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Perception of Students towards Emergency Online Learning during COVID 19-A study of Under Graduate/post graduate Students of Tier Two Cities in Comparison to the Tier One Cities of North India

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Abstract: The COVID-19 pandemic caused a global educational disruption, forcing a sudden transition from traditional face-to-face learning to online modalities. This study explores students' perceptions toward emergency remote teaching environments (ERTE) during the pandemic, focusing on the North Indian context—comparing Delhi NCR (tier-one cities) and B-town (tier-two cities) students. Using a primary survey method, data were collected from 287 undergraduate and postgraduate students via a structured Google Form questionnaire. The study evaluates technological adaptation, ease of use, perceived utility, family environment, learning environment, and infrastructure using a five-point Likert scale. Findings reveal that while students acknowledged the utility and time-saving aspects of online learning, challenges such as reduced interpersonal interaction, network issues, distractions at home, and lack of motivation were significant. NCR students reported a relatively better learning experience than their B-town counterparts, primarily due to better infrastructure and greater teacher readiness. However, students from B-town cities showed greater technological adaptability. The study concludes that while online learning served as a vital bridge during the crisis, substantial gaps remain in ensuring equitable, engaging, and effective virtual education experiences. It emphasizes the need for strategic policy-level interventions to better integrate online learning post-pandemic, particularly in diverse socio-economic contexts like India.

Keywords: Online Learning, TAM, Student Perception, COVID- learning, technology enabled learning, E-learning, factors of e-learning, Technological acceptance model

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INTRODUCTION

Covid- 19 came as a major disruptor of the century; we witnessed the world go standstill. The viral outbreak impacted public health and safety and people were forced to isolate themselves at their homes that impacted almost every sector including the education sector. A large part of the world experienced a lockdown that closed educational institutions affecting more than 70% of the world's student population switching into virtual classes in an unusual rush without much preparations. Koirala D (2020) & Giovannella C. (2020). {009}

During COVID most educational institutions suspended their in-person classes due to concerns regarding the potential spread of disease transmission. In this context, technology emerged as a critical asset for the educational sector, providing a timely reprieve and facilitated the continuity of learning. Although Ed-Tech

and e-learning modalities were already in existence prior to the Covid-19 pandemic, a limited number of universities and institutions had commenced the provision of distance education and online courses. During the pandemic, this prior experience conferred a distinct advantage to these select organizations, while the majority exhibited a reactive response. These entities were inadequately equipped and unprepared for a comprehensive transition from traditional to virtual education. Given the unprecedented nature of the situation, institutions of higher learning were compelled to swiftly adopt blended, hybrid, or wholly virtual pedagogical models and integrate digital technologies; however, the reconfiguration of course structures, educational materials, assessment methodologies, and pedagogical approaches to accommodate online learning presented significant challenges for both students and educators alike.

Undeniably, the implementation of online learning represents a commendable initiative for the continuation of teaching and educational programs amid the pandemic (Kim, 2020). Given that the online learning paradigm was largely novel within most educational systems and that we were inadequately prepared for its implementation, both students and educators encountered considerable obstacles during virtual classes (Gopal et al., 2021). Developing nations such as India exhibit vast diversity resultant from socioeconomic disparities and developmental divides. From highly advanced urban centers to remote regions still grappling with fundamental infrastructural deficits, the provision of uninterrupted internet service on a national scale remains an elusive dream. This scenario necessitates a broad spectrum of adaptations to online learning. It would constitute an intriguing area of inquiry to analyze how students from varying developmental contexts responded to the disruptions instigated by the pandemic and to assess their preparedness for such an unforeseen circumstance. Furthermore, it raises a pertinent question regarding whether infrastructure and development are the sole determinants of transformation, or whether motivation and the attitudinal capacity to adapt to change also play a significant role.

