



## “Recent Epidemic & Online Education- Intensively Connected to Each Other”

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### **Abstract:**

In recent days, online education has been a trending event around the world. The “new normal” has changed the entire education system and learning appetite. In our research we have tried to find out the changes of lifestyles, impact on education with the emergence of COVID-19 and shifting of learning infrastructures. Also, we tried to compare economical changes before and after COVID-19 lockdown. However, we haven’t found any previous work on this particular topic, hence we had relied on online media and survey given by our participant teachers and students globally.

In this article, we have contrasted the positive changes of online learning, ways and styles of teaching online as well as physical and mental changes caused. This is nonetheless a new experience for us to explore online learning approach.

In continuation to the shift learning from face to online, it is the foremost step to have a full proof technical support and structured leaning platform so that students can get all relevant support immediately. Cost effectiveness is the prime consideration for online learning. Time management on the other hand is a vital part for online learning. The classes need to be kicked off and wrapped up within a given timeline. Teaching method and engagement activity should be different from face to face teaching. Online teaching however in the educator’s point of view needs to be animated, far engaging, and activity based. Taking a hospital as an example, online learning like a service ICU whereas face to face learning is to be a regular cabin support. Online learning has also some bad effect on the body as we need to sit in front of the laptop or computer for a long time.

To recapitulate, we’ve found below advantage and disadvantages throughout the research:

However online education system is a great relief for learners and education industry in this pandemic. Otherwise the learning could be interrupted for a long time which would have caused a worse world.

**Keywords:** e-learning, advantages, disadvantages, ulterior

## 1. Introduction:

Online education is not a new topic, but it comes with a new costume this year. It's a platform where student and teacher are connected with technology or system using different e-learning software and apps where virtual classrooms take over physical ones.

In 1989 the University of Phoenix became the first institution to launch a fully online collegiate institution that offered both bachelors and master's degrees. In 1996, entrepreneurs Glen Jones and Bernard Luskin launched Jones International University, which became the first accredited and fully web-based university.

Online Education ties together several historical threads—computers, distance learning, and telecommunications, just to name a few. This means tracing the history of online education goes back much further than just the dawn of the Internet.

We have done our best to bring all these related streams together into a single timeline. But, be aware, online learning is a lot more than just internet technology. It also merges educational theory, computer technology, and even legislation. All of these are needed to make today's online education possible.

There are two options, one is recorded class and another one is live class. In the recorded class teacher records a lecture about a topic and students watch that lecture for their study which is conducted via learning platforms like Zoom/Skype/Microsoft Meeting, etc. or via social media platforms like Facebook page/group or YouTube channel. But from the feedback of students and teachers from different education institutes and online studies, it's inferred that live class is more effective than recorded one where student can attend directly interact and discuss any topic with teacher.

Before this pandemic, people were interested in online education because of its cost and time effectiveness. Physical classroom incurs high cost. For example, if anyone wants to go another country to pursue higher study s/he has to pay for airfare, transportation, accommodation, living cost, etc which cost much higher than taking a degree online. So, it's easier to get a foreign degree via online staying at home.

But these days online education has a totally different meaning. It means staying home, staying safe with continue learning. It's not only a way of taking education but a necessity. Unlike earlier days when only any diploma or special courses were offered online, academic classes starting from pre-school to high school, from communicative language learning to professional learning in group or one-to-one class formats are offering online.

In 2000 only 8% of students were enrolled in an online course, but by 2008 enrolment had increased to 20% worldwide. The expansion of online education has not slowed either; by the fall of 2013 nearly 30% of all postsecondary students were enrolled in some kind of distance education course. Although the data on online course and program completion are complex, researchers have noted high rates of attrition (ranging from 20%-50%) among students enrolled in online courses compared to those who take traditional face-to-face courses.

In 2020, coronavirus pandemic prompted many universities to hastily transition to online learning in lieu of holding classes in person globally. In this era of pandemic, lockdown, private tuition via online & online home-schooling become popular terms. However, this article addresses the benefits, drawbacks, needs, popularity of online education as well as a hopeful sign of learning in critical situations.

## 2. Literature Review:

### 2.1 What is online education

The Internet has evolved from being almost non-existent in the last 20 years into the largest, most open knowledge database ever developed. The way individuals interact, shop, socialize, do business and think about knowledge and learning has changed. Online schooling is transforming the face of traditional classrooms and making education more available than ever before, something more than just a modern take on distance learning.

Online education is a type of education where students use the internet to use their home computers. In the past decade, online graduations and courses have become popular for many non-traditional students, including all those who want to continue working full-time or raising families. Online graduation and course programs, some of which are implemented using digital technology, are also given via the host university's online learning portal.

Computer-based training, Web-based training, Internet-based training, online training, e-learning (electronic learning), m-learning (mobile learning), computer-aided distance learning-Online education goes by many names and comes in a variety of forms, but at its core: Online education is electronically assisted learning that relies on the Internet for teacher-student interaction and dis-interaction.

An almost infinite number of ways to teach and learn beyond conventional classrooms and away from college campuses are derived from this basic description. With online education, students can transform a classroom anywhere with internet connectivity and electricity. Audio, video, text, animations, interactive training environments and live chats with professors can be included. With much more versatility than a typical classroom, it's a rich learning atmosphere.

