IMPACT OF COVID-19 PANDEMIC ON EDUCATION OF UNDERGRADUATE TEXTILE STUDENTS AND ITS RELATIVE EFFECTS

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ABSTRACT

The education sector along with other major sectors of India is badly affected by the pandemic which has forced us to stay in lockdown. This has widely affected the Textile industry as well as created a bad impact on the undergraduate, PG and Ph.D. students. Not only the online education but students are also facing troubles for their internships and job placements which create negative tendencies in the minds of students. The Education sector is struggling to keep up in this unpredictable situation by adapting new digitized approaches for the teaching-learning process. We are the faces for shaping the future of the Textile world hence being a student, I decided to present you the first-hand experience of this process via a survey research model. Textile undergraduates from various institutes are surveyed to note down their take and compare the current with expected outcomes. There are many dimensions such as socio-economic, psychological and other physical aspects for this research which will be elaborated in the paper. Although there is continuity in this new way of virtual classes, there are many limitations observed which hampers the efficiency of this new teaching method. Both the positive and negative impacts of COVID-19 are discussed and some notable suggestions are mentioned to carry out educational activities with the support of technical aids and educational leaders in respective institutes during and after the pandemic as it is an uncertain situation.

KEYWORDS: *Covid-19, Undergraduate Students, Textile, Survey Model, Expected Outcomes.*

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Introduction

We can interpret the hard times we are going through where the pandemic has definitely affected our today and is going to affect the future we are building as individuals and as a society. The COVID-19 pandemic has affected educational systems worldwide, leading to the near-total closures of schools, universities and colleges. Most governments around the world decided to temporarily close educational institutions in an attempt to reduce the spread of COVID-19.(1)As of 30 September 2020, approximately 1.077 billion learners are currently affected due to school closures in response to the pandemic.

According to UNICEF monitoring, 53 countries are currently implementing nationwide closures and 27 are implementing local closures, impacting about 61.6 percent of the world's student population. 72 countries' schools are currently open.(2)The closure of colleges and universities has widespread individual, organizational, and learning and teaching implications for students, faculty, administrators, and the institutions themselves.(3) The initial period of rapid adaption during 2020 contained three primary responses to COVID-19: minimal legal response, delayed commencement of study periods, and rapid digitalization of curriculum (4)

Apart from colleges losing vast amounts of income, undergraduate students themselves have lost vast amounts of imperative education due to COVID-19 (5). Before the COVID-19 pandemic, college students would have in-person classes, in-person office hours, and in-person extracurricular activities. However, the pandemic has created an atmosphere where students who have an idea about their future occupation, are learning essential information behind a screen. These changes have made focusing on

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classes built around a students selected major very difficult, as they are not experiencing what they are passionate about to the fullest extent.(6) The result of this is lost passion for specific subjects, the inability to focus on crucial information, and tainted academic integrity all over. This is our main focus of interest where-in we have to find solutions to bring back a sense of normalcy and encourage students to take up their favorite courses and draw interest from them.

Running behind normalcy and continuing online classes, we do not have to forget about the impact of physical and mental distancing that also creates psychological imbalance in undergraduate students who go through worries of CGPA (cumulative grade point average), good placements, increments, social pressure with added physical distancing and restricted outings.

Review of Guidelines

The 10 guidelines given by UNESCO has proven worthwhile and improved the teaching-learning experience of students which will be followed for this research study.

- **Examine the readiness and choose the most relevant tools:** Decide on the use high-technology and low-technology solutions based on the reliability of local power supplies, internet connectivity, and digital skills of teachers and students.
- **Ensure inclusion of the distance learning programmes**:Implement measures to ensure that students including those with disabilities or from low-income backgrounds have access to distance learning programmes, if only a limited number of them have access to digital devices.
- **Protect data privacy and data security:** Ensure that the use of applications and platforms does not violate students' data privacy since university students are very conscious of their privacy in terms of social image.
- **Prioritize solutions to address psychosocial challenges before teaching:** Mobilize available tools to connect colleges, teachers, and students with each other. Create communities to ensure regular human interactions, enable social caring measures, and address possible psychosocial challenges that students may face when they are isolated.
- **Plan the study schedule of the distance learning programmes:** Plan the schedule depending on the situation of the affected zones, level of studies and students' needs. Avoiding learning methodologies that require face-to-face communication may help students to reduce the visual on-screen time.
- **Provide support to teachers and students on the use of digital tools:** Organize brief training or orientation sessions for teachers and students as well, if monitoring and facilitation are needed.
- **Blend appropriate approaches and limit the number of applications and platforms:** Blend tools or media that are available for most students, both for synchronous communication and lessons, and for asynchronous learning
- **Develop distance learning rules and monitor students' learning process:** Design formative questions, tests, or exercises to monitor closely students' learning process.
- **Define the duration of distance learning units based on students' self-regulation skills:** Keep a coherent timing according to the level of the students' self-regulation and metacognitive abilities especially for livestreaming classes.
- **Create communities and enhance connection:** Create communities of professors, counsellors, and students to address sense of loneliness or helplessness, facilitate sharing of experience and discussion on coping strategies when facing learning difficulties.(7)

The tools used in the region selected for research purpose includes Google Classroom, Google meet, Zoom app, Google forms, Customized applications and websites. Since most of the college goers own a smartphone and some have laptops with internet access, there can be a few students facing borderline issues for the same. A scheduled time table is very necessary to adapt to get maximum effective leaning and retention. Some alterations in the regular semester break down of marks and credits may prove to be a relief for faculties as well as the students.

Aim

The aim is to study the response of undergraduate students on the current methods adapted in undergraduate studies from various textile institutes.

