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Perception on Online Teaching and Classroom Teaching Among Students

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Abstract: Social presence in online learning environments refers to the degree to which a learner feels personally connected with other students and the instructor in an online learning community. In search of better, more cost effective ways to deliver instruction and training, universities and corporations have expanded their use of e-learning. Although several studies suggest that online education and blended instruction can be as effective as traditional classroom models, few studies have focused on learner satisfaction with online instruction, particularly in the transition to online learning from traditional approaches. The aim of the study is to know the perceptions of online teaching and classroom teaching among students. A self structured questionnaire was prepared containing 17 validated questions.The survey was circulated through an online survey Google form link. The data was collected and represented as a pie chart using SPSS software. Among the respondents 20% of the population prefer to take up online class while 80% prefer classroom teaching. 19.23% of the population says the classes are more interactive in online teaching whereas 80.77% says it is interactive during classroom teaching. 47.69% of the population says socialisation is possible in online teaching, whereas 52.31% says socialisation is possible in classroom teaching. This study concludes that students did not seem to gain the same amount of knowledge using an online course as they would if they used the traditional classroom method. The majority of students in this study were uncomfortable with the setting of online learning and prefered traditional classroom teaching.

Keywords: Online class, classroom teaching, online teaching, socialisation, college students.

INTRODUCTION

Learning is a process of achieving knowledge, skill and performance. One of the fundamental pillars of society is education (Kazem *et al.*, 2015). E-learning is a form of training (or) teaching over the internet. Now, E-learning is widely implemented by academic teachers and corporate trainers alike for instructions purposes for its convenience and cost-effectiveness (ER. SANJAY AGAL, MR. K. K. DAVE, MS.POOJA DEVIJA, 2010). Online learning has got its attention to the peak, especially now during quarantine, with an estimate of 7-9 million students enrolling in at least one class (Elaine Allen and Seaman, 2015). To learn on our own is one of the major advantages in online learning (Robinson and Hullinger, 2008). The benefits of flexibility in online courses cannot be overrated due to its prevalence in reasons why students are attached to online learning. Online learning let's the students work at a place and time according to their needs (Gilbert, 2015). Most of the students would sometimes find it difficult to see the class because of a traffic jam. These problems are avoided here (Thomson, 2010). In traditional classrooms, students tried to capture fast what is being taught. Also collaborative learning projects can encourage social interaction, teamwork and cultural diversity among them (Shi-Chun, Ze-Tian and Yi, 2014).

In a previous article, 9% of institutions reported at least one online program in 2001-2002, by 2008-2009, 24% of institutions started offering online courses (Astani, Ready and Duplaga, 2010), by the end of 2005, 18.8% was the rate of enrolment in the US (I. Elaine Allen, 2005). Over 32% students enrolled in 2011 (Julia E. Seaman, 2018).

The major drawback of online classes is the consistent decrease in academic rigour. Another necessary lack is development of community and peer interaction which is present in traditional class teaching. Cultural restriction is another area that one should be mindful of when designing an online course (Gilbert, 2015). The

rampant e-books are harmful for students' eyes from health aspects. In traditional teaching, the learning is passive but knowledge is well formed and departed from real life (Liu and Long, 2014).
The comfort, function, and esthetics must be restored altogether while treating a completely edentulous patient. One of the main objectives in selecting and arranging artificial teeth is to produce a prosthesis that defines detection. The anterior teeth are the ones primarily selected to satisfy esthetics (Jain *et al.*, 2018). Removable acrylic resin partial dentures tend to adversely affect periodontal parameters when teeth are in contact with resin base. This effect is increased with longer duration of RPD wear. Therefore, it is recommended to keep the dentures well relieved from the gingival margin wherever possible (Jyothi *et al.*, 2017). The mean microgap at the implant-abutment interface at the platform level at the external, middle, and internal points for both original abutments and non original abutments was found to be within clinically acceptable limits (Duraisamy *et al.*, 2019). Microbial resistance has reached an incredibly alarming level, leading to the development of more potent antimicrobial agents. MRSA (Methicillin-Resistant Staphylococcus aureus) in particular, has become the leading cause of skin and soft tissue infections (Selvan and Ganapathy, 2016). Marginal fit can be influenced by several factors like the type of finish lines, thickness of the die spacers, preference of restorative materials(Ashok and Suvitha, 2016), processing techniques for fabrication and the choice of luting agents. Amongst the processing techniques, CAD/CAM technique is becoming increasingly popular due to its several advantages over the conventional ceramic processing techniques (Ganapathy *et al.*, 2016). Our team has rich experience in research and we have collaborated with numerous authors over various topics in the past decade (Deogade, Gupta and Ariga, 2018; Ezhilarasan, 2018; Ezhilarasan, Sokal and Najimi, 2018; Jeevanandan and Govindaraju, 2018; J *et al.*, 2018; Menon *et al.*, 2018; Prabakar *et al.*, 2018; Rajeshkumar *et al.*, 2018, 2019; Vishnu Prasad *et al.*, 2018; Wahab *et al.*, 2018; Dua *et al.*, 2019; Duraisamy *et al.*, 2019; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Gheena and Ezhilarasan, 2019; Malli Sureshbabu *et al.*, 2019; Mehta *et al.*, 2019; Panchal, Jeevanandan and Subramanian, 2019; Rajendran *et al.*, 2019; Ramakrishnan, Dhanalakshmi and Subramanian, 2019; Sharma *et al.*, 2019; Varghese, Ramesh and Veeraiyan, 2019; Gomathi *et al.*, 2020; Samuel, Acharya and Rao, 2020)
The aim of the study is to know the perception on online teaching and classroom teaching among students.