During the Covid-19 pandemic, the Indian Government initiated the "Bharat Padhe Online" program to incentivize educators to generate digital educational content, exchange ideas, and share innovations on public platforms by establishing educational blogs, wikis, and an increasing volume of Open Educational Resources (OERs). However, as noted by Garg (2020), the Covid-19 pandemic has impacted higher education in a manner that is unprecedented. Educators were necessitated to undergo a rapid digital transformation, surmount technology-related anxieties, and labor intensively for the benefit of their students. When educational institutions in India transitioned to online education virtually overnight, educators shifted from traditional blackboards to digital screens, as articulated by Meena (2020). Consequently, this transition was abrupt and drastic, presenting unique challenges for both instructors and learners (Ritimoni Bordoloi, 2021).

Antonius Setyawan Sugeng Nur Agung et al. (2020) in their research unequivocally established that educators in India have commenced the transition to online instruction utilizing platforms such as Facebook, Google Classrooms, content dissemination via YouTube, live video lectures through WhatsApp, and virtual meeting applications like Zoom, Cisco WebEx, or Google Meet as a response to the exigencies posed by the Covid-19 pandemic.

The abrupt nature of this transition has sparked a discourse regarding the quality of educational outcomes and the satisfaction levels of students from this mode of learning. It remains to be critically examined

whether such initiatives are genuinely effecting a transformation in the Indian educational system from a pedagogical standpoint, which constitutes a significant area of probe. Consequently, it is imperative that we earnestly consider, which the principal aim of this paper also, the perceptions of learners towards the adoption of online or blended learning methodologies in their customary curriculum delivery during the COVID-19 pandemic. Will stakeholders continue to regard it as a favored pedagogical medium in periods devoid of crisis? This question awaits its' answer in the future.

Are the students and teachers prepared for the judicial use of online/blended learning at the policy level particularly in post-Covid-19 situations? Otherwise, the slogans of better and sustainable education shall always remain a distant dream in a diverse country like India. (Ritimoni Bordoloi, 2020).

These deliberations have significantly shaped the comprehension of the repercussions associated with the emergency adoption and integration of online and other forms of digitized learning and instruction on the role of university educators and the landscape of higher education in the post-pandemic era. Nonetheless, there has been scant academic scrutiny focused on the perceptions of students and their learning experiences as pivotal factors in the success of technology-facilitated online courses (Spring 2021).

This paper centers on the experiences of teaching and learning within the Delhi Capital Region (NCR), which is characterized as a developed locale in terms of network connectivity, teacher training, and the availability of supplementary resources for online delivery. The findings will consequently be juxtaposed with those from regional universities situated in adjacent states of North India (B-Town cities, Tier II cities, which encompass state and central universities) amidst the COVID-19 pandemic.

In the light of these unparalleled circumstances, there exists an urgent imperative to investigate students' perceptions regarding online learning

LITERATURE REVIEW

Online learning: At certain instances, e-learning is classified under the broader category of distance education (Bates, 2005). As noted by Smart and Cappel (2006), the terms "e-learning," "online learning," and "web-based learning" have been utilized interchangeably. Stern (2018) characterized online learning as a variant of 'distance learning', which serves as the overarching term for any remote educational activities conducted in lieu of traditional face-to-face classroom environments

The framework of online learning is contingent upon the type of network (e.g., wireless, satellite) and the technology (e.g., computer, laptop, smartphone) utilized. The primary advantage of online learning lies in its provision of time and location flexibility across diverse platforms. Online learning has been acknowledged as a highly effective method for enhancing the quality of instruction and learning within vocational schools, owing to its capacity to elevate student motivation, satisfaction, and engagement (Belaya, V., 2018) and (Bignoux, S., and Sund, K., 2018). Online learning facilitates students in acquiring knowledge with speed and ease, in accordance with their personal preferences and comfort (D. Indira and A. Sakshi, 2017). Furthermore, online learning can furnish greater control and substantially reduce the financial burden of education (T. Joosten and R. Cusatis, 2020). Nonetheless, it is imperative that learning strategies be implemented on online platforms to ensure that students develop the requisite employability skills and competencies necessary for their future professional endeavors (Kelz, A., 2009).

