspective. These are all the reasons why governments have been investing in compulsory primary school education and expanded secondary school education.

26. The education feed by the secondary schools may not be accessible to all parts of society or all areas of a country, hence e-learning has been found to affect this access to education. Research has shown that a lack in access to ICT created gap between countries, and an even larger gap subsist within countries between rural and urban areas, between women and men, and between poor and rich.

27. Language also can affect the e-learning programmers and specifically when learning software. Learning materials and Internet is in a standard language in which many students and teachers are not good. In India for example, students switch from learning in their respective mother tongue in primary school to English as the language of first preference in secondary school.

28. But what we need to think is the impact that is being caused to the society from adopting to these E learning concepts. These may or may not directly affect ones social life but will be approved to affect sooner or later.

a. **Limited Social Interaction.** It is clear that computer mediated communities exhibit the inability to foster substantive and genuine personal relationships and eventually lead to legitimate social bonding among themselves.

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This happens when the students sits in front of a screen where he is been limited to certain actions only .The interaction in between the involved parties is limited. Collaborative learning one of the most effective teaching methods adopted by the teachers which is mainly based on active participation and interaction between the student and the instructors is put to concern in e learning. This method requires cooperation between the involved parties in gathering a base of knowledge. This cannot be ensured in E learning since factors such as the social structure supporting the online environment , initiating the episodic phases , a moderator to sustain and initiate the interaction and most importantly a community that actively involves may be essential to obtain the tallying results.

b. **Privacy and Non-volatile conversations.** When considering a normal classroom that is conducted physically there is no permanent record of the conversations and discussions , the words maybe written or remembered but not recorded as the exact that has been said. There is a difference with on-line conversations and this difference has an important impact on what we say, when we say it, who says it, and how we use it. On-line communications can be recorded. The recording of these conversation can be retrieved and the speaker can be easily made accountable for what he or she has spoken. The privacy and confidentiality of the conversation is diminished, and the words, thoughts, property of the text is not longer restricted to that of the speaker or contributor in an online platform which e learning eventually falls into.

c. **Shared Value System and Identity.** E learning should empower and protect its community at the same time , it will have to balance off both when considering a student and a teacher. The freedom to speak , individualism , equality and similar or different interest of the students must be respected .Since one is able to personify himself or herself as whomever he or she wants the ability to experiment with ones identity or character may have a significant impact on his or her social and personal life. The identity of the person cannot be witnessed until he or she allows to exhibit it and therefore the shared values of the students or instructors are upset , distorted and in other cases violation of one own social being. And no actions could be taken about that but a lot could happen within the boundaries .

d. **Myths and Ideas of the Society.** The society often tend to circulate rumors and ideas saying that e learning will not withstand a chance to replace the physical education system and that it is a waste in trusting the process of educating ourselves through this method. This might break a participant's interest in learning and executing the process through these platforms. The adverse social beliefs and ideas on how e learning would work is also clearly a challenge faced for its continuity.

e. **Digital Divide.** The Digital Divide refers to the gap between those who have access to information technology in other words resources to connect to the online community and those who don't. E learning in the pandemic has been the savior of education and is expected to increase the reach of knowledge but what the institutions do not consider is the factor called Digital Divide. Due to the digital divide in the society also in the world the accessibility to e learning is limited and will not provide the accepted reachability.

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HEALTH ISSUES

29. COVID-19 has rapidly and dramatically altered our lives. Unfortunately, teenagers and young adults are among those who may be most impacted as a result of the virus. Corona pandemic has affected every aspect of human life including children. Whether it's the mental health, physical health or a combination of both – the children have had their own share of health problems during this pandemic phase.