MATERIALS AND METHODS

Study Setting

This study is a prospective observational study. Its advantages are economical, easy to create, wide reach, gather large data and quick interpretation. The disadvantages are homogeneous population, response bias and survey fatigue. The Survey has been approved by the scientific review board, Saveetha dental College, Chennai. The sample size includes 120 college students in the age group of 18 to 25 years.

Sampling For Survey

The population of the study was based on simple random sampling. The sampling size selected based on the existing literature related to this topic, which dealt with students' perception on online versus face-to-face instruction (Ashok and Suvitha, 2016) (Lisa P. Tichavsky, Andrea N. Hunt, Adam Driscoll, Karl Jicha, 2015) (Smart and Cappel, 2006) (Beard and Harper, 2002). Sampling methods may contain a certain bias, hence measures are taken to minimise the sampling bias. The measures include checking internal and external validity, also by minimising error in question and avoiding leading questions.

Data Collection

A self structured questionnaire was prepared containing 17 questions. This set of questions was validated. Internal validity includes comparison, online teaching and classroom teaching. External validity includes perceptions and learning methods. The survey was circulated through an online survey Google form link. The data was collected and represented as a pie chart using SPSS software. Output variables include demographic information, online teaching, classroom teaching and education

Analytics

The statistical test used in this study was descriptive statistics using pie charts and bar diagrams. Age, height, weight and six are some of the independent variables. Education, society, teachers, about Ness, knowledge, interaction, attitude and perception are some of the dependent variables (Basha, Ganapathy and Venugopalan, 2018)

RESULTS AND DISCUSSION

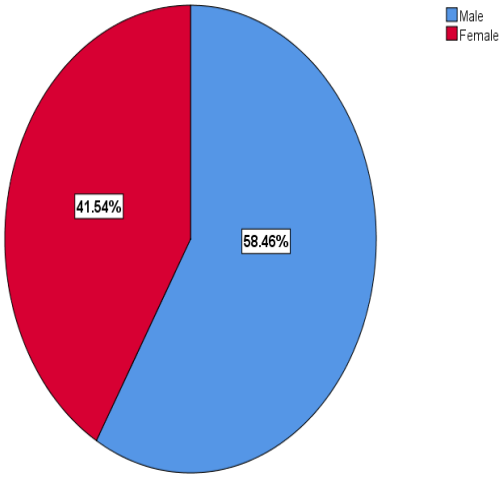

Fig.1: Pie Chart showing distribution of percentage of Males 58.46% (Blue) and Female participants 41.54% (Red).

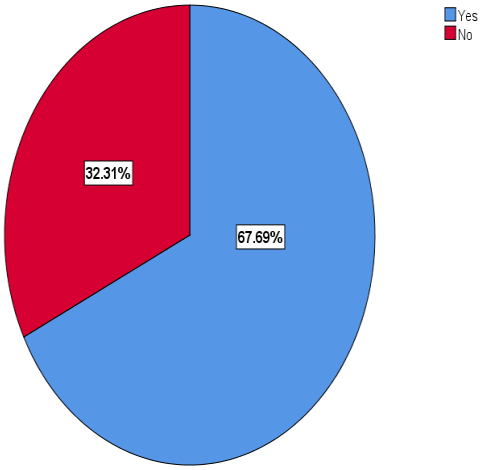

Fig.2: Pie chart represents the percentage of students taking up online classes during quarantine. 67.69% of students were attending online class (Blue) while 32.31% were not attending it (Red).

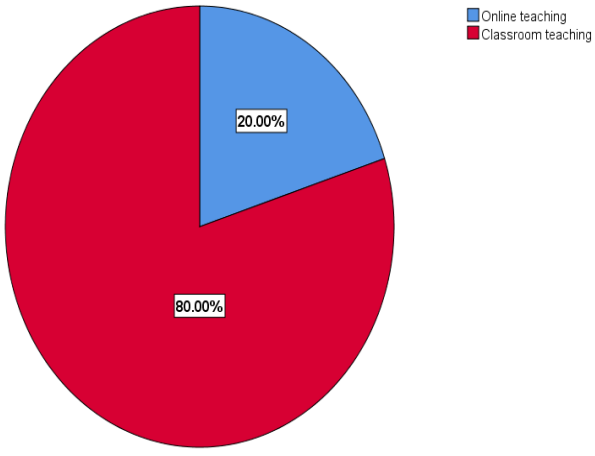

Fig.3: Pie chart represents the percentage of preference of students among online teaching and classroom teaching. 20% of the students preferred online teaching (Blue) while 80% preferred classroom teaching (Red).

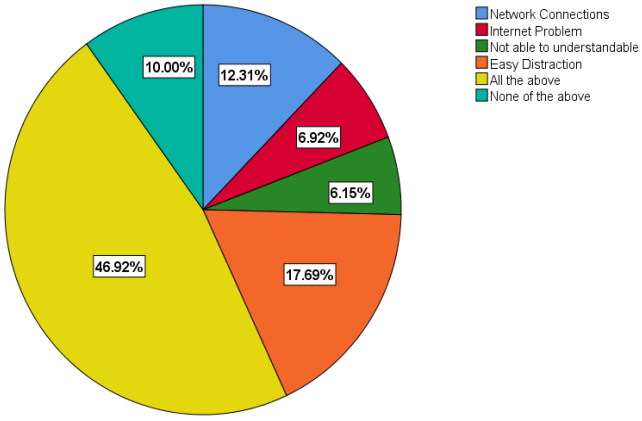

Fig.4: Pie chart represents the percentage of difficulties faced during online teaching. 12.31% related as network problem (Blue), 6.92%internet problem (Red), 6.15% not able to understand (Green), 17.69% easy distraction (Orange), 46.92% all the above (Yellow) and 10% none of the above (Light green).

