

# Use of Technology for Higher Education among Undergraduate Students in Rishikesh

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## ABSTRACT

The internet revolution, globalization, and digitization have expanded education beyond traditional classroom settings to include online resources, virtual classrooms, and digital platforms. Present study is focused on status, impact and challenges of using technology based education. It is based on the assessment of influence of technology in academic activities, learning effectiveness, and student participation, as well as to identify related barriers. A questionnaire encompassing demographic information, access to digital resources, frequency of technology use, academic applications, perceived learning impact, and challenges faced was given to respondents in person in order to gather data. The results show that technology significantly contributes to the effectiveness, engagement, flexibility, and student-focused actions in higher education. Online lectures, e-books, instructional videos, and digital libraries are examples of digital resources that facilitate self-directed learning, enhance comprehension, and increase access to education outside of the classroom. However, distraction, health concerns, unequal access to technology related devices, limited faculty readiness, and concerns about the ethical application of AI are among the difficulties that the study also identifies. The findings demonstrate that although students value technology, they do not see it as a teacher substitute. Rather, the most successful strategy appears to be blended learning, which combines traditional education with digital resources. The study concludes that when technology is used wisely, backed by sufficient training, and balanced with human guidance, it may significantly improve learning in higher education.

**Keywords:** Online learning, Digital resources, Higher education, Blended learning

## Introduction

The current era is defined by Information and Communication Technology (ICT), witnessing profound changes in the traditional forms of knowledge, information, and education. Globalization, digitalization, and the internet revolution have transcended the confines of the physical classroom, extending education to digital platforms, virtual classrooms, and online resources. Particularly in higher education, the integration of technology is making the teaching-learning process more effective, engaging, and student-centric. Today, students are not limited to textbooks; instead, they acquire knowledge through e-books, online lectures, educational videos, digital libraries, virtual labs, and mobile applications.

In India, the New Education Policy (NEP-2020) has also emphasized the critical importance of integrating technology into education. The policy advocates for the promotion of digital learning, e-

content, online courses, virtual classrooms, and blended learning. Consequently, there has been a rapid increase in the use of smart classrooms, projector-based teaching, Learning Management Systems (LMS), Google Classroom, MOOCs (Massive Open Online Courses), and educational portals within higher education institutions. This shift became particularly evident following the COVID-19 pandemic, when education became entirely dependent on online mediums. This situation motivated not only teachers but also students to become technologically proficient (Ali, 2025; Kiran and Baidya, 2025).

Education in present times has changed as a result of technology and is impossible to overlook in educational settings. With the emergence of computers in education, it has become simpler for instructors to impart knowledge and for learners to acquire it. The use of technology has greatly improved the teaching and learning process (Mishra and Rohra, 2025).

A study done by Seth *et al.*, 2024 suggest that technology has a positive impact on the teaching-learning environment. The interactivity and flexibility of digital learning tools is appreciated by the students as well as the teachers. But with the advancement in technology several challenges like student participation, faculty readiness, digital divide and ethical use of AI also emerge which need to be deal with.

### **Literature Review**

A study done by Kiran and Baidya, 2025 showed that COVID-19 pandemic has sped up India's shift to digital online learning. Digital means of learning presents more accessible and adaptable education in the modern era. In order to improve educational quality, India's National Education Policy (NEP) 2020 promotes the use of blended learning (BL) approaches, which integrate traditional classroom instruction with online learning, digital resources, and technology-enabled educational systems (Ali, 2025).

From a historical outlook, the foundation of online and digital education was laid by India's entry into open and distance learning. Government programs like the SWAYAM platform and the National Mission on Education via Information and Communication Technology (NMEICT) provide a basic infrastructure supporting the digital learning. In today's learning, online and digital education play a demanding and revolutionary role. On the one hand, it offers a more learner-centered, adaptable, and accessible educational system that can meet the varied demands of India's populace. While on the other hand, it provides significant challenges in terms of infrastructure, teacher readiness, equity, inclusion, and quality control (Dubey, 2024). Similar findings were found by Madhur *et al.*, 2024 where it was found that many factors like enhanced participation, personalized learning, access to resources and shared learning determine the impact of smart classrooms in teaching learning effectiveness in higher education. Study done by Mishra and Yadav (2020) investigated how digital infrastructure affected academic results in Indian higher education. The results showed that access to technology-enabled learning settings varied significantly, with urban institutions having greater infrastructure than their rural counterparts. The study emphasized the necessity of focused initiatives to close gaps by highlighting the crucial role that digital infrastructure plays in influencing educational opportunities and results.

Meeramani N. *et al.*, 2023 suggested that the information in digital form helps students access the desired information quickly regardless of their location. The findings of study also showed that students can use digital resources to advance their education and take advantage of career building opportunities.

