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Student perception of Online Teaching in HEI during COVID-19 Pandemic : A Survey Study

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ABSTRACT

The COVID 19 pandemic has strangulated the educational sector. The current study was aimed to know the student perception of online teaching in Higher Education Institute (HEI) during COVID 19 pandemic. This study hence brings about required modifications to deliver knowledge effectively in this current crisis. An online survey was conducted among the students of Higher Education Institute (HEI). As part of this process, validated questionnaire was sent to 4982 students. 60 percent (2986) students responded to them. Questionnaire included 11 domains and 26 items or sub domains related to online teaching. Study found majority of students choosing smart phones as preferred device for learning. There were varied opinions regarding connectivity. Students were satisfied with the quality of online classes delivered. Microsoft Teams was suggested by students as a better platform to learn than other online platforms. Study hence mentions more smart phone based educational applications and learning platforms to be prepared along with smart phone run digital repositories, etc. The study only could furnish response from 60percent student population of HEI; the survey was based on one month online teaching schedule. In study, limited online platforms were only used and individual features of online platforms were utilized not mentioned.

Key words: *Covid 19, Pandemic, Online Teaching, HEI, Student perception, Online learning, Online education*

INTRODUCTION

Education in India

India holds 17.7 percent of the total world population.[1] 37.4 million students are enrolled in higher education in financial year 2019;[2] which is more than the population of third largest populated country - United States.[3] India has over 250 million school going students, more than any country.[4] There are 39931 Colleges and 993 Universities in India.[5] Mentioning all these key facts, it is to be noted that, the country has become the second largest market for e learning, which is expected to reach US$ 1.96 billion by 2021, with around 9.5 million users.[6]

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Pandemic

As, the whole world is challenged by a miniscule and minacious organism, the whole system of education too is affected. The official note of this was given by WHO as Public Health Emergency of International Concern (PHEIC) on 30th January, 2020 (just two days after the first reports of limited human to human transmission were reported outside China). Further it was declared as novel corona virus outbreak (2019-nCoV). Till 30th January, 2020, 7818 total cases were confirmed, affecting 18 countries other than China.[7]

Government of India, through Ministry of Health and Family Welfare has taken adequate steps at different

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levels to tackle this pandemic. Considering the huge population size; especially more than 50 percent of its population below the age of 25 and more than 65 percent below age of 35, running regular traditional offline educational institutes has become a vicious and daring misadventure.[8] Around 32 crore students stopped attending to schools or colleges and all the educational activities were halted.[9] Therefore, institutes under government and private sector initiated various modes of online education and activities for an uninterrupted learning.

There are 80 million cases of Covid 19 reported in world. Among them 10 million cases are from India, with 1.4 lakh deaths reported.[9] This indicates the gravity of situation and challenge in regular, offline education in institutes. Covid 19 virus spreads through droplets of different sizes; when the droplet particles are >5 – 10 micro meter in diameter.[10] It is primarily transmitted between people through respiratory droplets and contact routes.[11-16] These valuable information makes it more precisely, the risks of educational institutes becoming a hot spot for viral transmission to a large population.

Change in teaching methodology in current scenario

There are various methods adopted for various teaching-learning processes. They can be noted as teacher – centered methods, learner – centered methods, content focused methods and interactive or participative methods.[17] HEI incorporates various methods of learning. They are Students' Interactive Session (SIS), Students' seminars (SS), Teacher seminars, Project Based Learning (PBL), Problem Based Learning (PBL), Case studies, Integrated teaching, Focus Group Discussion, Spot Group Discussion, Presentation cum Panel Discussion, Fish Bowl Technique, Role Play, Simulation Technique, Tutorials. To enhance the experiential learning, for medical and paramedical domain a National Reference Simulation Centre also has been established.

In this present scenario, the pandemic situation is affecting services of the institutes. They are forced to find an effective and alternative solution for facilitating teaching – learning process. Considering safety and commitment in delivering educational service, various online platforms are utilized for stepping up learning in this crisis phase. Government and Private educational institutes are on board in delivering online learning, with utmost quality and effectiveness to the beneficiary. Various modes of teaching are conducted through online services.

Evolving new teaching aids to save an academic year during Pandemic

As mentioned, the pandemic situation has taught the educational sector to be more digitalized. This forced the facilitators and user to be more digitally literate. This digital literacy is in line with one of the areas of National Educational Policy 2020 (NEP 2020)[18] and The Digital India Campaign.[19] These impart digitally empowered society and knowledge economy. This use and integration of technology will improve multiple aspects of education. Considering the importance of technology in education, NEP 2020 proposes an autonomous body - National Educational Technology Forum (NETF).[18]

The current pandemic situation, made the online teaching and learning to a new normal. Considering the effectiveness and importance Government of India introduced the following online resources - DIKSHA (containing 80,000 e-content items in multiple Indian Languages, catering to different students), e-Pathashala (1886 audios, 2000 videos, 696 e-books and 504 flip books in different languages), National Repository of Open Educational Resources (NROER) (14527 files including 401 collections, 2779 documents, 1345 interactive, 1664 audios, 2586 images, 6153 videos on different languages); SWAYAM (1900 courses for different section of students), SWAYAM PRABHA (32 DTH channels transmitting educated contents on 24/7 basis), NISHTHA (An integrated Teacher Training Portal and Mobile APP); National Digital Library (digital repository of a vast amount of academic content).[20]

Similarly various education institutes (HEI) and or Universities also provide independent e-learning material. All these initiatives are in line with the enhancing lifelong learning mentioned in NEP 2020.[18]

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These initiatives delivered appropriately, helps the students to continue learning from home safely and effectively; without losing the academic year. Even after the crisis phase is over, for an effective learning blended e-learning (comprising of traditional regular offline classes and e-learning) should be introduced (at a ratio of 20 percent e-learning and 80 percent regular traditional offline learning).

There are different components for e-learning. They are development of e-learning content, managing the developed e-learning content, delivering the prepared e-content and standardizing the process[21] and performing quality check. E learning environment has the following components – Instructive, Constructive, Performance support, Cognitive, Evaluative, Communication and Collaboration.[22]

Use of Information Communication Technology (ICT) is a boon to schools, HEI, Vocational education and training (VET) and work place during this pandemic crisis.

E-learning platform utilized

E-learning platform or online learning platform is an integrated set of interactive online services that provide trainers, learners, and others involved in education with information, tools and resources to support and enhance education delivery and management.

There are various e-learning platforms available in the country. A few are platforms by Government and others by private organizations. A few of the e-learning platforms supported by Government were already mentioned. Other e-learning platforms that provide non - formal education are BYJU's, Dexler Education, Educomp Solutions, IGNOU, NIIT, Edukart, Simplilearn, Zeus Learning, Meritnation, Excelsoft, etc.

