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An Empirical Analysis Of Students' Perception Of Forced Transition From Classroom Learning To Online Learning During Covid-19 Pandemic

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Abstract: The COVID-19 pandemic has unpredictably affected all industrial sectors, from physical places to entirely online. The pandemic not only shuddered the entire nation but also has shuffled our entire education system. In India, many instructors, students, and educators, especially in higher education, are in the earliest phase of blended learning. Many academicians, as well as institutions, accepted this as an opportunity for an upcoming education revolution. However, the impact of coronavirus expanded beyond expectation, so to fill the expanded gap, there is a need for a critical analysis of students' perceptions of traditional learning and online learning. This paper focuses on students' perception of socio-demographic representation and the mathematical analysis of students' perception of these learning methods. The findings of the paper are to indicate that there is a significant difference in student learning satisfaction. During the time of uncertainty, technology played an essential role, but at the same time, human interaction is equally essential for an effective teaching-learning process.

Index Terms: COVID-19, online learning, classroom learning, coronavirus, students' perception

1. Introduction

The novel coronavirus, commonly known as COVID-2019, has affected the entire nation across the globe. The virus transmission occurs through the respiratory tract and then transfers to the other person after close contact. According to the World Health Organization (WHO) report, more than 215 countries and territories worldwide were under the clench of this deadly virus. As of 01 October 2021, approximately 243,273,624 confirmed cases, and the death toll reached 3,565,243 [1]. In order to control the spread of the virus among people, WHO came up with specific guidelines such as (i) hand washing, (ii) use of masks (iii) maintaining social distance [2]. The extended protective measures also included self-isolation, curfews, quarantine, and staying at home. Because of this deadly virus, more than one-third of the total world population is under shutdown. Travel restrictions, closure of industries, shut down of schools and colleges, and shifting worksite to home were expected shutdown consequences that people have faced during the pandemic [3].

This worldwide shutdown has slowed down the economy of the world. Medium and Low-income businesses and startups, tourism industries, and manufacturing units were in the urge of complete closure. The after-effects such as shortage of supplies, consumer distress while buying commodities, non-availability of the drug, and limited raw material availability was seen among people. However, few sectors found new opportunities even in the difficult times of Covid-19 and digitally transformed themselves for facing the challenging times. The use of digital mechanisms helped many industries to rethink the present working mechanism. According to the report, the IT sector was the only sector well equipped with I.C.T. tools but was only designed for 10-15 percent of employees to work from home [4]. The widespread closure of educational institutions affects approximately two billion students and nearly 60 million teachers across the globe. Health and education are basic commodities that act as essential services for students and teachers. The education system across different countries took quick steps to help students by starting their online learning from home. This blended learning model facilitated academic learning and psychologically helped students and teachers cope with the pandemic [5]. However, it was a big challenge for every school and university to continue their education with the available tools and challenges.

As per the UNESCO recommendation, teachers used online platforms and open education resources to continue education. On the other hand, universities like Harvard, Stanford, and M.I.T. did not switch from offline classrooms to online classes. However, the study showed that approximately 20 percent of students faced difficulty accessing online platforms due to certain factors such as socio-economic difficulty in accessing the essential technology factors such as network issues, bandwidth, etc. [6].

Although very few universities are in the urge of changing the trend of education and started working towards edifice of online classes' model for a decade. As a process of modernization, many universities are focusing on traditional learning. During these

uncertain circumstances, online learning was the only step left for the continuity of educational objectives.

This disruption of education is for India, where more than 320 million students were affected. India's higher education system is the third largest in the world after the United States and China. The U.S. is leading in providing world-class online education in the world. More than 65% of higher education is part of the online learning model [7]. Followed by China, which started delivering courses in the 1960s via radio and television, the nation is becoming a leader in providing online education [8]. In Asia, India also came up with a bang of online programs. However, if we look at the economic concerns of Indian students, then making online education available to students of every strata of Indian society will gradually take more time in response to the COVID-19 pandemic, which disrupted the Indian education system without any warning. This unprepared switching from online teaching and learning with digital gaps has put an additional strain on both students and teachers. However, Indian students and educators exhibited their revolutionary potential and navigated towards the online remote learning technology-enabled platform. This biggest calamity of humankind, which slowed down the economy, confirmed India's readiness for the future education system.