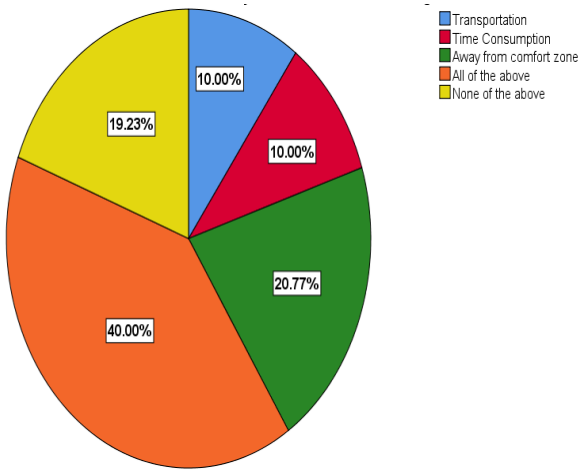

Fig.5: Pie chart represents the percentage of difficulties faced during classroom teaching. 10% related as transportation (Blue), 10% time consumption (Red), 20.77% away from comfort zone (Green), 40% all the above (Orange) and 19.23% none of the above (Yellow)

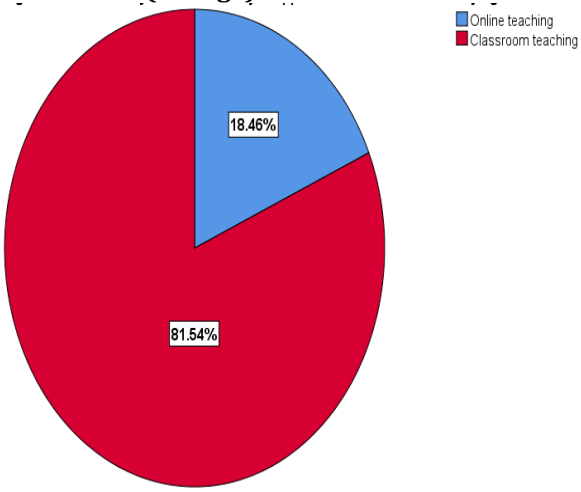

Fig.6: Pie chart represents the percentage about the opinion of students regarding ease in students' approach for clarifying the doubts.. 18.46% opted online teaching (Blue) and 81.54% opted classroom teaching (Red)

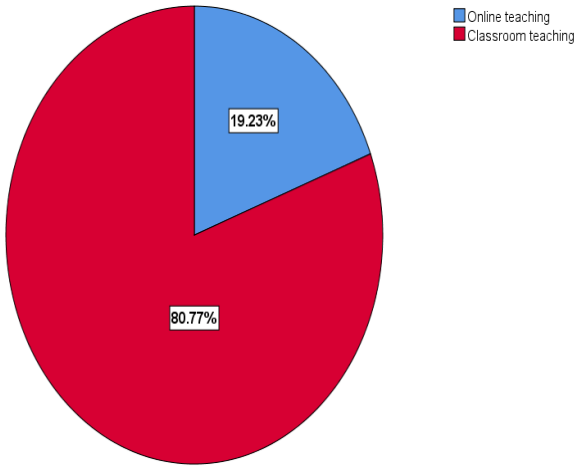

Fig.7: Pie chart represents the percentage of distribution students' opinion on ease of interaction in which method of teaching. 80.77% of students found better interaction during classroom teaching (Red) while 19.23% of students found better interaction in online teaching (Blue).

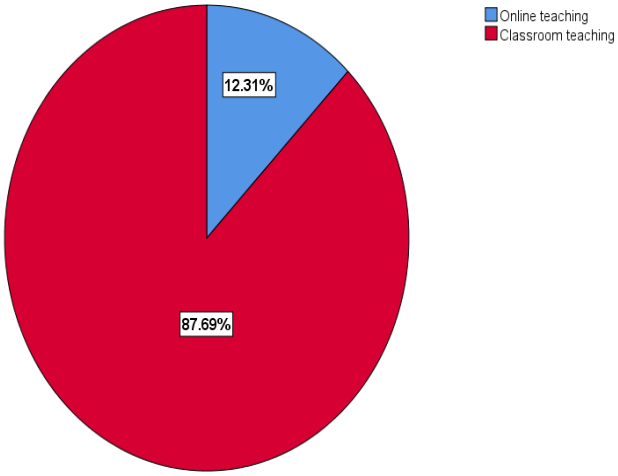

Fig.8: Pie chart showing percentage of distribution of responses about the students' experience about the difference in the lively atmosphere they experience during online and classroom teaching. 12.31% said online teaching (Blue) and 87.69% said classroom teaching (Red).