Objectives

- To study the effects of durations of daily lecture on students'attention and retention capacity.
- To study the barriers of internet and network issues faced by students during online lectures and examinations.
- To compare the student-teacher interaction levels during lectures.
- To know the response of students on virtual mode of practical conduction and assessment.
- To analyze students' behavior with respect to online assessments and exams.
- To provide effective methods and valuable inputs based on research points in interest; to further enhance the virtual teaching-learning experience for the undergraduate students

Significance of the Study

Education is a primary need which should be prioritized at this need of hour to give utmost care and be responsible towards the continuation of education without sacrificing psychological and physical wellbeing of the students. This research will analyze and advice on the areas where we need to improve the upcoming virtual modes of education.

Materials and Methods

- **Materials**

The sample of study includes 110 students from various Textile Institutes including VJTI in Mumbai, SGGS in Nanded, AEC in Buldana and SVVV in Indore. Although the majority of participants are from VJTI, the researcher has made sure the other population is well represented in the study by having in person feedback of their online semester experiences.

- **Sampling Technique**

For this research, the investigator has used random sampling method for her analysis.

Methodology of Study

The researcher has used action research method for competitive approach of textile undergraduates to study the impacts of lecture duration, on screen time, virtual practical inputs, conduction of online examinations and similar feedbacks from the students. A questionnaire is prepared with detailed addition of above mentioned points to evaluate them and find solutions if the findings require one. A Likert scale ranging from 1-5 wherein 1 means strongly agree and 5 means strongly disagree is the response format for the participants.

**Descriptive Analysis of Data:** Based on Likert scale of 5 point.

Statement 1: I easily get adjusted in continuous 5-6 hours of lecture everyday.
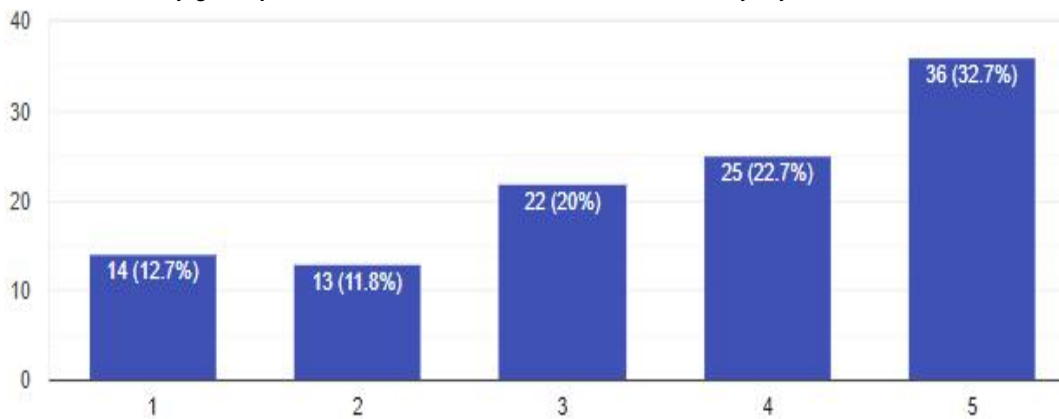
Figure 1: Shows the percent of students' response on their adjustments to long duration of lecture

The above figure shows that 32.7% students find a misbalance in their time tables which urges them to sit for 5-6 hours of continuous lectures while 22.7% students disagree with the adjustments while 20% and 11.8% are neutral and agree respectively. 12.7% students agree to sitting long hours for their online lectures.

Statement 2: I do not like 2 continuous lectures of the same professor.
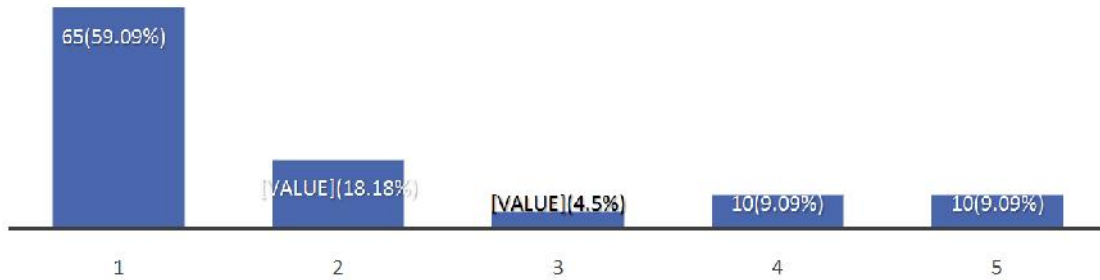
Figure 2: Shows the percent of students adapted to their set timetables

The above figure shows that 59.09% students strongly agree that they do not like a 2 hour continuous lecture from the same professor while 18.18% agree while 4% are neutral and 9% students disagree as well as strongly disagree showing that they're comfortable with continuous lectures.

Statement 3: I feel back ache and headache after attending continuous lectures
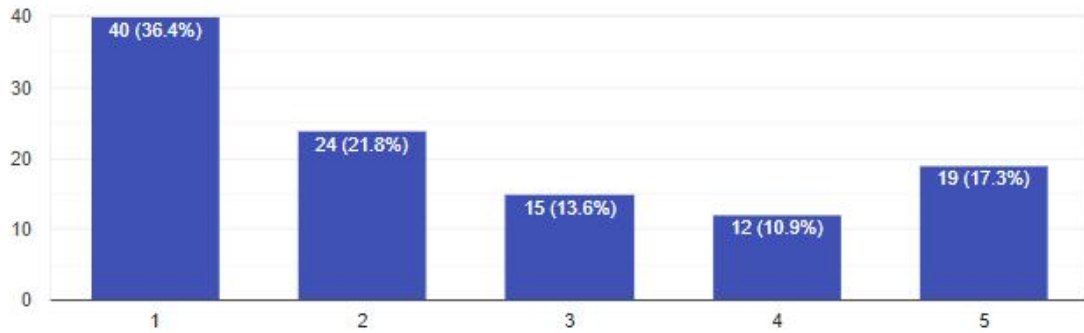
Figure 3: Shows the percent of students facing back ache and headache problems due to continuous lecture sessions.