Advantages and Challenges of Online Learning:

The abrupt shift instigated by the pandemic has posed a significant challenge for educators to enhance their proficiency in utilizing the technology essential for remote teaching and learning within a remarkably brief period. The swift advancement of technology facilitates distance learning (Mcbrien & Jones, 2009). Nevertheless, while online learning offers advantages such as convenience, temporal and spatial flexibility, cost efficiency, and increased accessibility to education, it is not devoid of challenges, which include inadequate internet quality, as well as the limited digital proficiency of both learners and educators.

A selection of prior research on online education has been meticulously examined to gain a more profound comprehension of the perceptions held by various stakeholders regarding online learning. (Agung et al. (2020) carried out research into students' attitudes toward online education during the COVID-19 pandemic. The results of their study indicated that a mere 54.5% of students were able to easily grasp the course material, with a portion expressing greater satisfaction with traditional, in-person classes. (Irawan et al. (2020) revealed that students experienced feelings of boredom after merely two weeks of remote learning; remaining sedentary in front of a screen with minimal or no interaction had notable health and psychological repercussions for learners.

Hasan (2020) significantly pronounced digital divide, coupled with a substantial demographic of learners belonging to marginalized groups, revealed that internet accessibility and the financial burden of technology as the major barriers, thereby placing learning out of reach for countless students. The major challenge during this period, however, was to make education both accessible and valuable for learners of diverse ages and backgrounds during this period. Understanding the priorities and hurdles experienced by students in online learning would facilitate the alignment of technological solutions and educational approaches with the interests and learning preferences of the students. In the post-pandemic context, particularly in India, there exists the potential to explore the experiences and insights garnered during the crisis, thereby enabling the previously struggling educational system to extend its reach to the most remote areas while ensuring the spread of high-quality education. By promoting 21st-century digital competencies, the Government of India (GOI) has endeavored to advance the knowledge movement across the vast expanse of the nation.

FACTORS AFFECTING ONLINE LEARNING

After conducting a detailed analysis of the available literature, it has been established that multiple factors can significantly support the integration and effectiveness of online education, thus changing the educational landscape forever. A meticulously designed course framework tailored specifically for online delivery, alongside skilled educators, robust technological infrastructure, Open Educational Resources (OERs), the motivation and perceptions of stakeholders, user-friendly technology, and instructional designs that promote interactivity among students, instructors, and course materials (via MOOCs and Learning Management Systems) are crucial components. This research attempted to seeks to highlight several significant elements of online learning in detail.

Sun and Chen (2016) posited that the efficacy of online instruction is contingent upon the following elements. 1. Thoughtfully crafted course content, encouraged engagement between the instructor and

learners, and well-equipped and thoroughly supported educators.2. The establishment of a robust online learning community through interactions 3. The rapid advancement of technology. Holmes and Gardner (2006) encapsulate the significance of interaction within the e-learning classroom, emphasizing its capacity to evaluate learners through interactivity that is conducive to community education, cultural diversity, globalization, and the dissolution of spatial and temporal barriers. They assert that the most critical attributes and advantages of e-learning in education are its learner-centered focus.

Social interaction is an essential element of the learning process in both offline and online contexts. Interaction is demonstrated in the classroom via both exchanges from instructor to learner and from learner to learner. The engagement between educators and students is crucial for the proficient conveyance of information and the facilitation of evaluative responses. The significance of this interaction is equally vital in online environments. The discourse surrounding interaction in online class highlights that electronic communication may not achieve the same efficacy as traditional communicative methods. The lack of emotional cues, body language, and facial expressions presents considerable challenges in online learning settings. The findings of this study align with the conclusions drawn by Moore (2014), as well as Sebastians Elli, Swift, and Tamimi (2015), who identified the interaction between instructors and learners as a fundamental determinant of perceived learning and satisfaction among students.

Despite the lack of a specific theoretical model to direct research on online learning, the TAM (The Technology Acceptance Model) is widely accepted as the theory to explain adoption and use of emerging technologies such as computers and the Internet to provide course material, facilitate collaboration, and perform assessments.