The digital technologies supporting learning in higher education includes - Learning Management Systems (LMS): Blackboard, Moodle, WebCT, Platforms supporting online courses, etc., Publish and Share tools: Blogs, Wikis, Flickr, YouTube, Podcast, Social Bookmarking, e-portfolio, Digital storytelling, e-books, Video lectures, etc., Collaborative systems: Google Docs, Social Bookmarking, Mind Maps, Wikis, Blogs, etc., Social networking: Facebook, Twitter, Hi5, LinkedIn, Ning, Academia.edu, etc., Interpersonal Communication tools: email, MSN, Skype, Forums, Video-conferencing etc., Content Aggregation tools: RSS feeds, Net Vibes, Google Reader, etc., 3D Virtual Worlds: Second Life, Habbo, Augmented reality, Games, Virtual labs, etc. and Assessment and Feedback systems: Electronic marking, Clickers, Audio feedback,Computer note taking, etc.

Various other Internet Based Platforms such as video telephony software program developed by Zoom video communication – Zoom, web conferencing and video conferencing application developed by Cisco Webex – Webex meeting and Webex conferences, business communication platform developed by Microsoft – Microsoft Teams, can also be used for delivering online exercises. Apart from them applications and softwares such as Vconsol, VideoMeet, JioMeet, UDoNow, Fokuz, SayNamaste are few other conference apps made in India also can serve the purpose of e-learning.[23]

For the current study, the HEI has utilized three conferences platforms – they are Zoom, Cisco Webex, and Microsoft Teams.

Materials and Methods

With the objectives to understand the perception of students towards online teaching in HEI, and other components such as: Advantages of online teaching and learning, Limitations and or difficulties faced by students in online learning and related aspects of online teaching and learning process a survey study was planned after one month of online teaching across eighteen different faculties in HEI.

The questions were framed in a systematic manner.[24] The process of framing was divided into three major steps. They were phase of preliminary consideration, development process, and phase of validation.

Construct of interest was identified for the study as the student perception of online teaching in HEI. Considering this literary search was conducted, based on the objectives of the study. Due to non-availability of a validated questionnaire, steps were initiated to

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develop a questionnaire that can cater the findings in relation to the objectives of the study.

An expert panel was framed to draft questionnaire from various faculties within the HEI. Followed by identifying the dimensionality of construct, that included questions right from availability of device to uninterrupted connections and domains pertaining to online teaching and learning such as scheduling of event, distribution of time, introduction of course material, presentation of core topic, student teacher interaction, assignments, audio-visual aids, conclusion, rating of online platform utilized, experience domain and an overall rating to the entire process online teaching and learning conducted by HEI through various online platforms. It was a self-administered questionnaire with a study population intended to be circulated among undergraduate, postgraduate, and PhD scholars from eighteen different faculties who were subjected to online teaching.

All the questions framed in questionnaire were in close ended format (Likert scale and polar questions) to make it simple and efficient with a vision to quantify data acquired for a better interpretation and appropriate implementation of best measures if needed. Each and every question put forth by the expert committee was refined in order to avoid complex, long and unfamiliar terminologies and language, avoiding deviation from the objectives, preventing double barreled questions or leading questions. At various stages of development there were considerable changes in the number of items included. There were a total of 15 domains and 38 sub domains or items pertaining to construct of interest in the initial phase of drafting questionnaire. Repeated revisions were conducted by the expert panel to the best of the ability eliminating the flaws. Finally, the items were reduced to 11 domains and 26 sub domains or items.

The items were prepared in Google Forms and intended to circulate to 4982 samples or the study population. A preliminary pilot study was conducted on a smaller group from intended respondents (150 samples – based on 5:1 ratio or five samples for each item (26 items in the current study). Hence, the pilot study population was more than the minimum sample size required for testing) before the actual study. This helped in removing certain items and modifying a few questions before performing the formal study. Further the prepared questionnaire was checked for its validity and reliability.

Once finalizing the items within the questionnaire was completed, they were circulated to the respondents or the study population through Google forms to their respective mail IDs. All were instructed to complete the survey within a week.

RESULTS

Questionnaire for understanding the perception of students towards online teaching and learning process in HEI was sent to 4982 respondents or students spanning across different faculties. Among them 60 percent (2986) of the study population responded.

Response given to domains and sub domains by the respondents can be seen as follow:

a. Device for accessing online classes

91 percent of the students responded as using smart phone for accessing online class. 18 percent didn't provide any response and 1 percent responded of not using smart phone to access online classes (Fig-1).

36 percent of scholars reported use of laptop for online classes, whereas 20 percent claimed of not using and 43 percent did not respond to the question (Fig-2).

In a separate sub domain, only 3 percent of the respondents claimed of using desktop for online classes and 30 percent reported of not using, whereas, 67 percent of scholars didn't respond for the use of desktop (Fig-3).

b. Most preferred device by scholar for online classes

60 percent preferred smart phone for accessing online classes. 8 percent reported as not a preferred choice. And 32 percent did not respond (Fig-4).

39 percent preferred laptop for accessing online classes. 15 percent responded as not a preferred

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device and 46 percent did not register their responses (Fig-5).

8 percent reported using desktop as the preferred device for accessing online classes. 1 percent scholars reported desktop as not a preferred device. 76 percent failed to submit the response (Fig-6).

c. Mode of internet used in accessing online classes

61 percent scholars responded of using modem (WiFi/ LAN) for accessing online classes. 5 percent responded of not using it for internet. 34 percent did not submit their response (Fig-7).

73 percent students mentioned mobile data as a mode for internet. 4 percent responded of it as not a mode for getting connectivity. 23 percent did not submit the response (Fig-8).

d. Internet speed (mobile data) available for online class

65 percent students reported of having a 4G connection, 13 percent reported of a 3G connectivity, 4 percent as 2G and 18 percent of scholars did not submit the response (Fig-9).

e. Internet speed for modem (WiFi/ LAN) for online class

20 percent reported modem speed available as 20 – 50 Mbps. 17 percent reported as 50 – 100 Mbps, 13 percent as 0 – 10 Mbps, 12 percent as 10 – 20 Mbps, 14 percent did not responded, 24 percent reported as not applicable (Fig-10).

1.1 Prior information of scheduled classes

46 percent agreed of informing them in prior regarding scheduled classes. 11 percent disagreed, 18 percent strongly agreed, 7 percent strongly disagreed and 18 percent reported as uncertain (Fig-11).

