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ORIGINAL ARTICLE

Adapting to Virtual Learning: Exploring Challenges Faced by College Students in Online Classes

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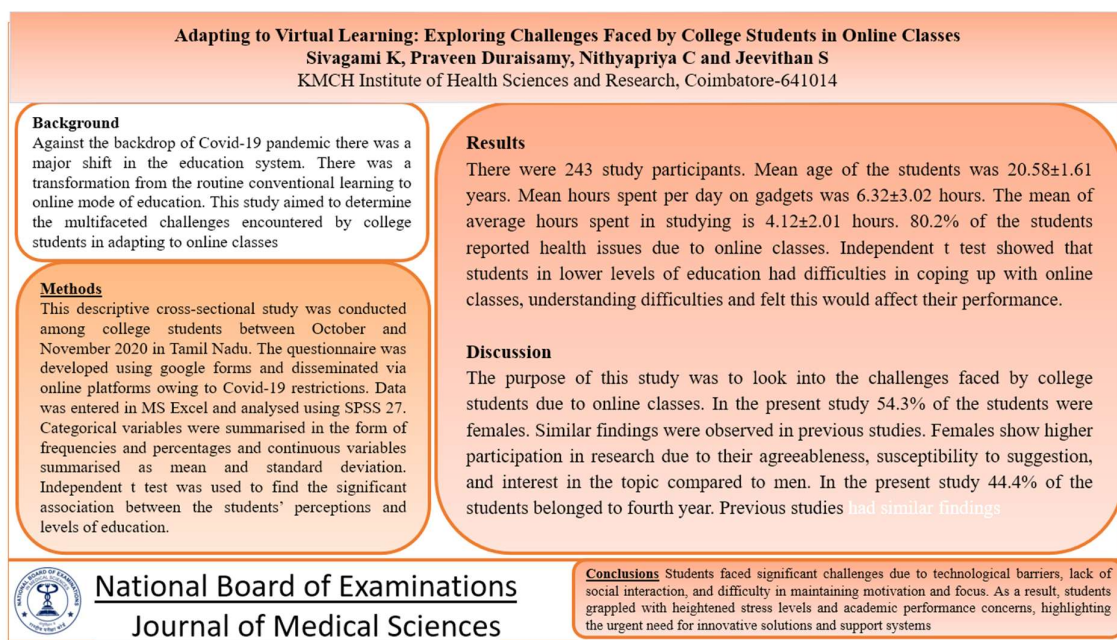
Abstract

Background: Against the backdrop of Covid-19 pandemic there was a major shift in the education system. There was a transformation from the routine conventional learning to online mode of education. This study aimed to determine the multifaceted challenges encountered by college students in adapting to online classes. **Methods:** This descriptive cross-sectional study was conducted among college students between October and November 2020 in Tamil Nadu. The questionnaire was developed using google forms and disseminated via online platforms owing to Covid-19 restrictions. Data was entered in MS Excel and analysed using SPSS 27. Categorical variables were summarised in the form of frequencies and percentages and continuous variables summarised as mean and standard deviation. Independent t test was used to find the significant association between the students' perceptions and levels of education. **Results:** There were 243 study participants. Mean age of the students was 20.58±1.61 years. Mean hours spent per day on gadgets was 6.32±3.02 hours. The mean of average hours spent in studying is 4.12±2.01 hours. 80.2% of the students reported health issues due to online classes. Independent t test showed that students in lower levels of education had difficulties in coping up with online classes, understanding difficulties and felt this would affect their performance. **Conclusion:** Students faced significant challenges due to technological barriers, lack of social interaction, and difficulty in maintaining motivation and focus. As a result, students grappled with heightened stress levels and academic performance concerns, highlighting the urgent need for innovative solutions and support systems.

Keywords: Covid-19, Online classes, Challenges, College students

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Graphical Abstract



Introduction

The WHO proclaimed Covid-19 to be a pandemic on March 11, 2020. The COVID-19 pandemic posed an unparalleled threat to food systems, public health, and the workforce. It had disastrous consequences on every facet of human existence. In order to reduce the transmission of disease lockdown was imposed which had an effect on many facets of human existence [1]. The impact on the educational system was unprecedented. Globally 600 million students and in India 320 million students were impacted [2].

