Effects on the Education Sector: A Comparison of the Pre-Covid and Post-Covid Data

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ABSTRACT

The Covid-19 epidemic has left us with no choice but to look for different ways to learn. These hard times have made us want even online education, which we never thought we could rely on. Online learning has increased the popularity of the concept of self-paced learning. Independent learning is the process by which learners use their self-regulatory skills to plan and manage their learning with predetermined goals in mind. Learners check and evaluate their results from time to time for independent learning. Learners and teachers must be goal-oriented and determined to develop themselves to achieve a successful tomorrow. All the learners are self-regulated, as self-paced learning is flexible and independent. Learners who are in control of their learning have been found to be more successful than limited learners. The research emphasizes that it was useful to give students the opportunity to choose revision topics and plan revision. Students trust themselves and their knowledge, and with it only grows their desire to learn more and more deeply. Authors have segregated their research by discussing about the drastic change in the education sector and how the EDtech business has evolved from off-line to online. Also authors have conducted the survey for the student's online learnings and also their experience with the tools.

Keywords: Online Learnings, Edtech, Covid 19, Education Sector

1. INTRODUCTION

The Covid-19 pandemic has broken many lives, destroyed and claimed many lives. But at the same time it also appeared as an opportunity for self-growth and development in various spheres and fields of life. And one such aspect is the world of education, from physical classrooms to Google classrooms, from classroom lectures to zoom lectures, from handwritten notes to digital notes, from competitive atmospheres to independent learning, and from books to e-books. [1] Almost everything has changed in a short time. Edtech has taken over traditional teaching methods to a greater extent. In this situation online learning platforms like Byjus, Vedantu, Unacademy, courser, Toppr, Swayam etc. flourished and flourished in the midst of a pandemic. The education sector is experiencing growth in a different form with a drastic change and fundamental balance from the perspective of students, teachers, learners and educators. The world joined hands with exploding technology, education and reforming their perception. [2]

A comparative analysis of education before and after COVID can provide valuable insights into the impact of the pandemic on the education system.

1. Learning Environment: Pre-Covid: Traditional face-to-face learning in physical classrooms with face-to-face interaction between teachers and students. Post-Covid: The transition to distance learning, including online classes, video conferencing and virtual classrooms. [3]

2. Access to Education: Pre-Covid: Relatively equal access to education as students attend schools and colleges in their area. Post-Covid: Unequal access due to the digital divide, when students need access to devices, internet connectivity and appropriate learning environments. [3]

3. Teaching methods: Pre-COVID: mainly teacher-centred teaching, focusing on lectures, textbooks and personal discussions. Post-Covid: There has been an increase in the use of technology-based teaching methods such as multimedia content, interactive platforms and blended learning methods. [2]

4. Student Engagement and Interaction: Pre-Covid: Active student participation in classrooms through discussions, group work and extracurricular activities. Post-Covid: Reduced student engagement and limited communication due to distance learning and challenges in maintaining motivation and social connections. [4]

5. Assessment and Evaluation: Pre-COVID: Traditional assessment methods such as personal exams, quizzes and projects. Post-Covid: Move to online assessments, including timed exams, online presentations and adaptive testing, for academic integrity.

6. Support Systems: Pre-COVID: Availability of personal support systems, including networks of teachers, counsellors and peers. Post-Covid: Greater reliance on virtual support systems such as online forums, email communication and video-based counselling. [5]

7. Learning outcomes: Pre-COVID: Emphasizing standardized testing and academic performance as essential learning outcomes. Post-Covid: Recognizing the need for broader learning outcomes including adaptability, resilience, digital literacy and self-directed learning skills. [6]

8. Equity and Inclusion: Pre-Covid: Current Disparities in Educational Opportunities and Barriers to Access for Disadvantaged Groups. Inequalities in education are widening post-Covid, with disadvantaged students disproportionately affected by limited resources and support for distance learning. It is important to note that these comparisons are generalizations and may vary by country, educational level and educational institution. The long-term effects of the pandemic on education are yet to be seen, and further research and analysis are needed to understand the full extent of these changes. [7]

2. Ed TECH IN COMPARISON WITH THE PRE AND POST COVID EFFECTS

The COVID-19 pandemic has greatly accelerated the growth of EdTech (educational technology) and changed the world of education. Let's compare the growth of EdTech before and after COVID:

Before COVID:

1. Gradual Adoption: EdTech has experienced steady growth and adoption even before the pandemic. E-learning platforms, educational applications and digital resources were used by some educators and institutions, but their use varied.