2.1 Starting of classes at scheduled day and time

51 percent students agreed of classes starting at the scheduled day and time, 11 percent disagreed, 17 percent strongly agreed, 4 percent strongly disagreed, and 17 percent was uncertain (Fig-12).

2.2 Delivering lectures in stipulated time frame as scheduled

56 percent reported that lectures were delivered within stipulated time frame as scheduled. 9 percent disagreed, 19 percent strongly agreed and 16 percent was uncertain (Fig-13).

3.1 Purpose and objective of the online lecture was defined properly

54 percent agreed of the faculty defining the purpose and objective of the online lecture. 9 percent disagreed, 15 percent strongly agreed, 4 percent strongly agreed, and 18 percent was uncertain (Fig-14).

4.1 Teacher was confident, organized and engaging

60 percent agreed that teacher was confident, organized and engaging. 5 percent disagreed, 21 percent strongly agree, 2 percent strongly disagreed, and 12 percent was uncertain (Fig-15).

4.2 Voice was crisp and clear, modulation and pace of online class was appropriately done

27 percent agreed that the voice of online lecture delivered was crisp and clear, modulation and pace of online class was done appropriately. 24 percent disagreed, 6 percent strongly agreed, 11 percent strongly disagreed and 31 percent was uncertain (Fig-16).

4.3 Case studies, stories and scenarios mentioned

53 percent students agreed of including case studies, stories and scenarios mentioned during online classes. 11 percent disagreed, 9 percent strongly agreed, 5 percent strongly disagreed, and 21 percent was uncertain (Fig-17).

4.4 Included online demonstration apart from lecture

50 percent agreed that online demonstration was a part of online classes. 12 percent disagreed, 11 percent strongly agreed, 6 percent strongly disagreed, and 21 percent was uncertain (Fig-18).

4.5 Video bites prepared by teachers are relevant, useful in enhancing the online learning experience

57 percent agreed that the video bites prepared by the faculty were relevant and useful in enhancing the online learning experience. 7 percent disagreed, 18

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percent strongly agreed, 5 percent strongly agreed, and 13 percent was uncertain (Fig-19).

5.1 Teacher was responsive to your queries

60 percent agreed that their teachers were responsive to the queries asked. 2 percent disagreed, 29 percent strongly agreed, 2 percent strongly disagreed, and 6 percent was uncertain (Fig-20).

6.1 Relevant assignments were given after class

60 percent agreed of providing assignments after class that are relevant. 5 percent disagreed, 20 percent strongly agreed, 3 percent strongly disagreed and 11 percent was uncertain (Fig-21).

7.1 Online lectures comprised of PPT/ animated info-graphics/ videos/ digital blackboard, etc.

61 percent agreed of faculty conducting online classes through PPT/ animated info-graphics/ videos/ digital blackboard, etc. 4 percent disagreed, 22 percent strongly agreed, 3 percent strongly disagreed, and 9 percent was uncertain (Fig-22).

7.2 AV aids added impact and interest to online classes

51 percent agreed that AV aids added impact and interest to online classes. 9 percent disagreed, 12 percent strongly agreed, 5 percent strongly disagreed, and 23 percent was uncertain (Fig-23).

8.1 Summary of entire online class mentioned

54 percent agreed that the teacher mentioned the summary of entire online class mentioned. 10 percent disagreed, 13 percent strongly agreed, 4 percent strongly disagreed, and 19 percent was uncertain (Fig-24).

8.2 Additional reference sources for the discussed topic mentioned

54 percent agreed that their teachers mentioned additional reference sources for the discussed topic mentioned. 10 percent disagreed, 12 percent strongly agreed, 4 percent strongly disagreed, and 19 percent was uncertain (Fig-25).

9.1 Zoom platform was convenient and effective in online learning compared to Cisco Webex and Microsoft Teams

28 percent agreed that Zoom platform was convenient and effective in online learning compared to Cisco Webex and Microsoft Teams. 29 percent disagreed, 12 percent strongly agreed, 14 percent strongly agreed, and 17 percent was uncertain (Fig-26).

9.2 Cisco Webex platform was convenient and effective in online learning compared to Zoom and Microsoft Teams

29 percent agreed that Cisco Webex platform was convenient and effective in online learning compared to Zoom and Microsoft Teams. 25 percent disagreed, 11 percent strongly agreed, 14 percent strongly agreed, and 21 percent was uncertain (Fig-27).

9.3 Microsoft Teams platform was convenient and effective in online learning compared to Zoom and Cisco Webex

35 percent agreed that Microsoft Teams platform was convenient and effective in online learning compared to Zoom and Cisco Webex. 13 percent disagreed, 22 percent strongly agreed, 10 percent strongly disagreed, 20 percent was uncertain (Fig-28).

10.1 Uninterrupted video streaming of the class was possible majority of the time

44 percent agreed that, uninterrupted video streaming of the class was possible majority of the time. 17 percent disagreed, 8 percent strongly agreed, 6 percent strongly disagreed, and 24 percent was uncertain (Fig-29).

10.2 Uninterrupted audio streaming of the class was possible majority of the time

43 percent agreed that uninterrupted audio streaming of the class was possible majority of the time. 17 percent disagreed, 7 percent strongly agreed, 7 percent strongly disagreed, 25 percent was uncertain (Fig-30).

11. Overall rating of online lectures was excellent

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44 percent agreed that overall rating of online lectures was excellent. 15 percent disagreed, 9 percent strongly agreed, 7 percent strongly disagreed, and 24 percent was uncertain (Fig-31).

DISCUSSION

This survey study was conducted to discern the perception of students to online teaching in HEI, advantages of online teaching and learning, limitations and difficulties faced by students in online learning, and related aspects of online teaching and learning process. The 26 items in the questionnaire have been broadly categorized under five headings and the sixth heading as the overall rating of online teaching method. The five broad headings includes the device used (i.e. items a and b), connectivity (i.e. items c, d and e), quality of online classes conducted (i.e. items 1.1, 2.1, 2.2, 3.1, 4.1, 4.2, 4.3, 4.4, 4.5, 5.1, 6.1, 7.1, 7.2, 8.1, and 8.2), online platforms utilized and it's rating in online learning (i.e. items 9.1, 9.2 and 9.3), and technical quality of classes (i.e. items 10.1 and 10.2). The advantages and disadvantages or limitation of all these five different aspects are dealt.

1. Device used

In the current study majority of the scholars used smart phones over laptops and desktops for online learning. Also, declaring smart phones as the most preferred choice for undergoing online classes. Similar observations were seen in regard to use of mobile phones for college lectures.[25] There are 696 million mobile phone users in the country till 2020.[26] 70 percent of students in India use smart phones.[27] The observation regarding its preference over other devices can be justified due to the quick access of information online, flexibility in learning, affordability, readiness, popularity and other versatile functions it can handle.

