

E-LEARNING DURING LOCKDOWN FOR COVID-19 IN INDIA

MS. SUMAN

Assistant Professor of Computer Science, Government College Jind (CRSU, Jind)

ABSTRACT

Covid-19, as a worldwide pandemic, has known as for social distancing. It has made human beings mandatory to sit indoor and sitting idle indoor may also result in mental pressure. Consequently to preserve human beings engaged and free from mental pressure, on line mastering can play critical position. on line gaining knowledge of is the first-rate answer throughout this pandemic scenario. instructors can use digital lecture rooms to train from domestic with all essential gear which makes the web classes as effective as conventional ones. Pandemics regularly compel the freshmen to stay at home for long time frame and obstruct teaching-getting to know technique. this newsletter emphasizes on how online learning is useful at some stage in times of crises like work absences or pandemics. Consequently, some tools and strategies for on-line getting to know that could make certain the continuity of mastering are highlighted. a few emerging tactics of government of India for on line learning are presented. Deserves and demerits of on line mastering platform also are mentioned. Perceptions of novices and educators on online studying device at some stage in lockdown are pointed.

Keywords: online learning, online systems, Perceptions Of newcomers & Educators.

Introduction

Maximum Governments around the world have briefly closed educational institutions to manipulate the spread of the Covid-19 pandemic. With more and more states, provinces and even entire countries last institutions of learning and over ninety one% of the arena's college students population are not attending faculties/colleges (UNESCO). several different countries have implemented localized closures impacting millions of extra newbies. UNESCO is helping nations in their efforts to slower the instant effect of college closures particularly for greater prone and disadvantaged groups and trying to facilitate the continuity of training for during far flung mastering. the world bank is also actively running with ministries of education in numerous countries in assist of their efforts to utilize academic technologies to provide far off studying possibilities to college students at the same time as the academic establishments are closed because of Covid-19 pandemic. "The corona virus pandemic has brought about an remarkable upward thrust in gift time," said international Partnership to quit Violence govt Director Dr. Howard Taylor. "faculty closures and strict containment measures imply increasingly more families are counting on generation and virtual answers to hold kids gaining knowledge of, entertained and related to the out of doors global, but not all kids have the necessary knowledge, capabilities and assets to keep themselves secure on-line" (UNICEF). on this pandemic state of affairs of Covid-19, studying can now be realized on-line and expertise may be transferred simply using a couple of media. online gaining knowledge of is the best answer at some stage in this disaster. on line mastering is a studying surroundings that takes region over the net. it's miles regularly called e-mastering. an internet educator compensates the lack of bodily presence within the digital school room with the aid of growing a supportive surroundings in which all college students sense comfortable to take part in on line class (Joshua). It plays a huge function in remodeling our lives to digital global by way of supplying bendy places, magnificence timings and best contents. It provides a manner to the improvement of humanity at the time physical isolation due to pandemic. on line getting to know is useful because it is instantly reachable and gives flexible scheduling. in this machine, newcomers use internet era to speak definitely with their teachers and fellow learners thru e mail, WhatsApp, Videoconferencing, immediately messaging or the use of different gear. however Videoconferencing may be effectively utilized in on line learning to decorate group collaboration with sense of network among newbies which may replace head to head elegance room getting to know to a degree. inside the past, college students of rural areas have been lacking many of the opportunities that their urban and suburban friends had taken as a right. Connecting those rural students for on-line getting to know thru video conferencing can dramatically improve the first-class in their studying revel in. This permits the agricultural/disadvantaged learners to each attend school/college from home and gives them get entry to to the experts. Videoconferencing is a synchronous model for interactive voice, video and facts switch among two or more companies/people (Wiesemas & Wang, 2010).

Proceedings of DHE approved One Day National Seminar on Role of Digitization during COVID-19

Videoconferencing is just one of the technological systems that can be utilized in online getting to know. The value of on line getting to know is being diagnosed by way of greater agencies, for the reason that it's far a value effective manner to deliver a huge wide variety of human beings. it is able to produce substantial effects via no longer handiest lowering costs, but additionally by means of improving performance. on-line mastering is encouraged because of following reasons in the course of lockdown period for Covid-19.

