



Online Education – Opportunities with Salts of Challenges

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ABSTRACT

When COVID-19 Pandemic began, schools and colleges were among the first and foremost to shut down effective immediately. This is one place where parents don't want to take any risk or compromise in any fashion for their kids. No one knows for how long the pandemic will stay. Even though, schools and colleges have opened in various parts of the world, parents are still skeptical about sending their kids back to school while the virus is still around. While the pandemic has taught us how online education can be a way to go, it's not a deniable fact that this mode of education does come with its own set of advantages as well as challenges.

Keywords: COVID-19, Pandemic, Education, Online, Hybrid

I. INTRODUCTION

[1] Even before COVID-19, education technology was seeing rapid expansion and acceptance, with worldwide EdTech investments reaching US\$18.66 billion in 2019 and the whole industry for online education expected to reach \$350 billion by 2025. Since COVID-19, there has been a considerable increase in utilization of language applications, virtual tutoring, video conferencing tools, and online learning software.

The pandemic has boosted the need of online education has made the sector grow by leaps and bounds. Private schools and colleges quickly

jumped onto this method in an effort to make sure that the flow of learning things doesn't get affected. The government institutions also hopped onto this online education train but were relatively slow. Lack of infrastructure not just at the end of educational institutions but at the receiving end have raised questions on practicality and relative adoption in developing countries especially like India. Not only just infrastructure and reachability but the change in way of learning and teaching things, factors like internet connectivity, online fee models, resources management, etc. are all part of the debate whether such a system of education can sustain in times when the pandemic is over.

II. PANDEMIC TURNED CATALYST

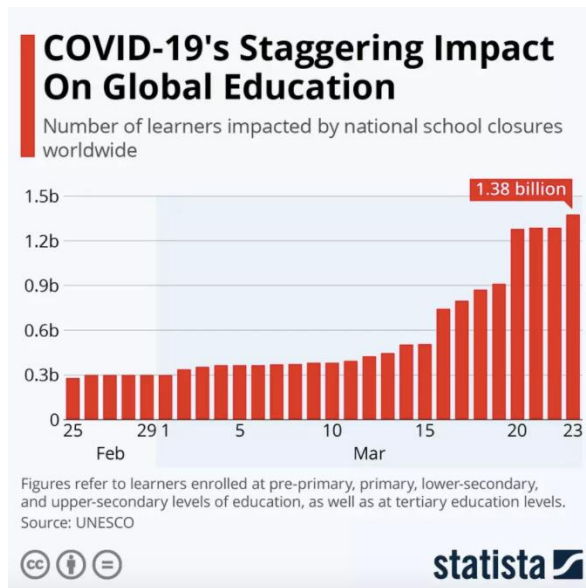
Let's take example of Demonetization while keeping aside the debate of whether it was good or not when it happened back in the day, one thing we can clearly see is how it completely changed the mode in which people usually spend money now. Every small vendor from tea stall to every large vendor like McDonalds, all accept UPI as a payment option. People don't carry a lot of cash these days because they're able to make payments way more easily and conveniently. The biggest accelerators of UPI revolution were not just one but many such as – Public Awareness, need of the hour, revolutionized mobile internet with cheaper and faster data speeds, smartphones adaptability, etc. UPI and other forms of payment through mobile phones came into existence way before

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demonetization took place. But when a crisis came up, it became a catalyst. Similarly, online education has been there for sometime now, but the pandemic has acted as a catalyst to make its reach widespread. Not just schools, colleges and institutes, but online platforms such as Byjus, Unacademy, etc. have found a way to make a space for themselves. But is online education really that effective? Is this a good long term solution or is a hybrid solution a way to go? Questions like these are yet to be answered



[2] *statista.com*

[3] Today's education system is in disarray. Children who should be in school aren't in many regions of the world even before the coronavirus pandemic; for those who are, their schools typically lack the means to give sufficient instruction. These students are losing out on the education they need to live successful lives as adults and engage in and contribute to the global economy at a time when great education is

ultimately more important than ever before. When we look at the scenario of the methodology and effectiveness of education system today, we get some interesting figures, especially from the learners themselves.

[4] Only a third of the students (34%) anticipate they will graduate with the skills and competencies necessary to thrive in the job market and in the industry and only half of those polled (53%) think their degree will lead to a decent job. It's clear indicator of how this system has been in dire need of an upgrade from top to bottom.

Enter Covid-19, education institutes were the first ones to see their doors closed. Nobody anticipated that the doors would remain closed for a long duration. But as the time passed, there was a need to continue the education in some other form. It is rightly said, "Crisis brings opportunities." This was the catalyst in formation of a fresh method of education.