For the success of online classes, the Ministry of Human Resource Development of India provided numerous methods, including online portals and educational channels through Direct to Home T.V., for students to continue learning [9].

The teachers and students learned new tools and prepared themselves for digital transformation. The higher education setups are well equipped with electronic connectivity and a learning management system that helped students and faculty inside and outside the campus. The other available opportunity was mobile screens with low-cost cellular data. Online education will provide the facility for learning within India with four successful entities (i) Availability of resources, (ii) Selecting the right digital tool, (iii) Content (iv) Creating interest with a difference. It is not easy to manage everything at one time. Online teaching requires continuous practice and experimenting with new tools without any previous experience [10].

Before the pandemic, it was individual faculty and students' choice to participate in online learning in a traditional way or another way. However, this pandemic left no choice, and many experienced professors faced multiple challenges while delivering the lecture. Some students quickly adapted to the online way of learning, and some found it challenging. It is very much difficult for the system to transit to the online world completely.

Our study identifies the gaps between the two learning methods during the COVID-19 lockdown in Indian higher education students' context as there were forced transitions for students and teachers. As both students and teachers were not prepared for this virtual remote teaching [11]. Students face issues due to their age, course content

According to the student's point of view, there is a need for critical analysis, which will further help teachers handle issues like assessment quality and many more.

2. Method and Samples

The study aims to obtain students' perceptions and preferences in online learning and classroom learning during the COVID-19 pandemic of forced transition. The following targeted questions are part of the study.

Q1. How do students appraise online learning, classroom learning, or both during the COVID-19 among various teaching methods?

Q2. Identify the components in which students would prefer a different learning method.

The empirical measurement is done based on a quantitative questionnaire with 313 students.

The 24 questions are designed in a manner to identify the objective using the hypothesis.

H1: There is no significant difference between gender and learning methods.

H2: There is no significant difference between the age group and the learning method.

H3: There is no significant difference between Internet usage time and learning methods.

Content analysis is based on the study by [12]. The frequency of answers is categorized as demographic questions, comparison of a different learning method, assessment satisfaction, and future perspective with new ways of learning. Students from those universities and colleges that offer blended classes, from which 313 students responded in one week [13]. The questionnaire for surveys was filled via the Internet with the motive shared among the students.

There are 31 questions in the questionnaire in which the initial questions that are Q1 - Q4 questions are based on demographic data shown in table 1. The questions from Q5-Q7 are represented in fig 3, and fig 4which is based on internet usage before and after the lockdown, along with the study material provided to the students. In this study learning experience of the students has been captured from Q8-Q25. The student's learning experience has been captured in three components, i.e., Online learning, Class-Room learning and Both (blended learning). The questions were designed under these three options.

Table 1. Demographic Profile of students

SN	Criteria	Group	Percentage
1	Age	18-25	94%
		26-30	4%
		31 and above	2%
2	Course	Undergraduate	80%
		Postgraduate	14%
		Others	6%

3	Gender	Male Female	57% 43%
4	Internet usage after lockdown	4-8 hours less than 4 hours More than 8 hours	55% 28% 17%

3. Results

Students' evaluation is done on their learning experiences, and it was analyzed in Table 1. The reliability of the data is calculated by Cronbach's-alpha, which is 0.916 for the questionnaire [14]. This value is an acceptable range [15]. A chi-square test is applied to investigate the null hypothesis H1, H2, and H3, giving 0.24, 0.30, and 0.42, respectively. All the values are above the significant value of 0.05, so we must reject H1, H2, and H3 Null hypotheses [16]. This rejection of the Null hypothesis said that the results were not statistically significant for all three. Below shows the statistical representation of classroom learning, online learning, and both in association with gender, age group, and Internet usages after a lockdown in fig1, fig 2, and fig 3, respectively [17].