Online schooling has been shown to be more successful than pure face-to-face training when used to its full potential. It can be engaging, enjoyable and personalized to fit the schedule of almost everyone.

## 2.2 Living online in Pandemic

COVID-19, Stay-at-home orders, shutdowns in the workplace, school closures and conditions for social distancing changed life almost overnight. Forty-two percent of the workforce works full-time from home today. A fair amount of experience has been acquired by individuals working, researching and socializing online.

Ecology affects mood. Because many people now spend much of their time inside the walls of their homes, it is worthwhile to periodically declutter, reorganize and clean up to make home during stressful circumstances a place of peace and comfort.

People in supervisory positions should try to note that right now for everyone, life is different. While virtual learning is extremely inconvenient for parents with multiple children, challenging jobs or financial constraints, it is important to recognize that most educators especially those who are also parents, are doing the best they can.

The COVID-19 pandemic has changed education forever. This is how Anais, a student at the International Bilingual School (EIB), attends her online lessons in her bedroom in Paris as a lockdown is imposed to slow the rate of the coronavirus disease (COVID-19) spread in France, March 20, 2020.

With schools shut across the world, millions of children have had to adapt to new types of learning. The COVID-19 has resulted in a worldwide closure of colleges. About 1.2 billion kids are out of the classroom worldwide. Education has drastically changed as a result, with the distinctive emergence of e-learning, whereby teaching is carried out remotely and on digital platforms.

Though countries are at varying levels of COVID-19 infection, there are currently more than 1.2 billion children worldwide in 186 countries affected by school closures due to the pandemic. Children up to the age of 11 are returning to nurseries and schools in Denmark after initially closing on 12 March, but students in South Korea are responding to online roll calls from their teachers.

With this rapid change away from the classroom in many parts of the world, some are wondering if post-pandemic acceptance of online learning would continue to exist, and how such a shift will affect the education sector worldwide.

Tencent classroom, meanwhile, has been widely used since mid-February after a quarter of a billion full-time students were ordered by the Chinese government to restart their studies via online platforms. This resulted in the largest "internet revolution" with around 730,000, or 81 percent of K-12 students, attending classes through the Tencent K-12 Online School in Wuhan in the history of education.

### 2.3 Need to Adopt with Technology

Know how to use passwords only through safe, password-protected internet networks and log in to video conferences.

For optimum clarity, use headphones with noise-cancelling microphones. This will help to have communication that is direct.

Before going into meetings, build accounts on video conference sites to access more open functionality and set your personal preferences.

Need to be user-friendly with technology & experience on how to run various online network applications such as Zoom, WebEx, Skype, Google classroom, etc.

The majority work to learn how to use modern software technologies, navigate learning management systems and implement unknown, often without technical assistance, online methods and classroom management techniques.

### 2.4 Health awareness

Refrain from pressuring kids during short breaks to work on homework, and encourage their eyes to relax, too. For your eyes, prolonged screen time can be evil.

Sitting for long periods of time in front of a screen can cause discomfort in other parts of the body, so make sure to get up during breaks and move about. Usually, being sedentary is bad for your health.

It will help to reduce neck pressure and stop revealing what's in your nose by keeping computers at eye level or using movable webcams. Maintaining an upright posture can help avoid injuries to the back and wrist, and it can help minimize pressure on fingers and joints by using an external mouse for laptop navigation.

Working at home does not necessarily mean being safe and very relaxed. For this, healthy knowledge needs to be built.

Many companies also offer free mental health therapy sessions, childcare provisions and extended family medical leave through the Families First Coronavirus Response Act.

### 2.5 The challenges of online learning

There is a lot of challenge to continue online learning. There are, however, obstacles to resolve. Some students fail to engage in digital learning without reliable internet connectivity and/or technology; this difference is seen across countries and across income brackets within countries. For instance, while 95 percent of students in Switzerland, Norway, and Austria have a computer to use for their schoolwork, according to OECD data, only 34 percent in Indonesia do.

Other businesses are developing expertise to provide teachers and students with a one-stop shop. Initially developed by ByteDance as an internal method to meet its own exponential development, Lark, a Singapore-based collaboration suite, for example, began offering teachers and students unlimited video conferencing time, auto-translation capabilities, real-time co-editing of project work, and smart scheduling of calendars, among other features. Lark ramped up its global server infrastructure and engineering skills to ensure stable connectivity to do so rapidly and in a time of crisis.

"The distance learning solution from Alibaba, DingTalk, had to brace for a similar influx: "The platform tapped Alibaba Cloud to deploy more than 100,000 new cloud servers in just two hours last month to enable large-scale remote work, setting a new record for rapid capacity expansion," according to DingTalk CEO, Chen Hang.

Although some believe that the unplanned and rapid transition to online learning would result in a poor user experience that is unfavourable to sustained growth without training, inadequate capacity, and little planning, others believe that a new hybrid model of education will emerge with significant benefits.

There have already been successful transitions amongst many universities. For example, Zhejiang University managed to get more than 5,000 courses online just two weeks into the transition using “DingTalk ZJU”. The Imperial College London started offering a course on the science of coronavirus, which is now the most enrolled class launched in 2020 on Coursera.