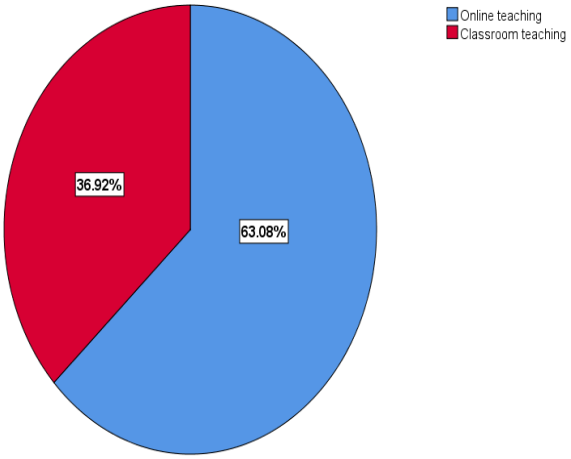

Fig.9: Pie chart represents the percentage of students' opinion regarding the frustration and anxiety related to online and traditional teaching. 63.08% felt online classes were more frustrating (Blue) and 36.92% as classroom teaching (Red).

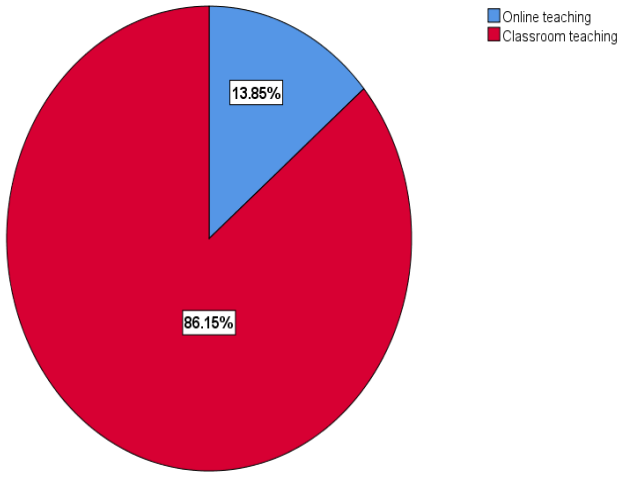

Fig.10: Pie chart represents the percentage of students' opinion on online teaching whether it is effective in delivering the content. 13.85% of the student population think online teaching would be effective (Blue) and 86.15% think classroom teaching would be effective for teaching (Red).

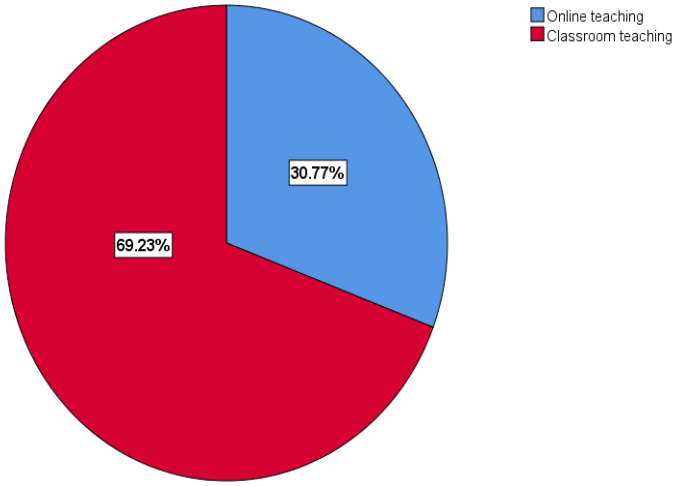

Fig.11: Pie chart represents the percentage of effectiveness of online classes in revision or practise. 30.77% of the student population think online teaching would be effective (Blue) and 69.23% think classroom teaching would be effective for revision (Red).

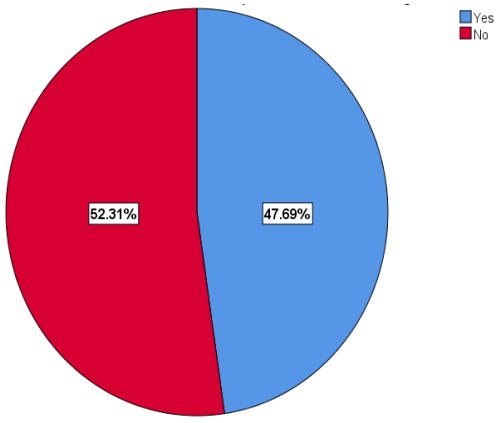

Fig.12: Pie chart represents the percentage of student's opinion on socialisation and whether it is possible in online teaching or not. 47.69% of the students answered yes (Blue) and 52.31% of the students answered no (Red).

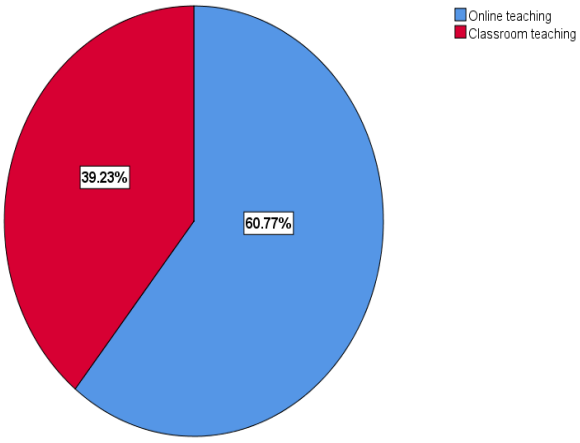

Fig.13: Pie chart represents the percentage of students' opinion regarding ease of multitasking. 60.77% opted online teaching (Blue) and 39.23% opted classroom teaching (Red).