30. **Mental Health.** Online learning affects everyone from young children to young adults, teachers, and professors. For many students, virtual classes may worsen existing mental health disorders. For others, the impact of the pandemic and online learning can trigger new changes in mental health and mood. Below are some of the ways teens are most affected by online learning.

a. **Social Isolation.** While primarily a place of education, school is also the center of many teens' social lives. It offers teenagers and young adults an opportunity to connect with their peers. It's an opportunity to socialize and express themselves. However, with schools and colleges moving to virtual formats, teens may feel lonely, unmotivated, discouraged without regular social interaction. Numerous studies have shown social isolation can cause higher rates of negative outcomes for the mental and physical health of individuals. Other studies have found that face-to-face interactions can help reduce depression and anxiety. Less social interaction may increase feelings of social anxiety and pressures. For example, teenagers may worry about changes in their friendships as a result of prolonged isolation.

b. **Increased Stress & Anxiety.** Alongside the lack of social interaction, online class structure can affect teens and adolescents in a number of ways:

- i. They may feel heightened anxiety about keeping up to date with their schoolwork.
- ii. Other teens may experience difficulty concentrating or staying focused while at home.
- iii. For some adolescents and young adults, being in front of others on video can lead to its own anxieties.
- iv. Students may find it difficult to receive the extra education support they need to succeed.

As many parents know, being a teenager or young adult is often challenging enough; however, additional pressures placed on students can exacerbate normal anxieties and stressors.

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c. **Virtual Learning Fatigue.** Spending a significant amount of time online can fatigue both students and their teachers. Sometimes, this impact is referred to as “Zoom fatigue.” Part of the reason a day full of video interactions is so mentally draining is because our brains are unable to process information in the way it’s accustomed to. When we have in-person interactions, there are a number of non-verbal cues our brains process. These cues include:

- i. Tone and pitch of voice.
- ii. Facial expressions.
- iii. Facial expressions.
- iv. Body language.

when impossible to pick up on these cues, our brain must work harder to interpret the information that it’s receiving. On its own, this can cause extra mental fatigue. When this is coupled with the constant self-awareness of being on-camera in front of others, stress levels can easily begin to rise.

31. **Physical Health.** Children attending online classes at home are not bound to have classroom professionalism. Hence, their physical health is deteriorating too in many aspects.

a. **Poor ergonomics.** Unlike classrooms, the children are not bound to follow good ergonomics at home. Taking online classes on bed and sofas are one of the commonest reasons that we can attribute to recent rise on back pains or fibromyalgic pains.

b. **Lack of physical activities.** Obesity in children is on the rise either due to lack of outdoor physical activities or due to binge eating and easy availability of junk food at home. Children are losing their muscle mass and adding fat which is affecting their growth. Research has shown that the more physically active a child is during the growing period the better is their physical and mental health for the next 3-4 decades. Children by being physically inactive are also losing their muscle tone thereby finding it very difficult to cope up with sports due to muscle rigidity. Physical activities play a large role in Calcium and Vitamin D levels of the body.

c. **Deficiencies of Calcium and Vitamin D.** Apart from lack of physical activity, lack of sunlight exposure and poor diet also contributes to Calcium and Vitamin D deficiencies. Muscle cramps, spasms and strains/tears are common with trivial injuries / bad postures when a child is having severe deficiencies.

d. **Injuries.** Increasing number of injuries in children in recent times is either due to trivial injuries or due to over-enthusiasm and desperation of being isolated at home. Every child wants to get outdoors and their fitness is significantly poor due to the lockdown.

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32. Parents need to be cautious as well as to make sure that their children remain fit and healthy.
- a. Wearing face masks, social distancing and emphasis on personal hygiene are a must for all of us.
 - b. Create a classroom atmosphere at home to respect and maintain professionalism and good ergonomics.
 - c. Set screen time for mobiles and tabs after class hours and encourage children to avoid electronic devices.
 - d. Healthy muscles need good hydration and healthy food habits. Keep away from binge eating and junk foods.
 - e. 30-45 minutes of sunlight exposure with a minimum of 1-1.5 hours of exertional/rigorous physical activity like Gym/aerobics/Yoga's or outdoor physical activities whenever feasible is a must for all growing children.
 - f. And lastly, parents need to set examples for their children.
33. **Symptoms.** To identify that you or your child is suffering from any of these health issues the following symptoms may be noticed:
- a. Constant headaches and sleep cycles being affected.
 - b. Red and strained eyes Muscle and joint pains.
 - c. Avoiding online class attendance.
 - d. Lack of motivation and anxiousness.
 - e. Feeling isolated and minimum socialization.
 - f. Lack of communication and uneasiness.
34. The issues can affect the teachers as well and it is important to recognize the signs, be aware and bring closure to potential risks.
35. While the above are common to almost all children a few sensitive ones may show a different strain. They may get nervous and nail biting may increase. In some cases, isolation is leading to depression. Smaller children are resorting to thumb sucking at night and even hair pulling. All these are leading to adverse impact and disturbed sleep patterns.