Many are already touting the benefits: Dr Amjad, a Professor at The University of Jordan who has been using Lark to teach his students says, “It has changed the way of teaching. It enables me to reach out to my students more efficiently and effectively through chat groups, video meetings, voting and document sharing, especially during this pandemic. My students also find it is easier to communicate on Lark. I will stick to Lark even after coronavirus, I believe traditional offline learning and e-learning can go hand by hand.”

There is proof that learning online can be more useful in a variety of ways for those who already have access to the right technologies. Some research shows that students hold 25-60% more content on average while studying online, compared to only 8-10% in a classroom.

This is primarily due to the willingness of students to learn online faster; e-learning takes 40-60 percent less time to learn than in a typical classroom environment because students can learn at their own pace, go back and re-read, skip or speed up concepts as they want.

There is a substantial difference between people from privileged and deprived backgrounds in the United States: while almost all 15-year-olds from a privileged background said they had a device to function on almost 25% of those from disadvantaged backgrounds did not. Although some schools and governments have been supplying students in need of digital equipment, such as in New South Wales, Australia, many are also worried that the digital gap would be widened by the pandemic.

## 2.6 Changing Education Imperative

This pandemic has destroyed an educational infrastructure that has already been lost in significance by many claims. Scholar Yuval Noah Harari explains in his novel, 21 Lessons for the 21st Century, how schools continue to concentrate on conventional academic skills and rote learning rather than on skills such as critical thinking and adaptability, which are more necessary for future success. The switch to online learning may be the catalyst for the emergence of a modern, more productive way of educating students. Although some fear that this aim may have been thwarted by the hasty nature of the move online, others expect to make e-learning part of their 'new standard' after seeing the advantages first-hand.

The value of information dissemination is illustrated by COVID-19. Major world events are also a turning point for rapid innovation. The emergence of post-SARS e-commerce is a strong example. While we have yet to see how this would extend to post-COVID-19 e-learning, it is one of the few sectors where investment has not dried up. The value of disseminating information through borders, industries, and all aspects of society is what has been made clear across this pandemic. If online learning technology is able to play a role here it is up to us all to explore its full potential.

## 2.7. Economical Changes Worldwide

According to a research done by world bank in early 2020 considering East Asian Market on “COVID-19 in East Asia: How the Region’s Higher Education Systems are Addressing the Crisis to Adapt to the Future” contrasting positive and negative impact on education. Obviously, it’s clearly understood online learning is an indispensable part and we need to pay more focus to blend it with face-to-face learning system even after the lockdown effect get over.

According to Businesswire.com, a UK based news agency shows some positive and satisfactory observation in Europe after lockdown. The education and learning analytics market in Europe is expected to grow from US\$ 875.3 million in 2019 to US\$ 5,059.2 million by 2027; it is estimated to grow at a CAGR of 25.1% from 2020 to 2027.

The enrolment for online courses across the region and increase in number of registrations for online programs is also boosting the growth of the education industry.

Also, in a research on USA market regarding online education title on "E-Learning Market in US Highlights the Impact of COVID-19 2020-2024 | Evolved Learning and Education Landscape to Boost Market Growth", mentions the positive business growth which is The e-learning market in US is expected to grow by USD 21.64 billion during 2020-2024. The report also provides the market impact and new opportunities created due to the COVID-19 pandemic. We expect the impact to be significant in the first quarter but gradually lessen in subsequent quarters – with a limited impact on the full-year economic growth.

Although, US market was well understood online education way before the COVID-19 issue, it creates more engagement and will have more next year. The education sector in the US has evolved rapidly over the years. The advent of affordable e-learning courses and distance learning programs have improved access to education in the country. In addition, the extensive digitalization of the education sector and the rising number of internet users have created significant opportunities for market players in the country. The education sector in the US is also witnessing increased demand for innovative courses such as augmented reality (AR)-based e-learning and blended learning. Many such factors are increasing the preference for e-learning, which is driving the growth of the market.

### 3. Methods

Methodology is the systematic, theoretical analysis of the methods applied to a field of study. In this study two methods are used to complete.

- 1) Data collection
- 2) Data Analysis

#### Data Collection:

This research work has been completed with the help of primary and secondary data

##### a) Source of Primary Data:

Primary data has been collected from students and teachers who are directly taking/initiating online education in this pandemic period with a proper structural questionnaire. Questioner makes to understand student's problem, advantages, disadvantages and opinion for online education. So, from this study, data collected for better understanding about online education in pandemic.

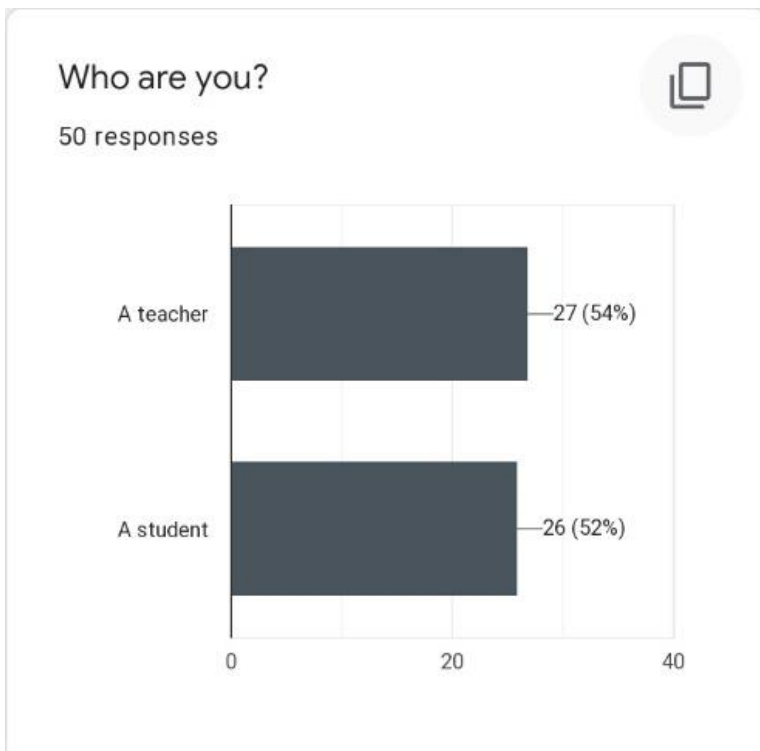
- ##### b) Source of Secondary Data:
- Secondary data collected from different web site, journal, article and some news portal.

