



Cover Page



## ONLINE EDUCATION DURING CORONA: BOON OR BANE?

**Dr. Achla P. Tandon**

Department of Sociology  
Hindu College, University of Delhi  
New Delhi, India

### Abstract

This paper contextualises the dynamics of corona pandemic with online education and the trend of online education centre staging the unequal access to digital resources, including connectivity and data usage. These classes invaded what were earlier private and rightfully invisible home spaces. It opens questions of power play where workspaces and roles outside the house are generally treated as being sacrosanct and superior compared to household work. Virtual learning has become the only way to maintain continuity in the process of education. And we need to reimagine the way our education is delivered

**Keywords:** Stigma, Inequality, Online Community, Convenience, Anxiety Attacks, Public and Private, Visual Communication, Borderless Education.

### Introduction

Coronaviruses are the cause of many illnesses, one of which is Covid-19. Their effects can extend beyond the respiratory system, though the respiratory organs are the most affected (Felman, 2021). Globally, Covid-19 resulted in schools being shut all over, resulting in 1.2 billion children being out of the classroom (Li & Lalani, 2020). As a result, education has changed dramatically, with the distinctive rise of e-learning, whereby teaching is undertaken remotely and on digital platforms. This paper traces the impact of covid on online education and the consequences it had on people's everyday existence plus their sense of marginalisation when some of them could not access the same in toto or partially, due to varying reasons. This crisis almost disrupted the education system across the globe and educators had to compulsorily and suddenly shift to online methods of teaching. Notwithstanding their initial reluctance to change their traditional pedagogical practices, educators had no option but shifting entirely to online teaching-learning (Dhawan, 2020). Infectious disease experts who since more than a decade had been frantically sounding alerts that the world could face a pandemic, found that even a big and technologically advanced countries like the US were ill-prepared to deal with the crises offset by coronavirus due to a shortage of equipment and other logistics (Belongia & Osterholm, 2020). A very significant factor which has emerged world over was the trend of online education highlighting the unequal access to digital resources, including connectivity and data usage. Students and teachers all over India protested divisive modes of communication where some of them do not have access to laptops or even physical space to be able to attend online classes.

### Private becomes public

These classes have invaded what were earlier private and rightfully invisible, almost hidden spaces. Houses and families were suddenly thrown into the public domain of an alien and intrusive online world, with no regard for individual or even family privacy or sense of time schedules. Would offices and educational institutions allow a reverse process of taking their space for granted and a constant freewheeling gaze of the camera or outsider? Based on this author's own experience as well as other colleagues, it was observed that the sense of intrusion felt by students into their own private spaces and homes came as suddenly as a thunderbolt. So as a teacher, to get the assurance of attendance and concentration, if anyone would ask an innocuous query like, 'let me see you' or 'are you there?', it would be outrightly resisted or diffidently denied, including the constant dilemma the teacher himself or herself may have had of intruding into the students' private space. Online education also meant that some students were sure they were not keen to come on camera mode. Over a few days, many teachers realised that despite many attempts that this was not necessarily about appearance, or laziness or camera shyness. It could be about sheer unwillingness to let others see their background, their house or get a peek into what was a shared room. There were instances of teachers persisting students to come on camera as according to them it was just a very small group meeting and yet a student refused saying that his mother was in the room, and another said that her sister was sleeping next to her in the same bed. This was a renewed consciousness of how the public and private spaces were up for scrutiny only at the discretion of students. The fact that it was teachers who were going to students' homes and not students who were visiting schools and colleges, shifted the base of analysis to the homes that students occupied. We must realise that not everyone keeps study tables at home. Just as no office or classroom would allow outsiders, that is families and friends to sit in while work is on within professional settings, classes are being conducted, similarly we need to respect that student may not feel comfortable with teachers or their classmates' seeing activities or people from their respective private worlds.



Cover Page



## Inequality in digital space

It is important to probe this aspect of inequality in digital space too. This opens questions of power play where workspaces and roles outside the house are generally treated as being sacrosanct and of superior status to those within houses. It is no wonder that household work has never got the social sanction of being serious work. It is considered frivolous compared to 'going out to work'. What seems to have started out manifestly as an exercise to facilitate education, latently made conspicuous the wide gap between access and availability.

