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Perception of E-learning among Banaras Hindu University Students: A Comprehensive Analysis

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ABSTRACT

The COVID-19 pandemic necessitated a transformation in teaching and learning methods, leading to the widespread adoption of E-learning. The study was conducted in 2021, employing a structured questionnaire and descriptive research design to analyze the perception of Banaras Hindu University Students towards E-learning. The survey included 127 respondents, with representation from the Institute of Agricultural Sciences (I.A.S.), Indian Institute of Technology (I.I.T.), Institute of Medical Sciences (I.M.S.), Institute of Management Studies (I. Mg. St.), Institute of Sciences (I.Sc.), and Institute of Environment and Sustainable Development (I.E.S.D.). This perception of students towards E-learning was measured using a 3-point continuum Likert scale consisting of 17 items. The majority of (66.92%) respondents had a favourable perception towards E-learning. Age and parent education level education had a positive and significant relationship with the perception of respondents towards E-learning. It can be concluded that the perception towards E-learning among students of six institutes of BHU is positive and this will be the most important aspect as this only affects the further acceptance or rejection of E-Learning.

INTRODUCTION

The global impact of the COVID-19 pandemic on education has been profound, affecting over 90 per cent of learners worldwide (Singh, 2021; Singh et al., 2023). Traditional learning methods became impractical, necessitating the critical adoption of online learning as an educational lifeline (Sharma & Alvi, 2021). UNESCO (2020) reported that, by June 2020, more than two-thirds (68.00%) of the global student population had experienced disruptions due to the pandemic, affecting over 1.2 billion pupils and youths in India alone (Jena, 2020a; Cathy Li & Lalani, 2020). Governments worldwide responded to the pandemic by temporarily closing educational institutions and transitioning to online learning (Jena, 2020b; Aucejo et al., 2020). This led to an enforced revolution in E-learning, with digital platforms facilitating remote education, particularly in developing nations, and lectures transitioning to an online mode (Shelar et al., 2020; Kumari et al., 2023). E-learning emerged as a potent tool for disseminating knowledge and information, experiencing a significant surge in popularity (Shaik et al., 2010). Information and communication technologies (ICTs) played a pivotal role in this shift, serving as tools for seamless information transmission (Rai et al., 2014; Panda & Garg, 2019; Nain et al., 2019; Shukla et al., 2022; Sondarva et al., 2023; Dhaka & Chayal, 2010). The term “ICT” encompasses a wide range of services, applications, and technologies, utilizing various equipment and software, often operating over telecommunications networks (De and Jirli, 2010; Shanmuka et al., 2022; Mukherjee et al., 2023). The rapid expansion of mobile phones and internet access in India further propelled the influence of ICT in all aspects of life (Patel et al., 2020; Sajeev, 2023; Kumar et al., 2023; Buruah

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et al., 2023). The integration of ICT in education enhances information dissemination and teaching methods, leading to improved student learning outcomes (Kumar et al., 2019; Shilpa et al., 2022). Distance learning for higher education in India had its origins in Correspondence Courses in 1962, followed by the establishment of the Delhi University's School of Correspondence Courses and Continuing Education (Panda & Garg, 2019). However, India's extensive higher education system, primarily delivered through traditional universities, faced inherent limitations, including accessibility issues and the inability to reach a large number of students simultaneously. This prompted the need for cost-effective and high-quality alternatives, especially in regions with limited educational access. The integration of E-learning with traditional and other learning methods has become imperative for reaching all areas and ensuring the acquisition of technological, social, and interpersonal skills. Understanding students' perception of E-learning has become a crucial aspect of successful implementation, prompting investigations into their attitudes (Singh, 2022; Singh, 2023). Perception is the cognitive process encompassing one's thoughts and conceptualization of something, shaped by sensory observations such as sight and hearing. It involves the innate capacity to swiftly comprehend and notice details, forming the foundation for understanding and interpretation (Qiong, 2017).