#### Data Analysis:

This is a total descriptive study. So first, the data are collected, then according to the questions, these are divided into different categories. Then the selected data are explained in percentages and charts.

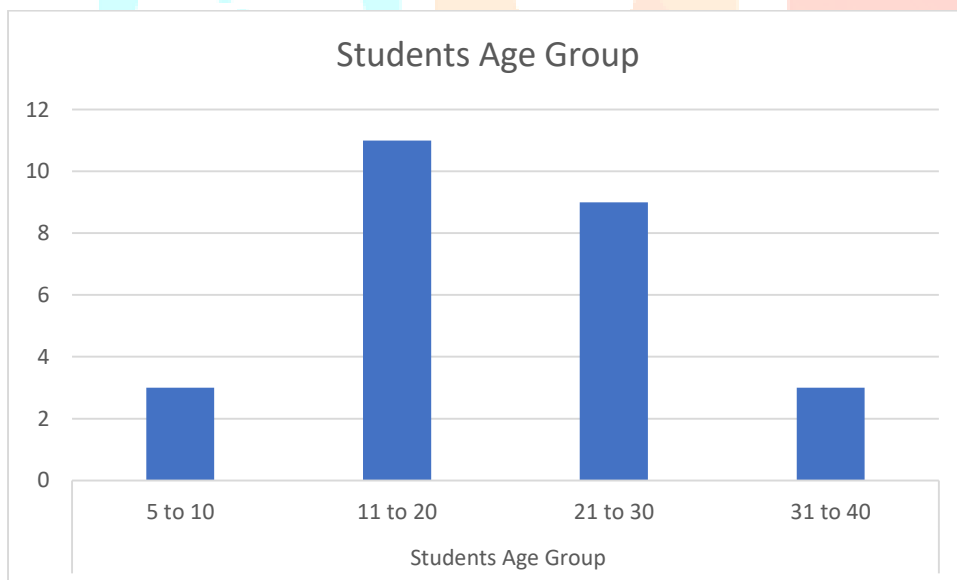
### 4. Results:

In this research, we have surveyed several parts of online education platforms. Age, level of education, e-learning attendance percentage before & after epidemic, hours of classes, use of e-learning platforms, health issues, challenge of e-learning, costing, impact, advantages, disadvantages & significant emergence of e-learning over face-to-face learning. In this survey 50 respondents (both teachers & students) have attended from Malaysia, Indonesia, UK, Turkey, India, Iran & Bangladesh who are directly using e-learning platforms in this epidemic 2020.



**Chart: 1**

54% teacher & 52% student are attained in this survey. Some respondents attain in both role as teachers & as students.



**Chart: 2**

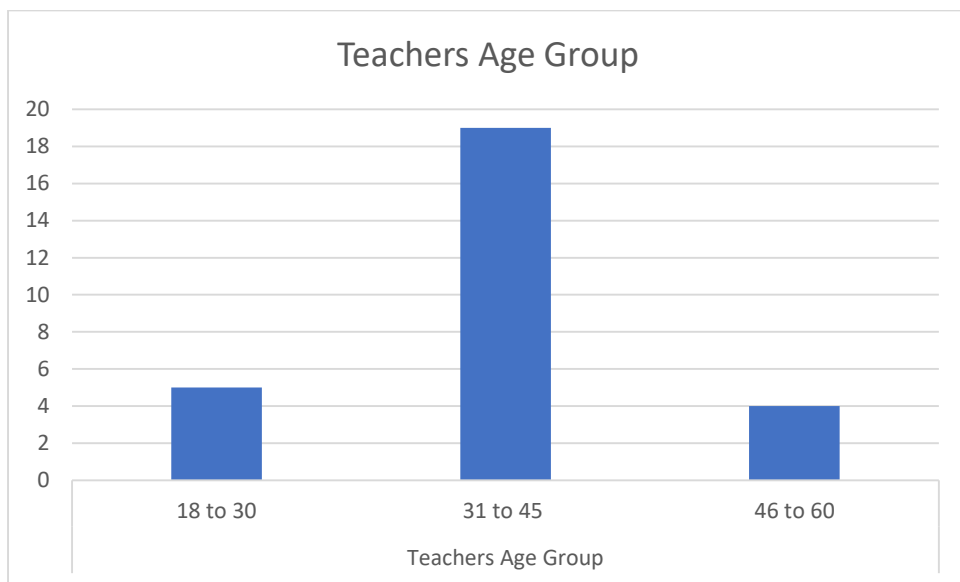
Students who attended this survey aged between 6 to 40

11.53% students age group between 5 to 10 & 31 to 40

42.30 % students age group between 11 to 20

34.61% students age group between 21 to 30

Most of students who attended online classed aged between 11 to 20.