2. Connectivity

Internet penetration has risen to 50 percent in 2020, meaning half of the country's population receives internet. The highest internet penetration is observed in Delhi NCT[28]. A large set of study population utilized mobile data followed by WiFi or LAN for accessing online classes. There are multiple service providers capable of providing good coverage along with downloading and uploading speed, making it as a preferred mode of internet access. The speed of internet services available for the majority of study population was 4G as reported. Compared to other countries India has a lower internet speed. The majority of the respondents were having varied opinions.

3. Quality of classes by faculty

A large group of students agreed that they were given prior intimation of scheduled online classes. The links and IDs of the scheduled classes were also provided to the students in advance for logging in. This method helped in conducting flip classes to the students through online. Prescheduling brings out a consistent and predictive learning environment with limited surprise and more productive.[29] Any changes in the schedule were always notified to the students appropriately.

More than half of the study population reported that online classes which were scheduled started at the notified date and time and wrapped within the stipulated time. Adhering to the date and time will help in proper and complete delivery of the class. It also reflects the importance of punctuality and planning in scheduling online lectures to the scholars. Also, it helps in an organized delivery of various topics and or subject.

Beyond half of the total respondents reported that the classes comprised of well stated purpose and objectives of the class. This in turn helps students to focus on to the topics, perform self-evaluation, and creating new insights.

The faculties conducting online classes were confident, organized and engaging as per a large set of study population. This created online learning more valuable and effective.

Clarity of voice, control on modulation and pace of teaching was an area that scholars had a scattered response. Voice of a teacher must be intelligible, accessible, motivational, assertive and effective, as

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students attention may be affected due to monotonous lecturing[30]. Half of the study population responded that thefaculties wereconducting online demonstration during the classes. This method of teaching enhances the learning process and make teaching effective at the same time. The video bytes prepared by teachers with reference to their subject concern and topics were reported to be relevant and useful in enhancing the learning process. This method also will facilitate a blended teaching and learning in future, which is much needed and effective that a single mode of teaching and learning[31]. Majority of the scholars reported that the teachers were responsive queries. This aids the students to reinforce the questioning ability, providing new insights which were not discussed in a regular class, building confidence and encouraging and or increasing quest for knowledge. Many scholars reported of being given assignments after every online class. There are various benefits a student earns through solving assignments. It ranges from improvement in language, to comprehension, drafting, and synthesis of a new knowledge.

Apart from all these, a large sub set of scholars responded that the online lectures comprised of a wide array of presentation of topics ranging from Power Point presentation, animated info-graphics, videos, digital boards, etc. All these measures make the process of teaching effective and enhance the process of learning. Thereby majority of students reassuring that audio visual aids adding impact and interest for the online classes. Summary of classes were also mentioned by the faculties at the end of each online session as responded by more than half of the scholars. Many students also reported that additional reference sources were mentioned after each session of online lecture. This encourages further learning and zest to explore more on the topic.

4. Online platform utilized

The HEI used three conferencing platforms for the purpose of online teaching. Which were Zoom, Cisco Webex, and Microsoft Teams. Each platform was used for a specific period at a time. But all these platforms were not enough for an effective teaching learning process as responded by majority of the stake holders. Only a few suggested them as effective. Among three of these conferencing platforms, Microsoft Teams was suggested as a better option.

Measures to be taken for online teaching

1. As majority of the students prefer smart phone as a platform for online learning, more phone-based applications has to be prepared as a part of formal and non-formal education in higher educational institutes rather than sophisticated and heavy portals.
2. Smart phone run digital repositories specific to programs and or courses to be designed.
3. Students to be made digitally literate in designing, using and creating new platforms within smart phone irrespective of the profession they choose as a part of value based education.
4. Judicious use of smart phones for the purpose of learning and exploring the topics related to the course to be promoted in a classroom setting under supervision of a teacher. This enhances the capacity of a scholar to remove halo effect of smart phones beyond daily routine and convert to an opportunity to explore and learn new things.
5. Connectivity needs to be improved even though the results show a large number of scholars having good connectivity. As the world has become small through digital connectivity, it has slowly become a right to all for being equipped for better connectivity. This ultimately promotes lifelong learning, contributing to delearning, relearning and updating self in this 21st century.
6. Majority of scholars were lacking the knowledge or awareness regarding the speed of connectivity. As a part of improved digital literacy, scholars to be educated regarding the network speed and the need of it in using various platforms, as it differs for each.
7. It has to be observed that many items were responded by a few set student population as

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uncertain. This might be due to multiple factors such as poor connectivity issues to lack of regular attendance of the scholar, thereby making them difficult to mark an appropriate choice. Therefore, such issues have to be defined and addressed on individual basis.

8. Problems regarding the voice modulation and clarity have been raised by the students. This has to be seen with due importance as any interruption in the flow of information makes the whole process of teaching and learning in vain.
9. Though majority mentions that case studies, stories and scenarios are done during online classes, more number and quality delivery is required in this aspect.
10. Online demonstrations also to be increased as per need.
11. Summarizing the topic taught and mentioning of additional reference sources to be told in every online session.
12. An appropriate platform or Learning Management System (LMS) to be built for the purpose of conducting online teaching and learning, rather than depending on conferencing applications, as the response given by the scholars were not satisfactory.
13. Interruption of audio and video while conducting online classes was an issue raised by the scholars. This may be due to multiple factors ranging from network issues to other technical glitches.
14. Only half of the respondents reported online teaching as excellent. Measures to be implemented expeditiously as the situation of pandemic demands continuing online education.
15. Awareness, education and expertise to be given to scholars in using commonly used conferencing platforms, or Learning Management System to be given.

Limitations of the study and suggestion for further study

1. 60 percent (2986) out of 4982 students in HEI could only respond to the study. They may be due to an array of reasons, which needs to be addressed in this digital era.
2. Certain items appear to be double barreled and confusing the respondents even multiple refinements was conducted. Multiple stages of pilot studies might have helped to structure the items.
3. As connectivity is an issue to be addressed and solved, the questionnaire given as Google Forms might have made it difficult for respondent to access.
4. Online classes were conducted for only one month regularly before the current survey. The data is drawn based on the perception of student spanning one month of online classes. A longer duration could have been taken into consideration for the survey study. But, to address the issues earlier the current study was done.
5. Further analytical studies can be taken to see any association among different variables.
6. Separate studies can be conducted in future with reference to use of specific platforms.
7. Duration of use also to be considered while conducting such survey study, so the user gets experience to different features of the application or platform.