According to the Technology Acceptance Model (TAM), two factors influence users' acceptance of a computer system. First, there is perceived usefulness, which is defined by **Fred Davis (**Davis, 1989; Davis, Bagozzi, & Warshaw, 1989) as the perceived benefit of employing new technology in terms of enhanced productivity. Second, perceived ease-of-use (PEU), which reflects people's beliefs about the ease of using new technology. If the technology is simple to use, it will be widely used in the future. These factors will influence people's attitudes toward technology as well as their behavioral intentions, which will ultimately dictate how and when individuals will utilize new technology (Adeboye D, 2015).

Factors such as age, gender, prior knowledge of computer literacy and learning styles of individual are the vital predictors of technology acceptance by students. "Theory of diffusion of innovations" Mohammed Arshad Khan & Vivek (2021) is so far is one of the most relevant theories used for the study of technology adoption in higher education.

OBJECTIVE OF THE STUDY

1. To find out the perception of the students towards "emergency remote teaching environment" (ERTE).

2. To find out the difference in perception (if any) of tier two cities students with tier one city students of north India (NCR).

3. To find out the effect of selected Socio- demographic variable (i.e. living area,) on their perception towards online learning?

METHODOLOGY

Sample and Data Collection

- **Population**: 287 undergraduate and postgraduate students from Delhi NCR and B-Town cities of North India.
- **Sampling Method**: Non-probability, snowball sampling using online Google Forms.
- **Period of Study**: January 2022 – October 2022.
- **Cities Covered**: Delhi, Gurgaon, Noida, Faridabad, Ghaziabad, and 12 Tier II cities like Karnal, Bhiwani, Ludhiana, Chandigarh, etc.

Instrument Design

The survey instrument (questionnaire) comprised 36 items across the following segments:

- Socio-demographic variables (10 items)
- Ease of Use EOU(2 items)
- Perception of Usefulness PU (6 items)
- Self-Motivation and Attitude SM(6 items)
- Family Environment FE LE (3 items)
- Learning Environment (5 items)
- Infrastructure INF(4 items)

Responses were measured on a **5-point Likert Scale** (1 = Strongly Disagree to 5 = Strongly Agree).

The questionnaire was (Instrument) was adopted/developed from the already validated variables to measure the students perception based on extensive literature Review, besides some items were developed based on literature review and qualitative inputs collected during research. Participants' attitude and perception were evaluated a collection of variables that forms basis of TAM and the theory of online learning. Pérez-Pérez, M (2020).

DEMOGRAPHICS

287 students of graduation/Post Graduation responded of NCR region and B town cities of North India by a non-parametric snowball sampling method. A total of 169 (58.89%) of respondents were female and 117/287 (40.77) were male, majority of the respondents i.e.91.5% were below 23 years of the age. A statement was asked from the students that they should have studied at least one course/semester online to qualify the questionnaire.

Out of 287, 203(70.73%) respondents were from B Town cities of North India whereas 84 (29.24%) were

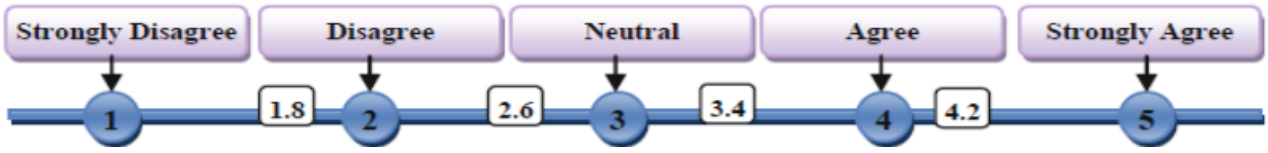
from Delhi NCR area. In terms of previous work experience a total of 7.23% of B Town participants had some work experience whereas participants of Delhi NCR had marginal advantage with (10.23%) work experience.71.43% of respondents were Graduation Students(2nd and 3rd year) and 26.13% were Post Graduate Students.