- It is easy to accumulate knowledge staying at home and maintain social distancing.
- Outbreak of Covid-19 can be minimized due to social distancing.
- It gives extraordinarily effective getting to know environments.
- It offers complementary interactive aid that permits students to observe 24/7 andØ work at their very own tempo.
- It offers flexible scheduling.
- It's far available in any vicinity, with a web connection and students can attend.
- The usage of their devices (cellular, computers, drugs, and many others.). offers with actual-time pupil tracking as well as reporting.
- Improves the photograph of institution via providing technological solutions that resolve real issues

Objectives

The objectives of the take a look at are to:

- Study the measures taken via authorities of India to guide on line getting to know system throughout the lockdown duration for Covid-19.
- Enlighten diverse on line equipment/platforms followed by academic institutions during the pandemic Covid-19.
- Spotlight a few merits and demerits of on-line mastering and put recommendations for improvement.
- Enlist the views of learners and educators on on line gaining knowledge of system at some point of lockdown.

Methodology

Some journals and e-contents relating to on line mastering device are studied to find out the issues associated with on-line gaining knowledge of gadget specially in the course of pandemics. Measures taken with the aid of government. of India to assist on line studying manner for the duration of the lockdown duration for Covid-19 are accrued from internet site. author has undertaken some on-line counselling lessons and carried out on line induction meetings with sparkling January 2020 beginners of various Learner help centres (LSCs) below Indira Gandhi national Open college(IGNOU) local centre, Bhubaneswar all through the lockdown duration of India. The perceptions/perspectives of newcomers and educators of LSCs below IGNOU regional centre, Bhubaneswar are amassed at the same time as engaging in on-line counselling instructions and on-line induction conferences the use of videoconferencing software ZOOM/Google Meet. The collected information are analyzed to take a look at deserves and demerits of on-line mastering machine at some stage in lockdown and proposed better techniques to make it effective for the learner.

Initiatives of India for on-line Learning throughout lockdown :

In view that nations all over the world have long past into lockdowns due to Covid-19, instructional institutes have been no exception. in the course of the Covid-19 outbreak in the entire state, the USA is going through main disaster in many sectors however the worst hit area is the education region, as most of the exams have been cancelled for the duration of the final exams. college students and instructors are struggling to have get entry to to uninterrupted and seamless first-class of net connection. at the same time, the united states of America must now not compromise scholar's an awful lot favoured academic progress. as a result, academic establishments should adopt smart solutions to triumph over the endemic crisis by using adopting the web mode of schooling. Many country Governments of India are also exploring online learning platform for accessing on-line educational resources, at some point of the continuing lockdown. they are looking to layout approaches to help college students preserve with their mastering at some stage in the national lockdown due to Covid-19. The goal is to efficiently maintain with the academic cycles of the scholars and now not permit the lockdown have an effect on their getting to know. They are making plans for college students to provide audio and video primarily based content material at the side of self assessment exercises. Unique doubt- clearing classes on important subjects may be held for college students. people of India need to continue with coordinated and collective efforts to fight Covid-19 and also make effective use of their time during the contemporary state of affairs by way of

Proceedings of DHE approved One Day National Seminar on Role of Digitization during COVID-19

adopting statistics and communication generation (ICT) for teaching mastering technique and make contributions in the direction of the highbrow wealth of the country. online instructions were promoted throughout the distinct universities through the college grants fee (UGC) all through the lockdown section for you to make certain that the scholars do now not pass over out on the lessons throughout the time. even as talking to the media on 13.04.2020 (DD information), UGC Chairman declared that the UGC has constituted committees to sell on line getting to know in the course of Covid-19 lockdown. one of the committees has been fashioned for the examinations and educational calendar, while the second committee will work on students, teachers and the education system. primarily based at the pointers of the committee and in session with the Ministry of Human aid development (MHRD) the pointers for the colleges may be issued through the UGC very soon. UGC has recommended all higher instructional institutes within the nonfiction dated 11th April 2020 to take preventive and precautionary measures for keeping social distancing, staying within the confines homes/hostels and utilise the time productively by way of conducting on-line gaining knowledge of throughout the lockdown period for Covid-19. The resources, which might be in the form of digital platforms, can be accessed through the teachers, college students and researchers in Universities and schools for growth in their knowledge. To make sure that there may be no wreck within the education and students get complete-get entry to to classes, like earlier than, MHRD advises students to hold on with their studies using the online gaining knowledge of systems. the net gaining knowledge of platforms assist the scholars now not best get complete get right of entry to to the study material but additionally permit them to have interaction in on line lessons and engage with the teachers just like the physical classroom placing. Following is the listing of a number of the digital projects of MHRD & UGC along with their access hyperlinks for school college students in addition to UG and PG degree training:

1. **SWAYAM** on-line publications: gives get right of entry to to quality coaching learning sources which were in advance added on the SWAYAM Platform may be now regarded with the aid of any learner freed from value without any registration. college students/inexperienced persons who registered on SWAYAM (swayam.gov.in) in the January 2020 semester can preserve their mastering as usual. hyperlink-<https://garage.googleapis.com/uniquecourses/on-line.html>
2. **UG/PG MOOCs**: hosts getting to know cloth of the SWAYAM UG and PG (NonTechnology) archived guides. hyperlink- https://ugcmoocs.inflibnet.ac.in/ugcmoocs/moocs_courses.php.
3. **E-PG Pathshala**: hosts excessive great, curriculum-based, interactive e-content material containing 23,000 modules (e-textual content and video) in 70 post Graduate disciplines of social sciences, arts, pleasant arts and humanities, natural & mathematical sciences. link- epgp.inflibnet.ac.in
4. **E-content** material courseware in UG subjects: e-content material courseware in 87 Undergraduate guides with about 24,one hundred ten e-content material modules is available at the CEC internet site at <http://cec.nic.in/>.
5. **SWAYAMPARBHA**: is a collection of 32 DTH channels providing excessive best instructional curriculum based totally path contents masking numerous disciplines which include arts, technological know-how, commerce, acting arts, social sciences and arts topics, engineering, era, law, medicinal drug, agriculture and so on to all instructors, students and citizens throughout the united states of america inquisitive about lifelong getting to know. these channels are free to air and also can be accessed via your cable operator. The telecasted movies/lectures are also as archived videos on the Swayamprabha portal. link- <https://www.swayamprabha.gov.in/>
6. **CEC-UGC YouTube channel**: affords get right of entry to to limitless instructional curriculum based totally lectures certainly free. Link<http://www.youtube.com/user/cecedusat>
7. **Country wide virtual Library**: is a digital repository of a widespread quantity of instructional content in unique codecs and provides interface guide for leading Indian languages for all educational ranges together with researchers and lifestyles-long newbies, all disciplines, all famous shape of get entry to devices and in a different way-abled newcomers. hyperlink- <https://ndl.iitkgp.ac.in/>
8. **Shodhganga**: is a virtual repository platform of 2,60,000 Indian digital Theses and Dissertations for studies college students to deposit their Ph.D. theses and make it to be had to the entire scholarly network in open get admission to. link- <https://shodhganaa.inflibnet.ac.in>
9. **E-Shodh Sindhu**: presents modern-day in addition to archival get admission to to more than 15,000 core and peer-reviewed journals and some of bibliographic, citation and authentic 86 databases in specific disciplines from a big variety of publishers and aggregators to its member establishments which include centrally-funded technical

Proceedings of DHE approved One Day National Seminar on Role of Digitization during COVID-19

establishments, universities and colleges which are included under I2(B) and a pair of(f) Sections of the UGC Act. hyperlink- <https://ess.inflibnet.ac.in/>

10. **Vidwan:** is a database of experts which presents statistics about professionals to peers, prospective collaborators, investment companies policy makers and studies pupil within the usa. "it's far was hoping, that those ICT initiatives, which cowl a large range of topics and guides and have been organized by using specialists, will offer an remarkable studying enjoy to all. hyperlink- <https://vidwan.inflibnet.ac.in/>

Emerging Approach of Government. of India for online Learning

- In a press release put out with the aid of the MHRD on March 21, 2020, the Union HRD Minister shared numerous loose digital on line studying systems for college kids to maintain their gaining knowledge of for the duration of Covid-19 primarily based faculty closures. the sector financial institution is likewise sorting rising techniques undertaken with the aid of distinctive countries, and storing all related facts which can be useful to others. The rising approaches of India shared by using world financial institution are as indexed under.
- **The DIKSHA** portal carries on line studying content material for students, instructors, and dad and mom aligned to the curriculum, including video training, worksheets, textbooks and assessments. below the steering of its country wide board of training (CBSE) and NCERT, the content has been created by way of more than 250 teachers who educate in a couple of languages. QR codes in textbooks encourage college students to move past the e-book. The app is to be had to use offline.
- **E-Pathshala** is an online studying app by NCERT for training 1 to 12 in more than one- languages. The app homes books, videos, audio, etc. geared toward college students, educators and dad and mom in a couple of languages consisting of Hindi, Urdu, and English.
- **The National Repository of Open educational resources (NROER) portal** provides a host of resources for college kids and instructors in multiple languages which include books, interactive modules and movies consisting of a number of STEM-primarily based games. content material is mapped to the curriculum for classes 1 – 12, such as aligned sources for instructors.
- **Swayam** hosts 1900 complete publications, such as teaching motion pictures, weekly assignments, assessments and credit score transfers, aimed each at faculty (elegance nine to twelve) and better schooling (undergraduate and postgraduate) stages. subjects are aligned to the curriculum and encompass engineering, humanities, social sciences, law and management publications together with robotics.
- **Swayam Prabha** is a set of 32 Direct To domestic (DTH) channels committed to telecasting of tutorial programs round the clock and on hand all throughout the united states of america. The channels air courses for school training (class nine-12), higher schooling (undergraduate, postgraduate) in addition to for out-of-school youngsters, vocational schooling and teacher schooling. topics consist of arts, technology, commerce, appearing arts, social sciences, humanities, engineering, era, law, remedy, and agriculture. Schedules for the television broadcast in addition to archived applications are to be had on the website.