CONCLUSION

Digital literacy is need of the hour irrespective of profession. The current pandemic crisis makes conduction of regular offline classes to be at bay. This created the demand of shifting the offline mode to online education. As the country comprises of a huge section of student community, catering their educational needs through online mode has become a resource and expertise challenge. The current study is evidence of how a student perceives online teaching in a Higher Education Institute (HEI). The overall experience of online teaching alone cannot be satisfying as per the results given by the responder.

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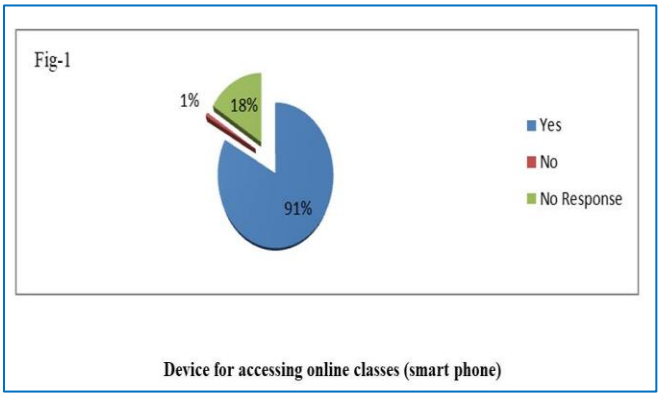
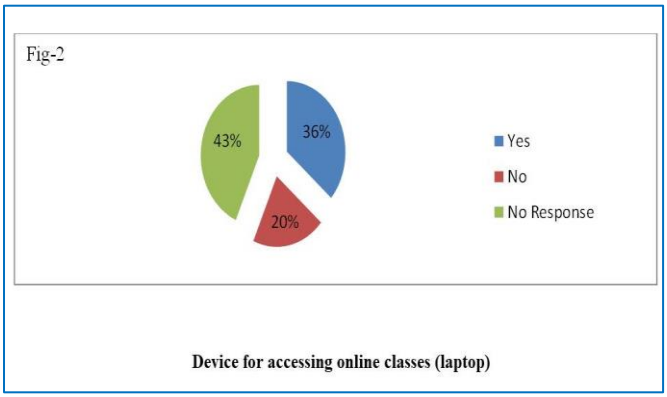
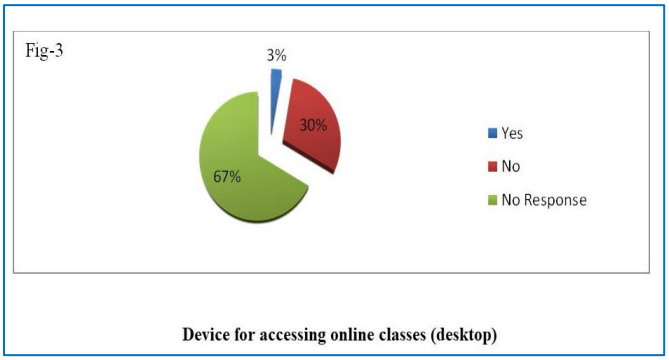
Blended learning is always an effective mode of teaching and learning process. But, telling so in this crucial time, all the mentioned recommendations have to be followed for creating and facilitating an efficient atmosphere for online learning.



Device for accessing online classes (smart phone)



Device for accessing online classes (laptop)



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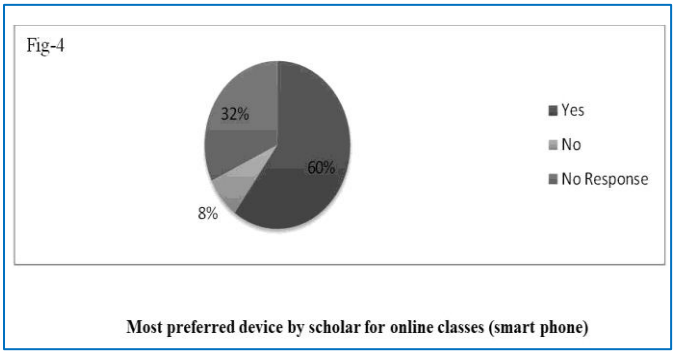
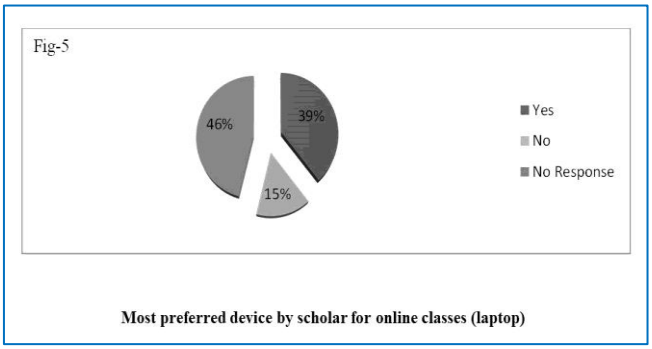
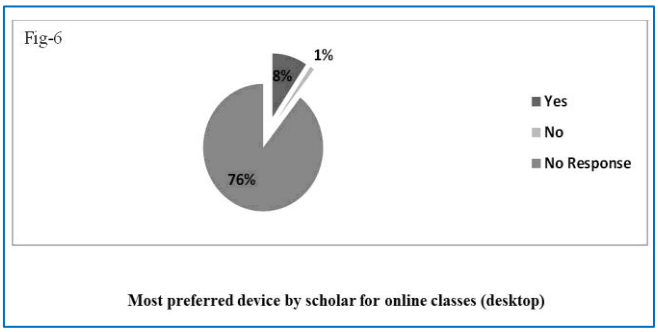


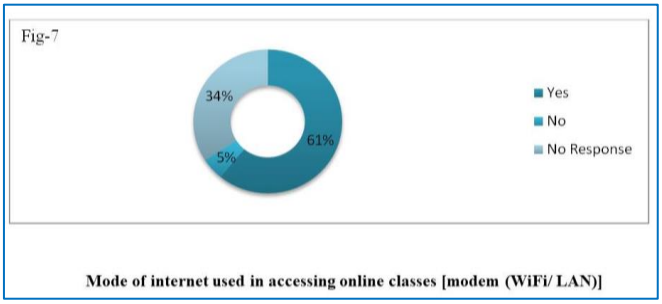
Most preferred device by scholar for online classes (smart phone)