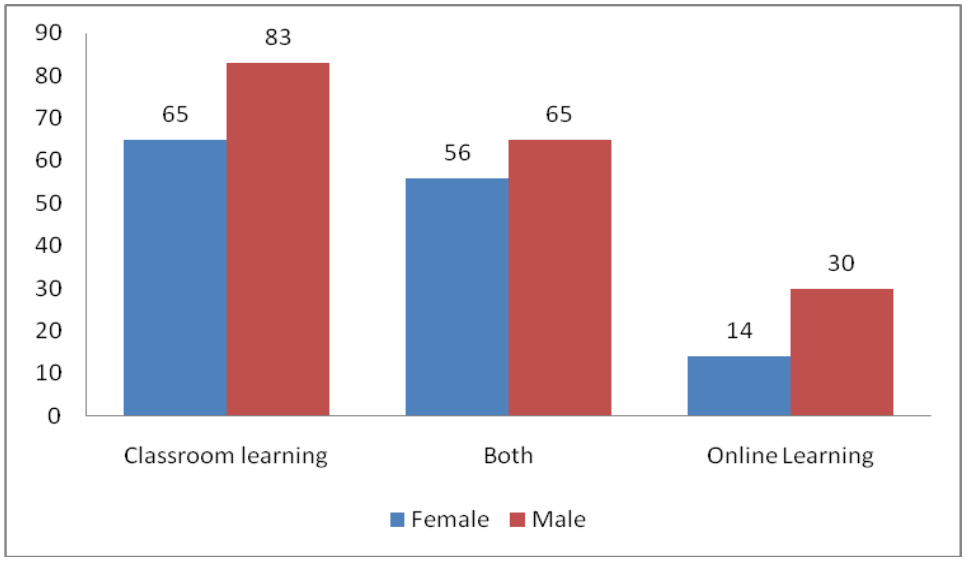

Fig.1. Represent the gender and learning method

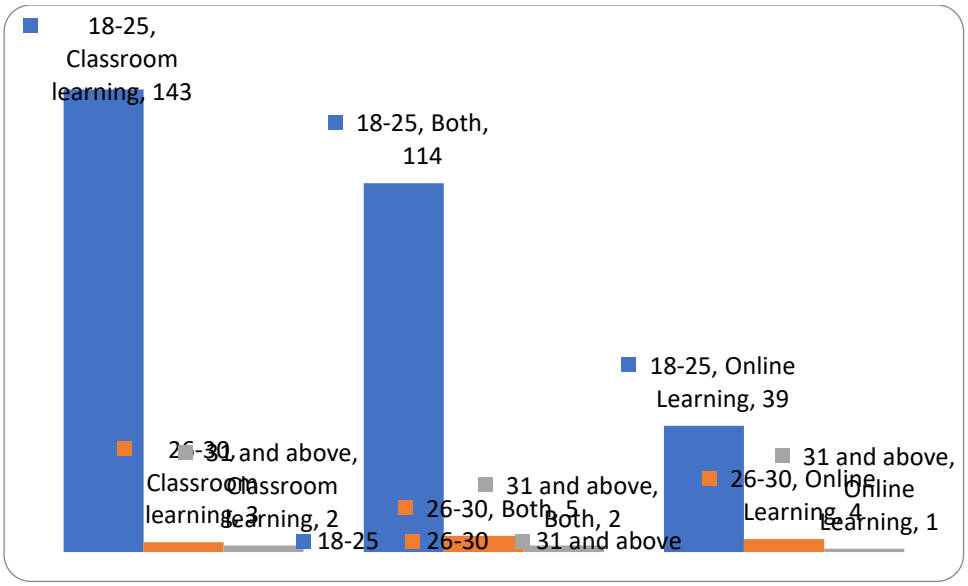

Fig.2. Represent the age group and learning method

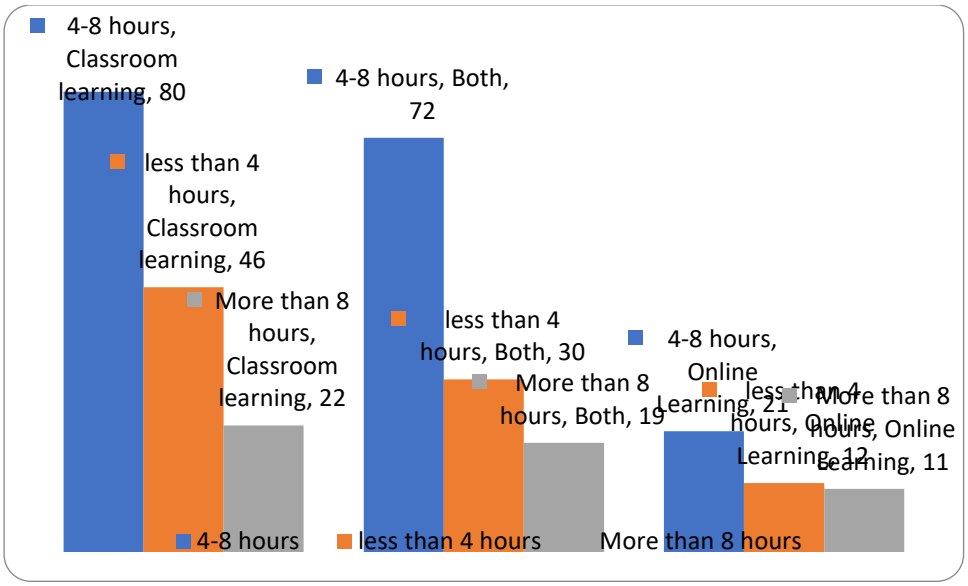

Fig.3. Represent the Internet usage and learning method

According to the survey, students are provided recorded lecture videos with presentation 59.4%, PPT/PDF lecture material 59.1%, audio with the presentation is 38%, and live sessions, L.M.S., and other material delivery methods come after it [18]. Fig 4 represents the types of content delivered to students after lockdown. Also, fig 5 supports and shows no significant difference in providing learning material using classroom and online learning. As the students are receiving the proper content of different subjects, they need self-regulated learning [19][20].