CHAPTER 5

ACTIONS TAKEN TO OVERCOME THE RISING CHALLENGES OF E
LEARNING

EFFECTIVENESS

36. **Student Motivation.** There is a lack of instructor presence, face-to-face (f2f) engagement, and technical assistance in today's online classrooms. Even the most well-planned and precisely set out online educational environment is insufficient to maintain student engagement or promote intrinsic motivation. Learners who are new to online learning usually lack the metacognition awareness, time management skills, and self-directed learning required for success.

Student motivation is required action to be taken to reduce and undergo the challenges using the e-learning methodologies. The following steps will help the solutions.

a. **Provide Choice.** Effective eLearning provides the learner with various choices to make along the way catering to the learners' skills, background knowledge, culture, and abilities. By giving students a choice, whether it is a big or small one, you give them a sense of control. You are teaching them to handle their own learning and planning as per Deborah Stipek, a professor at the Stanford Graduate School of Education. Courses can provide choice through how learners demonstrate proficiency, how they apply skills, how they organize their learning or how they share their experiences with colleagues.

b. **Build Competency.** The learning has to matter for it to motivate learners. Focusing on abstract concepts or skills they already have only led to frustration or boredom. Motivational eLearning helps build competency by challenging existing beliefs and actions and testing out new ideas in old situations. Effective eLearning courses can build competency by engaging learners in case studies with different variables or through engaging and compelling stories that show the content in the context of real-world scenarios.

c. **Lead to Success.** Students who experience success in eLearning internalize the intrinsic rewards of learning and feel even more motivated to keep on learning. Effective eLearning courses lead learners to authentic, successful moments through clear goals, hands-on activities and flexible assessments. Take care when designing course tasks, though. Tasks that are too easy condescend to students, and tasks that are too difficult leave learners behind. Students can easily become frustrated and demotivated when they feel like they're struggling or not getting the recognition they think they deserve. Scaffolding is one instructional technique where the challenge level is gradually raised as students are capable of more complex tasks.

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d. **Feed Creativity and Critical Thinking.** Rote, boring tasks that require little thought do not serve to motivate students, leading to ineffective courses. To motivate learners, provide opportunities for students to engage in a deeper level of thinking. To do this, courses can ask students to define tasks, integrate and synthesize ideas, or question and engage other learners.

e. **Novel Content.** It's a fact that change and novelty can stimulate interest and alertness. The new and unfamiliar can motivate learners as well as they encounter something different than expected rather than the same old slides and graphs. Novel is not the same as shocking, though. Instead, look for unconventional stories or current events where content could apply. Or, engage students through games and simulations that require learners to apply the information in unfamiliar contexts.

f. **Variety.** Repeating the same set of online tasks for your courses is boring for learners. Instead, variety serves as a useful motivator by changing up patterns of thinking and behavior that limit innovation. A variety of tasks and ways of thinking actually builds new neural pathways that help the brain solve problems, remain engaged and stay motivated to learn even more. Add variety through hands-on experiences, model making or even activities that occur outside of the eLearning environment. Knowing the eLearning course won't follow the same boring model, can motivate learners to engage deeper with the content.

37. **Know your subject material well.** There is no golden rule on how much time you need to put into creating the ideal content, but one thing is certain – you need to take your time to research material before making it available to your learners. The reasons are simple, you want to be prepared to back up any claims made within your course material, not all learners digest information the same way, and some may need more explanation through examples or further proof. Online courses provided should appeal to all learning styles. The design of the online course should take every learning style into consideration. For example, while one student may benefit from visual multimedia presentations of coursework and lessons, another student may be able to better absorb the information when it is presented in text form. An effective e-learning course always takes these various learning styles into account when the lessons are being created.