Zare *et al.*, 2016 suggested that the knowledge, creativity, flexibility and elaboration of students in higher education institutes can be improved using self-directed e-learning methods.

Anikpo, 2018 studied the awareness and utilization of mobile learning devices among undergraduate students. The study concluded that awareness and knowledge of digital devices among students and teachers could greatly improve the academic learning. The study suggested that students are not aware about many things that the mobile devices possess, knowledge of which can highly improve their academic learning.

### **Research Methodology**

The present study was descriptive in nature and the survey method was used for collection of desired information. The objective of the study was to present a reasonable picture of the current status, impact, and associated challenges regarding the use of technology in higher education. Data for the study was collected based on the experiences, behaviors, and opinions of the students. Information was gathered directly from the students through interview schedule developed by the researcher and the information was collected by personal interaction with the respondents for better understanding of student's views, habits, and behaviors. This study focuses on first-year students of Bachelor of Arts programme at Pandit Lalit Mohan Sharma Post Graduate College, Rishikesh. A total of 50 students were selected for this study, comprising 25 male and 25 female students. The simple random sampling method was employed for sample selection to ensure equal opportunity for all students and to enhance the reliability of the findings. The collected data were analyzed using mean and percentage.

### **Results and Discussion**

The information was collected from respondents through a questionnaire schedule via personal meeting. The questionnaire was divided in two sections. The first section was intended to collect general information like name, gender, age and availability of digital resources with them while the questions in the second section focused on the usage of technology for academic purpose by the students. This section focused on the frequency of use of technology in studies, use in academic activities, impact on studies and problems & obstacles.

Following results were obtained after the study:

All the respondents were in the age group of 17 to 19 years which indicates that the students are in the early transitional phase of higher education, a period when habits regarding technology usage are generally formed.

Regarding the availability of personal digital devices, 16% respondents have laptops while most of the students (62%) possess mobile phones of which 56% of them have regular and 34% have occasional access to internet. This makes it clear that mobile-based learning material will prove to be more useful to them. While for the remaining students offline print material is appropriate.

All the students use some kind of digital mean for their study. The frequency varies from everyday (40%), 3-4 times in a week (36%) and occasionally (24%). This shows that the acceptance of technology in education is clearly evident. The technology in learning is primarily used for searching notes, video lectures, making assignments and presentations by the students.

The results also showed that there was a positive impact of technology on study interest among students. The interest increased for 82% of students which clearly states that technology makes learning engaging. Use of technology in learning helps in better understanding and concept clarity. 46% of students told that they have more clarity of the topics with use of technology and 38% said that the impact of

technology in learning generally helps them however 16% said that they don't see any difference in learning. This shows that digital content simplifies complex topics.

Regarding the information on type of learning platforms they are using, the study showed that students had knowledge about MOOCs (Massive Open Online Courses) and LMS (Learning Management System) and they often use them for academic purposes. 64% of them had the knowledge about use of video conferencing, AI and other related technologies in virtual classrooms. Students were using different online learning platforms like E-Pathshala, Khan Academy and others like Vedantu, Unacademy, SWAYAM etc. 66% of the respondents take online classes for difficult subjects like mathematics and science related subjects and found them easy and informative. 82% of the students use YouTube platform for video lectures while 8% use Zoom/Google meet, 6% Microsoft Teams and 4% Udemy/Coursera. This indicates that students are informed about different learning platforms and use them as per their convenience.

Regarding the benefits of digital learning, 64% of the students believe that technology in learning like online study material and virtual classrooms have many benefits such as flexibility and self-paced learning, convenience and accessibility, improved understanding and retention, better revision opportunities, time savings and cost-effectiveness which shows that use of technology (such as phones) allows them to easily access notes and revisit lessons as often as needed and helps them in their academic practices.

58% of respondents cite key benefits of online learning such as increased interest in studies, saving of time, the ability to study from anywhere at any time, flexibility, and the availability of diverse options to study. It is evident that the majorities of respondents recognize numerous advantages to online learning and have shown a keen interest in it.

While 32% of respondents cite ease of search as a benefit of digital notes, the majority (52%) highlight a range of advantages, including easy searchability, multimedia integration, simple organization, sharing and collaboration capabilities, eco-friendliness, and enhanced productivity. This indicates that students find digital notes both accessible and convenient. Regarding e-learning, 84% of the respondents believe it promotes self-reliance. This suggests that e-learning is fostering greater independence among higher education students, enabling them to manage their notes, classes, and studies autonomously via their phones without having to rely on others.

### **Findings regarding negative impact of technology**

Information regarding negative impact of technology in learning was also collected through questionnaire. Following results were obtained:

Results indicate that the excessive use of technology is having some form of adverse effect on students. Eye strain is the most commonly reported issue (62%) resulting from excessive technology use. Meanwhile, other issues such as decline in physical strength and thinking ability, a gradual loss of memory and mental stress were also reported.