2. Supplemental Learning: EdTech tools were primarily seen as additional resources to enhance classroom instruction and provide additional learning opportunities. They were not a central form of education. [8]

3. Limited Investment: There has been relatively little investment in EdTech and the market is still developing. Startups and established education companies have been looking for innovative solutions, but the sector has not reached its full potential.

Post-Covid:

1. Rapid adoption: With the shift to distance learning during the pandemic, EdTech adoption has exploded. Schools, colleges and universities have been forced to rapidly transition to online learning, which has led to an explosion in the use of digital platforms, video conferencing tools, learning management systems and online content. [9]

2. Mainstream Education: EdTech became mainstream education, not just an extra tool. It has played a key role in facilitating distance learning, providing access to learning materials, enabling collaboration and supporting assessment. [5]

3. Investments and Market Growth: The EdTech market saw strong investment growth as VCs and investors realized the potential of the field. The demand for EdTech solutions has led to new start-ups, innovations and partnerships between educational institutions and technology companies. [2]

4. Technological Advances: The increased demand for EdTech solutions has also led to technological advances such as AI-based adaptive learning platforms, Virtual Reality (VR) and Augmented Reality (AR) applications, and data analytics tools to personalize learning experiences.

5. Skills and digital literacy: The pandemic has highlighted the importance of digital literacy and technology skills for teachers and students. This has led to a greater focus on training digital skills and preparing students for the digital age.

Overall, the COVID-19 pandemic has acted as a catalyst for the growth and widespread adoption of EdTech. It advanced the field, brought it into the spotlight, and highlighted its potential to transform education. As the long-term impact and sustainability of this growth continues to evolve, EdTech will likely continue to play an important role in education post-pandemic.

I. KEY FEATURES BEHIND THE SUCCESS OF Ed TECH PLATFORMS

The success of EdTech platforms stems from several key features that make them effective in supporting teaching and learning.

Key success features of EdTech platforms:

1. Ease of Use and Convenience: EdTech platforms offer flexibility and convenience by accessing educational resources anytime, anywhere. Students can access content, courses and materials on their devices, allowing them to learn at their own pace and schedule. [7]

2. Personalization and Adaptability: Many EdTech platforms use technology to personalize learning experiences. They use data analytics and artificial intelligence to assess the needs of individual learners, deliver personalized content and recommendations, and tailor learning pathways based on learner progress and outcomes.

3. Interactive and engaging content: EdTech platforms often use interactive and multimedia rich content such as videos, simulations, game elements and virtual reality. These features increase engagement, motivation and retention, making learning more engaging and interactive.

4. Collaboration and Communication Tools: EdTech platforms facilitate collaboration and communication between students and teachers. They offer features such as discussion forums, chat tools, video conferencing and shared workspaces that enable learners to interact, communicate and collaborate with peers and teachers, even in remote settings.

5. Assessment and Feedback Mechanisms: EdTech platforms provide a variety of assessment tools and features to assess learner progress and provide timely feedback. These tools can include quizzes,

assignments, automated assessments, and data insights. Instant feedback helps students monitor their performance and identify areas for improvement.

6. Tracking and Analytics: EdTech platforms collect and analyze data on student progress, engagement and performance. This information allows teachers to gain insight into individual and group learning patterns, identify areas of difficulty, and make informed decisions to optimize instructional strategies and interventions.

7. Integration with Learning Management Systems (LMS): Many EdTech platforms integrate seamlessly with learning management systems used by educational institutions. This integration simplifies administrative tasks, simplifies access for students and teachers, and provides unified learning across all tools and resources. [10]

8. Continuing Professional Development: Some EdTech platforms offer professional development resources and opportunities for teachers. They offer training modules, webinars and resources to help teachers improve their teaching skills, learn about new teaching methods and keep up with educational trends and practices.

9. Scalability and cost-effectiveness: EdTech platforms have the ability to scale quickly and reach many learners. They host different user groups, from individual students to entire educational institutions. In addition, EdTech solutions often offer cost-effectiveness over traditional educational resources by reducing the need for physical infrastructure and materials.