38. **Facilitate Contact.** Students and teachers should be able to establish an open line of communication. Also, teachers should specify which means of communication they prefer and during which hours. This will ensure that expectations are met and that the student receives the help or support that they need. Also, students should have contact information for the systems IT support staff, and have access to a member of staff on a regular basis if needed. Examples of how students can communicate with their instructors are discussion forums, social media, chats, email, video conferencing and other VoIP technologies.

39. **The platform should be easy to navigate and fully functional.** When designing the site and e-learning platform, ease of navigation and functionality should be top priority. A well organized and intuitive web-based learning platform enables students to focus on the coursework rather than having to sort out technical issues that may arise from poorly designed sites and systems.

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40. **Course documents should be available to every student enrolled.** Course documents like the syllabus must be available for students to view, particularly at the beginning of the term. This will ensure that the student knows which lessons will be covered throughout the course and can use the syllabus as a guide throughout the entire course. It provides teachers with an effective roadmap, as well, and helps structure their lesson plans.

41. **Set and communicate clear goals.** A point we can't stress enough: one of the reasons teams are unable to achieve goals is not having clear enough guidelines on how to reach them. Part of the curriculum of any course should be what will be done when it will be done, and what is needed for the successful completion of tasks. It is therefore important that all instructors set and communicate clear goals to their learners in a manner in which they are sure they will understand and will be able to put into action.

SOCIAL IMPACT

42. **Adaptability and Motivation.** Students struggle to adjust to an online learning environment immediately following traditional classroom instruction. Students who have always studied in a traditional classroom setting are unable to concentrate on online platforms. It is critical that they approach the new learning environment with an open mind. Nowadays, adaptive learning employs artificial intelligence to tailor material to individual requirements. It aids in the provision of personalized courses in order to determine their shortcomings and strengths for improved learning results. An eLearning course may be as interesting and inspirational as you want it to be. Even dry or uninteresting things may be made thrilling and effective if they are made relevant and intriguing. Scenarios, eLearning games, and films are excellent methods to do this for your students. We could also encourage the students and instructors to efficiently allocate time towards their families and friends so that they won't be away from the real world scenario. This will extend the interaction between the instructors as well as the students inside the framework and outside as well.

43. **Centralized and limited Authority.** When considering the issue of privacy and nonvolatile conversations, the e learning platforms can be organized in a way where everyone does not have the authority to record or keep track of one's action including what they display and speak. This can be achieved by appointing an administrator who has the ability to record or keep track in any needed situation only and limit the access controls to other participants. One might think that the liberty of the e learner is being limited but instead the privacy of many is being secured by adapting to this act.

44. **Breaking the belief that eLearning offers no support.** It is a common misunderstanding that eLearning courses provide little assistance to its students. To overcome this, ensure that you have a strong support structure in place for all of your students. You can, for example, create a forum where students can cooperate with one another if an issue occurs. We can also incorporate simulations or action scenarios where a practical implementation of an experiment can be done or experienced.

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45. **Awareness of Roles in E Learning and Implementation of Rules.** A student may be given a chance to do a friendly session towards his/her colleagues under the supervision of an instructor such that he or she would understand the importance of collaborative effort and how one's contribution towards the session is important for it to be a successful one. The administrator of the platform or the session which can be an instructor may impose a rule to all its participants to switch on their camera's and exhibit themselves to others such that it would be convenient to carry the session effectively and all would be able to identify and authenticate the individuals present in the session.