In addition to these, other adverse effects have also been observed in students. 22% of respondents state that excessive use of technology leads to a decline in social skills, while another 22% indicate it results in a lack of self-confidence. Poor time management, effect on language development, decline in the interest in studies were other reported issues. This demonstrates that technology can be both beneficial and detrimental, giving rise to these various concerning issues.

Another issue that comes with the use of technology in study is that approximate 78% of the responder said that apart from educational purposes, they also use their phones for social media, communication, entertainment, and gaming which indicate that use of technology can also have a negative impact on studies.

### **Conclusion**

Based on the present study, it is concluded that modern technology plays a significant role in making the higher education more effective, engaging, and flexible. The use of digital resources positively influences student's learning pace, comprehension, and participation. The widespread availability of smartphones and internet facility has made education accessible beyond the confines of the classroom. This has fostered a habit of self-study and made the acquisition of knowledge more independent and extensive. Digital videos, online notes, and e-content have helped simplify complex subjects. While on the other hand it was also found that students do not favor fully online education; they consider the direct role of the teacher essential in education. Therefore, a combination of traditional and technology-based instruction; known as "blended learning" has proven to be the most effective approach for higher education. This enables students to receive personalized guidance while also benefiting from modern resources.

However, certain negative aspects of technology usage have also emerged, such as distractions, negative impact on health and unequal access to devices. Therefore, it is essential that technology be used in a controlled and purposeful manner and that student be made aware of the importance of digital discipline. Ultimately, the future of higher education lies in technology-integrated teaching. If educational institutions provide appropriate training, resources, and guidance, technology can significantly enhance the quality, accessibility, and effectiveness of education. Thus, technology proves to be a mean of making education more robust and modern; acting not as a substitute for the teacher, but as a valuable aid.

### **Some suggestions for students regarding technology in higher education:**

Students of higher education should utilize technology as a tool for learning and skill acquisition, rather than merely for entertainment. They should enhance their knowledge through reliable online resources while effectively managing their time. It is important to maintain a balance regarding screen time and remain vigilant about cyber security. Technology should be leveraged to foster creativity and facilitate research. Furthermore, students should be encouraged to improve their digital literacy, conduct online research, and acquire knowledge from authentic sources such as e-libraries and educational apps. Maintaining a balanced approach to screen time and staying aware of cyber security best practices is also strongly recommended.

### **References**

1. Ali, S. (2025). National Education Policy (NEP) 2020 and Blended Learning. *Journal of Emerging Technologies and Innovative Research*, 12(10): 80-84.
2. Anikpo F.O. (2018). Awareness and Utilization of Mobile Learning Devices among Undergraduate Students. *International Journal of Multidisciplinary Research and Development*, 5(4): 262-267.
3. Dubey, R. (2024). The role of online and digital education in the National Education Policy (NEP) 2020. *IOSR Journal of Humanities and Social Science*, 29(7) Series 1: 80-85.

4. Kiran, C.R. and Baidya, S.M. (2025). Digital learning and NEP 2020: Integrating technology in Indian classrooms. *International Journal of Science, Engineering and Advance Technology*, 13(2): 79-82.
5. Madhur, P.; Desale, G.B.; Annam, V. and Sharma, C.S. (2024). Impact of Smart Classrooms in Teaching Learning Effectiveness in Higher Education: A Quantitative Investigation. *Journal of Informatics Education and Research*, 4(2): 216-223.
6. Meeramani, N.; Lakshmi, K.V.N.; Swapna H. R.; Gururaj F. Duragannavar and Sharmila N. (2023). Impact of Digital Library Resources on Higher Education Student Development. *Journal of Survey in Fisheries Sciences*, 10(3S): 5766-5772.
7. Mishra, P. and Rohra, S. (2025). A Study on use of Technology in Higher Education. *International Scientific Journal of Engineering and Management*, 4(6): 1-10.
8. Mishra, S., & Yadav, S. (2020). Digital infrastructure and educational outcomes: A Study of Indian Higher Education Institutions. *International Journal of Educational Development*, 76, 102080. [DOI: 10.1016/j.ijedudev.2020.102080]
9. Seth, S.; Sharma, S.; Lowe, D. and Galhotra, B. (2024). Technological Integration in Higher Education: Insights from the Indian Context. *Journal of Informatics Education and Research*, 4(2): 2654-2657.
10. Zare, M.; Sarikhani, R.; Salari, M. and Mansouri, V. (2016). The Impact of E-Learning on University Students' Academic Achievement and Creativity. *Journal of Technical Education and Training*, 8(1): 25-33.