Educational institutions had to shift to the new normal of online teaching due to this temporary closure [3]. There was a need to adopt innovative teaching for continuing education and to overcome mental stress and anxieties during the lockdown [4]. However, this transition was not without its hurdles, particularly for college students. Several factors affected the quality of online learning [3]. These include access to

technical infrastructure and the quality of telecommunication network [3].

Students faced health issues attending continuous online classes. To raise the standard of instruction, it's critical to evaluate online learning from the viewpoint of the students. The purpose of this study was to determine the difficulties that students faced due to online learning. This was crucial for raising the calibre of online education and laying the groundwork for future instructional strategies that will be more successful.

Materials and Methods

The study, conducted between October and November 2020, surveyed college students in Coimbatore, Tamil Nadu, The data was collected using google forms due to Covid restrictions. The questionnaire consisted of 47 variables like the socio-demographic variables, presence of a suitable place for attending the classes, total hours spent on gadgets, primary gadget used for the online class, any additional

investment for the online classes, student's perception regarding online classes, health issues faced by the students due to online classes, advantages of online classes and the things missed by students due to online classes. Data was entered in Microsoft excel and analysed using SPSS 27. Categorical variables were summarised in the form of frequencies and percentages and continuous variables summarised as mean and standard deviation. Independent t test was used to find the significant association between the students' perceptions and levels of education. Ethical clearance was obtained with IEC number: 34/IHEC/2020.

Results

This study had 243 participants. The study population consisted of 243 participants, with a slight female predominance (54.3%) compared to males (45.7%). The majority of the students were from private colleges (97.5%), while only a small proportion (2.5%) were from government institutions. Regarding the course distribution, students from allied health sciences formed the largest group (35.4%), followed closely by engineering students (33.3%). Students from occupational therapy (12.3%), medicine (10.3%), and arts and science courses (8.6%) made up the remainder of the cohort.

In terms of the year of study, fourth-year students constituted the largest proportion (44.4%), followed by third-year (24.7%), first-year (16.0%), second-year (13.2%), and a small number of fifth-year students (1.6%).

Nearly half of the students (46.9%) reported making additional investments to support their education during this period. Among these, mobile phones (51.0%) were the most commonly reported investment, followed by laptops (29.2%), new internet connections (12.5%), modems (7.9%), and furniture (5.7%) (Table 1).

Students across different years of study generally reported similar challenges with online learning, such as network issues, reduced attention span, and the need for greater self-motivation. However, significant differences were noted in specific areas. Students in earlier years (≤ 2 years) found it harder to cope without face-to-face faculty interaction ($p=0.008$) and required more time to understand web-based programs ($p=0.02$). In contrast, students beyond two years of study demonstrated better coping abilities ($p=0.002$), were more prone to distractions like observing friends during classes ($p=0.002$), and were more optimistic that their performance could improve with online learning compared to traditional teaching ($p=0.003$) (Table 2).

Table 1. Characteristics of the study participants (N=243)

Gender	Frequency	Percent (%)
Female	132	54.3
Male	111	45.7
College		
Private	237	97.5
Government	6	2.5
Course		
Allied health sciences	86	35.4
Engineering	81	33.3
Occupational therapy	30	12.3
Medicine	25	10.3
Arts and science	21	8.6
Year of study		
Fourth	108	44.4
Third	60	24.7
First	39	16.0
Second	32	13.2
Fifth	4	1.6
Additional investment	114	46.9%
Type of additional investment		
Mobile	58	51.0%
Laptop	33	29.2%
New connection	11	12.5%
Modem	7	7.9%
Furniture	5	5.7%

Table 2. Perceptions of online classes among students based on levels of education

Statements	Year of study ≤ 2 (Mean \pm SD*)	Year of study > 2 (Mean \pm SD)	P-Value[#]
Recurring network connectivity issues disturbs the classes	4.33 \pm 0.93	4.38 \pm 0.87	0.94
High speed internet facility is essential for uninterrupted classes	4.33 \pm 0.87	4.37 \pm 0.94	0.28
Continuous online sessions are academically very stressful	3.67 \pm 0.97	4.09 \pm 1.01	0.36