The stigma of 'losing out', even led to the suicide of a prominent Delhi University college student. It is not a stray incident but symptomatic of the very inequality that is specific to what pandemic of 2020 has problematised. This issue of unequal access or online divide has been another matter of serious consternation, world over and especially in India. Towards the end of February 2020, as alerts sounded on the increasing spread of the Covid-19 infection, the World Bank stepped up worldwide task force teams to help different nations adapt to the new way of life, entailing social and physical distancing. Around then, only China along with some other countries was on board as far as maintaining social distance through closure of schools. Soon after, in a couple of weeks, more than a hundred countries closed schools impacting more than a billion students across the world that experienced closures of their schools. Even universities closed face-to-face education and thousands of students were asked to return home. This brought about a new way of life in educational institutions forcing everyone to stay put where they were and even introduce courses through online portals.

## Online community

An online community emerged as a consequence of lockdowns and the virulent spread of the virus. Initially, in some countries and cities educational instruction shifted online, then returned to the physical classroom, and then had to be shifted back to online mode as the infection surged. (Lockee, B.B., 2021). In many senses, it was also a reassuring phenomenon that one was part of an online community. Having been through total lockdown and no contact with other colleagues and peers from campus, online teaching came in as a reprieve for those who needed human interaction, albeit digital only. It was boom time for those in the online education business. Also, education industries adopted technologies available such as platforms like Zoom, Microsoft platform, Google Classroom etc. were used. This was not only a cultural shock for students who were in the peripheries but even teachers who were ill prepared with the logistics as well as a radically changed modus operandi of communication. It demanded not only a different kind of patience but even scaled up skills to handle logging in as well as tackling technical glitches like dipping connectivity etc. In some ways, to many students it may have come in as a convenience too. Travelling to campus, residing in hostels as well as having to dress up for college can be a financial constraint for some families. Pandering to youngsters' desires to be able to mingle as well as make new friendships may entail their upping their socialising skills including spending in outings etc. All this came to a halt.

## E-learning as an Equaliser

This was worrisome for some but could have come as a relief to others, for whom the inability to live up to peer pressures in terms of campus or college activities may have demoralising impacts on their personalities, including motivation to study. Corona pandemic in that sense played the role of an equaliser, where all students were holed up behind their camera and there was no scope for one upping any one in terms of flaunting vicarious consumption. In many senses, it would have been a humbling experience for those who would have taken their wealth, socio economic background etc for granted enough to feel a sense of superiority. This virus did not discriminate between the rich, poor and was unrelenting in terms of its outreach. Covid-19 resulted in schools being shut globally, so more than a billion children found themselves out of the classrooms. Education took on an entirely different meaning with e-learning becoming the norm and digital platforms were the only spaces to meet up.

This shift in mode, which may continue for quite some time ahead, or give way to what is known as blended education, would not only affect the worldwide education market but even highlight who has access and who may not be so lucky. For many players in the digital education market, in India as well as elsewhere, Corona and the ensuing lockdown became an unprecedented opportunity to make hay while the sun shines. Cloud servers, smart classrooms, variety of digital platforms for online learning became the new normal and not the luxury statement that they were associated with earlier. In many ways, this has paved the way for an open mindedness to technology as well as making use it for a larger body of consumers.

It might have changed education from face to face to online, at a longer time span, than imagined. Based on that, the quality of the E-learning system, quality of information that will create an impact on user satisfaction and system use that will lead toward the E-learning portals will decrease the education cost, and education will reach across borders. Education is increasingly becoming borderless which is a positive trend as well as intent. Studies have recommended some very useful suggestions to higher education institutions such as 'accessibility of the e-learning portal 24/7, error-free information, quality of information, content quality, the robustness of the server, training module materials related to E-learning portal use for new users, updated information, well-organized



Cover Page



data, user-friendly design of the portal, and time to time feedback from the user' (Shahzad et al., 2021). However, according to Miyangawa & Perdue (2020), the abrupt transition to online teaching may fundamentally change how faculty members approach education.

Despite many pro-active efforts by the Central Government in India, to launch new platforms as well as e-channels, to pave the way for an inclusive online educational enterprise, the hegemonic supremacy of private schools, colleges as well as market players cannot be ignored. Control over gadgets, spaces as well as usage of limited connectivity and bandwidth is also along gendered parameters. 'When only 24% of households of students in India have access to the internet as compared to 15% in rural areas, this online education is catering to the needs of a chosen few' (Singh, 2020)

But if we were to look beyond the façade of seamless online education, its benefits as well as its broad spanned spectrum of users, we would be made aware of the kind of challenges that technology must have posed. Social norms and cultural values could have done the same too. They also were as constraining as they always had been. We need to be aware of the interconnectedness between E-learning portals, users' satisfaction as well the quality of system as well as service being provided to different users in various regions of the country. Constant supply of electricity, connectivity, as well as bandwidth issues cannot be conceptualised on a single universally applicable model. A study compared the impact of E-learning in higher institutions of learning, between men and women (Shahzad et al., 2021) and included empirical data of 280 students from different universities of Malaysia through google surveys, to detect differences in user satisfaction based on gender.