Some free external repositories of distance Learning Solutions

UNESCO has counseled the listing of instructional packages, structures and resources below with an goal to assist mother and father, instructors, colleges and faculty administrators facilitate student mastering and provide social care and interaction at some point of closure of educational establishments. maximum of the solutions are free with a couple of language option. they are categorized primarily based on distance learning wishes, but most of them provide functionalities across multiple classes.

- **Brookings** – a list of nearly three,000 studying innovations. no longer all of them are distance studying solutions, however many of them offer virtual training content material.
- **Common Sense Education** – recommendations and gear to help college closures and transitions to on-line and at-domestic getting to know.
- **common Wealth of Learning** – list of sources for policymakers, faculty and university administrators, teachers, dad and mom and rookies with the intention to help with student studying in the course of the closure of educational establishments.

Proceedings of DHE approved One Day National Seminar on Role of Digitization during COVID-19

- **Education Nation** – Nordic international locations have unfolded their learning solutions for the sector free of charge, assisting instructors and newbies all through the school closures.
- **EdSurge** – network-pushed list of edtech products, consisting of many distance learning assets for college kids, teachers and colleges, masking primary to postsecondary training tiers.
- **worldwide enterprise Coalition for training** – list of online gaining knowledge of platforms, facts sharing platform and verbal exchange platforms.
- **maintain mastering Going** – enormous series loose gear, techniques, hints and excellent practices for coaching online from a coalition of u.s.-primarily based schooling businesses. includes descriptions of over six hundred+ digital mastering answers.
- **UNHCR** – an intensive list of over 600 distance getting to know answers from the United nations company for refugees.

Free on-line Platforms that support live-video Communication

There are many live-video conversation structures are to be had in web, however some of the unfastened on line structures are as indexed underneath which can be utilized by freshmen of all classes:

- **Zoom** – Cloud platform for video and audio conferencing, collaboration, chat and webinars.
- **Google Meet** – Video calls included with different Google's G-Suite equipment. Video meeting recordings, screen sharing, join calls using Google Calendar
- **Skype** – Video and audio calls with communicate, chat and collaboration features.
- **fb live-** is a remarkable in shape for agencies, influencers, or folks who are looking to broadcast demos, videos, or show off their organisation way of life whilst streaming live, followers on facebook can remark and chat live, time table movies beforehand of time to advantage pleasure.
- **YouTube live-** is a platform for demonstrating a product with stay interplay, website hosting an educational consultation to educate audience with display screen sharing or the use of a whiteboard, having features with area tags and advanced scheduling.
- **UberConference-** limitless Video and audio calls with communicate, chat and collaboration features FreeConference is ideal for smaller groups or meetings, feature consist of display sharing, document sharing, text sharing and so on.
- **Dingtalk** – verbal exchange platform that helps video conferencing, challenge and calendar control, attendance monitoring and immediate messaging.
- **Lark** – Collaboration suite of interconnected tools, which include chat, calendar, creation and cloud garage, in jap, Korean, Italian and English.
- **Teams** – Chat, meet, name and collaboration features integrated with Microsoft workplace software program.
- **TrueConf online-HD** video with Collaboration equipment (display sharing, faraway desktop control, recorded calls, record switch and shared digital whiteboard).
- **Slack Video Calls-** is right for teams seeking out a supplementary video calling solution for small teams, capabilities encompass person calls and messenger offerings.
- **Lifesize cross-** No regulations on meeting duration, favoured for small institution conversations.