The above figure shows that 36.4% students strongly agree they face physical issues and headache after a continuous lecture session while 21.8% agree and 13.6% students are neutral with their belief. 10.9% do not agree with the statement while 17.3% strongly disagree.

Statement 4: I feel continuous lectures are reason of my erratic behavior with dear ones and family.
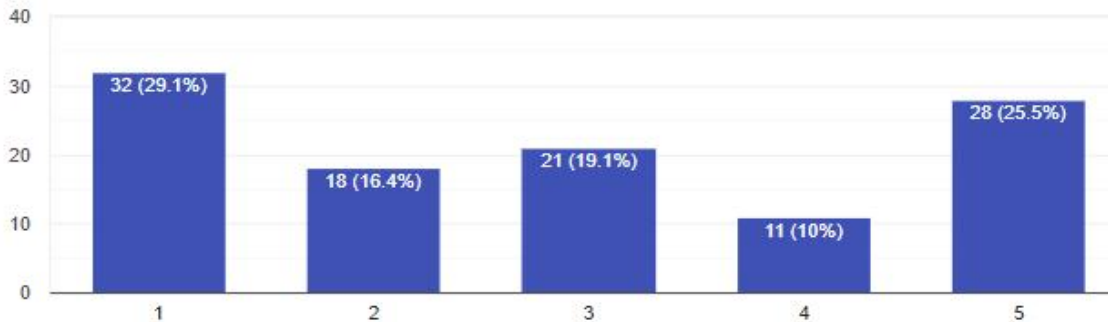
Figure 4: Shows percent of students feeling that continuous lectures are the reason of their erratic behavior towards their family and friends.

The above figure shows that 29.1% students strongly agree that they face mood swings after a long day of continuous lectures at home whereas 16.4% agree and 19.1% stay neutral towards the statement. 10% students disagree while 25.5% students strongly disagree to the statement.

Statement 5: I get angry when someone asks irrelevant question in between
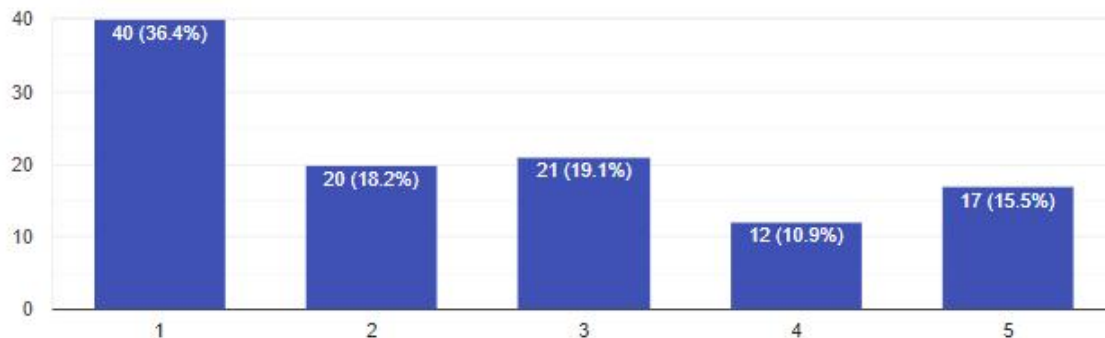
Figure 5: Shows the percent of students who get angry due to irrelevant questions asked by other students

The above figure shows that 36.4% students strongly agree that they get angry due to irrelevant questions asked by other students while 18.2% students agree to the statement. 19.1% students are neutral while 10.9% and 15.5% students disagree and strongly disagree respectively.

Statement 6: I do face difficulty in asking my doubts to faculty
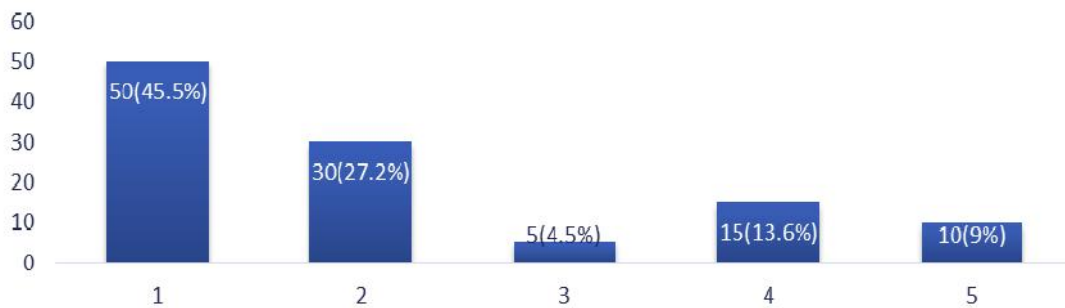
Figure 6: Shows the percent of students facing difficulty in asking doubts to the faculty