In fact, a sensitised approach to understanding diversity in terms of gender, class and region may also have paved the way for a more equitable access as well as usage. In an Indian household with challenged connectivity as well as bandwidth issues, the likelihood of girls having access to same facilities as boys is rather remote. There have been many instances of girls having to give up on school or college education, because of the unavailability of funds (offline) or data services (online), to enable their onward educational journey.

### Paradigm shift

Notwithstanding the above, much headway has been made in school education regarding how people think and perceive education, schools and work. College education has also been made possible through digital ways, unimaginable before. Let us even take the case of University of Delhi and its constituent 70 odd colleges which took over the online mode since Lockdown 2020. The classes started on a faltering note because of everyone's unpreparedness, some people's unwillingness as well as inadequate bandwidth and connectivity in many households. In a couple of months, people, who mean students as well as teachers, seemed on surer ground and everyone was on board, figuratively at least. The University administration had ironed out a number of technical glitches, made administrators as well as teachers' very student friendly and an even a farce of an examination was conducted very smoothly. To get back to the positive aspect, most classes happened, a time tabled curriculum, along with digitised versions of references made the system look pretty much fool proof. Plus, many online meetings and webinars made possible the range and scale of communication, the scale of which had never been seen before, by teachers, students as well as administrators. The conferences that many would have found difficult to attend due to time, travel and general fatigue issues were literally brought home, for everyone to have access. Even admissions were made possible through digital ways where necessary norms of social and physical distance were maintained by most stakeholders.

### Examinations

However, it is examinations which merit greater attention and were a matter of grave concern, stress as well as trauma to several students and even some teachers who were mailed the answer scripts of subjects other than they had ever taught. The online open book examination (popularly called OBE) merely highlighted the unnecessary of continuing with conventional standards of evaluation as well the intransigence of those who refused to relent despite such a changed world around us. We need to reflect over this matter in a very honest way. What was the need to have an examination only for the sake of having one? Frantic texts were exchanged between students and teachers as well as administrations of colleges, to facilitate uploading of answers. Answers, which in many disciplines were prewritten, given the predictability of possible questions in our examinations. Could we not have saved ourselves and especially our young fragile minds this kind of an exercise which belies any sense or sensibility? Do educational institutions not have any other means of evaluation except for examinations? An exercise that merely attempts to be a top-down approach despite an unprecedented global disaster situation like Covid times warrants sensitivity and empathy to diversity, if nothing else. An examination where not only do students have access to all the books and reading material, will use each other's gadgets to verify answers, or merely copy from their peers, could have been avoided, in these crisis times. Students could have been assessed on extra assignments, small group discussions or viva instead. The veracity and credibility of the latter is infallible if we trust our



Cover Page



teachers, as well as students. Honestly conducted, professional online exams demand artificial intelligence or proctored examinations where uninterrupted power as well as connectivity supply must be a given. We are also presuming that everyone lives in a house which has a room, separated from the rest which facilitates exam room like silence privacy as well as a congenial atmosphere. What if I as student live in a small house with two rooms or perhaps one, with a couple of siblings, visiting grandparents or ailing parents and the kitchen is right next to the exam taking table? One student who hardly attended my classes was unable to join in, as she lived in a village where, as per social norms, all girls needed to be out in the fields and not stay at home, during the day. She had come from a family of manual scavengers and came with some financial as well as institutional support from the state and central government. The pandemic would have set her back in so many ways, socially as well as emotionally. Online examinations as per a time bound schedule would have merely added to her state of depression and sense of marginalisation. A system of education in an institution gets credibility from the integrity and fairness of means used as much as desire for sanction from international /credible bodies. An examination which is more a mockery of the system than really a test of students' comprehension or analytical skills is questionable indeed.