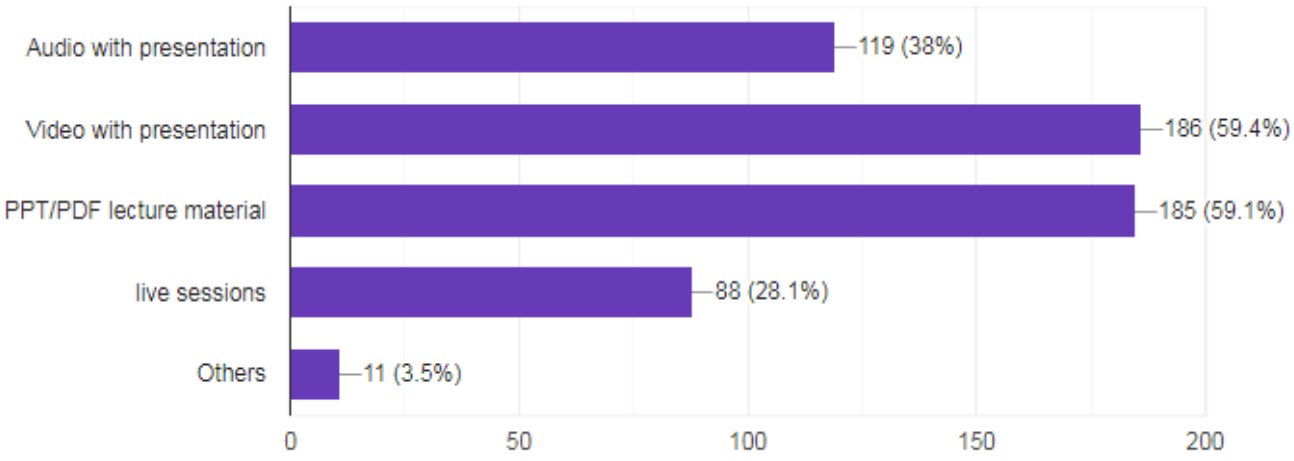

Fig. 4. Represents the use of material provided to students

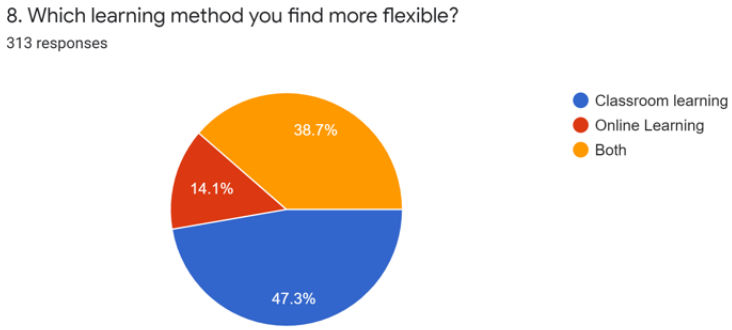

Fig.5. Represents the flexibility

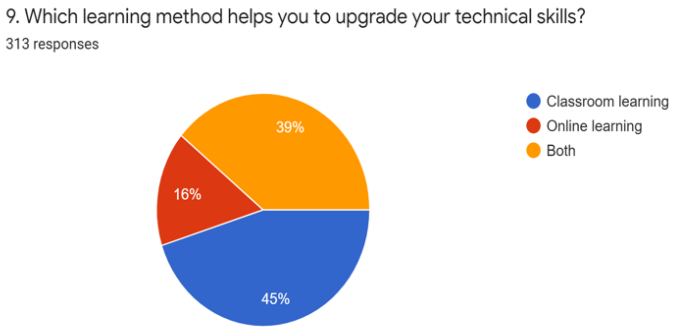

Fig. 6. Represents the up gradation in technical skills

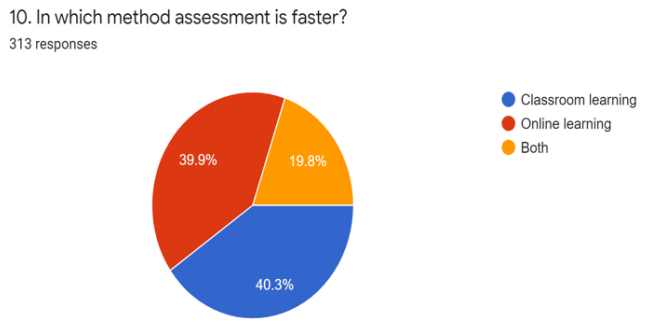

Fig.7. Represents the faster assessment

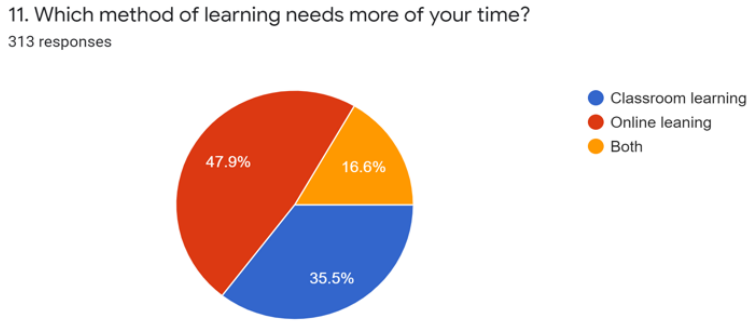

Fig.8. Represents the learning needs more time

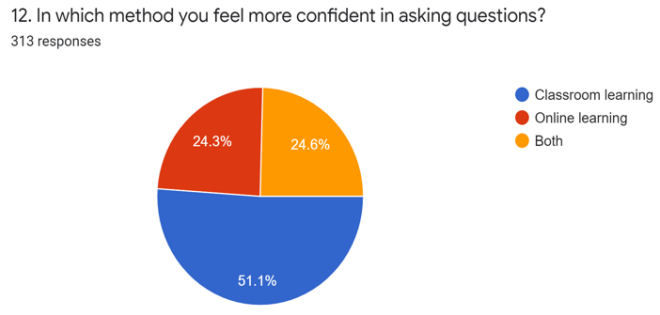

Fig.9. Represents the comfort in asking questions

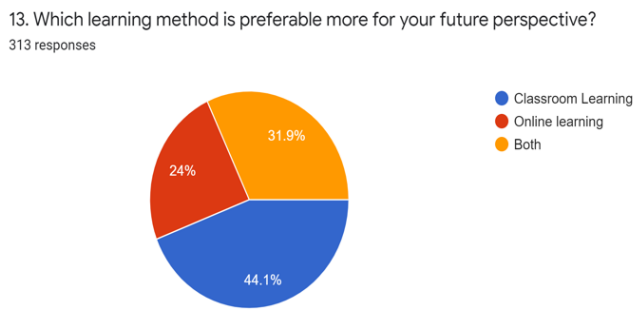

Fig.10. Preferable learning for future perspective