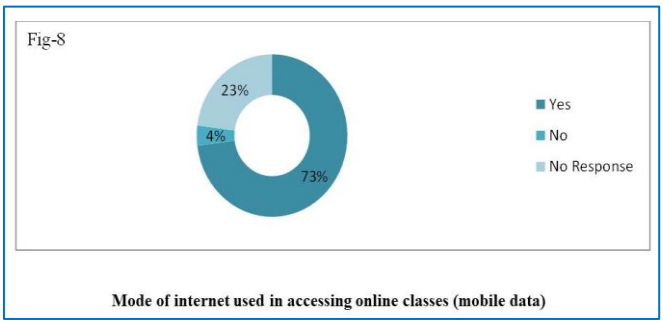
Most preferred device by scholar for online classes (laptop)



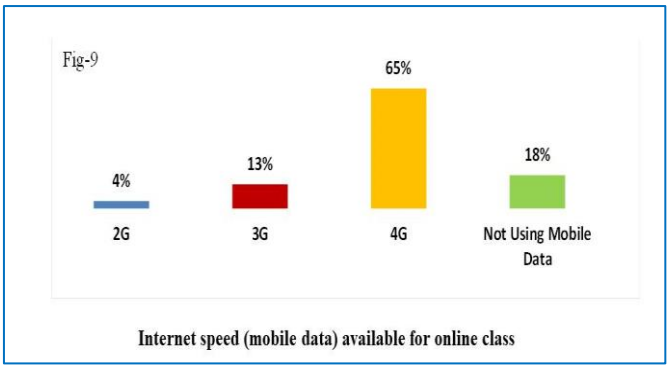
Most preferred device by scholar for online classes (desktop)



Mode of internet used in accessing online classes [modem (WiFi/ LAN)]



Mode of internet used in accessing online classes (mobile data)



Internet speed (mobile data) available for online class

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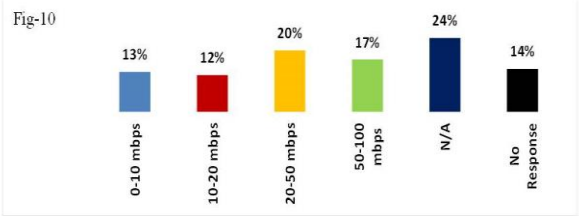
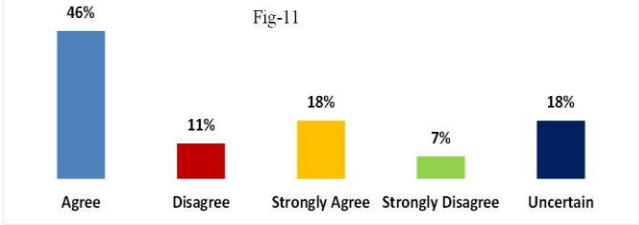
Fig-10



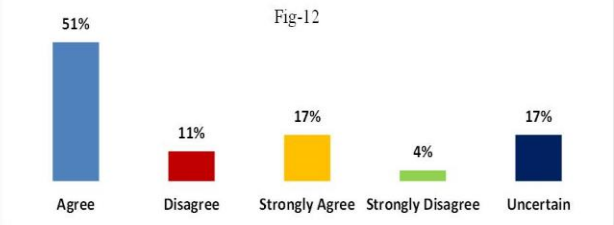
Internet speed for modem (WiFi/ LAN) for online class

Fig-11



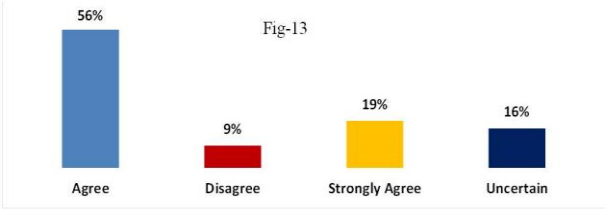
Prior information of scheduled classes

Fig-12



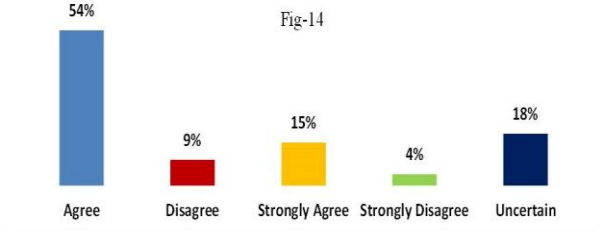
Starting of classes at scheduled day and time

Fig-13



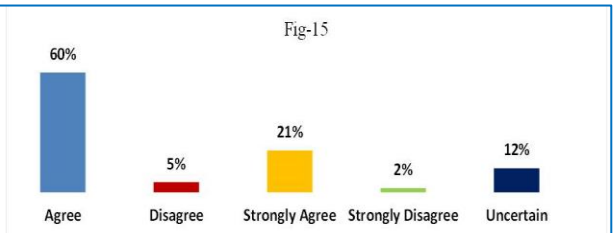
Delivering lectures in stipulated time frame as scheduled

Fig-14



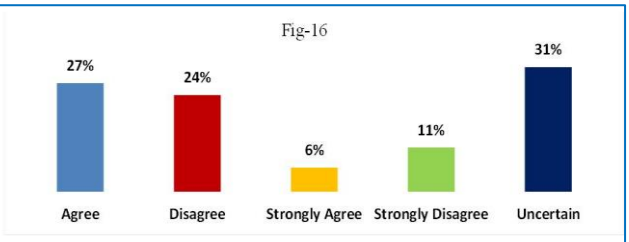
Purpose and objective of the online lecture was defined properly

Fig-15



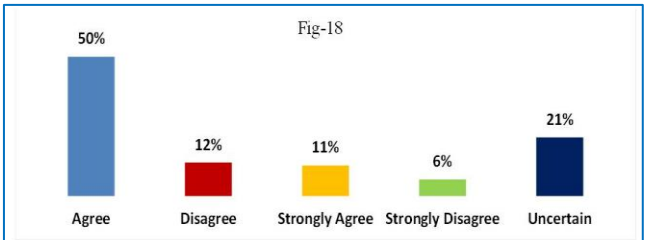
Teacher was confident, organized and engaging

Fig-16



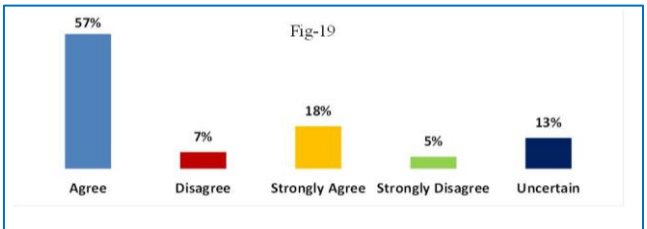
Voice was crisp and clear, modulation and pace of online class was appropriately done