Merits of online learning all through lockdown

- **On-line getting to know** encourages greater productive use of time which keep individuals safe from pandemic scenario like unfold of Covid-19.
- It has more access to experts/professionals (nationally and internationally) and inexperienced persons can access 24/7 at their own pace and time. It allows geographical attain even to rural or far flung places.
- it's miles a value-effective generation that's pretty less expensive and enhances verbal exchange among educators and students. One educator can teach diverse digital instructions simultaneously which reduces journeying to numerous places. it may accommodate extra inexperienced persons at a particular time.

Proceedings of DHE approved One Day National Seminar on Role of Digitization during COVID-19

- On line elegance/conference session may be stored in internet site for destiny reference e.g. elegance notes can be stored and dispensed through community for references with the aid of college students. The digital recordings of the classes/meetings may be uploaded in website to check later.
- On the way to conduct exams, establishments can also don't forget the use of on-line exam software program which can also assist for accomplishing on line examinations. This could prevent establishments in dealing with delays in its annual instructional calendar for lockdown.
- Very useful to some emergency provider employees like police, health practitioner and nurses and many others. who're unable to spare a selected time to research at some point of lockdown can use the web recordings and pursue their education.
- Beneficial to girls and bodily handicapped novices who can study at domestic.

Demerits of online learning during lockdown

- Not all children have the necessary information, abilities and resources to keep themselves secure on line. Spending more time on virtual structures can go away youngsters liable to on-line sexual exploitation.
- Inexperienced persons from low-earnings families and deprived businesses are the more likely to suffer during online getting to know as they will now not find the money for high-pace internet connection and required technical gadgets. It widens hole between privileged and unprivileged new learners.
- It may result in laziness with a few college students being at their domestic and can lack self field.
- The ecosystem of a face-to-face meeting is misplaced. Interpersonal dating between students and instructors or between college students might also bog down.
- The security of private data may be compromise as one could hack the virtual gadgets without trendy software program updates and antivirus packages.

Perception of novices on online learning at some point of lockdown

- Felt satisfied due to utilisation of time in attending online lessons all through the lockdown length. First of all, faced some problem in joining on line training however got familiar later on.
- Feeling lonely and unable to proportion feelings with peers. located bad audio/video· first-class in some locality due to terrible network.
- some emergency service employees like police, medical doctor and nurses and so forth. who do not get· a whole lot time to engage in on line training make use the recordings of on line instructions to pursue their have a look at during the lockdown have shown their pleasure.
- inquiring for to facilitate practical based classes via virtual laboratories.
- inquiring for to upload all recordings of on-line classes in website for further reference of the beginners as well as educators as consistent with their requirements. using the online recordings of classes/conferences beginners are able to revise the standards over and over to clarify their doubts for higher knowledge the difficulty.
- on line teaching should be delivered in local/local languages so that everybody· ought to engage readily. stepped forward required technical capabilities because of on-line getting to know programme and requesting for provision of online exam for the duration of lockdown period.
- on-line learning is felt to be much less powerful, less systematic and much less organized than the· traditional device of schooling. So, face to face instructions for the same courses may carried out again after the give up of lockdown .
- Very effective for women and bodily handicapped newcomers who can research at domestic.
- Do no longer obtain prior information on online class or induction meeting agenda and can not attend.
- Feeling unhappy for no longer having required technically know-how to sign up for online mastering and unable to come up with the money for required technical devices with excessive velocity net for online learning. notion of educators for online getting to know for the duration of lockdown

Proceedings of DHE approved One Day National Seminar on Role of Digitization during COVID-19

- Felt happy due to utilisation of time in carrying out online training in the course of the Lockdown length. to begin with, faced a few issue in accomplishing online instructions however got familiar in a while and performed the lessons easily.
- ensuring previous statistics on on-line magnificence or induction assembly agenda could help the educators in better coaching of challenge be counted for efficient delivery of on line instructions/induction conferences.
- All recordings of on line instructions must be uploaded in website for further reference of the beginners as well as educators as consistent with their requirements.
- because the lockdown changed into declared suddenly, most of the institutions couldn't determine the rates of remuneration of educators for on-line instructions. So, the monetary issue regarding remuneration and expenditure towards internet information package deal need to be clarified by means of the host establishments.
- because the beginners are present at scattered places for the duration of on line instructions, it turns into difficult for an educator to monitor their sports in real time. it's also tough to draw their attention in the direction of the challenge remember in the course of the web lessons.
- Very poor attendance and much less interaction of beginners are found in online instructions. Every so often poor video and audio nice obstruct in smooth functioning of online classes.