The above figure shows that 45.5% students strongly agree that they face difficulty to ask their doubts to faculty while 27.2% students agree and 4.5% students are neutral. 13.6% students disagree to the statement while 9% students strongly disagree to the statement.
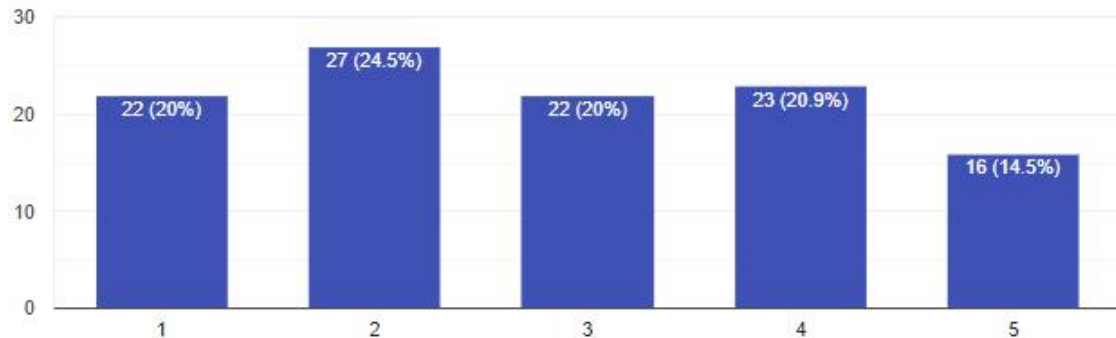
Statement 7: I am able to give full attention during online lectures.
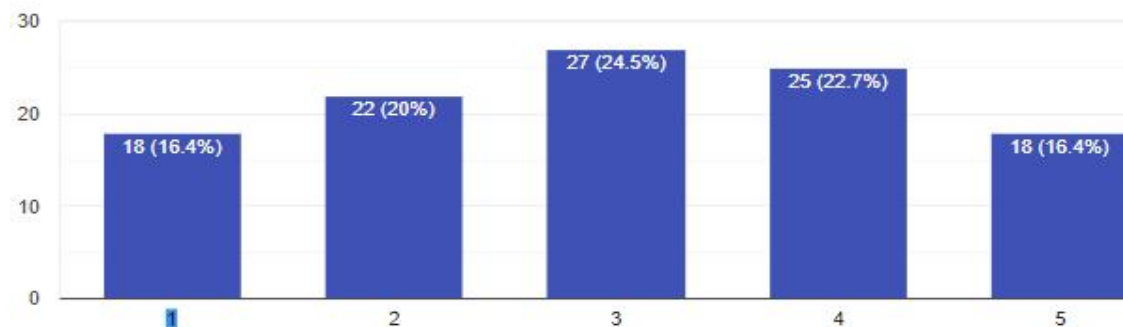
Figure 7: shows the percent of students who are able to focus during online lectures

The above figure shows that 16.4% students strongly agree that they can pay full attention in online lectures while 20% agree. 24.5% students are neutral about their attention capacity while 22.7% and 16.4% disagree and strongly disagree respectively towards the statement.

Statement 8: I get distracted due to home issues

Figure 8: Shows the percent of students facing distractions while they attend online lectures

The above figure shows that 20% students face distractions in their lectures due to home activities while 24.5% students agree and 20% students are neutral about the statement. 20.9% students disagree while 14.5% students strongly disagree that then do not face any issue at home.

Statement 9: I face difficulty to connect due to power issue
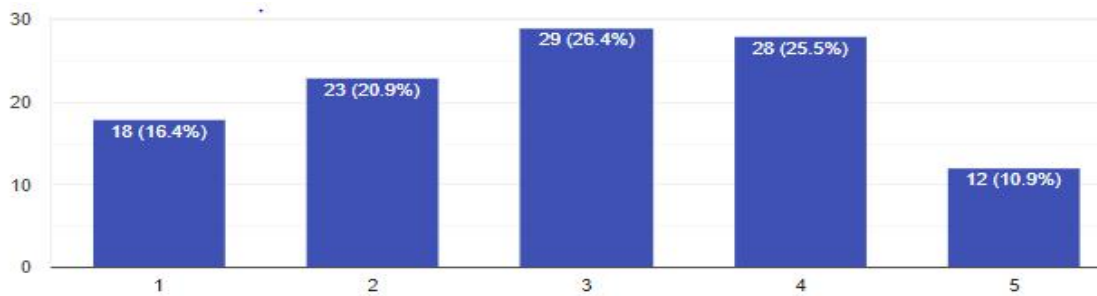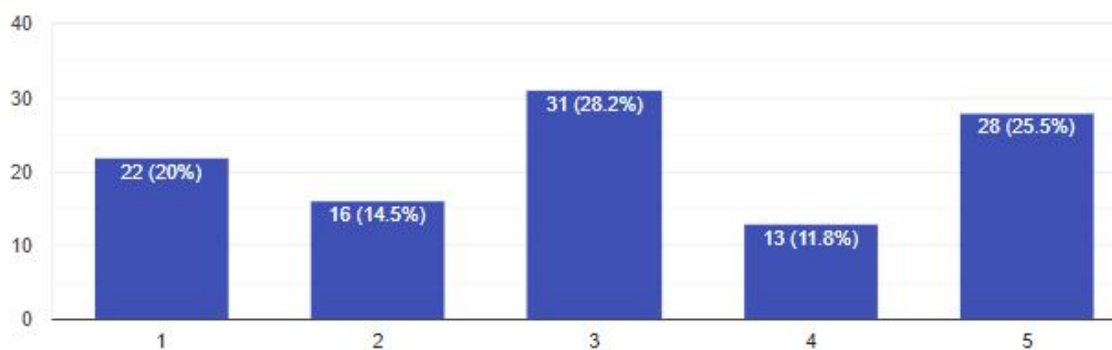

Figure 9: Shows the percent of students who face power issues during online lectures

The above figure shows that 16.4% students strongly agree that they face power issues at home obstructing their online lectures while 20.9% students agree they face power issues. 26.4% students are neutral they may or may not face power issues sometimes while 25.5% and 10.9% disagree and strongly disagree they face difficulty due to power issues.