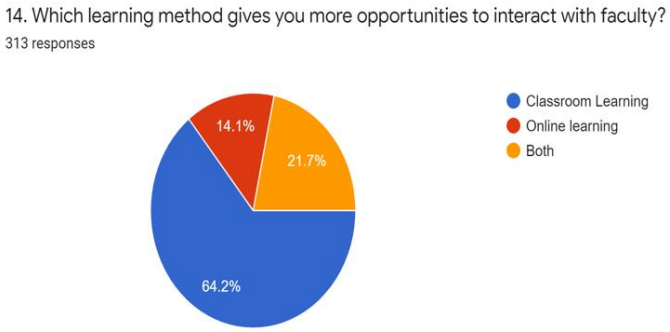

Fig.11. Represents the interaction with the faculty

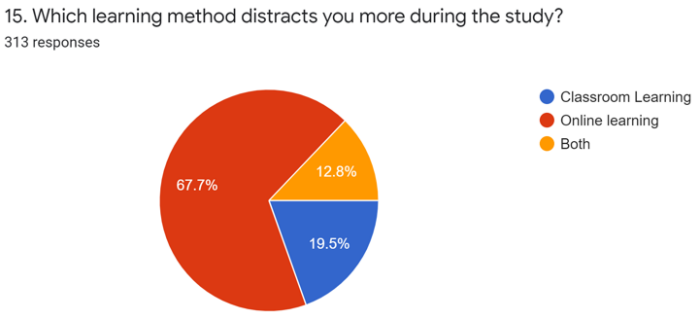

Fig.12. Represents the method distracts more

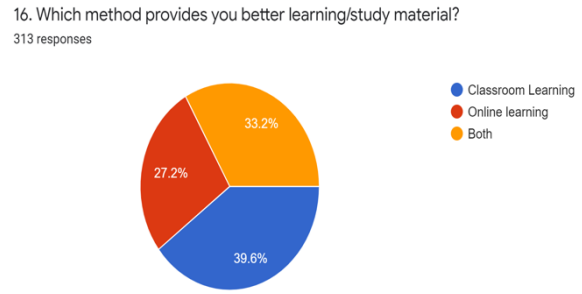

Fig.13. Represents the better study material

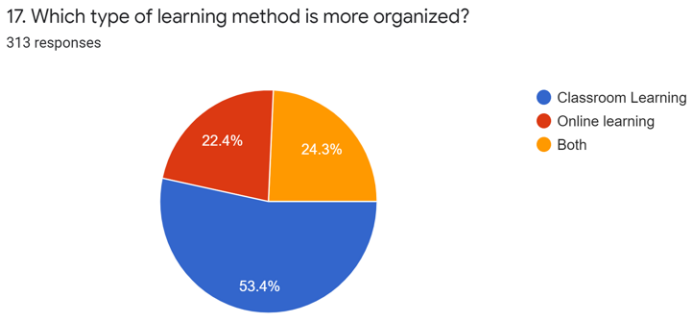

Fig.14. Represents the method of distraction

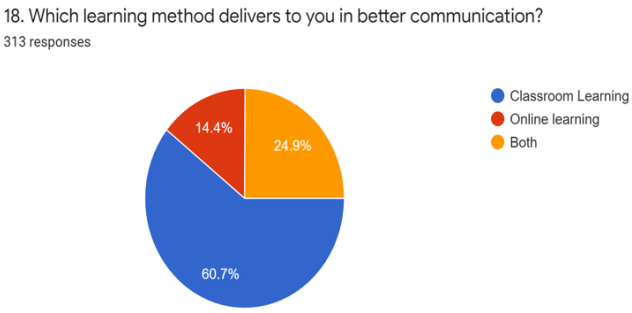

Fig.15. Represents the better communication

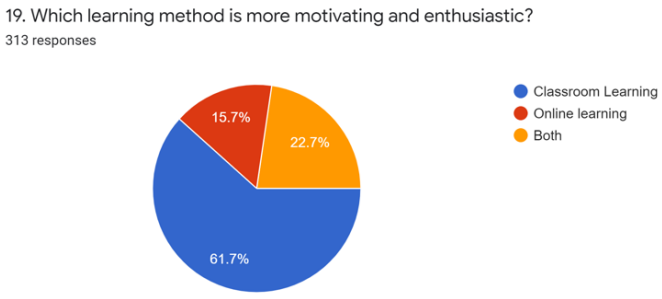

Fig.16. Represents the methods good in motivating and enthusiastic

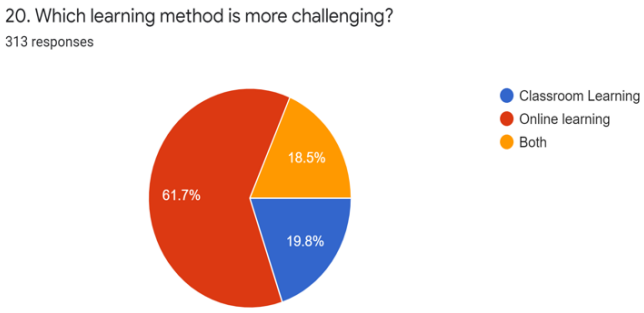