There is less chance for proper interaction with the faculty	3.50±1.02	4.00±0.91	0.56
Difficult to cope in the initial days	3.83±1.10	3.98±0.81	0.72
Without face-to-face interaction with teaching faculty learning is difficult	4.25±1.01	3.87±1.05	0.008
Difficulty in comprehension	4.13±0.94	4.06±0.89	0.62
Online class needs more self-motivation	4.04±0.94	3.85±0.87	0.13
Web based programs need lots of time for understanding	4.13±0.99	3.84±0.85	0.02
Reduced attention span	4.13±1.10	3.85±1.05	0.06
Unable to keep myself awake in post lunch sessions	3.93±1.13	3.91±0.94	0.87
Small group teaching and Focus group discussion facilitated learning better	3.94±0.90	3.71±0.89	0.06
Due to lack of supervision, I cannot resist myself from referring the text books during online	3.87±1.12	3.70±0.92	0.22
Switching off the cameras and microphones creates a better online environment	3.75±0.99	3.81±1.04	0.64
I don't find my home environment suitable for e-learning	3.76±1.16	3.71±1.16	0.75
I am unable to study after attending online classes	3.86±1.03	3.67±1.03	0.19
Ability to cope up with online class	3.27±1.10	3.66±0.81	0.002
More workload in online classes compared to regular classes	3.85±1.10	3.65±0.98	0.16
I have told I had some online issue when the faculty asked me a question	3.59±1.15	3.57±1.07	0.88
I sometimes see what my friends are doing in the online class	3.17±1.19	3.65±0.99	0.002
I don't have a separate calm room for online sessions	3.45±1.36	3.50±1.20	0.78
I am able to study well at home without any disturbance from friends/ classmates	3.11±1.21	3.26±1.10	0.35
Do you think your performance will increase with online teaching compared to traditional class room teaching?	2.48±1.27	2.98±1.14	0.003

*SD denotes standard deviation, # - Independent t test

Discussion

The purpose of this study was to look into the challenges faced by college students due to online classes. In the present study 54.3% of the students were females. Similar findings were observed in previous studies [1,5]. Females show higher participation in research due to their agreeableness, susceptibility to suggestion, and interest in the topic compared to men. In the present study 44.4% of the students belonged to fourth year. Previous studies had similar findings [6,7]. Higher education levels may increase survey engagement, as participants prioritize technical aspects and express more interest in expressing their viewpoints. Among the study participants 87% used mobile phones for online classes. Previous studies had similar findings [8,9]. Mobile devices are the most preferred technology due to their portability and ease of use.

Among the participants 80% faced health issues because of online classes. Previous studies had similar findings [10,11]. Students in the study experienced eye strain, dry eyes, headache, anxiety, and backpain due to increased screen hours, poor posture, and lack of physical activity. Among the participants 77% felt online classes stressful. Anger management issues were also brought on by endless internet activity [12]. Research indicates that students experiencing mental strain during online learning exhibit negative emotions such as anger, anxiety, fear, aggression, irritability, and frustration [13]. They might therefore gradually distance themselves from their loved ones.

Among the participants 86% faced difficulty in online classes due to internet connectivity issues. Previous studies showed similar findings [14,15]. The government and telecom providers should

collaborate to improve internet and communication infrastructure for online learning. In case of academic disruptions, the Ministry of Education should provide more Android and iPhone devices for college students.

Most participants found online classes difficult to concentrate, found home environments unsuitable, and felt that online classes required significant self-motivation. Previous study by Bozkurt et al. [16] showed similar finding. In traditional classrooms, students found active engagement in academic activities easier due to direct teacher interaction and this helped on timely homework completion, preventing procrastination. The present study showed that small group discussions facilitated learning better. Previous study observed a similar finding [17]. Present study showed that 86% of the students reported to have missed the routine college life. Studies by Kedraka and Kaltsidis et al. [18] and Rameez et al. [19] also reported similar results. The study revealed that students in lower levels of education struggled with understanding online classes and perceived performance reduction compared to higher education students. Similar finding was observed in previous study [20]. Students in higher education levels may exhibit stronger self-control, reducing the disturbance caused by external videos, allowing individuals to maintain control over their learning behaviours.

Conclusion

College students face numerous challenges in online classes due to technical, logistical, and personal issues. These include unreliable internet connections, difficulty adjusting to virtual learning platforms, feelings of isolation, and blurring boundaries between home and

academic life. To overcome these challenges, a multifaceted approach involving technological infrastructure improvements, academic support services, and proactive measures is needed.