### Need for Empathy

Covid times could have been more empathetic times too. Many students found it impossible to adhere to the uploading and downloading requirements that a time specific examination demands, coming from the remote places they did. Even if their numbers were fewer than those who managed, do we invisibilize the already marginalised sections? Do we use technology in a manner that reminds people of what they don't have access to (laptops, tablets, connectivity, electricity) or do we make access to education in a sensitised manner by changing the mode of education as well as evaluation? A system of exam which tests your ability to download questions, scan prewritten answers and upload them within the time frame is not only a waste of time and human resources but speaks volumes for integrity and professionalism of an institution. This kind of examination just adds to the feeling of deprivation for those who would be less privileged and marginalised anyway. Perhaps, some niggling aspects of having to invigilate in dusty, not too well-lit rooms as well as lack of infrastructural facilities to conduct exams have been taken care of by having online examinations. The option of evaluating examination scripts from home is also comparatively more convenient as against heading out in extreme weather conditions to ill maintained evaluation centres. Notwithstanding the above, what purpose has been served by conducting an open book exam which just added to the stress of those who were unable to download or upload their answers on time? The amount of time and effort utilised in making an examination schedule could have been channelised for giving students a stress-free week of working on their additional assignments from home and submit the same, as per everyone's convenience. These deadline centric approaches to education, including examinations and evaluations adds to mediocrity, fear as well as mental health problems. They are no value addition to any conceptualisation, or operationalisation of holistic education. Much as there was a general willingness to learn new skills /software by many teachers they did also experience performance related anxieties due to the newness of it all. We needed to learn from some universities like MIT, USA which decided to do away with grading for their spring session, or just pass all students. This took away the pressure of having to assess students along strict conventional gradients. This was not only liberating for teachers as well as students, but more constructive time was spent on teaching and learning. (Miyagawa & Perdue, 2020) The stress of online education post Lockdown has not only been of the students but even teachers have had to deal with immense pressure to deliver through a mode that they were ill prepared for.

### Anxieties

We need to acknowledge the possibility of anxiety attacks that could play havoc with young vulnerable minds of students who are anyway having to quarantine or self- isolate, not meet people, take care of themselves, perhaps ailing relatives or help in household or work-related activities that they had not done before. Some students themselves would have tested positive and have had to take care of others in the house that would have been ailing or tested positive too. To expect a continuation of old norms in a new disease impacted scenario is not only insensitive but belies logic. Most importantly, the teachers themselves have not found it very easy to conduct classes in a changed scenario of letting their own private world go public, where in there is this presumption that everyone has their nice little study with intact sound proofing, no kids, pets or visiting helps. Many colleges at Delhi University expected their teachers to be stationed in Delhi which means if they were in smaller residential complexes, perhaps shared or rented accommodations, where net/connectivity issues were not taken into consideration during selection of house, (as college spaces/libraries would provide same) would now have had to arrange all of that at a sudden notice. There were several households where all the members needed to use the net. The man of the house was working from home, wife could be a teacher or vice versa. Their children could be students at school or college. In this scenario, four laptops or devices to access, much wider connectivity bandwidth plus literally space in the house to be able to attend meetings or classes became issues of conflict. And these are city dwellers that we need to be showing empathy towards. It would have to be much more for people who come from rural or semi urban backgrounds and found their studentship being put under scanner by coexistence of two contrasting physical as well mental worlds, one of the families, the other of college. Courtesy corona, students coming from fishing and farming communities found themselves





Cover Page



thrown back and locked in, within the same setting that they had relocated from when they entered campus life. Some students are comfortable with where they come from, but some are not. Some may even feel the need to show their background by dressing up that as well as themselves for camera effect. But others may feel totally resistant to the idea of having any visual communication. We need to respect that. Being on camera means that you get to show that very world that may neutralise your efforts at showcasing your cosmopolitan/university-fit personality only, as against the different cultural as well as economic background you may be identified with, were you to let all have a glimpse of where you come from, literally. The sociology of images, gaze as well as social evaluations runs in a multipronged fashion while what may seem like just an online class happening between teacher and students. No wonder many digital servers have made possible the blurring of backgrounds while the speaker is on camera. In a semester long experience of daily classes, five days a week, teachers have shared how they have not seen very many students' faces. So, there is no need to dress up your background while you take or attend a class. The same challenges have been faced by colleagues who have small children or demanding (care) elders who made taking classes a constant ordeal where there was an incessant anxiety of them coming into the frame while classes were being conducted. To add to these seemingly insignificant matters, there was one constant denominator for all teachers. This was the single sentence that they must have asked in every class namely, 'Am I audible? Or 'Are you people there?'" In many senses this online mode of education has given quite a bit of discretionary power to students, especially college students. To see an almost full attendance number of participants indicated on the top right corner of the computer screen to indicate number of participants is not exactly cause for celebration, as many teachers realise after a few interactions. It can be stressful as well as demeaning when your rants for 'Are you there?' go unanswered or are responded by someone else. In an onsite class, physical presence does not become a mystery, even though attention levels cannot be guaranteed, you do have the assurance of them being there in person. That is something you can never be sure of in online mode. Online classes have also made it possible for students to post queries emanating from their access to the printed version of the reading the teacher discusses, by merely posting it in the chat box. The chat box section becomes a parallel playground for the teacher to also keep track of, while delivering his or her own lecture. Many times, it is a fruitful positive contribution to an interactive session. However, it also poses the risk of just distracting the teacher by asking something which you can do in a relatively anonymous way, especially when most cameras are off, and all that the student needs to do is type a text. This is something that schoolteachers could be assured of most of the times. It could be due to the age of school students as well as possibility of reminding them about digital proprieties. However, not all schools have been able to ensure full attendance, due to their own teachers, or students' inability to come online.