46. **The New Digital Divide.** A student may be unable to understand the value or advantage of an eLearning course, particularly how the subject matter will aid him/her in the real world. To overcome this eLearning obstacle, you may wish to incorporate simulations or eLearning scenarios that allow the learner to see how the material may be used in real life. In education, the digital divide has become more about narrowing the gap between correctly employing resources to achieve great educational results and not having access to technology. The amount of expertise and comfort level each student has with these unique resource technologies determines the quality of learning results. One answer to this problem is for the instructor to create a collaborative learning environment. An instructor must take into account the learner's technical ineptitude and accept varying skill levels and must be prepared to provide learners choice with the desired performance targets as long as it results in the acceptable learning outcomes. Allowing learners to interact, share, and create will boost their usage of multiple technologies, improve their e-learning experience, and encourage self-directed and continuing learning. Creating an online community where learners can interact in a secure and respected learning environment would aid in closing the new digital divide. This contributes to the development of a culture of digital natives conducive to successful e-learning. The student should ask questions, seek further knowledge from trustworthy sources, reflect often, and engage in academic discourse relating to the online learning objectives with other learners.

47. **Technical Issues.** A sluggish and fast internet connection may make or break how soon you can attend the class and avoid missing any live sessions. There is a potential of bad connectivity if you have difficulties downloading subject-related information, blurry videos, or other technical concerns. Many students may not have access to a high-speed internet connection, which is necessary for online learning.

HEALTH ISSUES

48. When designing eLearning programs, instructors tend to take an impersonal, hands-off approach in regard to their students' social, mental, and physical well-being. Unfortunately, this can have a severe impact on academic achievement.

49. In eLearning courses, new students tend to adopt certain behavioral patterns that can lead to negative health issues. Instructors can discourage such behavior by keeping in mind the following:

- a. Reducing the dependency on reading via computers.
- b. Having proper sleep. Let computers and laptops be shut at least two hours before sleep time.

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- c. Avoid using very bright designs for any e-learning programs to reduce eye strain.
- d. Avoid staying in a same posture for a long time.
- e. If the younger children are cranky and restless, let them play outdoors.
- f. Have 15 minutes break between sessions so that the minds can be refreshed.

50. These are some practical tips to reduce risks for students' health problems in online classes. As a parent, teacher or a medical representative if you identify any of the symptoms listed above measures should be taken promptly. Adopting these tips will certainly have a positive impact despite the issues being faced by studying through online classes.

51. Same as the teacher or the parent, the student must have to be concern about their health as being a student, many online learners face challenges traditional students don't, such as balancing career and family with classes and coursework. The following methods can be used for finding balance in student's day to day life.

- a. **Learn To Meditate.** At the core of many relaxation routines is meditation. Most involve focusing on a single point, such as the sensation of breathing. Follow this meditation guide for helpful tips.
- b. **Get Mindful.** Mindfulness, or a state of active attention on the present, has come to the forefront in recent years as a core component in mental health. It can help you focus on the here and now, form memories, and slow down your thought processes. According to Psychology Today, mindfulness can help even during your busiest moments.
- c. **Eat Right and Exercise.** We know this one's easier said than done, but the basic components of healthy living have a significant impact on physical and mental health. Meal planning and setting scheduled time to exercise can be great ways to get into a routine.
- d. **Rest.** Getting enough sleep has serious benefits, from reduced stress levels to a healthier body.
- e. **Socialize.** It may be hard to remember with so much to do, but it's important to set aside time to spend responsibly with friends.
- f. **Set Realistic Goals.** Don't stress if you can't achieve everything all at once. The best way to ensure you're hitting your goals is to make them challenging.
- g. **Make Time ForFun.** Have a favorite activity that helps you unwind. Make time for your hobby. Mental health experts agree that penciling yourself in for some "me time" is an important part of anyone's life.

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- h. **Get out of the house.** If you're able, go outside for some of the items on this list. According to Business Insider, taking a walk in the wilderness or doing a yoga routine in the sunshine can offer surprising health benefits.
- i. **Go easy on yourself.** It's often easy to forgive loved ones for forgetting to finish a task or misremembering an appointment. It's important to hold ourselves accountable, but studies have also shown that self-compassion is an important part of good mental health.
- j. **Ask for help.** Whether it's calling your academic advisor, talking to a loved one, or seeking assistance from a therapist, there is nothing wrong with asking for help. Whether it's watching a quick video to de-stress or seeking long-term solutions for issues like stress, anxiety or depression, university resources can help.