METHODOLOGY

The study was carried out in 2021 in six institutes at Banaras Hindu University: the Institute of Agricultural Sciences, Indian Institute of Technology, Institute of Medical Sciences, Institute of Management Studies, Institute of Sciences, and Institute of Environment and Sustainable Development. The study employed a descriptive survey research design. A total of 127 respondents were selected randomly from the Institute of Agricultural Sciences, Indian Institute of Technology, Institute of Medical Sciences, Institute of Management Studies, Institute of Sciences, and Institute of Environment and Sustainable Development. Socio-personal variables viz., age, gender, education, experience, Institutes, Medium of Education, parents' education, Annual income of parents, computer-related courses, E-learning infrastructure availability, Usage of the internet by the respondents and Usage pattern of e-learning resources were the independent variables of the study. The perception of respondents towards E-learning was considered a dependent variable. Collected data were analyzed with the help of percentage, frequency, mean and standard deviation, as well as relational statistics like correlation analysis. The respondents indicated their agreement or disagreement and the scores were given accordingly agree- 3, can't say- 2 and disagree-1in case of positive statements while reverse scores were given for negative statements in which agree- 1, can't say- 2 and disagree-3. The maximum score assigned was 3 and the minimum score assigned was 1. The respondents had given their level of agreement and disagreement on 17 statements. The questions were framed to assess the perception of students of Banaras Hindu University regarding E- learning. Based on their scores, mean and standard deviation was calculated and accordingly the respondent's perceptions toward E- learning were categorized into unfavourable, favourable and highly favourable.

RESULTS

Perception towards E-learning

Out of the 127 respondents, Table 1 indicates that a significant portion of the respondents, specifically 66.92 per cent, demonstrated a favourable perception towards E-learning. Approximately 17.32 per cent of the respondents exhibited an unfavourable perception, while 15.74 per cent displayed a high level of perception towards E-learning. The study conducted to gauge the perception of respondents towards E-learning revealed positive findings.

Table 1. Distribution of respondents based on their overall perception towards E-learning

Category	Strata	Percentage
Unfavourable	Upto 32	17.32
Favourable	33 to 45	66.92
Highly Favourable	Above45	15.74

(Mean 38.55, SD 6.54)

Correlation between independent variables with perception of students towards E-learning

Based on the information presented in the Table 2, it was observed that both age and the educational level of parents exhibited a statistically significant and negative association with the perception of E-learning among Banaras Hindu University students at a 5 per cent level of significance. However, it is noteworthy that other variables did not show a significant relationship with the perception of E-learning among the students of Banaras Hindu University.

Table 2. Correlation analysis between independent variables with perception of students towards E-learning

Independent variable	R value	P value
Age	-0.223*	0.012
Gender	0.100	0.263
Education level	0.134	0.133
Education medium of 10th class	0.024	0.785
Parents education level	-0.176*	0.048
Parents' income	-0.065	0.470
Computer-related courses	-0.102	0.256
Time spent on internet per day	-0.138	0.121
E-learning infrastructure availability	0.052	0.565
Usage pattern of e-learning resources	0.030	0.735

*Significant at 0.05 level of probability

DISCUSSION

A significant majority, comprising 66.92 per cent, exhibited a favorable perception towards E-learning. This suggests that the majority of the participants held a positive view of E-learning as an educational approach. Furthermore, it is worth noting that about 17.32 per cent of the respondents held an unfavorable perception towards E-learning, reflecting a portion of the population that may have reservations or concerns about this method. However, 15.74 per cent of the respondents displayed a highly favorable

perception towards E-learning, indicating an even stronger inclination towards this mode of education. The results of this study align with prior research, such as the study conducted by Nirmalkar et al., (2022) where it was revealed that the majority of respondents (85.18%) exhibited a medium level of attitude towards the use of Information and Communication Technologies (ICTs) in their work. This indicates a moderate acceptance and willingness to use Information and Communication Technologies (ICTs) among fisheries extension professionals. It's noteworthy that higher educational attainment among respondents appeared to contribute positively to their attitudes toward emerging technologies. However, only 13.10 per cent of the respondents displayed a high level of attitude towards ICT tools. This suggests room for improvement in fostering a more positive attitude and enthusiasm for the use of ICT tools in fisheries extension activities. In light of these findings, it is evident that a significant portion of both students and professionals maintain a favorable or moderate perception of E-learning and ICT tools, respectively. However, there is room for growth and transformation in attitudes, especially towards achieving a higher level of acceptance and enthusiasm for these technologies. While a contrast results were found by Brumini et al., (2013) in Croatia in which the average score for positive attitude towards e-learning was determined to be 42±6, suggesting a highly positive attitude implying that a substantial portion of the respondents expressed a strong inclination towards e-learning as an educational approach. Conversely, the average score for negative attitude was 27±6, indicating a slightly negative attitude towards e-learning. It is essential to delve deeper into understanding the factors contributing to this slight negativity, such as potential challenges, preferences, or specific issues associated with the adoption of e-learning. While the majority of participants exhibited a highly positive attitude towards e-learning, acknowledging and addressing the concerns of those with a slightly negative attitude is essential for the successful implementation and acceptance of e-learning initiatives. This nuanced perspective underscores the importance of considering individual differences and tailoring educational strategies to accommodate a diverse range of attitudes and preferences towards e-learning.