With India's fast growing internet population, online learning has the ability to become a suitable alternative education, but only if the government effectively plans and implements it. Many educators believe that online education will become the favored tool for learning in the future due to the multiple alternatives accessible. In the current pandemic crisis, some of the potential presented by digital training include:

While some believe that the haphazard and hasty transition to digital training – with no training, inadequate bandwidth, and little preparation – will result in a poor user experience that will hinder long-term growth, others believe

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that a new blended model of education will emerge, with significant benefits. "I believe that the integration of information technology in education will advance much more, and that online education will eventually become an intrinsic component of classroom instruction," Wang Tao, Vice President of Tencent Cloud and Vice President of Tencent Education, stated at World Economic Forum.

A. EMERGENCE OF TOOLS

As online education started falling into place, there was an urgent need of necessary tools to make online education as effective as it can be. Giants like Google and Microsoft were quick to jump on the train and came up with tools like Google Meet and Microsoft Teams. These two tools along with several others like these already in the market have played a crucial role in helping institutions to not only convey information but utilise some exclusive features which have made teaching several subjects or topics much more efficient. But this is not the only way online education tools are to be defined. The classification of these tools in two different ways seems more practical to discuss. While one end of the spectrum is of tools like Microsoft Teams, Google Meet, etc., the other end is of platforms like Udemy, Unacademy, BYJU's etc. The second end of the spectrum is much wider to explore. It utilizes different models of making learning much more effective in different ways. While Udemy acts as a platform to bring different educators together so that they can offer their courses at reasonable rates, on the other hand BYJUs, Unacademy, etc. act as a private educator themselves. And then there is even a third

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spectrum involved which is – INTERNET itself. Video platforms like YouTube, Community platforms like Reddit, Discord, etc. are all ways in which one can learn on INTERNET. It's all massive, never-ending and rich with lots of things to learn. One just needs to know what he/she wants to know about and everything can be obtained through INTERNET.

B. INCREASED ADAPTABILITY

Schools and colleges were shut down in all almost every part of the world when COVID-19 began. But if we think about schools in rural areas in many parts of the world, especially in developing or underdeveloped countries, those were essentially down even while being open from a long time, way before COVID-19 was a thing. It's because these institutions were way underdeveloped and offered negligible upliftment in terms of education. Jump forward to the arrival of COVID-19 era, when a slew of new educational breakthroughs have emerged, paving the way for widespread acceptance of remote learning. Access is a major issue. There are still other issues, including a lack of Internet connectivity in some areas, particularly rural areas, and competing needs amongst family members for home technology use. However, innovative solutions have evolved to offer students and families with the resources and facilities they need to participate in and finish coursework successfully. School buses, for example, have been used to deliver mobile hotspots, and class packages and educational lectures have been aired on regional public broadcasting stations in some areas. Closure to everything brought attention and improvement to those which essentially had



nothing to begin with from a long time. Students from all over the world have been able to attend online classrooms using online conferencing platforms like Zoom and Google Meet, and presentations have been recorded for individual learners to study at their leisure. In addition, the value of hands-on, practical learning has led to advances like virtual field excursions and virtual labs. As a result, the next generation of online education can transition from an organisation that primarily serves adult learners and higher education to one that progressively serves younger students in primary and secondary school, ranging in age from 5 to 18.

C. SKILL FACTOR

The increased exposure of online education paired with a break from regular schools and colleges acted as chance for students to re-think about how they want to learn and has made them even more aware that the traditional education system hasn't necessarily been aligning much with what they are facing in real world. This has led to a shift towards Skilled Development. In the last two decades, the human species has experienced more social and technological development than in all previous centuries altogether. Things change so quickly that we hardly have time to catch our breath after one technological tsunami before another arrives and knocks us off our feet.

Each new technology today scales at a dizzying rate. It's not an acceptance curve any longer; it's an acceptance rocket. This rate is unlikely to slow down very soon, especially with AI, genetic engineering, and robotics on the horizon. Political, economic, and social structures,

as well as traditional norms and social roles, are all being disrupted. With all these kind of specialised technologies taking place in day to day lives and industries, it has become even more important to take skilled trainings to work on modern problems in an efficient manner.

As the pandemic went on, more and more students started enrolling in specific skills based online courses which have enabled them to not only land great full-time jobs but also get freelance work that pays them well and more importantly keeps them engaged with deep sense of interest.