**Chart: 3**

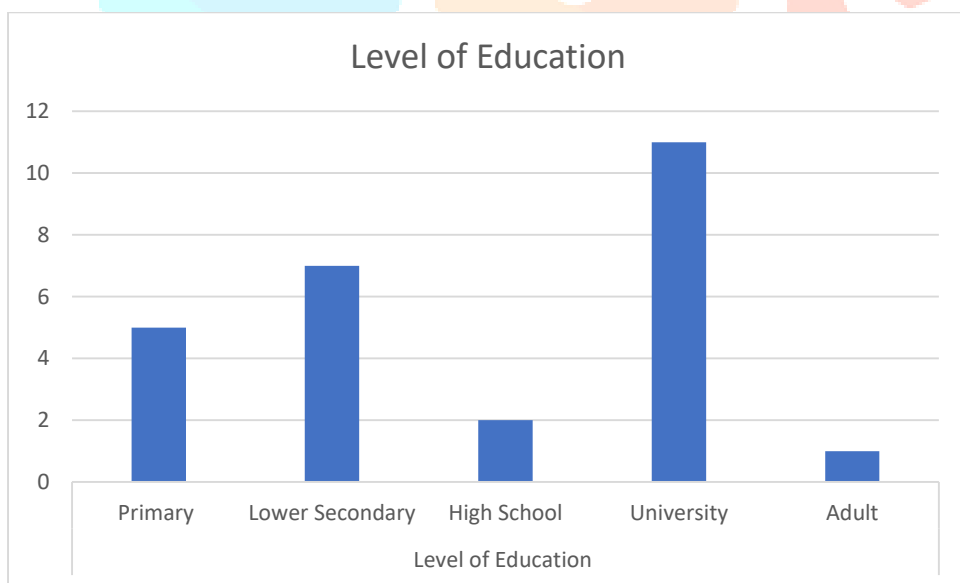
On the other hand, teachers who attended this survey aged between 19 to 55

17.85% teachers age group between 18 to 30

67.85% teachers age group between 31 to 45

14.28% teachers age group between 46 to 60

Most of teachers who attended for online class aged between 31 to 45.



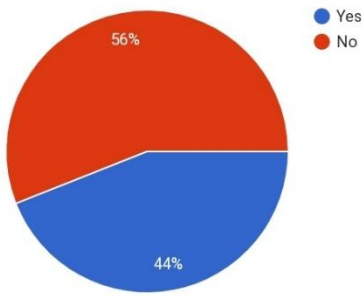
**Chart: 4**

Only students have attended in this section where the learning group were from Primary to Adults. 19.23% primary students, 26.92% lower secondary students, 7.69% high school students, 38.46 university students & 3.84% adult students join for e-learning in this epidemic according to this survey. The number of university students are the highest position in this survey.



1. Have you ever participated in e-learning before the epidemic?

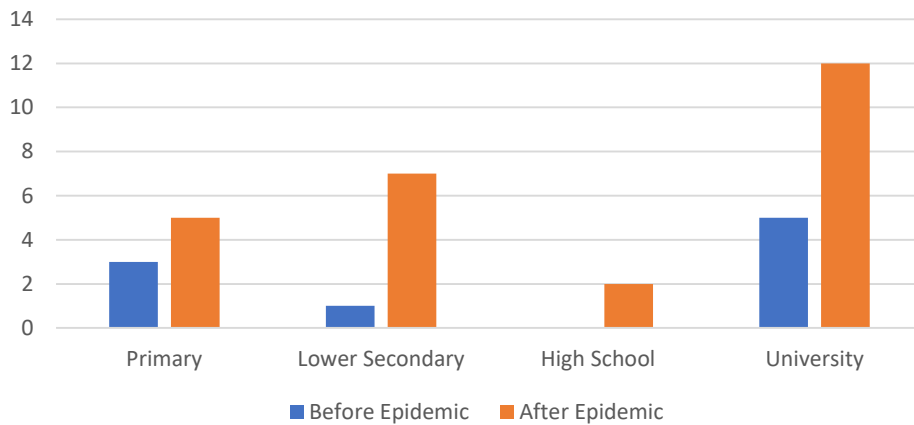
50 responses



**Chart: 5**

56% respondents never participated in online class before epidemic. 44% respondents participated in online class before epidemic

Students Participation in online classes before & after Epidemic

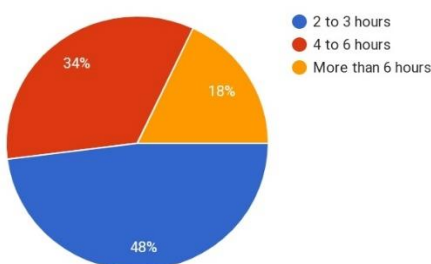


**Chart: 6**

According to this survey, e-learning has been increased 40% in primary level, 85.71% in lower secondary level, 100% in high school & 58.33% in higher education or university level. A higher rate of e-learning has been observed in High-school level.