Fig-18



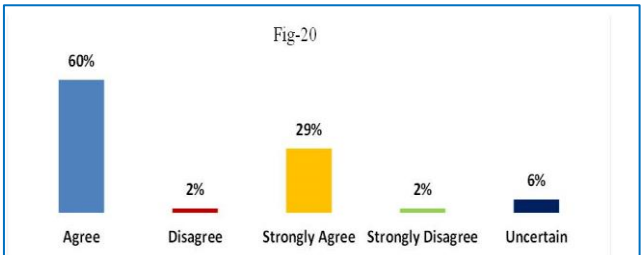
Included online demonstration apart from lecture

Fig-19



Video bites prepared by teachers are relevant, useful in enhancing the online learning experience

Fig-20



Teacher was responsive to your queries

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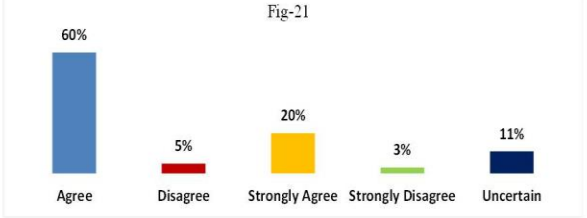
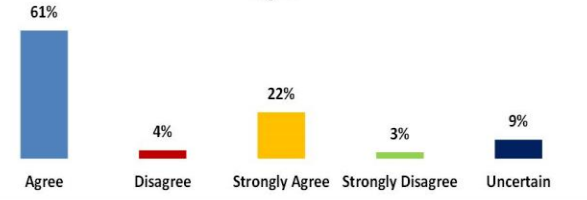
Fig-21



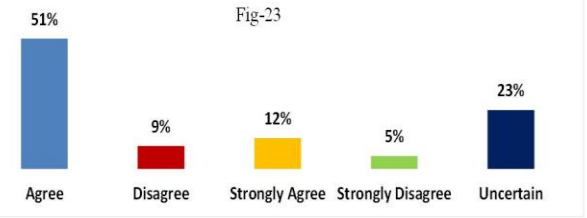
Relevant assignments were given after class

Fig-22



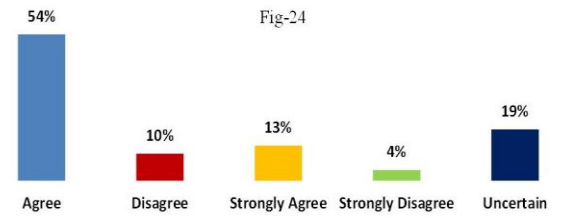
Online lectures comprised of PPT/ animated info-graphics/ videos/ digital blackboard, etc.

Fig-23



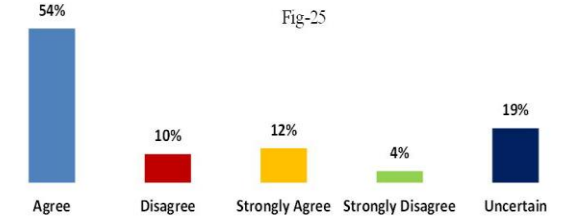
AV aids added impact and interest to online classes

Fig-24



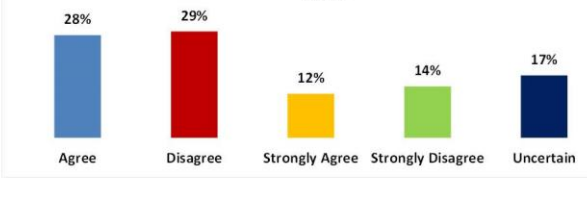
Summary of entire online class mentioned

Fig-25



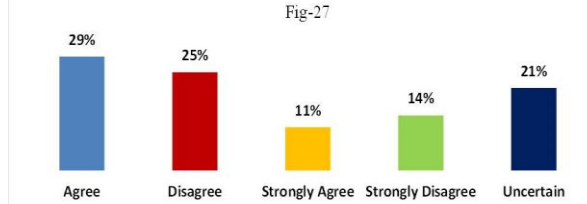
Additional reference sources for the discussed topic mentioned

Fig-26



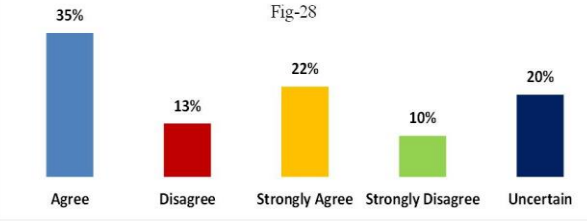
Zoom platform was convenient and effective in online learning compared to Cisco Webex and Microsoft Teams

Fig-27



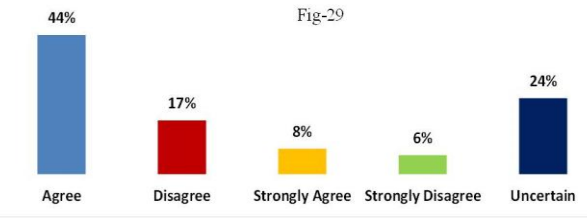
Cisco Webex platform was convenient and effective in online learning compared to Zoom and Microsoft Teams

Fig-28



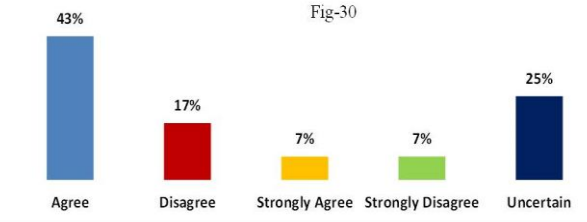
Microsoft Teams platform was convenient and effective in online learning compared to Zoom and Cisco Webex

Fig-29



Uninterrupted video streaming of the class was possible majority of the time

Fig-30



Uninterrupted audio streaming of the class was possible majority of the time

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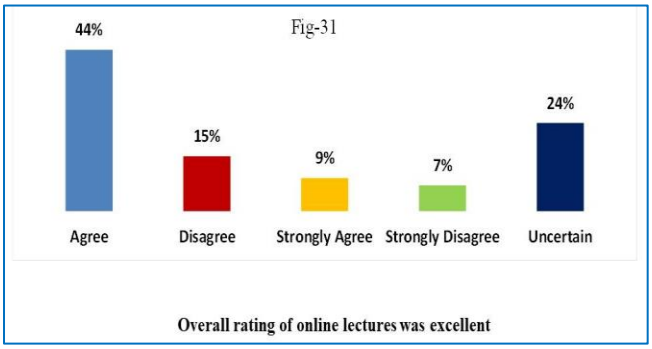