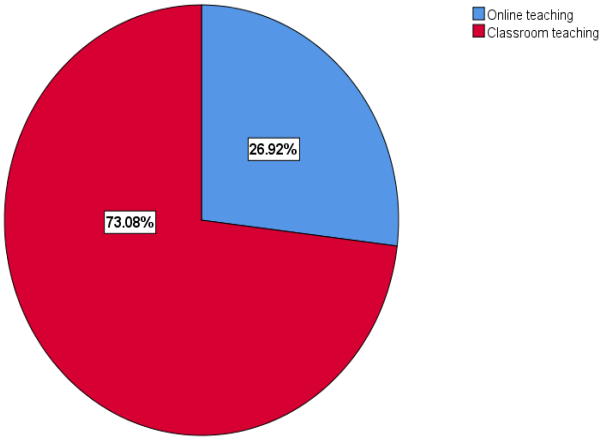

Fig.14: Pie chart represents the percentage of convenient methods to follow up the classes. 26.92% chose online teaching (Blue) and 73.08% chose classroom teaching (Red).

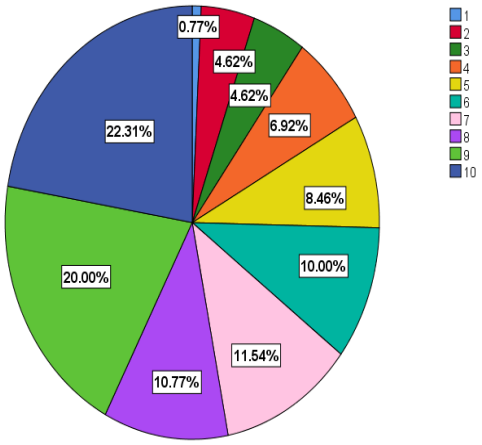

Fig.15: Pie chart represents the percentage of satisfaction on online teaching graded from 1 to 10 in increasing grades. 0.77% rated 1 (Blue), 4.62% rated 2 (Red), 4.62% rated 3 (Green), 6.92% rated 4 (Orange), 8.46% rated 5 (Yellow), 10% rated 6 (Sea green), 11.54% rated 7 (Pink), 10.77% rated 8 (Violet), 20% rated 9 (Light green) and 22.31% rated 10 (Dark blue).

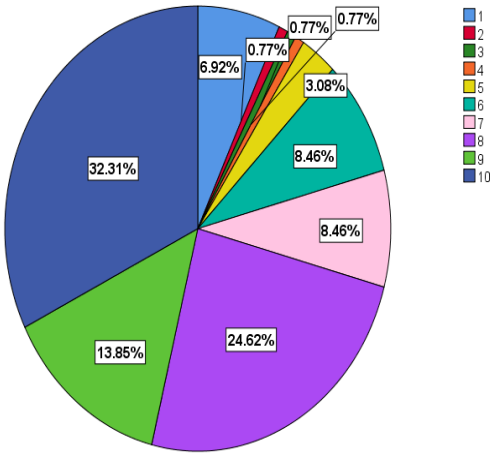

Fig.16: Pie chart represents the percentage of satisfaction on classroom teaching graded from 1 to 10 in increasing grades. 6.92% rated 1 (Blue), 0.77% rated 2 (Red), 0.77% rated 3 (Green), 0.77% rated 4 (Orange), 3.08% rated 5 (Yellow), 8.46% rated 6 (Sea green), 8.46% rated 7 (Pink), 24.62% rated 8 (Violet), 13.85% rated 9 (Light green) and 32.31% rated 10 (Dark blue).

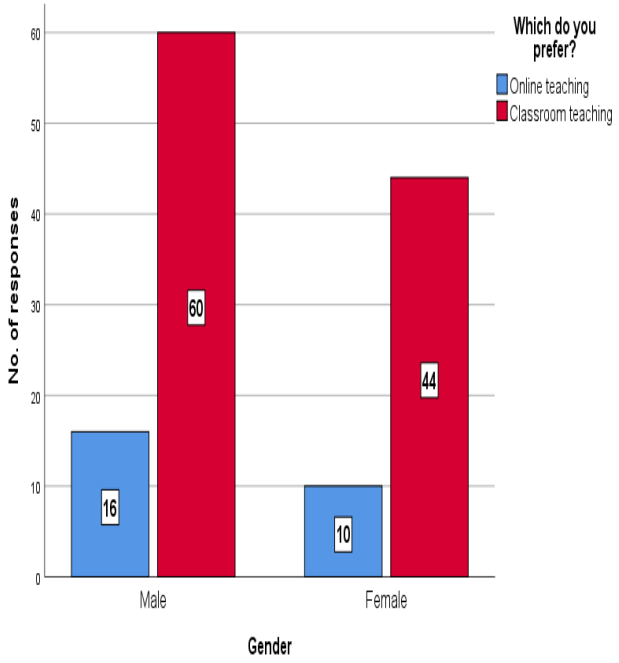

Fig.17: Bar graph showing comparison of responses between gender and their preference of teaching methods. (X axis represents gender and Y axis represents preference of online and classroom teaching). Higher number of males reported classroom teaching (60%) and higher number of females reported classroom teaching (43%). Blue denotes yes and red denotes no).. The association was done using chi square test (Chi square value: 0.127 DF: 1 p-value= 0.761(>0.05). Though statistically not significant,this implies that the preference of teaching methods by the students were similar in both the genders.