These key features contribute to the success of EdTech platforms by improving accessibility, personalization, engagement, collaboration and assessment in education. However, it is important to note that the effectiveness of EdTech platforms also depends on thoughtful implementation, pedagogical alignment, ongoing support and a focus on addressing issues of equity and access.

II. EMERGING TRENDS AND INITIATIVES TAKEN BY GOVERNMENT

Online education has grown significantly and governments around the world have taken initiatives to support and promote this development. Here are some emerging trends and government initiatives in online education.

1. Online educational platforms and digital infrastructure: Governments invest in the development and support of online educational platforms and digital infrastructure. These initiatives aimed to improve student access to quality education, especially in remote or underserved areas.

2. Development of e-learning content: governments have encouraged the creation of digital learning content and open educational resources (OER) to make education easier and more affordable. This included initiatives to finance content development, partnerships with educational institutions and the promotion of archives in open learning institutions.

3. Blended learning and hybrid models: Blended learning, which combines online and in-person instruction, has gained popularity. Governments have promoted the adoption of hybrid education models that combine traditional teaching and online learning to improve flexibility and learning outcomes.

4. Professional development for teachers: governments have recognized the importance of providing professional development opportunities for teachers to effectively use online educational tools and resources. Initiatives included teacher training programs, workshops, and online courses focused on integrating technology into teaching practices.

5. Recognition of Online Degrees: Governments are working to ensure that degrees and certificates obtained through online programs are recognized and valued in the job market. This included the development of accreditation and quality assurance frameworks for online education providers.

6. Support for EdTech startups: Governments have supported the growth and innovation of EdTech startups in the education sector. Initiatives included scholarships, funding and incubator programs to support the development of new educational technologies and solutions. [2]

7. Access to devices and connections: Governments have addressed the digital divide by providing economically disadvantaged students with devices, internet access or subsidies to ensure equal access to online education.

8. Online Assessments and Examinations: Governments are investigating the introduction of secure online assessment and examination systems. This included using testing tools and secure platforms to conduct remote tests. [11]

9. International cooperation: Governments have promoted international cooperation in online education to improve cross-border learning opportunities and provide students with access to courses and programs offered by educational institutions in other countries.

III. POST-COVID CHALLENGES FOR THE EDUCATORS IN TERMS OF LEARNINGS

Educators have faced many challenges in the post-COVID era as they adapt to new ways of teaching and navigate the changing educational landscape.

Challenges faced by faculties

1. Transition to Online Teaching: Many teachers had to quickly transition from face-to-face teaching to online teaching, which required learning new technologies, online platforms and teaching methods. This change included exploring video conferencing tools, learning management systems, and creating compelling online content.

2. Digital Literacy and Technical Skills: Educators needed to develop or improve their digital literacy to effectively use online tools and platforms. They had to learn how to navigate various programs, solve technical problems and facilitate online discussions and reviews. [8]

3. Sustaining Student Engagement: Getting students into distance learning environments has been a significant challenge. Teachers had to find creative ways to keep students motivated and active in virtual classrooms. They had to explore interactive teaching strategies, incorporate multimedia content and encourage student collaboration [5].

4. Bridging the digital divide: The digital divide, where not all students have equal opportunities to use technology and a reliable internet connection, has created challenges for teachers. It was necessary to consider the different access levels of students and find solutions to ensure equal access to learning materials and opportunities.

5. Assessment and feedback: Assessing student progress and providing timely feedback has become more difficult in distance learning. Teachers have had to adapt assessment methods, including online quizzes, assignments and projects, taking into account issues of academic integrity.

6. Providing personal feedback to students also required alternative strategies. Social and emotional support: The lack of personal interaction and increased isolation during distance learning has affected the social and emotional well-being of students. Educators had to find ways to provide emotional support, foster a sense of community, and create opportunities for students to interact and interact with peers.

7. Differentiated Instruction: Meeting the diverse needs of students in virtual classrooms has been a challenge. Teachers had to adapt teaching methods and materials to students with different learning styles, abilities and home environments. Distinctive teaching and individual support via remote control required creativity and flexibility.

8. Professional Development: Keeping up with evolving trends and best practices in online education has required continuous professional development for educators. They had to seek out training opportunities, attend webinars and participate in communities of practice to improve their knowledge and skills in online education.