REFERENCES

1. Dadax limited. (2008). Worldometer. Retrieved 25 December, 2020, from https://www.worldometers.info/world-population/india-population/
2. India brand equity foundation. (2003). India Brand Equity Foundation's website. Retrieved 25 December, 2020, from https://www.ibef.org/industry/education-sector-india.aspx
3. United States Census Bureau. (1902). United States Census Bureau's website. Retrieved 25 December, 2020, from https://www.census.gov/popclock/
4. India Brand Equity Foundation. (2003). India Brand Equity Foundation's website. Retrieved 25 December, 2020, from https://www.ibef.org/industry/education-sector-india.aspx#login-box
5. Ministry of education, Government of India (2010). All India Survey on Higher Education. Retrieved 25 December, 2020, from http://aishe.nic.in/aishe/home
6. India brand equity foundation. (2003). India Brand Equity Foundation's website. Retrieved 25 December, 2020, fromhttps://www.ibef.org/industry/education-sector-india.aspx
7. World health organization. (1984). World Health Organization's website. Retrieved 25 December, 2020, from https://www.who.int/news/item/27-04-2020-who-timeline---covid-19
8. British Broadcasting Corporation. (1969). BBC News' website. Retrieved 25 December, 2020, from http://news.bbc.co.uk/2/hi/south_asia/6911544.stm
9. Jena, P. K. (2020). Impact of Pandemic COVID - 19 on Education in India. International Journal of Current Research, 12(7), 12582-12586.
10. Conly, J et al. (2014). Infection prevention and control of epidemic-and pandemic-prone acute respiratory infectionsin health care. Retrieved 25 December, 2020, from https://apps.who.int/iris/bitstream/handle/10665/112656/9789241507134_eng.pdf?sequence=1
11. Liu et al. (2020). Community Transmission of Severe Acute Respiratory Syndrome Coronavirus 2, Shenzhen, China, 2020. Emerging Infectious Diseases, 26(6), 1320-1323. Retrieved 25 December, 2020, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7258448/pdf/20-0239.pdf
12. Woo chan et al. (2020). A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. Lancet, 395(10223), 514-523. Retrieved 25 December, 2020, from https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(20)30154-9.pdf
13. Li et al. (2020). Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus–Infected Pneumonia. The New England Journal of Medicine, 382(13), 1199-1207. Retrieved 25 December, 2020, from https://www.nejm.org/doi/pdf/10.1056/NEJMoa2001316?articleTools=true
14. Huang et al. (2020). Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. Lancet, 395(10223), 497-506. Retrieved 25 December, 2020, from https://www.thelancet.com/action/showPdf?pii=S0140-6736%2820%2930183-5
15. Burke et al. (2020). Morbidity and Mortality Weekly ReportMMWR/March 6, 2020/Vol 69/No 9245US Department of Health and Human Services/Centers for Disease Control and PreventionActive Monitoring of Persons Exposed to Patients with Confirmed COVID-19 — United States, January–February 2020. Morbidity and Mortality Weekly Report, 69(9), 245-246. Retrieved 25 December, 2020, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7367094/pdf/mm6909e1.pdf
16. World health organization. (2020). World Health Organization's website. Retrieved 26 December, 2020, from https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf
17. Ugcnetpaper1 team. (2020). Notes on different teaching techniques for UGC NET exam. [Weblog]. Retrieved 26 December 2020, from https://ugcnetpaper1.com/teaching-methodology/
18. Ministry of Human Resource Development. (2020). Ministry of Human Resource Development's website. Retrieved 26 December, 2020, from https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
19. Press Information Bureau. (2020). Press Information Bureau's website. Retrieved 26 December, 2020, from https://pib.gov.in/PressReleasePage.aspx?PRID=1620136
20. Ministry of education. (2020). Ministry of Education's website. Retrieved 26 December, 2020, from

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https://www.education.gov.in/sites/upload_files/mhrd/files/inccu_0.pdf

21. Ruiz et al. (2006). The Impact of E-Learning in Medical Education. Academic Medicine, 81(3), 207-212. Retrieved 26 December, 2020, from https://journals.lww.com/academicmedicine/Fulltext/2006/03000/The_Impact_of_E_Learning_in_Medical_Education.2.aspx
22. Chen, X, Bai, X & Xiao, Y. (2017). The Application of E-learning in Maritime Education and Training in China. Trans Nav, 11(2), 349-354. Retrieved 26 December, 2020, from https://www.researchgate.net/publication/318335798_The_Application_of_E-learning_in_Maritime_Education_and_Training_in_China
23. Priyadershini, S. (2020). The Hindu's website, Our guide to India-made video-conferencing apps . Retrieved 26 December, 2020, from https://www.thehindu.com/sci-tech/technology/video-conferencing-chatting-apps-made-in-india-2020/article32266494.ece
24. Tsang, S, Royse, C. F & Terkawi, A. S. (2017). Guidelines for developing, translating, and validating a questionnaire in perioperative and pain medicine. Saudi Journal of Anaesthesia, 11(1), 80-89. Retrieved 26 December, 2020, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5463570/
25. Roberts, N & Rees, M. (2014). Student use of mobile devices in university lectures. Australasian Journal of Educational Technology, 30(4), 415-426. Retrieved 27 December, 2020, from https://www.researchgate.net/publication/298418449_Student_use_of_mobile_devices_in_university_lectures
26. Statista. (2007). Statista's website. Retrieved 27 December, 2020, from https://www.statista.com/statistics/467163/forecast-of-smartphone-users-in-india/
27. Gadgets 360. (2013). Gadgets 360's website. Retrieved 27 December, 2020, from https://gadgets.ndtv.com/mobiles/news/70-percent-students-use-smartphone-in-india-survey-381068
28. Statista. (2007). Statista's website. Retrieved 27 December, 2020, from https://www.statista.com/topics/2157/internet-usage-in-india/
29. Catherine Hoffman Kaser. (1930). Old Dominion University's website. Retrieved 27 December, 2020, from https://www.odu.edu/content/dam/odu/col-dept/cdse/docs/2-classroom-schedules.pdf
30. Servilha & Costa. (2015). Knowledge about voice and the importance of voice as an educational resource in the perspective of university professors. Revista CEFAC, 17(1), 13-26. Retrieved 27 December, 2020, from https://www.scielo.br/scielo.php?script=sci_arttext&pid=S1516-18462015000100013&lng=en&nrm=iso&tlng=en
31. Kaur, M. (2013). Blended learning - its challenges and future. Procedia - Social and Behavioral Sciences, 93(1), 612-617. Retrieved 27 December, 2020, from https://www.researchgate.net/publication/270848668_Blended_Learning_-_Its_Challenges_and_Future

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http://dx.doi.org/10.21760/jaims.6.6.8

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