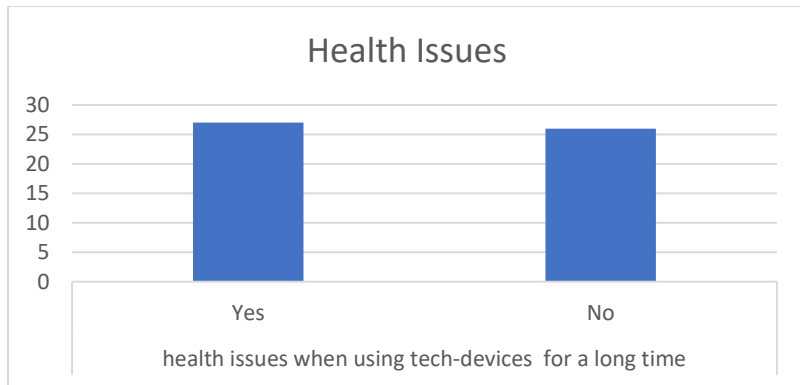
2. How many hours a day do you receive online classes?

50 responses



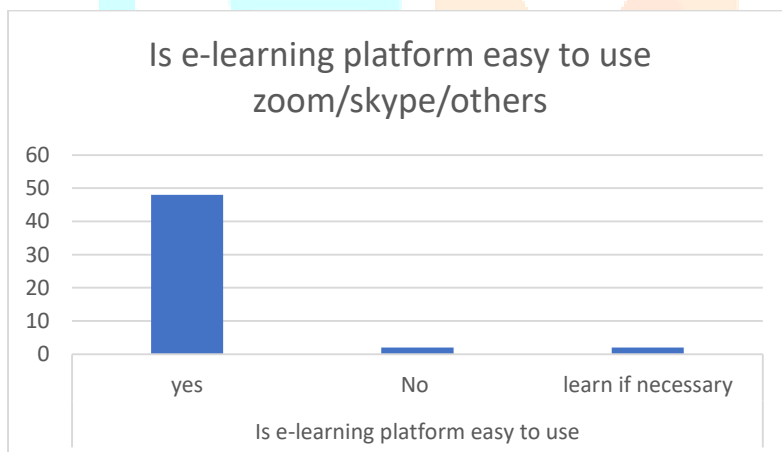
**Chart:7**

48% of respondents participated in online classes with an average of 2 to 3 hours per day, 34% of respondents participated in online classes with an average of 4 to 6 hours per day & 18% of respondents participated in online classes with an average of more than 6 hours per day.



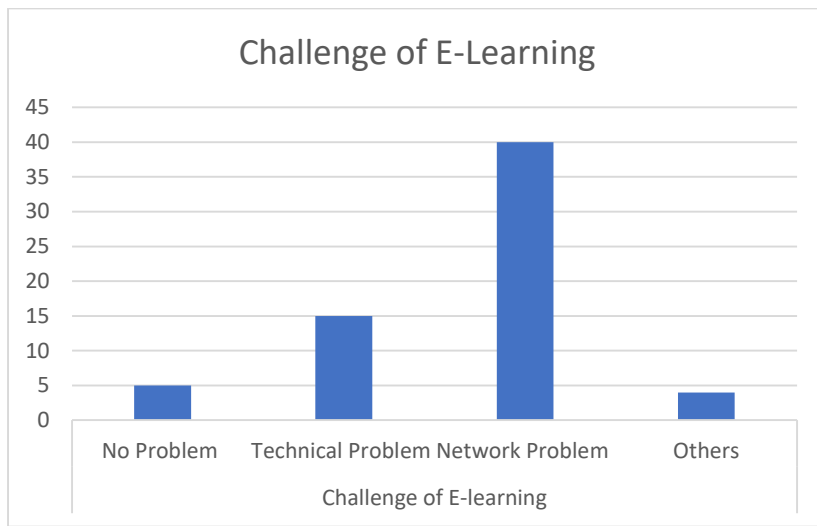
**Chart: 8**

Working hours & age health issues are different for each respondent. Who work for a long time & who are older than 25 have more health issues but there are some exceptions too. In this survey 51% respondents told they have got some health issues while working with tech-device. 49% respondents told they didn't have any problem while using device. Usually those 51%, who have health problems suffer from headaches, eye pain, back pain, stress, shoulder pain, less sleep, tiredness, weight gain, eye irritation, eyesight power increase etc.



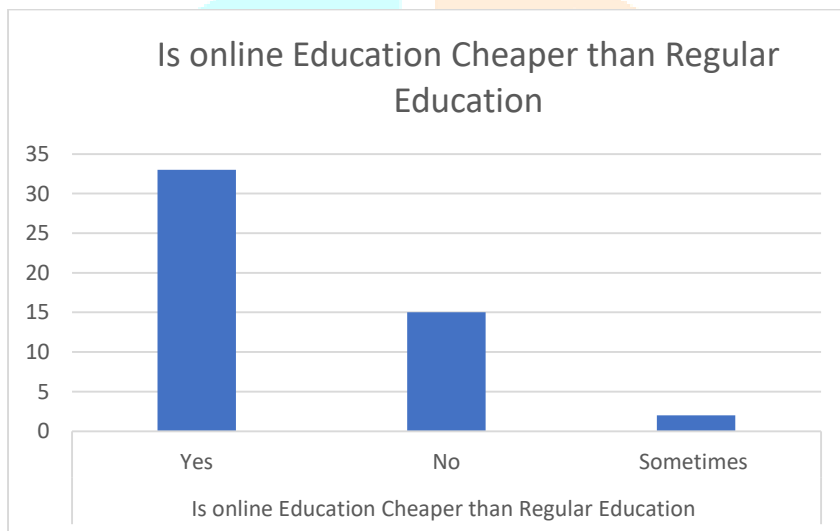
**Chart:9**

92% respondents told they were used to with e-learning platforms but for 4% respondents told they were not use to with e-learning platforms & new to technology. And 4% respondents told they were adapting new technology when necessary.