9. Balancing workload and self-care: The transition to online education has often resulted in increased workload and a blurring of the line between work and personal life. Educators have had to find strategies to maintain a healthy work-life balance, prioritize self-care, and manage time effectively in a distance learning environment. [5]

All the faculties have also changed drastically in understanding the needs and requirements of the students on the basis of the online knowledge sharing with respect to their holistic development. Faculties or teachers tried to resolve all the problems and working challenges in COVID era. Their commitment to supporting student learning and adopting new teaching methods has helped navigate the post-COVID education landscape.

In the next section the authors conducted a survey based on the scenario of pre and post COVID which was circulated within the college and school students. The survey was conducted keeping in mind about the positive and negative impact of the students during the online learning. All the questions were based on their experience and their usage to find out what the advantages of these platforms are and whether these platforms are useful for the future education industry**.**110 students form the school responded the questionnaire and 150 students responded from the college. Each figure will show the results of the questions from the survey.
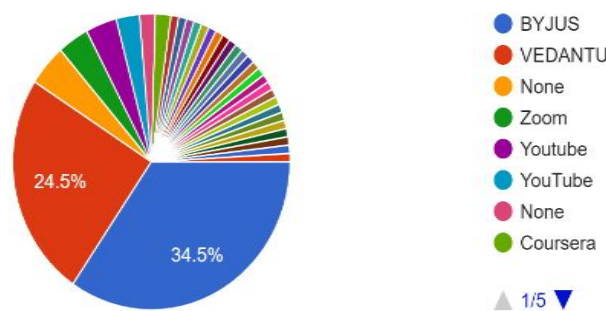

Figure 1Learning Platforms Used

HOW WAS YOUR EXPERIENCE USING THIS ONLINE PLATFORM FOR LEARNING ? KINDLY SCALE IT ON THE FOLLOWING PARAMETERS.
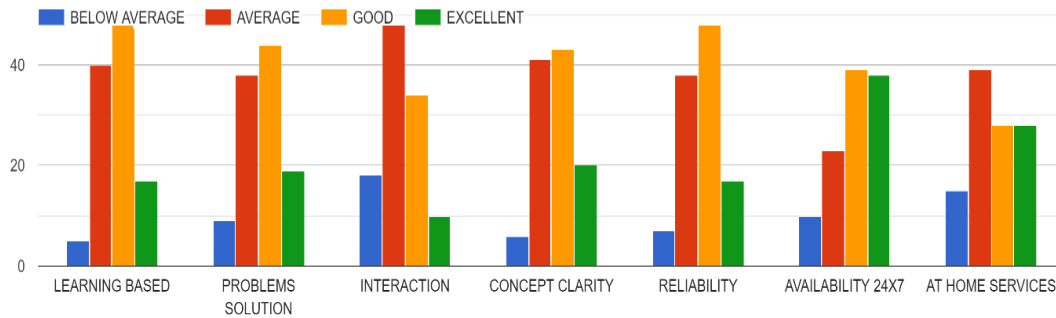

Figure 2 Experience based on learning tools

HOW MUCH WOULD YOU SCALE TO THE FOLLOWING LIMITATIONS OF THIS ONLINE PLATFORM?
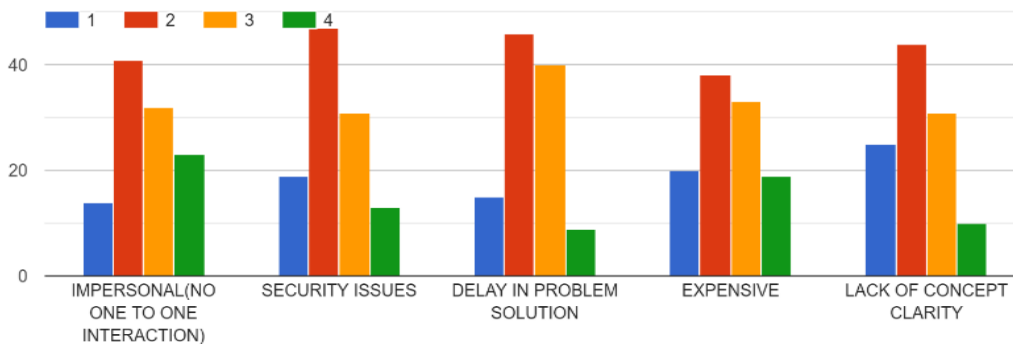(MOVING TOWARDS SCALE 4 DEPICTS THAT YOU STRONGLY FIND IT AS A LIMITATION)