Fig.17. Represents the more challenging

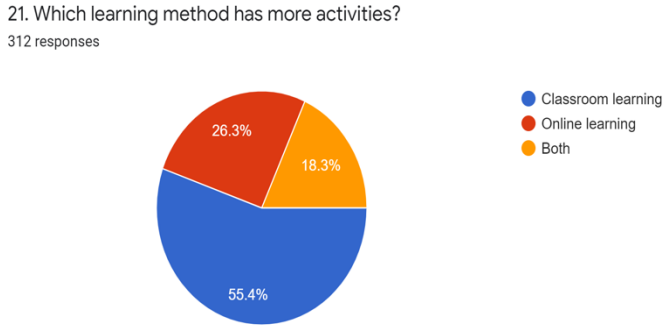

Fig.18. Represents the more activities

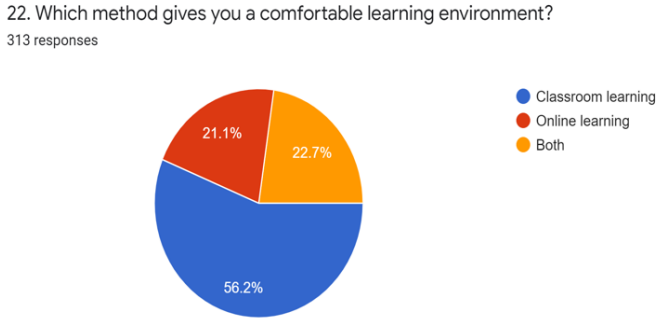

Fig.19. Represents the comfortable learning

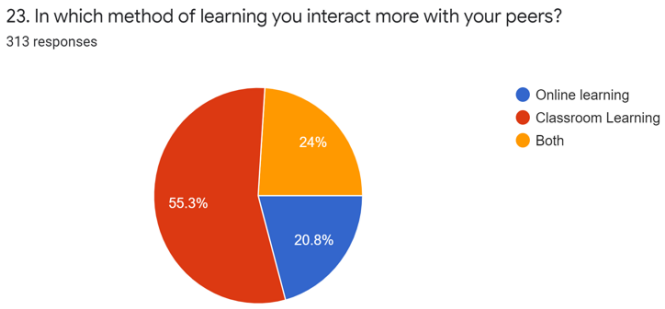

Fig.20. Represents the interaction with peer's environment

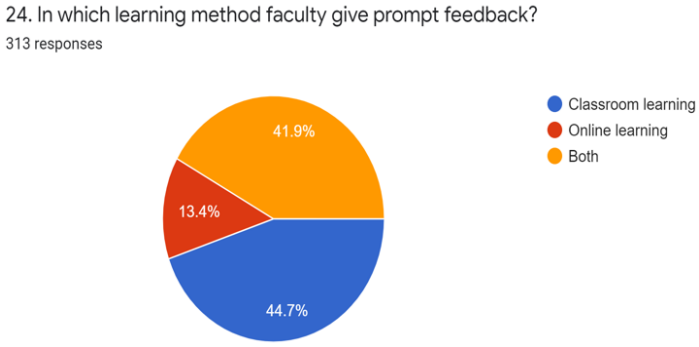

Fig.21. Represents the prompt feedback

Fig.22. Represents the self-disciplined

4. Discussion and Conclusion

COVID-19 pandemic lockdown in India gave new beginning to online learning in higher education. This is a turning point for the education industry with the change in perspective of the teaching-learning process. It will help in retuning the Indian education system. Online learning and the use of digital tools are essential for uncertain times and the progress of the education system. Using digital technology is beneficial, but it cannot be a substitute for

classroom learning. COVID-19 showed the world that the upcoming generation could learn about the importance of technology in times of change and uncertainty. Nevertheless, the generation also needs peers, teachers, and classrooms for human social interaction.

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