Statements and Declarations

Conflicts of interest

The authors declare that they do not have conflict of interest.

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Ethical Approval

Ethical clearance was obtained with IEC number: 34/IHEC/2020.

References

1. Singh G, Quraishi S. COVID-19 Lockdown: Challenges Faced by Indian Students. *Psychol Stud*. 2021;66:303-307.
2. Kapasia N, Paul P, Roy A, Saha J, Zaveri A, Mallick R, et al. Impact of lockdown on learning status of undergraduate and postgraduate students during COVID-19 pandemic in West Bengal, India. *Children and Youth Services Review*. 2020 Sep 1;116:105194.
3. Atakorah PO, Honlah E, Jnr PAP, Achem G. Challenges to online studies during COVID-19: The perspective of Seventh-day Adventist College of Ed. *Cogent Education*. 2023;10:2162680
4. Raju, H. Covid-19 Lockdown-challenges to higher education, Dr. AIT, ECE Bengaluru, (ongoing project). 20944/preprints202004.02oi:10.20944/1.
5. Gómez-García G, Ramos-Navas-Parejo M, Cruz-Campos J, Rodríguez-Jiménez C. Impact of COVID-19 on University Students: An Analysis of Its Influence on Psychological and Academic Factors "2279. *Int J Environ Res Public Health*. 2022;19:10433.
6. Park K, Park N, Heo W, Gustafson K. What Prompts College Students to Participate in Online Surveys? *International Education Studies*. 2019;12(1):69-79.
7. Hunt-White T. The Influence of Selected Factors on Student Survey Participation and Mode of Completion. Washington, DC: National Center for Education Statistics. 2007; Retrieved from <http://www.fcsm.gov/07papers/Hunt-White.III-C.pdf>.
8. Rashid SMM, Mawah J, Banik E, Akter Y, Deen JJ, Jahan A, et al. Prevalence and impact of the use of electronic gadgets on the health of children in secondary schools in Bangladesh: A cross-sectional study. *Health Sci Rep*. 2021;4:e388.
9. Ashari ZM, Ngadiman AA, Zainudin NF, Jumaat NF. The relationship between knowledge and attitude towards technology gadget usage with students' socio-emotions development. *Int J Interact Mob Technol*. 2018;12(7):152-63.
10. Idris F, Zulkipli IN, Abdul-Mumin KH, Ahmad SR, Mitha S, Rahman HA. *BMC Medical Education*. 2021;21:542-55.
11. Avadesh YK. Impact of Online Teaching on Students' Education and Health in India during Pandemic of COVID-19. *Coronaviruses*. 2021;2(4):516-20.
12. Evers C, Dingemans A, Junghans AF, Boevé A. Feeling bad or feeling good,

- does emotion affect your consumption of food? A meta-analysis of the experimental evidence. *Neuroscience & Biobehavioral Reviews*. 2018;92:195-208.
13. Singh M. Mood, food, and obesity. *Front Psychol*. 2014;5:1-10.
 14. Mahyoob M. Challenges of e-Learning during the COVID-19 Pandemic Experienced by EFL learners. *Arab World English Journal*. 2020;11:351-62.
 15. Aboagye E, Yawson JA, Appiah KN. COVID- 19 and e-learning: The challenges of students in a tertiary institution. *Social Education Research*. 2021;2:1-8.
 16. Bozkurt A, Sharma RC. Emergency remote teaching in a time of global crisis due to coronavirus pandemic. *Asian J. Distance Educ*. 2020;15:1-6.
 17. Du X, Lai S, Li H, Hung J. Student performance evaluation based on online discussion. *ICITL*. 2019;11937:367-75.
 18. Kedraka K, Kaltsidis C. Effects of the covid-19 pandemic on university pedagogy: students' experiences and considerations. 2020;7:17-29.
 19. Rameez A, Fowsar MAM, Lumna N. Impact of Covid-19 on Higher Education Sectors in Sri Lanka: A Study based on South Eastern University of Sri Lanka. *Journal of Educational and Social Research*. 2020;10:341-47.
 20. Yu Z. The effects of gender, educational level, and personality on online learning outcomes during the COVID-19 pandemic. 2021;18:1-17.