III. PRACTICAL PROBLEMS

Even though Online mode of education became the only way to continue things during pandemic, there's no denying in the fact that it comes with its own set of problems which make it crystal clear that its all not the land of dreams come true. Each solution has its other set of problems to which hybrid and collective solutions seem the only answer.

A. HEALTH AND WELLNESS

Health impacts due to being constantly in front of the screens have been in the forefront of discussion while discussing health issues because of online mode of education. Nearly 55% of kids in grades 4 to 12 have experienced health problems, primarily as a result of the pandemic's extended online study. Stress, severe vision problems, and sleeplessness are the most common health issues.

[6] According to a report based on a survey of 4,454 respondents — from various schools who were questioned about

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the troubles and benefits of online classes, 54-58 percent of students reported extreme physical strain, vision problems, backache, and headache as a result of postural problems, in addition to lethargy, fatigue, irritability, and obesity. Approximately 65 percent of students mentioned technological issues, network problems, and trouble concentrating while studying while using mobile phones, while over 50 percent reported stress and 22.7 percent reported insomnia. 45-47 percent of pupils claimed they had trouble engaging with professors and classmates, and that not everyone is visible on screen at the same time. Students also expressed decreased enthusiasm and a crisis of confidence.

[7] The most common health problems which have been identified include –

1. Eye-sight problems - Excessive screen time has put stress on the eyes, causing terrible migraines among both students and teachers.
2. Classroom ethics - The integrity of the classroom has been severely harmed. Health risks have arisen as a result of posture, inconsistency, lack of routine, and attentiveness. Prolonged sitting has also contributed to weight gain. The pupils have been anxious and frustrated since there has been little physical activity. This, too, had an effect on dietary habits, resulting in health disorders.
3. Bad ergonomics - The use of psychological and physiological concepts to the design and engineering of products, processes, and

systems is known as human factors and ergonomics. Online learning has led in poor/bad ergonomics, leading in a slew of back pain and fibromyalgia-related disorders.

4. Zero Physical Activity - Obesity is a result of a lack of physical activity among youngsters. It's just gotten worse as a result of binge eating and streaming. Sedentary lifestyle has caused muscle spasms, stiffness, and calcium deficiency, among other things.
5. Vitamin D Deficiency - Interestingly, online education has led in a deficiency in Vitamin D. Lack of sunlight, a poor diet, and little exercise have resulted in a slew of issues that no one could have predicted.
6. Lack of Calcium - As strange as it may sound, a lack of physical exercise and calcium has culminated in minor injuries, which have led to more serious injuries.

Such major health issues resulted after using Online Education as the only primary mode during pandemic has made it clear that all bells and whistles are not always to get excited about in a blind fashion. It further makes it clear that even though online education brings different perspectives, methods and approaches into play, it is important to acknowledge that no method is perfect on its own. Health and Wellness impacts like heavy school bags causing back issues among young students, long travelling distances in extreme weather conditions, not so hygienic infrastructure and environment, etc. do exist in another end of the spectrum as well.

B. INFRASTRUCTURAL PROBLEMS

Schools and Colleges have physical infrastructure such as classrooms, labs, electricity and water management, etc. All these infrastructural have to

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paid for by the students so that all these can be maintained by the institution and can be run smoothly for everyone's benefit. Physical Infrastructure brings regular added costs like these apart from the tuition fee. Also, physical infrastructure cannot be accessed by everyone due to geographical constraints. Remote areas have been the ones facing such issues. Online Education on the other hand also requires some basic infrastructural facilities but cut downs on a lot of other added costs because the investment needed in getting online education set-up and running is way less than a building itself. All one needs is a laptop/smartphone with an internet connection. However, getting even these has been a challenge amongst poor section and people from remote areas.

[8] The world is still in the grip of the pandemic, with no end in sight. Experts anticipate that the pandemic's impacts will continue to linger, and that shutdowns in various regions of the world may occur on an irregular basis. As a result, online learning is no longer a possibility. It has become necessary to ensure that learning continues to flow smoothly. While some instructors and learners were able to implement online learning with little difficulty, many others, particularly in underdeveloped countries, faced numerous problems.

Here are a few examples:

1. Infrastructure issues – not every student and instructor has access to laptops and PCs.
2. Availability of a stable electrical supply and a reliable internet connection
3. High internet and data costs

4. Educators and students have a lack of technical knowledge.
5. Technical problems with the internet platforms that were utilized
6. Given that the globe will not be completely free of the epidemic and its impacts, politicians and academic professionals should make establishing the framework to help online learning a top priority.