The above figure shows that 16.4% students face difficulty to connect to online lectures during power issues while 20.9% agree and 26.4% are neutral about this statement. 25.5% students disagree and 10.9% students strongly agree that power issues don't obstruct online lectures.

Statement 10: Professor does not consider network issues

Figure 10: shows the percent of students who feel their professors do not consider network issues

The above figure shows that 20% students strongly agree their professor do not consider network issues during lectures or exams and 14.5% students agree to the statement. 28.2% students neither agree nor disagree while 11.8% and 25.5% students disagree and strongly disagree to the statement respectively.

Statement 11: Network issues have affected my exams and practical.
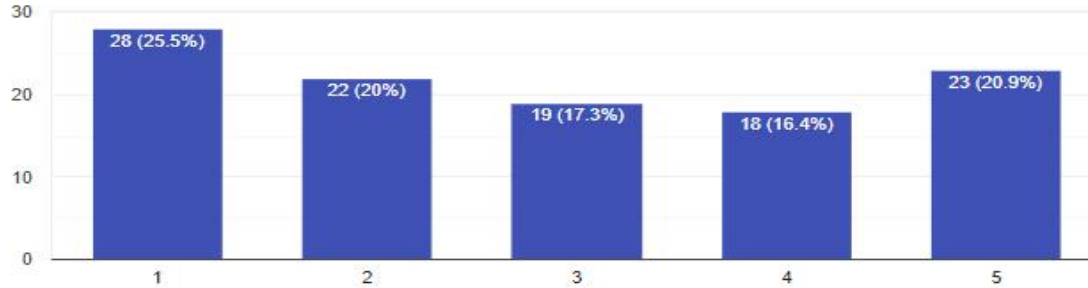
Figure 11: Shows the percent of students who have faced problems in exams and practical due to network issues

The above figure shows that 25.5% students strongly agree they have faced network issues during exams and practical while 20% agree to the statement.17.3% students are neutral about network issues during the exams and practical while 16.4% students disagree and 20.9% students strongly disagree stating they've not faced network issues during exams and practical.

Statement 12: I feel helpless and angry when I face network issues.
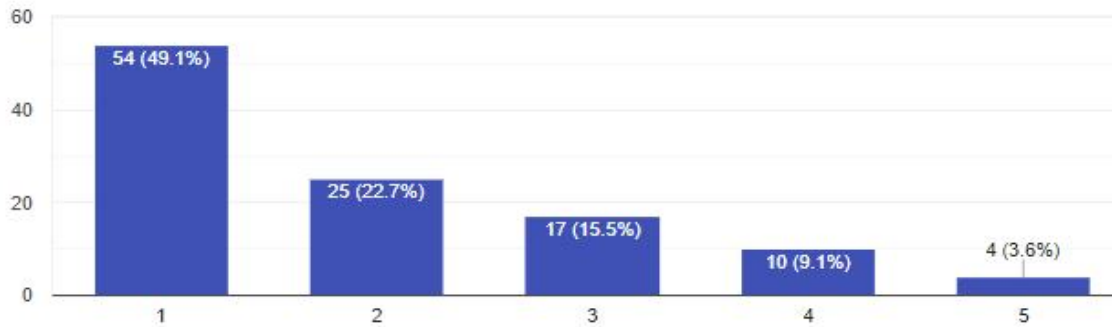
Figure 12: Shows the percent of students who feel helpless and angry when they face any kind of network issues.

The above figure significantly shows 49.1% students strongly feeling helpless and angry if they face network issues while 22.7% agree to the statement. 15.5% students are neutral about their opinion while 9.1% and 3.6% students disagree and strongly disagree with the statement.

Statement 13: I can understand everything in online practical sessions.
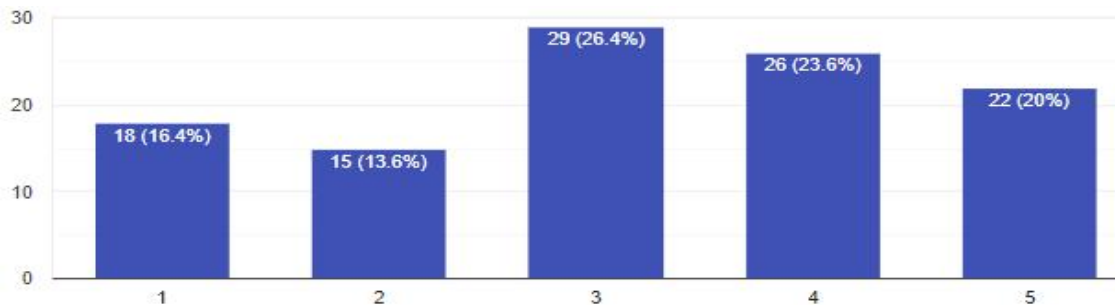
Figure 13: Shows the percent of students who can understand everything in online practical

The above figure showsthat 16.4% students strongly agree and 13.6% students agree they understand everything in online practical. 26.4% students are neutral about their opinion while 23.6% and 20% students disagree and strongly disagree they do not understand everything during online practical .