Row Labels	**Count of Region**	**Percentage of Total**
B Town cities	203	70.73%
Delhi NCR	84	29.27%
Grand Total	**287**	**100.00%**
Female	169	58.89%
Male	117	40.77%
Prefer not to say	1	0.35%
Grand Total	**287**	**100.00%**
18-20	131	45.64%
21-23	130	45.30%
24-26	21	7.32%
27-29	4	1.39%
33-35	1	0.35%
Grand Total	**287**	**100.00%**
B Town cities	**203**	**70.73%**
0-1 year	11	3.83%
1-2 years	7	2.44%
More than 2 year	5	1.74%

No	180	62.72%
Delhi NCR	**84**	**29.27%**
0-1 year	13	4.53%
1-2 years	8	2.79%
More than 2 year	7	2.44%
No	56	19.51%
Grand Total	**287**	**100.00%**

To analyze the results of 5 point Likert scale,

The minimum and maximum range is calculated and then divided by 5



(Adopted from; A Study on Perception of Students' Readiness towards Online Learning During Covid-19 Pandemic **Article** · Fathiyah Mohd Kamaruzaman July 2021)

RESULTS AND FINDINGS OF THE SURVEY

Factor	**Mean Score**	**Relevance**
Ease of Use	3.44	Intermediate
Self-Motivation	3.49	Intermediate
Utility	3.43	Intermediate
Family Environment	3.26	Intermediate
Learning Environment	2.87	Intermediate
Infrastructure	3.03	Intermediate

Item	NCR mean	B town mean	AMS
EOU	3.67	3.34	3.44
MOt	3.61	3.44	3.49
Utility	3.72	3.59	3.57
F Env	3.16	3.30	3.26
L env	2.708	2.944	2.87
Infra	2.92	3.07	3.03

Utility of Online classes find maximum acceptance and positive responses from the participants as the score is on higher side of intermediate (3.57) it could be inferred that students have understood the relevance of online education to continue the education given the unprecedented lockdown situation where face to face learning was not possible. Students rated most (4.33 in NCR region and 3.99 in B Town cities) in the section to the statement that online education saved lot of time and effort (Travel and getting ready), However the statement that I could not understand the concept in online classes has the least mean score (2.87 as mean score of total population) in the segment, that could be interpreted as that students were struggling in understanding the concepts in online classes. In motivation section it was moderately high mean score (3.49 for the whole population) students had reasonably more positive attitude towards the online learning in Covid situation. However, the negative statements like students felt bored and missed the class interaction were also rated high (B town students have more agreement with getting bored with score of 3.44 in comparison to NCR Students score of (3.37), that mean the of isolation and boredom sets in the students easily in both sets of students, which a marginal improvement in NCR region where students participated in class interaction and teachers used technology to create interaction and engagements..

In family environment both segments of students agreed with the statement that it was difficult for them to remain focused, however NCR students due to engagement style of learning were marginal more focused than the B Town Cities. The students having trouble to organize their time, did not able to complete the work because of distraction, they have moderate expectation of learning performance and they need to plan their study independently. This finding is in agreement with the study by Khair Anwar et.al (2020), who mentioned that the students still need more guidance and time to adapt with online learning.

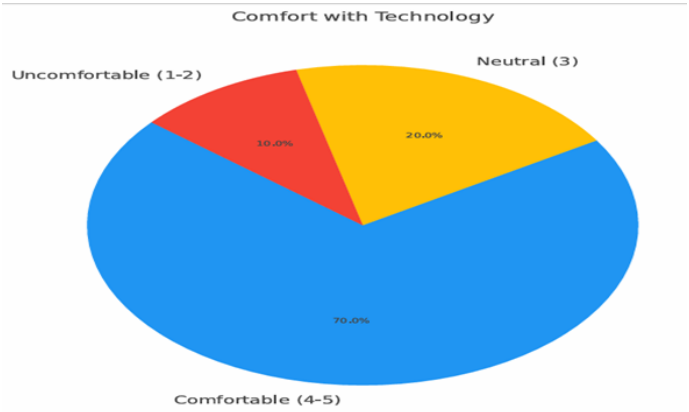
In Learning Environment Segment of Instrument where it was aimed to find out the overall class environment at online platform NCR Students had positive class /learning experience than the B Town students. B Town students were comparatively more hesitant in asking doubts, felt ignored, and missed offline classroom interactions with the teacher and peers. More surprisingly I the-given sample of students B Town students were more comfortable in using technology than NCR students. Due to overall positive learning experience students of NCR were marginally more satisfied from online learning.