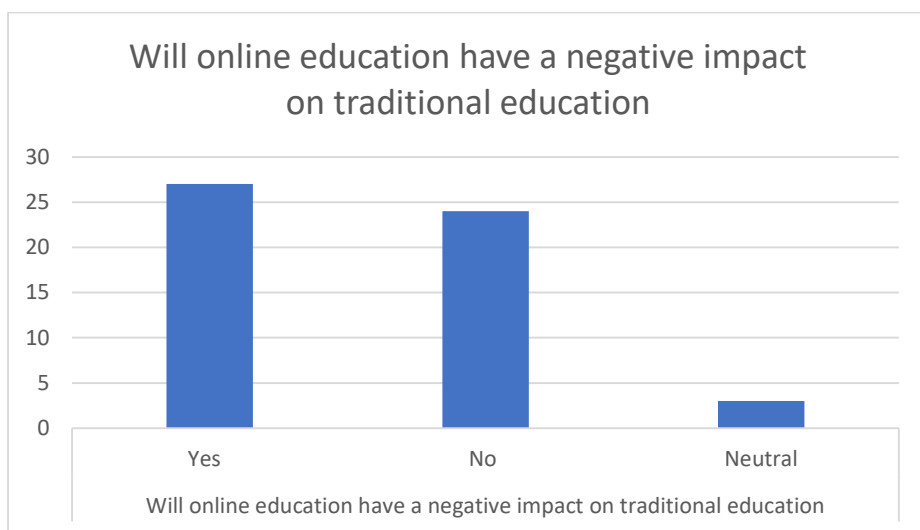
**Chart:10**

80% respondents told that network problem was the big challenge for e-learning. 30% respondents told technical issue was barrier for E-learning. 8% respondents face some others challenges of e-learning like lethargy and lack of focus. But 10% respondents told they think there was no challenge on e-learning at all.



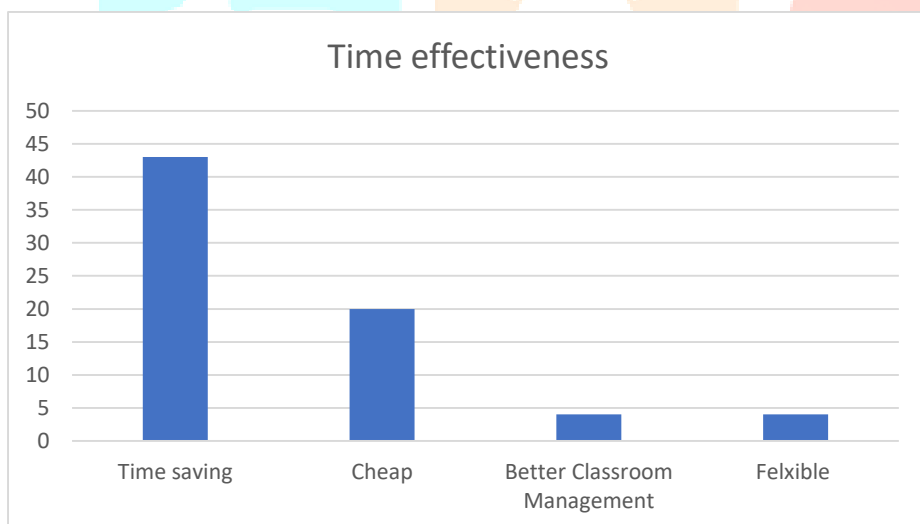
**Chart:11**

66% respondents told that e-learning was cheaper than regular education. 30% respondents told e-learning was not cheaper, and almost the same price as regular education. 4% respondents told somewhat cheaper. For example, regular school/university when started online based class in this Covid-19 situation they didn't reduce their regular charges.