### Societal unpreparedness

This has to do with resources as well as societal unpreparedness to handle a situation that corona brought in. How can homes be workspaces too? Meaning, there is any way lots of work of the household kinds happening in the home and people generally use it to be comfortable, listen to music, watch TV or just generally relax, besides do the usual chores related to householding. One has heard of several families complaining where the elders are constrained to enter what have become work arenas in their households either because someone is attending a lecture or delivering one. The same applies to people working in other domains, like corporate houses. Houses are no match for the slick atmosphere of big companies and those who work from home then expect others to be out of the frame, which could even mean an entire room is 'booked' or out of bounds, for a good part of the day. Similarly, to expect students and teachers to make them visible, through camera mode, throughout the greater part of the day, would be quite unfair to other residents of the household. Many, schoolteachers would not only have been able to insist on camera mode, but constant homework and viva would have ensured relatively lesser scope for dilettantish behaviour, besides greater possibility of face to face or individualised attention. At college level you are dealing with young adults who would not like to deliver a schoolteacher like advisory to students for being on camera mode. This meant that many college teachers experienced the stress of communicating with their students without seeing the faces of most. Worst was there was no guarantee that all students were listening in. To be logged in, does not necessarily mean you are necessarily listening in. To reckon with compromised concentration levels is not new for teachers but online mode put a stamp on this aspect as there is no way to find out, unless you have short group discussions or constant tests being conducted on whatever is taught in the recent past. In the Covid-19 outbreak, operational habits have changed around the globe within a short period, and mainly the education sector affected worldwide. In the future, many universities would be offering online courses to the students. Covid-19 will create a long-term impact on higher education institutions at the interactional, personal as well as governmental policies level. Closing down schools and engaging in online education has had tremendous negative implications on communities and families (Bergen, 2020). At any juncture of crisis, the priority should be about revisiting who we are about and broadening our mental horizons with regard to relational matters. If some countries had a breeze of an online experience, it would be because of majority of students having access to laptops as well as free electricity and connectivity. In a country like ours, where inclement weather can affect any region, army has taken over some conflict prone regions or sheer economic standing makes it impossible to participate in education for so many, we may need to be more empathetic during examination or evaluation times. We have enough to divide us anyway. However hard we may resist, differences do tend to divide too. Let us not add to that list by indulging in digital divides. This pandemic and lockdown have transformed the conventional chalk-talk teaching model to one driven



Cover Page



by technology. So, the main concern to all is health, sanitation and a state of well-being. All of this can be solidly pushed forward if we shed our stereotypes about groups, communities, ethnic identities as well as along gender lines.

### Hybrid education and the equaliser effect

Undoubtedly hybrid education is here to stay. What we need is sensitivity to diversity, in terms of gender, economic backgrounds as well as regions, to carry forward a multi-pronged strategy to manage a resilient future in education as well as other sectors of society. Corona 2020 was a year of shocks and imbalances, a lot of disruptiveness and to a large extent a paradigm shift as far as everydayness was concerned. However the equaliser effect of how it impacted on all nations, classes, regions as well as ethnic communities as well as the positive role played by medical, para medical and other essential services staff across the world should have made us that much more of humanistic individuals rather than xenophobic and ethnocentric ones.