While online education brings access in remotest of areas, ability to learn anything at any place, it lacks in bringing the experience that physical labs, classes, etc. bring. Internet access as well a need to teach – “How to use these devices for education” is also something to be addressed. On the other hand, physical classes are limited in nature, bring travel times, building costs, etc. into consideration. This is exactly why no method is 100% good and a balance needs to be established to get proper hybrid education method fall into place for betterment of the students.

C. CHALLENGE DIVIDE – TEACHERS & STUDENTS

The Indian digital education business is rapidly expanding, allowing for new and creative ways of teaching and learning. However, the abrupt closure of educational institutions, as well as the hurried transition from in-person offline education to the mostly unknown and untested online digital form of education, has posed considerable issues for both teachers and students.

Some of the problems faced by the teachers include –

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1. Technical knowledge deficiency: Most teachers are unaware of and untrained in how to use interactive web teaching tools, processes, and techniques effectively. Teachers, particularly in Tier II and Tier III cities, have a hard time adjusting to the demands of e-learning and holding effective virtual sessions. In truth, the majority of teachers lack fundamental computer skills as well as experience with efficient online teaching strategies.
2. Inadequate skills and exposure to processes for obtaining appropriate digital course material: Untrained teachers are constrained not only by their lack of technical capabilities, but also by their lack of skills and exposure to procedures for accessing suitable data & course material. Not only that, students have no choice but to learn how to curate course information, break it down into manageable lessons, and transform the teachings into digital form – using programmes like PPTs, Excel sheets, relevant video recordings, as well as visuals on their own.
3. Inadequate discipline monitoring: The teacher's major goal is to support quality learning among the pupils by focusing on the professionalism required for learning with as well as among others. Classroom teaching is unquestionably better adapted to maintaining proper discipline and enforcing universally understood standards in order to provide a safe and comfortable learning environment. Educators in virtual classes, on the other hand, find it hard to maintain regulation and supervise unflustered learning because they don't have to make direct eye contact with students and students don't have to adhere by ideals of studying with and among classmates.
4. The issue of keeping students involved: It is undeniably challenging for teachers to make online classrooms truly fascinating and compelling for students. The sole option for transforming students into conscience learners is to effectively use digital multi-media tools for attracting the attention of normally inattentive students. Teachers, on the other hand, must undergo intensive professional training in order for that shift to occur, which is currently not taking place.

While on the other hand, students too face their set of problems as well. Those include –

1. Digital Divide: Despite continued increases in broadband penetration and outstanding growth in the field of information technology in India, the regrettable split between the "haves" and the "have-nots" remains in place. The great majority of students do not have access to even the most basic elements of digital education since their parents can't afford virtual learning for their children. They don't have computers, cellphones, or internet connections, and they don't know how to use them. Simultaneously, there are youngsters from wealthy homes who have been exposed to and benefited from the so-called digital revolution.
2. Digital Literacy Deficiency: While children from wealthy homes are becoming increasingly tech-savvy, many pupils on the opposite side of the gap are lacking in this area. These disadvantaged youngsters have never been exposed to or are unaware of how to log in, engage in live virtual classrooms, or submit online assignments. Even basic programmes like Word processing appear challenging to these students. They must be

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equipped with a basic understanding of computer operation as well as hands-on experience.

3. Difficulties of abrupt shift: The abrupt move from physical mode of learning to interactive web learning has had a number of negative consequences for students. In schools, learning was essentially a social process that included teachers, peers, and others. Students are finding it difficult to adjust to the demands of online learning with no meaningful engagement with their learning partners - classmates, teachers, and many others in the school environment. Man is just too social an animal to dwell alone. Students who are accustomed to studying in a group are frequently unable to make the necessary adaptations for the solitary online schooling style.

IV. CONCLUSION

Keeping in mind, the problem of pandemic that the world faces today, long due refreshment in educational approach, current needs of the industries and markets in terms of skills and potential problems, it is necessary to realize that either of the education models, be it offline or online is not 100% suitable for every scenario. We have seen what complete reliance on either of these methods does. Both the models bring a whole different set of advantages and problems with them. But if both models fall into place altogether, a potential to solve a lot of those issues seems within range. While online education brings openness to learn anything at any place, online education brings areas where students can gather, interact and practically learn things. A hybrid solution of openness of online and interactivenss

of offline shall bring to the table what has been long overdue.

It is need of the hour for governments all over the world, especially those in developing or under-developed nations to build their education systems around this hybrid methods so that students have flexibility to enjoy best of both worlds and make a better future for themselves and their nations.

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