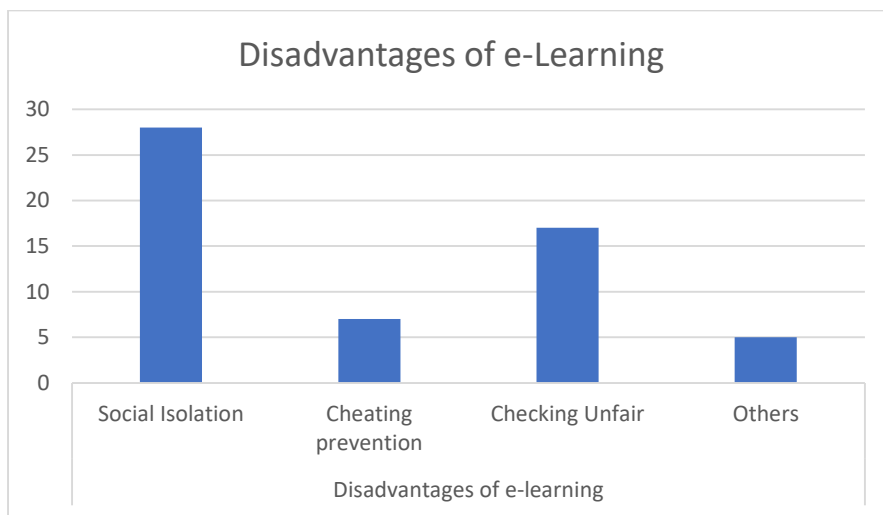
**Chart:12**

50% respondents told that e-learning had negative impact on regular education because too much involvement in gadgets made them passive thinkers. On education business may have the same salaries for teachers but will be less classroom management problem with proper planning and forces them to apply more innovative ideas. 45% respondents told that e-learning had no negative impact on regular education & 5% respondents were neutral about this topic.

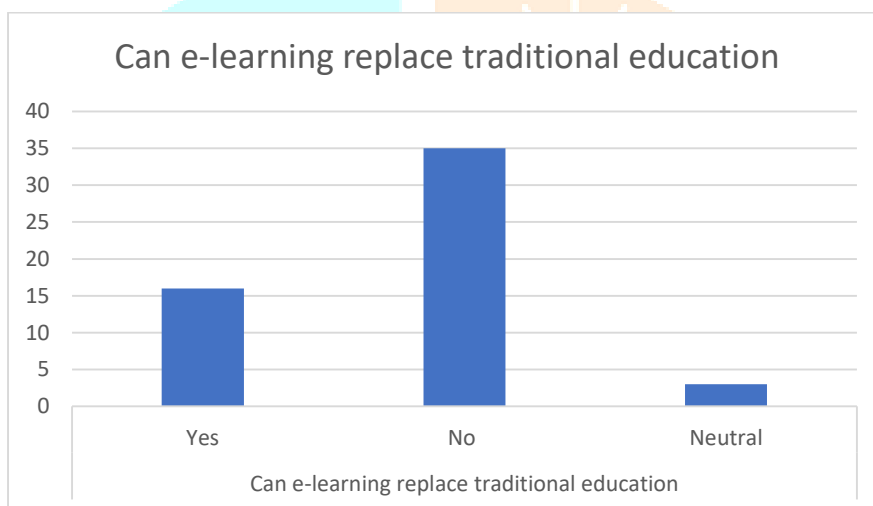


**Chart:13**

86% respondents told that e-learning was time saving. 40% respondents told e-learning was cheap & also reduced transport cost. 8% respondents told when parents were around there was a better classroom management & 8% respondents agreed on the flexibility of e-learning.

**Chart:14**

56% respondents thought e-learning made social isolation. 14 % respondents thought students could easily resort to cheating in exam that spoil the quality of study. 34% respondents told there was an unfair checking system online exam time. And 5% respondents told other disadvantages of e-learning. For example, less interaction and participation, being lazy and casual, could affect the student's motivational level.

**Chart:15**

30% respondents believed e-learning could replace face-to-face education. 65% respondents thought e-learning could never replace face-to-face education. E-learning is a strong branch of education but can never replace regular education and some major such as medical, engineering where real-life practice needed without an alternative. 5% respondents were neutral about this topic, they didn't have any idea about replacement issue.

## 5. Discussion:

According to this survey result a lot of information has come up about e-learning. During this covid-19 where teachers and students of all ages from almost all corners of the earth have participated. It's a new wing of modern education where people have proven that they don't stop under any circumstances. In this situation when whole world is under lockdown & regular educational organization is shutdown, e-learning has opened a new door of opportunity.

In this survey we asked some necessary questions to respondent about their experience & opinion of e-learning. Before the epidemic e-learning or distance learning platform was limited with some courses but now the spread has increased a lot. This study shows that young people can easily adapt to technology where adults take a little longer. People's closeness with technology is increasing & older people are also building their reliance on technology as per their need. But along with the advantages of e-learning, there are also some disadvantages.

Such as, e-learning is time saving, cost effective, flexible, able to have a better classroom management system. On the other hand, various health problems, declining quality of education, social isolation, laziness and demotivation etc. can impact on overall social and effective learning. Usually those who are involved in online study for a long time fall into various health problems. E-learning & face-to-face learning can complement to each other but never can be replaced. Experts need to make a comprehensive plan to ensure the future of online learning. E-learning has some challenges also. To overcome these challenges, a proper initiative such as network improvement, increase technological knowledge needed. As per this research, online education is not always cheaper. Institutions having Face-to-face learning when go online are not reducing their regular fees. If the Educational institutes reduce tuition fees for online classes then all related expenses (i.e. Staff cost, faculty cost, etc.) need to get reduced too. In that case, the income level of the people is likely to be decreased. Therefore, many plans are needed to introduce e-learning along with regular education. E-learning has some advantages as well as some disadvantages. All of these to be taken as a challenge to the future e-learning must be taken forward.

In this research we took 50 respondents for our survey. All of the information might not come up through this. If the research is done in a more comprehensive way, maybe we can get a lot more unknown information & opinion about e-learning. Which will help e-learning to move forward. Staying at the one side of the globe, we can easily seek education from the other end.

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