Many learners showed a positive response and acceptance to the online mode of education ever since corona necessitated it. Not only did it prove to be advantageous from the point of view of being more flexible, but it was convenient for many who could not have headed out of their homes otherwise. Pre-recorded videos and well-planned modules of content went down favourably with many students. Factors affecting failure of online classes have ranged from technological constraints, instructors not being competent enough, general distractions to learners not being motivated enough and worsening health challenges (Muthuprasad et al., 2021). The fact that rural or lower income households do not have the privileges of laptops, internet or smart phones or poor signal strength plus other household related noises and sounds have been deterrents to a smooth communication in online mode of education. Online education became a cure-all for the global pandemic, despite the challenges that it made both educators and learners face. Making the transition from face-to-face learning experience to online platforms required quite a lot of adaptation (Pokhrel & Chetri, 2021). The virus that the entire world is entrapped in has had a permanent impact on how education is going to be perceived, delivered and received. Virtual learning has become the only way to maintain continuity in the process of education. It is here to stay, and it is time for us to reimagine the way our education is delivered.

### Conclusion

Covid-19 crisis resulted in online education becoming the new normal and a pedagogical shift of approach occurred where teaching-learning shifted from classroom to Zoom or Google, from personal face to face interaction to virtual mode and webinars replaced seminars (Mishra et al., 2020).

To conclude, crises can be disruptive in nature, but they can also be what are known as good disruptions or transformative for the benefit of various sections of society, including those at the peripherals. A strategy which is multi-pronged helps us to manage ourselves and build resilience in a crisis situation (Choudhary, 2020). This is what we need to learn from the experience of 2020. A disease and its spread can be a moment of concern as well as a long-drawn crisis, yet it can be a moment of reflection too, moving forward with a renewed sense of responsibility about matters that need some hard thinking as well as action. Integration of digital platforms and hybrid models will become a permanent feature of educational processes in schools.

### References

1. Belongia, E. A., & Osterholm, M. T. (2020). COVID-19 and flu, a perfect storm. *Science*, 368(6496), 1163-1163.
2. Bergen P. (2020, March 11). The disease expert who warned us. *CNN National Security Analyst*. <https://edition.cnn.com/2020/03/10/opinions/osterholm-coronavirus-interview-bergen/index.html>.
3. Choudhary, R. (2020, April 16). Covid-19 Pandemic: Impact and strategies for education sector in India. *Economic Times*. <https://government.economictimes.indiatimes.com/news/education/covid-19-pandemic-impact-and-strategies-for-education-sector-in-india/75173099>.
4. Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of educational technology systems*, 49(1), 5-22.
5. Felman Adam (2021, January 31). What to know about coronaviruses, *Medical News Today*, UK. <https://www.medicalnewstoday.com/articles/256521>.
6. Li, C., & Lalani, F. (2020, April). The COVID-19 pandemic has changed education forever. In *World economic forum* (Vol. 29). The rise of online learning during the COVID-19 pandemic | World Economic Forum ([weforum.org](http://weforum.org)).
7. Locke, B. B. (2021). Online education in the post-COVID era. *Nature Electronics*, 4(1), 5-6.
8. Mishra, L., Gupta, T., & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *International Journal of Educational Research Open*, 1, 100012.



Cover Page



DOI: <http://ijmer.in.doi./2022/11.02.73>

9. Miyagawa S., & Perdue M. (2020, November 11). A Renewed Focus on the Practice of Teaching, Inside Higher Education, Washington. <https://www.insidehighered.com/advice/2020/11/11/switching-online-teaching-during-pandemic-may-fundamentally-change-how-faculty>.
10. Muthuprasad, T., Aiswarya, S., Aditya, K. S., & Jha, G. K. (2021). Students' perception and preference for online education in India during COVID-19 pandemic. *Social Sciences & Humanities Open*, 3(1), 100101.
11. Pokhrel, S., & Chhetri, R. (2021). A literature review on impact of COVID-19 pandemic on teaching and learning. *Higher Education for the Future*, 8(1), 133-141.
12. Shahzad, A., Hassan, R., Aremu, A. Y., Hussain, A., & Lodhi, R. N. (2021). Effects of COVID-19 in E-learning on higher education institution students: the group comparison between male and female. *Quality & quantity*, 55(3), 805-826.
13. Singh, A. (2020, July 13) Online Learning and education for all during and after Covid -19 pandemic, *Financial Express*. <https://www.financialexpress.com/education-2/online-learning-and-education-for-all-during-and-after-covid-19-pandemic/2021940/>.