Statement 14: I cannot imagine the practical performed virtually
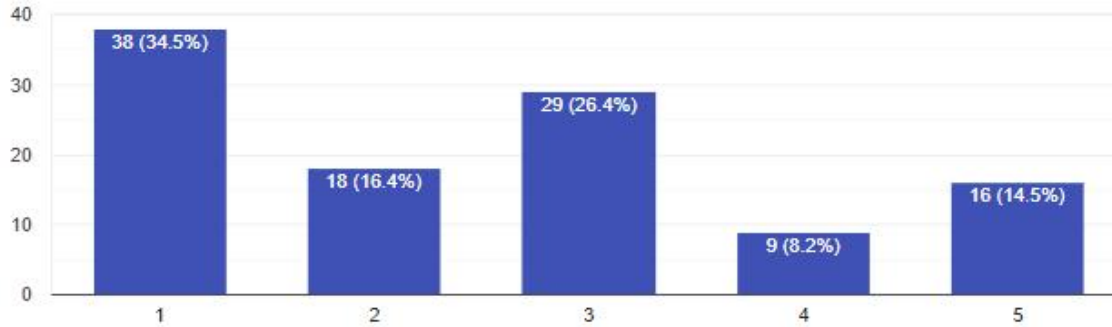
Figure 14: shows the percent of students who cannot imagine the practical performed virtually.

The above figure shows that 34.5% students strongly agree that they are unable to imagine online practical while 16.4% students agree to the statement. 26.4% students are neutral about their opinion while 8.2% and 14.5% students disagree and strongly disagree on the statement.

Statement 15: I do not enjoy writing online exams.
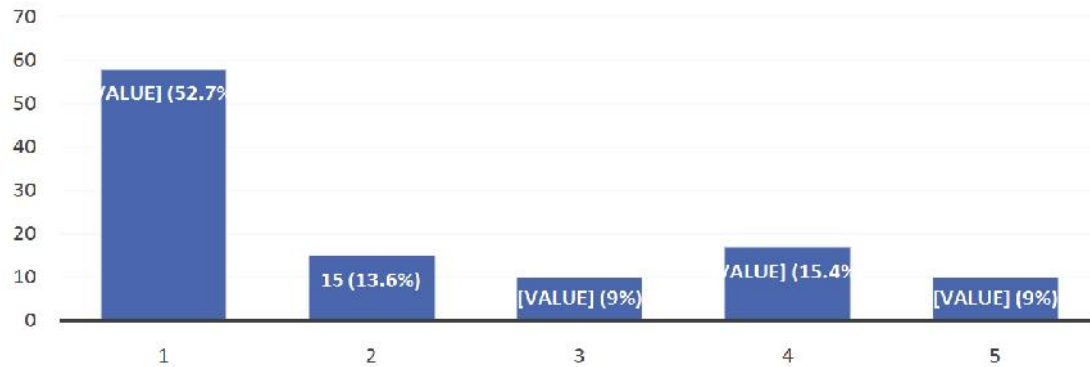
Figure 15: Shows the percent of students who do not enjoy writing online exams.

The above figure shows 52.7% students strongly agree they do not enjoy writing online exams and 13.6% students agree while 9% students are neutral about this statement. 15.4% students disagree while 9% students strongly disagree that they do not enjoy online exams.

**Statement 16:** I do enjoy the online assessment of marks
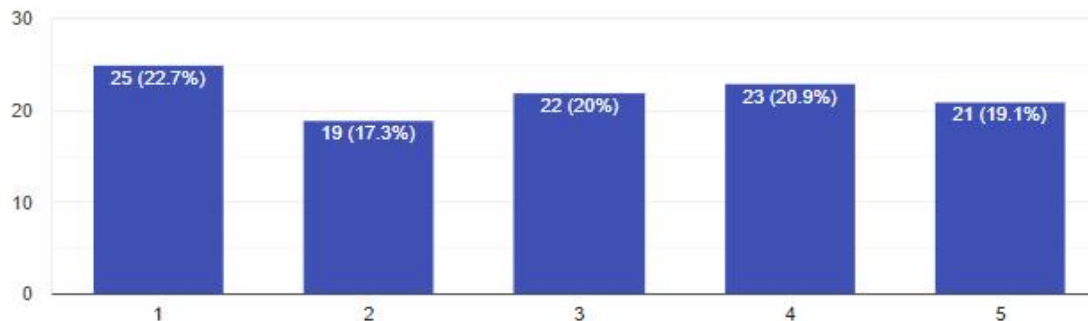
Figure 16: Shows the percent of students who enjoy online assessment of marks

The above figure shows that 22.7% students strongly agree to online assessment of marks while 17.3% agree they enjoy online assessment of marks while 20% students are neutral and 20.9% and 19.1% students disagree and strongly disagree that they do no enjoy online assessment of marks.
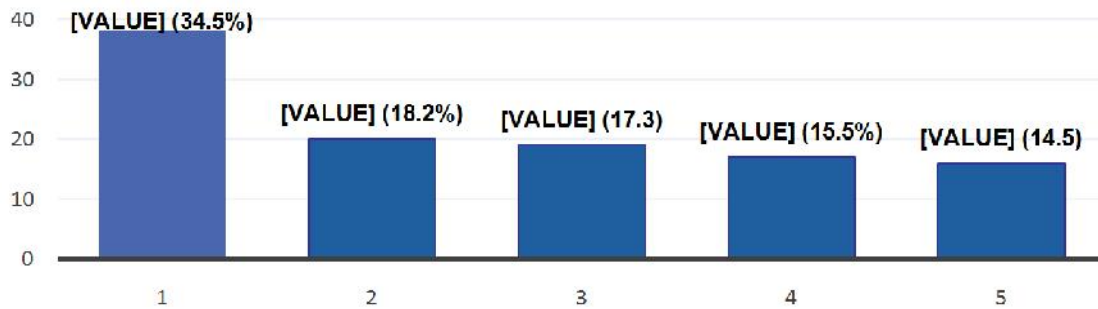
Statement 17: I find difficulty in frequent online assignment submission.
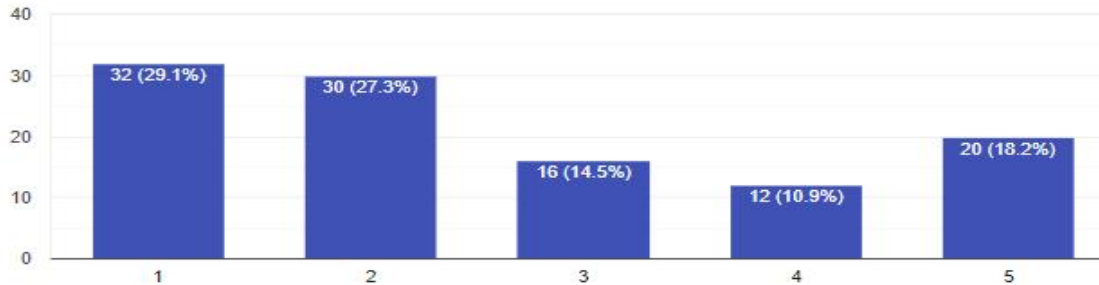
Figure 17: Shows the percent of students who find difficulty in frequent online assignment submission