In Infrastructure segment students of NCR found lesser Network issues than B Town students, and NCR students opined that their teachers were better equipped to deliver course content in online mode than the B Town Students. However, surprisingly students of B-Town students were less scared of the syllabus completion than their NCR Colleagues.

1. General Attendance and Transition to Online Learning

· **Ease of Switching to Online Mode**: Moderate (Mean = 3.17/5), suggesting **some challenges** adapting from offline to online.

· **Comfort with Technology**: High (Mean = 3.71/5), most students found it **easy to use technology** without major issues.



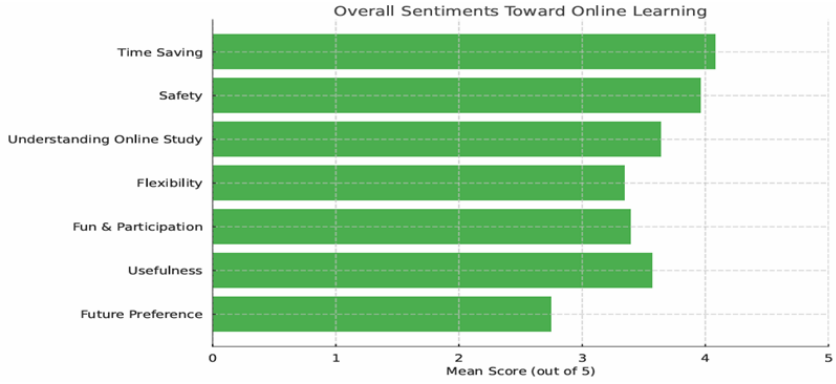
2. Perception of Online Learning

· **Understanding the Reason for Online Study**: High (Mean = 3.64/5), students were aware of the necessity (likely due to the pandemic).

· **Flexibility**: Moderately positive (Mean = 3.34/5), students valued the flexibility but not extremely strongly.

· **Fun and Participation**: Moderate (Mean = 3.39/5), participation was decent, but not enthusiastic.

· **Freedom Provided by Online Learning**: Moderate to high (Mean = 3.58/5).

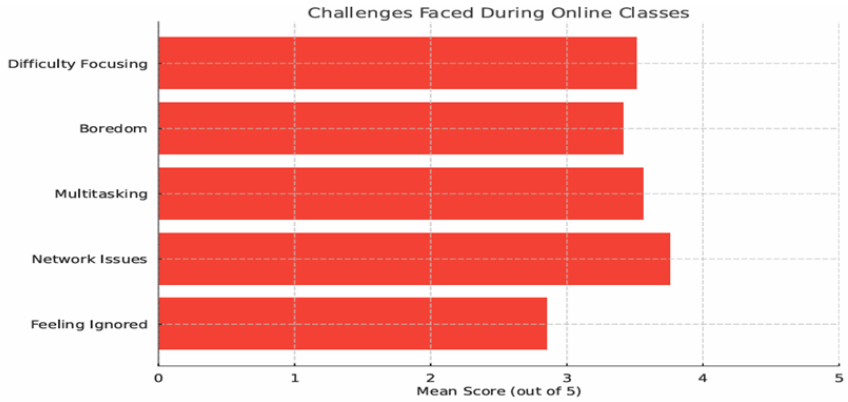


3. Benefits of Online Learning

- **Time Saving**: Very strong positive perception (Mean = 4.08/5).
- **Safety**: High agreement (Mean = 3.96/5), students felt protected during learning.
- **Usefulness**: Moderate to high (Mean = 3.57/5).

4. Challenges and Negative Aspects

- **Boredom**: Noticeable (Mean = 3.41/5), many students felt bored during online sessions.
- **Difficulty Focusing**: Fairly high (Mean = 3.51/5).
- **Distractions at Home**: High impact (Mean = 3.43/5).
- **Network Issues**: A significant challenge (Mean = 3.76/5).
- **Feeling Neglected or Ignored**: Moderate (Mean = 2.85/5).