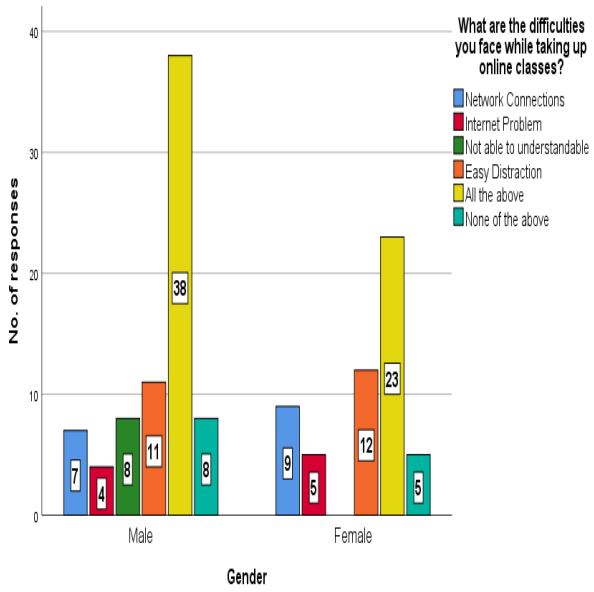

Fig.18: Bar graph showing comparison of responses between gender with the difficulties that students face while taking up online classes (X axis represents gender and Y axis represents difficulties you face while taking up online classes). Higher number of males reported all the above (38%) and a higher number of females also reported all the above (23%). Blue denotes network problem, red denotes internet problem, green denotes not able to understand, orange denotes easy distraction, yellow denotes all the above and light green denotes none of the above). More males chose all the above than females. The association was done using chi square test (Chi square value = 9.330; DF = 5; p-value = 0.118(>0.05). Though statistically not significant, this implies that the similar levels of difficulties were faced by both the genders during online classes.

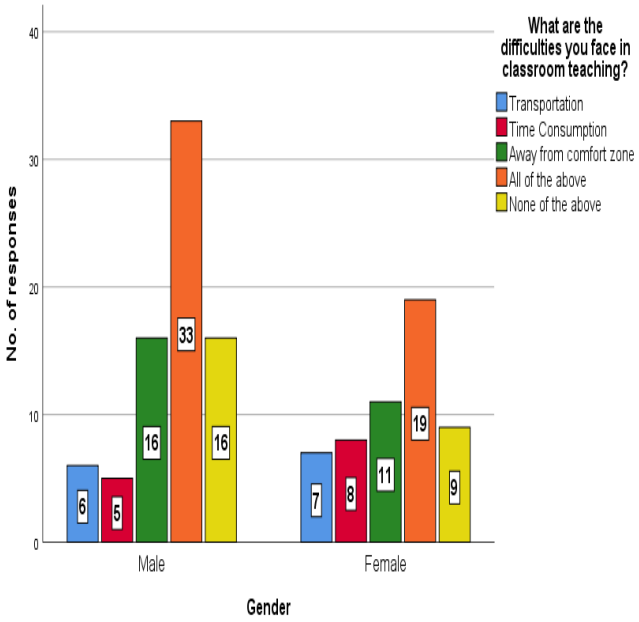

Fig.19: Bar graph showing comparison of responses between gender with the difficulties students face during classroom teaching (X axis represents gender and Y axis represents difficulties faced while taking up classroom teaching. Higher number of males reported all the above (33%) and a higher number of females also reported all the above (19%). Blue denotes transportation, red denotes time consumption, green denotes away from comfort zone, orange denotes all the above and yellow denotes none of the above). More males chose all the above than females. The association was done using chi square test (Chi square value = 3.810; DF = 4; p-value= 0.548(>0.05). Though statistically not significant, this implies that the difficulties faced during classroom teaching were similar in both the genders.

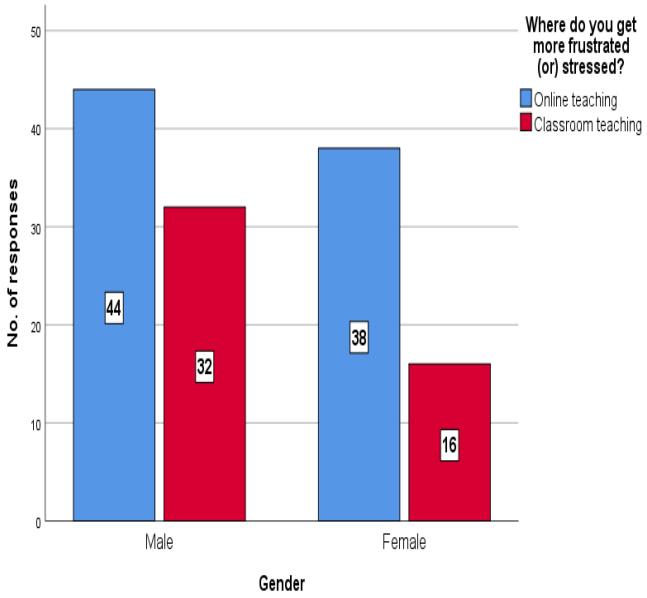

Fig.20: Bar graph showing comparison of responses based on gender to frustration or anxiety. (X axis represents gender and Y axis represents stress. Higher number of males reported online teaching (44%) and a higher number of females also reported online teaching (37%). Blue denotes online teaching and red denotes classroom teaching). More males chose online teaching than females. The association was done using chi square test (Chi square value = 0.538; DF = 1; p-value= 0.168(>0.05). Though statistically not significant, this proves that anxiety levels faced by the students during online teaching was similar in both the genders.