The above figure shows that 29.1% students strongly agree they find difficulty in frequent online assignment submission while 27.3% agree and 14.5% students are neutral. 20.9% and 10.9% students disagree and strongly disagree that they do not find difficulty in frequent online assignment submission.
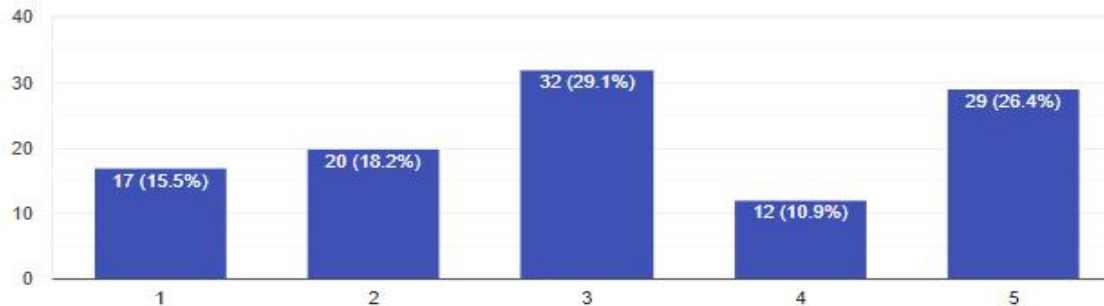
Statement 18: I feel there is partiality in assessments.

Figure 18: Shows the percent of students who feel there is partiality in assessments.

The above figure shows that 34.5% students strongly agree they feel there is partiality in assessments while 18.2% agreeand 17.3% students are neutral. 15.5% and 14.5% students disagree and strongly disagree that they do not find difficulty in frequent online assignment submission.

Statement 19: I feel there is transparency in assessment of marks.

Figure 19: Shows the percent of students who feel there is transparency in assessment of marks.

The above figure shows that 15.5% students strongly agree they feelthere is transparency in assessment of marks while 18.2% agreeand 29.1% students are neutral towards this statement. 10.9% and 26.4% students disagree and strongly disagree respectively that they feel there is transparency in assessment of marks.
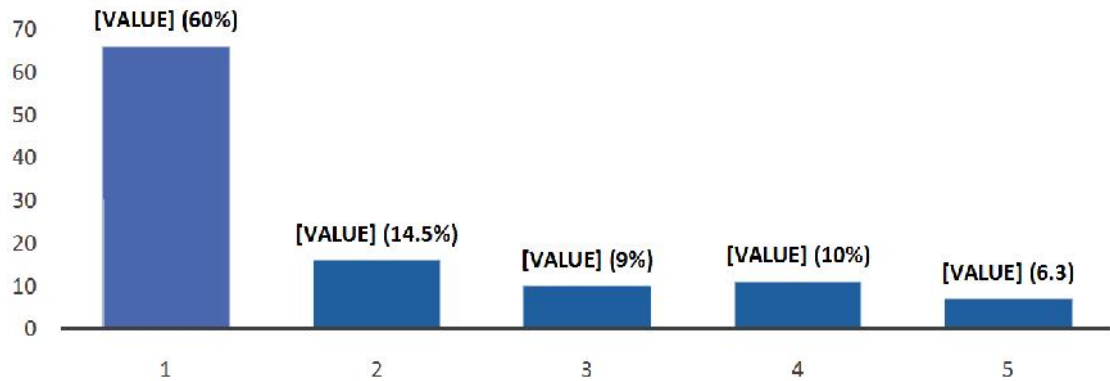
Statement 20: I feel the faculty is not trained enough for online assessment process.
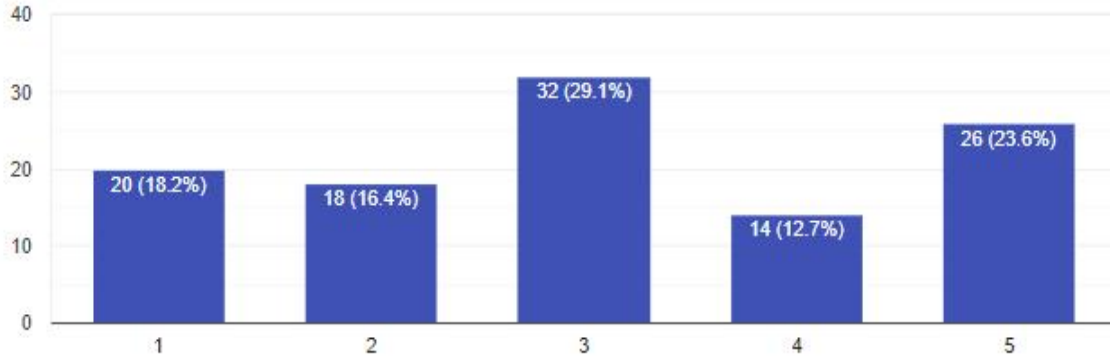
Figure 20: Shows the percent of students who feel the faculty is not trained enough for online assessment process

The above figure shows that 18.2% students strongly agree they feel the faculty is not trained enough for online assessment process while 16.4% agree and 29.1% students are neutral towards this statement. 12.7% and 23.6% students disagree and strongly disagree respectively that they feel the faculty is not trained enough for online assessment process.