5. Learning Outcomes

- **Knowledge and Skills Gained**: Moderate (Mean = 3.31/5).
- **Concept Clarity**: Lower (Mean = 2.95/5), students struggled sometimes to understand online lectures.
- **Future Preference for Online Learning**: Relatively low (Mean = 2.76/5), suggesting **most students prefer offline classes**.

6. Social and Psychological Impact

Lost Confidence in Social Settings: Moderate concern (Mean = 3.20/5).

Hesitation to Ask Doubts: Fair (Mean = 2.83/5).

Feeling Ignored or Isolated: Mild but notable (Mean = 2.85/5).

Statistical Observations

· **Variance**: Moderate across most variables, showing decent diversity in student opinions.

· **Skewness**: Mostly negative skewness, meaning more students selected higher ratings

· **Kurtosis**: Mixed — some responses were more flat (spread out), indicating different experiences across students

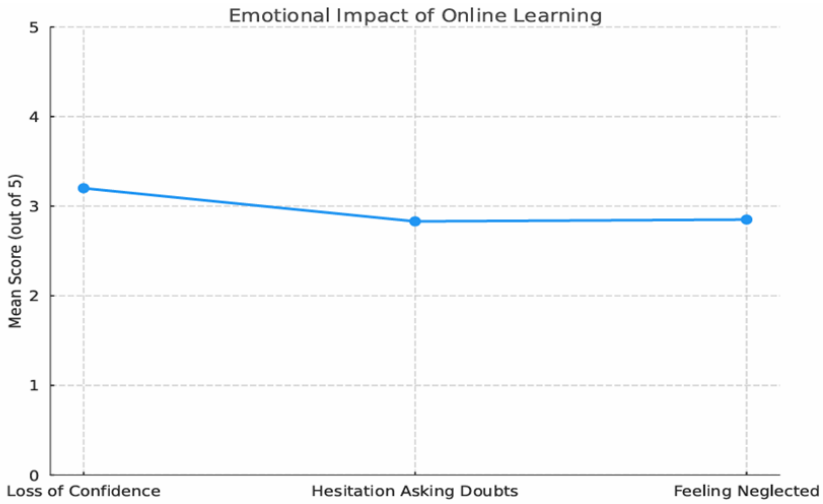
Key Takeaways

· Online learning had major benefits in terms of time saving, safety, and convenience.

· However, engagement, focus, and social interaction suffered.

· Technology wasn't a major hurdle for most, but network issues and home distractions affected learning quality.

· Students largely understood the need for online classes but showed limited preference for continuing them into the future.



LIMITATION

The methodology of this study involved survey research method online, which often includes limitations, particularly when it comes to exploring the perceptions and experiences of participants which can be subjective. While multiple approaches were used to encourage online participation among the graduation/postgraduate students of various universities, yet the response rate was relatively low.

CONCLUSION

Through the results of the study it can be easily propounded that students of NCR region were better prepared in taking the challenge of online classes, be in utility of the technology, infrastructure conditions as well as the motivation status of NCR students was found to be marginal on higher side. Students of NCR were more motivated, they took part in the class interaction on online classes more positively, had better experiences. The satisfaction level of NCR students was found to be slightly better in comparison to the B Town Cities.

In a developing country like India where problems such as like digital divide posing one of the biggest threat to the implementation of online /blended learning, as a huge percentage of learners are still suffering from scarcity of opportunity. The most vulnerable section of the learners was hit hardest by pandemic. One cannot deny the fact that a systematic integration of technology in teaching and learning in higher education through policy implementation, capacity building and the use of appropriate low-cost technologies can actually become the harbinger of change for the learners. Therefore, this study had been undertaken to know the perceptions of learners of some of the most developed parts and cities of North India, though the results did show some marginal yet significant differences in motivation, approach, pedagogy and learning environment to two targeted sections of the collected data. The divide among the NCR region and B-Cities yet the difference on all the factors was significant.

We can further research some of the remote parts of the country and conduct a comparative study in the same area in future to ascertain the perception level of learners .It is highly recommended that we come up with a comprehensive policy for online/blended learning and teaching so that a suitable road map could be prepared , and a quality online/blended learning design could be developed to help both the teachers and learners to successfully cope with any crisis situation where online learning is to be adopted to make the students future ready.

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