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CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

CONCLUSION

52. The covid 19 pandemic situation has resulted in shifting into e-learning totally and this has made space for opportunities as well as challenges to rise up.

53. E-learning is a very powerful way that can be used to educate the society and people all around the world. The problems that the study has so far evaluated could be resolved with the effective solutions provided. And the current e-learning methodologies are now getting traditional than introducing newer innovative methodologies to continue and expand the e-learning system. So people must be encouraged to become innovative mainly on the e-learning methodology.

54. E-learning should be encouraged to reduce the difficulties associated with distant learning. Modern technology, fast Internet connections, consistent power supply, security, regular maintenance, and effective management of remote learning may all be used to modernize infrastructure, and access to all these by the end-users should be taken into consideration. Lecturers and students should also have the ability and confidence to utilize electronic equipment, as well as an understanding of the way through which information is presented. Rather than replacing conventional education, technology may be utilized to increase its quality.

55. Since the pandemic has paved the way for the E learning platforms to take the places of traditional teaching and learning forcefully with the mass restrictions , it has now turned into a normal day to day scenario where the days of physical learning is fading away.

56. But E learning as the new savior of education tend to perform well if used with proper knowledge and technologies. In order to obtain the fullest out of the e learning methodology , the requirements and resources such as fast internet , devices and infrastructure should be seemingly present .If so the total benefit factor can be obtained by E Learning.

57. The present student generation are digital natives and even though there might be factors challenging its complete capability, like foresaid with proper execution the ultimate goal can be achieved .

58. For E learning to be successful and more efficient the challenges that rise from every aspect should be actively addressed and resolved. By doing so the e learning can prove it's impact on the new learning environment and in the new normal.

59. E Learning is the answer for the future generation in order for them to be free and safe while undistractedly continuing there studies for the betterment of their tomorrow.

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RECOMMENDATIONS

60. Students or learners can be actively motivated throughout the sessions which will make them feel comfortable and actively participate in the session.
61. The sessions can be conducted in a way where the student builds up his or her thinking by using the knowledge that was gained by the session.
62. Participants can be pushed to think creatively and differently , activities and short assessments in between the sessions could be done to make this happen.
63. Bringing in new content and new information regarding the subject will also motivate the learners and the instructor which will automatically increase the effectiveness of the session.
64. Adapt to different methods of teaching inside the digital world which leads variety in learning and teaching patterns. The students can be assessed in a continuous form on different methods such as in class tests , open book test, assignments , short presentations and much more .
65. The students as well as the instructors should be able to contact and each other and resolve doubts at any given time. This should be facilitated through the sessions with a help of a dedicated chat box or any other relevant method.
66. The online platform should be fluid enough to function easily and understandable to any user for prevention of misunderstandings and confusions.
67. The software or the application used must be secure and the session can be controlled or administered by a single person who is responsible for recording and conducting session. The limited amount of permissions and imposing of protocols will increase the assurance of security.
68. Since the e learning shift was forced due to the pandemic , people carry doubts about the success of e learning . This must be proven wrong and it must be made clear that this shift towards e learning is the only method to educate the current society without any harm caused from the pandemic.
69. The digital divide in the country must be decreased or brought down . This can be done by providing the required technological accessories as well as other requirements .
70. The technological issues such as the connectivity can be addressed by creating agreements with third party cell carriers and the National Service provider to increase the connectivity across the country and open the gates to the global stage without interruptions.

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71. The student as well the teachers may practice good health habits to keep themselves healthy . This is because with frequent use of these devices as stated before health issues may rise leading to problem in continuation with e learning.
72. Practicing yoga and meditation are good ways to release the stress and anxiety that builds in a person.
73. Take a good healthy meal without getting used to junk food.
74. Take breaks and short stares at distant objects to prevent the damaging of eyes.
75. Spend time with family to avoid social isolation which may lead to trauma.
76. And set short term realistic goals for you to thrive towards a goal actively.

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