Statement 21: I do feel virtual mode is unsuitable for practical understanding and assessment.

Figure 21: shows the percent of students who feel virtual mode is unsuitable for practical understanding and assessment.

The above figure shows that 60% students strongly agree they feel virtual mode is unsuitable for practical understanding and assessment while 14.5% students agree and 9% students are neutral towards this statement. 10% and 6.3% students disagree and strongly disagree respectively that they feel the faculty is not trained enough for online assessment process.

Result and Discussion

Major findings confirming to the expected outcomes:

- An average of 32.7% students strongly agree they find a misbalance in their time tables which urges them to sit for 5-6 hours of continuous lectures.
- A major percent 59.09% students strongly agree that they do not like a 2 hour continuous lecture from the same professor.
- An average of 36.4% students strongly agree they face backache and headache after a continuous lecture session.
- A few percent of 29.1% students strongly agree that they face mood swings after a long day of continuous lectures at home.

- An average of 36.4% students strongly agree that they get angry due to irrelevant questions asked by other students.
- An average of 45.5% students strongly agree that they face difficulty to ask their doubts to faculty in online lectures.
- An average of 24.5% students neither agree now disagree about their attention capacity during the online lecture.
- An average of 24.5% students face distractions in their lectures due to home activities.
- An average of 26.4% of students neither agree nor disagree they face power issues during online lectures.
- A divided 28.2% students neither agree nor disagree their professors do not consider network issues students face during online lectures.
- An average 25.5% students strongly agree they have faced network issues during exams and practical.
- A majority of 49.1% students strongly feel helpless and angry if they face network issues.
- An average 26.4% students feel they can understand everything in online practical.
- A divided 34.5% students strongly agree that they are unable to imagine online practical.
- A majority 52.7% students strongly agree they do not enjoy writing online exams.
- A minor percent 22.7% students strongly agree to online assessment of marks.
- An average 29.1% students strongly agree they find difficulty in frequent online assignment submission.
- A majority 34.5% students strongly agree they feel there is partiality in assessments.
- An average 29.1% studentsneither agree nor disagree there is transparency in assessment of marks.
- An average 29.1% strongly agree they feel the faculty is not trained enough for online assessment process.
- A majority 60% students strongly agree they feel virtual mode is unsuitable for practical understanding and assessment.

From the above findings, we can infer points on following grounds:

The timetable schedules should be flexible and of less duration up to 3 hours per day in a week since undergraduate students are always burdened with preparations of entrance exams, placement interviews and exams and other curricular activities since all the students are residing in their homes surrounded by family. Also discontinuous lecture schedule encourages the increase in the attention and retention capacity of students which will also avoid the increase in their physical and mental conditions. A class of 60 students can be divided into 2 sections for more interactive sessions although the faculty will have to put extra efforts for the quality of education the students deserve.

An intimate WhatsApp® conversation with faculties for students' doubts and clarifications based on weekly lectures and assessments can save time of the faculty as well as the students and they will get quick replies to doubts they are stuck on, during studying or revisions. A timely adjusted video call session per week for students living in remote areas or facing network issues during lecture hours or in practical sessions should be conduction to help them catch up and understand by taking them along with the whole class.

Since a practical session requires continuous lecture, it should be either broken up into parts. For example of a VJTI faculty Dr. Manisha Hira who taught Advanced Weaving Preparatory Lab Third year students wherein she divided the session into three parts: Introduction and discussion of the experiment, viewing the recorded video session of the practical performed in VJTI Weaving Lab and Google form quiz assessment for the practical. If any industry agrees to provide direct training to students, the college should cooperate for the same. Since there is uncertainty for the next academic session, the faculty needs to be trained in conducting smooth and effective virtual educational sessions that will build confidence in the final year students and prepare them for their placement sessions and interviews.

Conclusion

The lockdown period for Covid-19 has forced the educational institutions to depend mostly on Online Distance Learning which becomes very difficult for the computer illiterate learners to manage. The learners need to be highly motivated so they can explore the facilities required for online support services during the pandemics which is lacking in some learners.As we all are equally submerged in this pandemic lethargy and need a change for good,online distance learning is a very good platform to keep learners/educators engaged and safe by maintaining social distancing during the lockdown period for Covid-19.

Online learning system comprises of various applications on the internet which can be used to distribute classroom materials and help learners and educators interact with one another. Thus using these various technologies, educators can provide a more interactive distance learning experience by delivering real-time, synchronous video conferencing, conversations and two way interaction mode which in itself can overcome the barriers students face during learning of core and order thinking subjects of engineering like spinning and weaving Though the outbreak of Covid-19 has created many challenges for education, many Textile institutions have accepted the challenges and came up with promising solutions at their institute level.

All the institutes have been tackling the challenges created by Covid-19 and providing effective support services through online mode for the benefit of stakeholders of ODL at the time of crisis. Government/educational institutions should also adopt the policy to provide free internet and free digital gadgets to all learners in order to encourage online learning as a result of which people would get engaged during lockdown and utilize the educational opportunities which is the need of the hour.

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