Figure 3 Limitations of the online Platforms

NOW, PERSUING YOUR UNDERGRADUATION COURSE WHICH ONLINE LEARNING PLATFORM DID YOU USE?
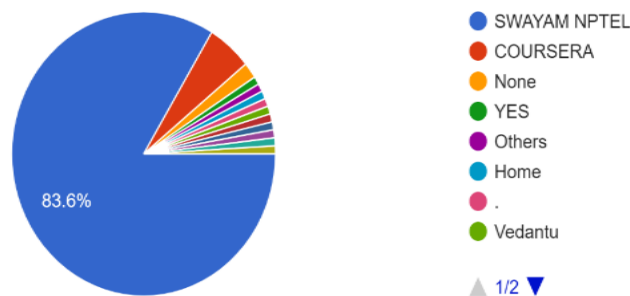110 responses

Figure 4 Online Platforms used by Undergraduates

THE COURSE THAT YOU PERSUED OR ARE PERSUING FROM THIS ONLINE PLATFORM IS FROM WHICH FIELD?
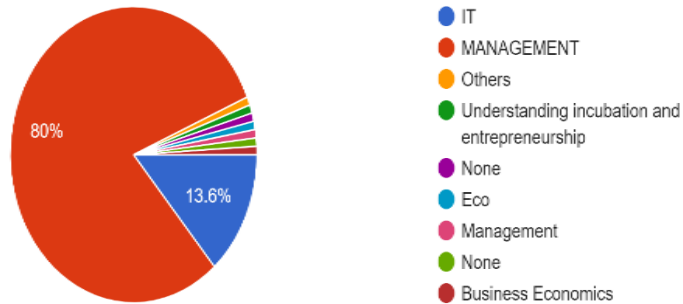
110 responses

Figure 5 Field of the course pursued

HOW WAS YOUR EXPERIENCE USING THIS ONLINE PLATFORM FOR LEARNING ? KINDLY SCALE IT ON THE FOLLOWING PARAMETERS.

Figure 6 Experience of online Learning

HOW MUCH WOULD YOU SCALE TO THE FOLLOWING LIMITATIONS OF THIS ONLINE PLATFORM? (MOVING TOWARDS SCALE 4 DEPICTS THAT YOU STRONGLY FIND IT AS A LIMITATION)
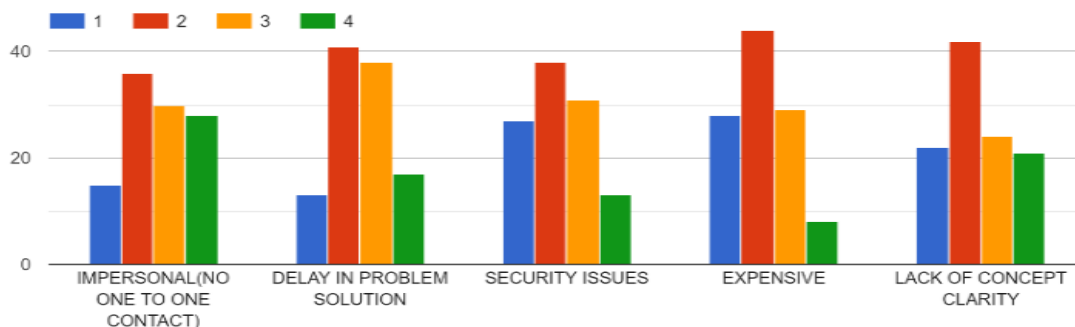

Figure 7 Limitations

IV.   Conclusion

On the basis of the research and the survey conducted authors got to know that students I the age group of less than 18 where the students started learning the concepts in the school era and their experience is surrounded by the learnings, concepts and also interaction, which is the same for the students using the online platforms in the college to earn a professional degrees. When the students started using the education platforms for learning and started pursuing their online courses , the students have the experience which is positive in the terms of the online studying which is availability of courses 24*7 , can be done anytime . Therefore the students the experience of the students before the graduation and during the graduation program is good in learning but average in the problems solution which has certain limitations on the basis of security and lack of clarity.

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