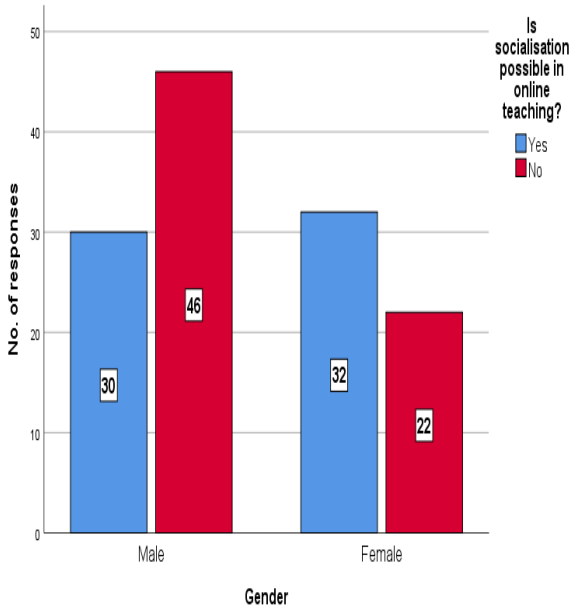

Fig.21: Bar graph showing comparison of responses based on gender and socialisation possible in online teaching. (X axis represents gender and Y axis represents socialisation. Higher number of males reported no (46%) and a higher number of females reported yes (31%). Blue denotes yes and red denotes no. There was a significant difference in responses between males and females. More females chose yes than males.The association was done using chi square test (Chi square test = 2.859; DF = 1; p-value= 0.033(<0.05). It is significant.

In figure-1, 58.46% of the total population are males and 41.54% are females. In figure-2, 67.69% of the total population take up online classes during quarantine, while 32.31% don't have online class. In figure-3, 20% of the total population prefer to take up online class while 80% prefer classroom teaching. In figure-4, 12.31% of the population face network problem trouble during online class, 6.92% face internet problem, 8.15% think that

they are not able to understand, 17.69% says easy distraction and 46.92% says all the above as a problem faced during online class, while 10% says they face none of the above problem. In figure-5, 10% of the population says they face transportation as the problem during classroom teaching, 10% says time consumption, 20.77% says that since they are away from their comfort zone as a problem, 40% says they face all the above and 19.23% face none of the above mentioned problems during classroom teaching. In figure-6, 18.46% of the population says that they think during online teaching, it was easy to approach the teachers for clarifying the doubts while, 81.54% says during classroom teaching they found it easy to approach the teachers. In figure-7, 19.23% of the population says the classes are more interactive in online teaching whereas 80.77% says it is interactive during classroom teaching. In figure-8, 12.31% of the population says, the classes are more lively during online teaching, whereas, 87.69% says it is more lively during classroom teaching. In figure-9, 63.08% of the population says they get more stressed and worked up during online teaching, while 36.92% says they get more stressed during classroom teaching. In figure-10, 13.85% of the population says for teaching, online teaching would be effective while 86.15% says for teaching, classroom teaching would be effective. In figure-11, 30.77% of the population says for revision, it is effective in online teaching. While 69.23% says it would be effective in classroom teaching. In figure-12, 47.69% of the population says socialisation is possible in online teaching, whereas 52.31% says socialisation is possible in classroom teaching. In figure-13, 60.77% of the population says multitasking is easily done during online teaching. While 39.24% of the population says multitasking is easily done during classroom teaching. In figure-14, 26.92% of the population says the place where they find convenient to study is during online teaching, whereas 73.06% of the population says it is convenient during classroom teaching to study. In figure-15, when the participants were asked to give ratings between 1-10 for how much they are satisfied with online teaching. These were the results. 0.77% of the population rated - 1, 4.62% rated - 2, 4.62% rated - 3, 6.62% rated - 4, 8.46% rated - 5, 10% rated - 6, 11.54% rated - 7, 10.77% rated - 8, 20% rated - 9 and 22.31% rated - 10. In figure-16, when the participants were asked to give ratings between 1-10, for how much they are satisfied with classroom teaching. These were the results. 6.92% of the population rated - 1, 0.77% rated - 2, 0.77% rated - 3, 0.77% rated - 4, 3.08% rated - 5, 8.46% rated - 6, 8.46% rated - 7, 24.62% rated - 8, 13.85% rated - 9 and 32.31% rated - 10.

The association between gender and preference of teaching method is depicted in figure 17. Majority of males chose classroom teaching (60%) over online teaching (16%), and the majority of females also chose classroom teaching (44%) over online teaching (10%). This association was statistically not significant because P value = 0.761(>0.05). On the whole, both the genders chose classroom teaching. The association between gender and difficulties faced while taking up online class is depicted in figure 18. Majority of males chose all the above for the difficulties faced during online class such as network problem, internet problem, not able to understand and easy distraction (38%), and the majority of females also chose all the above for the difficulties faced during online class such as network problem, internet problem, not able to understand and easy distraction (23%). This association was statistically not significant because P value = 0.118(>0.05). On the whole, both the genders chose all the above. The association between gender and difficulties faced while taking up classroom teaching is depicted in figure 19. Majority of males chose all the above for the difficulties faced during classroom teaching such as transportation, time consumption and away from comfort zone (33%), and the majority of females also chose all the above for the difficulties faced during classroom teaching such as transportation, time consumption and away from comfort zone (19%). This association was statistically not significant because P value = 0.548(>0.05). On the whole, both the genders chose all the above. The association between gender and frustration or anxiety is depicted in figure 20. Majority of males chose online teaching (44%) over classroom teaching (32%), and the majority of females also chose online teaching (38%) over classroom teaching (16%). This association was statistically not significant because P value = 0.168(>0.05). On the whole, both the genders chose online teaching. The association between gender and socialisation possibility in online teaching is depicted in figure 21. Majority of males chose no (46%) over yes (30%), and the majority of females also chose yes (32%) over no (22%). This association was statistically significant because P value = 0.033(>0.05). On the whole, the participants chose no, i.e., socialisation is not possible in online teaching.