Recommendations

Some useful steps for smooth functioning of online mastering are as suggested under:

1. On line systems with more desirable safety and safeguarding measures, in particular for virtual mastering gear must be ensured. The devices have to have the cutting-edge software updates and antivirus programs otherwise the safety of personal statistics may be compromised as you'll be able to hack the virtual gadgets.
2. High speed net connectivity must be ensured so as to improve easy get right of entry to for all such as rookies of deprived organizations and occasional-earnings families.
3. All ought to observe the new recommendations launched by way of UNICEF and partners to preserve children secure for the duration of on-line instructions.
- 4 Faculties should display good online behaviours of kids at the same time as carrying out on-line classes.
5. Mother and father must make sure that children's devices have the modern-day software updates and antivirus programs. They ought to paintings with kids to set up regulations for the way, whilst, and wherein the net can be used. They have to also speak to their kids on how and with whom they may be speaking on-line.
6. Social networking platforms must beautify on line systems with extra safety measures, mainly even as the use of digital mastering tools.
7. Government should take essential steps to teach all stakeholders of education on on line studying platform to address such disaster of lockdown throughout any pandemics. Authorities should create recognition on on-line education with protection measures for youngsters and take measures to create awareness on cyber protection.
- 8 on-line learning is not low cost for all inclusive of the bad and deprived companies of the society. So vital steps have to be taken by using authorities/educational establishments to minimise this hole among privileged and unprivileged freshmen.
9. Beginners and educators need to be acquainted with web-based totally interactions consisting of e mail, discussion forums and chat rooms before becoming a member of on line classes.
10. Authorities/instructional establishments should undertake the policy to provide loose internet and free digital devices to all beginners so as to inspire on-line studying because of which humans might get engaged themselves for the duration of lockdown and continue to be safe from pandemics.

Conclusions

On line mastering is the maximum commonplace approach of distance mastering these days. During the lockdown period for Covid-19, on line learning is the fine platform to maintain freshmen/educators engaged and safe via preserving social distancing. Executive. of India has initiated one of a kind on-line gaining knowledge of systems to preserve instructional sports for the duration of lockdown length which can be also been acknowledged via UNESCO

Proceedings of DHE approved One Day National Seminar on Role of Digitization during COVID-19

and international bank. Online studying method utilises numerous packages of the internet to distribute classroom substances and assist freshmen and educators have interaction with each other. Using the numerous technologies to be had for on line getting to know, educators can provide a more interactive distance learning experience via handing over real-time, synchronous video conferencing. on-line studying is considered as destiny learning procedure and this platform has a capability of universal change in pedagogy of coaching getting to know within the modern-day world. however, important steps have to be taken to educate all stakeholders of schooling on on line mastering platform. government/educational establishments ought to adopt the policy to provide free internet and free virtual devices to all beginners with a view to inspire online learning due to which human beings could get engaged during lockdown and continue to be secure from pandemics. Online mastering is the great approach of learning right now of lockdown because of the outbreak of Covid-19 and further in-depth statistical observe may be undertaken on impact of on line learning in the course of lockdown duration.

References

1. DD news. UGC paperwork committee to encourage on-line studying amid lockdown. Retrieved on April 16, 2020 from <http://ddnews.gov.in/countrywide/ugc-formscommittee-encourage-on-line-learning-amid-lockdow>
2. Google search. satisfactory loose Video Conferencing equipment. Retrieved on April 15, 2020 from <https://www.owllabs.com/weblog/video-conferencing-gear>
3. Joshua Stern. creation to online coaching and studying. Retrieved on April 17, 2020 from <http://www.wlac.edu/on-line/files/otl.pdf>
4. UGC be aware. An enchantment for Inviting thoughts/ pointers for “Bharat Padhe online campaign”. Retrieved on April sixteen, 2020 from <https://www.ugc.ac.in>.
5. UGC note. permit COVID 19 not forestall you from learning- ICT projects of MHRD & UGC. Retrieved on April 16, 2020 from <https://www.ugc.ac.in>.
6. UNESCO. COVID-19 educational Disruption and response. Retrieved on April 14, 2020 from <https://en.unesco.org/covid19/educationresponse>
7. UNESCO. Distance studying answers. Retrieved on April 14, 2020 from <https://en.unesco.org/covid19/educationresponse>