The correlation analysis conducted in this study aimed to examine the relationship between independent variables and the perception of students towards E-learning. The findings revealed that age and parents' education level exhibited a significant negative association with students' perception towards E-learning at a 5 per cent level of significance. However, the analysis did not identify any significant relationships between other variables and students' perception towards E-learning among the students of Banaras Hindu University. The negative and significant association found between age and students' perception towards E-learning suggests that as students' age increases, their perception towards E-learning tends to become less favorable. This finding may be attributed to various factors, such as generational differences in technology adoption and adaptability. Younger students may be more accustomed to digital learning methods and thus have a more positive perception of E-learning compared to older students. There are numerous other factors at play, including socioeconomic status, educational background, access to technology, individual learning styles, and cultural influences, among others. It is essential to consider a more nuanced understanding of these factors when examining perceptions of E-learning across different age groups. Furthermore, the negative correlation between parents' education level and students' perception towards E-learning implies that students whose parents have lower levels of education may have a more favorable perception of E-learning. This result is somewhat counterintuitive, as one might expect that higher parental education would positively influence students' perception of technology-assisted learning. However, it's important to consider that various socio-cultural factors and individual experiences may influence this relationship. The results were different with the findings from Nirmalkar et al., (2022) study on fisheries extension professionals in Tripura revealed a negative correlation between age and education and attitude towards Information and Communication Technology (ICT) tools at 1 per cent and 5 per cent level of significance. This similarity in results suggests that in both student and professional populations, older individuals tend to exhibit a less favorable attitude towards technology-based tools, including E-learning and ICTs. On the other hand, the result from Shashidhara (2020) study on the use of ICTs by extension personnel in disseminating agricultural information in North Eastern Karnataka showed a positive and significant correlation between the extent of ICT tool usage and the availability of ICT services. This indicates that in the context of agricultural extension, greater access to ICT services leads to increased utilization of ICT tools among extension personnel. This result underscores the importance of infrastructure and access in facilitating the adoption of technology for information dissemination in specific professional domains. The correlation analysis in this study highlights the influence of age and parental education level on students' perception towards E-learning, with both factors showing a negative and significant association. These findings underscore the need for tailored approaches to enhance the acceptance and effectiveness of E-learning, particularly among older students and those with parents of lower educational backgrounds. Moreover, the contrasting results from related studies emphasize the importance of considering specific contexts and populations when analyzing the relationship between independent variables and attitudes towards technology adoption and utilization.

CONCLUSION

This study delved into the perception of Banaras Hindu University students towards E-learning amid the transformative impact of the COVID-19 pandemic on education. The findings, based on a survey of 127 respondents from six diverse institutes, revealed a prevailing positive perception (66.92%) towards E-learning, with 15.74 per cent displaying a highly favorable attitude. However, 17.32 per cent exhibited unfavorable perceptions, underscoring the need for nuanced approaches to address concerns. Correlation analysis unveiled that age and parents' education level significantly influenced students' perceptions, emphasizing the importance of tailoring strategies for diverse demographic groups. The study echoes broader global trends in the educational shift induced by the pandemic, highlighting E-learning as a potent tool with substantial acceptance. As educational institutions continue navigating this evolving landscape, understanding and addressing

varied perceptions among students become pivotal for successful E-learning integration and sustainable educational development.

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