The present research has origins from the team of investigators where previous studies were done based on clinical reports, interventional studies like (Jyothi *et al.*, 2017), (Ashok *et al.*, 2014), (Venugopalan *et al.*, 2014), in vitro studies like,(Duraisamy *et al.*, 2019), (Ganapathy *et al.*, 2016), (Ranganathan, Ganapathy and Jain, 2017), (Ganapathy *et al.*, 2016), (Ajay *et al.*, 2017) and systematic reviews (Jain *et al.*, 2018), (Selvan and Ganapathy, 2016), (Subasree, Murthykumar and Dhanraj, 2016), (Vijayalakshmi and Ganapathy, 2016), (Kannan, Venugopalan and Ganapathy, 2017), (Kannan and Venugopalan, 2018). From a previous study conducted by Elfaki NK et al, in which 80 students participated out of which 40 students were male and 40 students are female, (50% were males and 50% were females) (Elfaki, Abdulraheem and Abdulrahim, 2019) which is similar to the gender distribution in the present study (Figure-1). In a study conducted by ER.Sanjay Agal et al a survey which was focused mainly on female students ie., 79% (ER. SANJAY AGAL, MR. K. K. DAVE, MS.POOJA DEVIJA, 2010). A question was asked out of curiosity like; are they taking up classes during quarantine. Due to the spread of COVID-19 virus, the whole world is under lockdown. Hence most of the

institutions have come up with the idea of online classes. In a previous study conducted by ER Sanjay Agal, in which 62.6% of the students did not feel comfortable to take up online classes whereas 56.1% liked these online classes (ER. SANJAY AGAL, MR. K. K. DAVE, MS.POOJA DEVIJA, 2010) which is similar to the population distribution in the present study (Figure-3). In another previous study conducted by Lisa P. Tichavsky et al, a total of 92% of the students participated in face to face interaction class. Among them, 50% said that they enrolled in face to face class to have more peer interaction and also interactive with teachers. 48% of the participants said they prefer online courses (Lisa P. Tichavsky, Andrea N. Hunt, Adam Driscoll, Karl Jicha, 2015). In a previous study conducted by Liu C et al, the participants would get addicted to games and other sources which would affect learning (Liu and Long, 2014), Internet accessibility fluctuates (Shi-Chun, Ze-Tian and Yi, 2014). Some students are not as motivated as others, and this method of teaching may allow those less motivated students to get less done (Shi-Chun, Ze-Tian and Yi, 2014) which is similar to the present study (Figure-10). In a previous study conducted by ER Sanjay Agal et al, 37.4% of the students were able to manage the time properly in traditional teaching whereas 62.6% of the students think it is time consuming (ER. SANJAY AGAL, MR. K. K. DAVE, MS.POOJA DEVIJA, 2010) similar to the present study (Figure-4). In another research, it was found out that extroverted students may miss the face to face interaction with peers, and students who do not have strong verbal or reading skills may experience a disadvantage (Cavanaugh, Barbour and Tom, 2009). In a previous study conducted by Keller H et al, development of mental capacities to think at different levels has traditionally taken center stage in academic curriculum (Barakzai and Fraser, 2005). The 5-levels of mental abilities such as memorisation, analysis, synthesis, making judgement and application were prevalent in online learning. Students were most engaged in analytical work. Higher levels of anxiety or frustration was reported (Keller and Karau, 2013) similar to the present study (Figure-9). In another previous study conducted by Sung E et al, social presence is the level of personal connectedness of students in a class (Sung and Mayer, 2012) similar to the present study (Figure-12). Not all studies agree, however, that social presence is lacking in online classrooms when measured in terms of students' perceptions (Soper and Ukot, 2016). The perceptions of social presence among students from online class with students from traditional class. Students perceived stronger teacher and social presence in online classrooms (Bowers and Kumar, 2015). In another study, it has been claimed that social presence is not as important as the existing literature (Capra, 2011). In another study, it is claimed that social presence does not always lead to better learning (Giesbers *et al.*, 2014).

Increase in sample size and inclusion of more criteria are the limitations of the study. Further research on a large scale, involving more students, professors and of course is needed to better evaluate the benefits, challenges and useful strategies of successful students. Our institution is passionate about high quality evidence based research and has excelled in various fields ((Pc, Marimuthu and Devadoss, 2018; Ramesh *et al.*, 2018; Vijayashree Priyadharsini, Smiline Girija and Paramasivam, 2018; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Ramadurai *et al.*, 2019; Sridharan *et al.*, 2019; Vijayashree Priyadharsini, 2019; Chandrasekar *et al.*, 2020; Mathew *et al.*, 2020; R *et al.*, 2020; Samuel, 2021)

CONCLUSION

From this research, it is evident that students prefer classroom teaching when compared to online teaching. Students find it quite difficult to gain constant knowledge from online teaching. Even though online teaching has its own perks, it also has an equal amount of disadvantages. Easy distraction is one among them. Students gradually tend to lose interest in learning. But in classroom teaching, there are other distractions to keep them awake. They find it easy to socialize with the community when they cultivate knowledge from classroom teaching. Hence, the conclusion can be drawn that students prefer classroom teaching than online teaching.

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