

Exploring the Adoption and Utilisation of Digital Tools and Online Learning Platforms among Higher Education Students.

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Abstract

The rapid integration of digital technologies into higher education has transformed the learning environment, making digital tools and online learning platforms essential components of academic engagement. This study aims to explore the use of digital tools and online learning platforms among higher education students and examine their role in supporting academic activities. The study employs a convenience sampling technique to select respondents from various higher education institutions. The findings reveal that students extensively utilize a wide range of digital tools and online learning platforms for academic communication, content access, assignment submission, collaborative learning, and examination preparation. The study further indicates that the increasing reliance on digital technologies has enhanced students' accessibility to educational resources, learning flexibility, and overall academic engagement.

Keywords: Digital Tools, Online Learning Platforms, Higher Education Students, Digital Learning, Technology Adoption, E-Learning and Academic Engagement.

1. Introduction

The increasing integration of digital technologies in higher education has significantly transformed the way students access, process, and share knowledge. Digital tools and online learning platforms have become essential components of the educational ecosystem, enabling students to engage in collaborative learning, access educational resources, attend virtual classes, and complete academic tasks efficiently. The widespread adoption of platforms such as Learning Management Systems (LMS), video conferencing applications, digital libraries, and educational websites has enhanced the flexibility and accessibility of learning. Understanding the extent to which students utilize these digital tools and platforms is crucial for improving digital learning experiences and ensuring effective technology integration in higher education. Therefore, this study explores the use of digital tools and online learning platforms among students and examines their role in supporting academic activities and learning outcomes.

2. Review of Literature

The rapid adoption of digital technologies in education has significantly transformed teaching and learning processes, particularly in higher education. Several studies have examined the effectiveness, challenges and implications of online learning environments.



International Journal of Technology and Emerging Research (IJTER)

Volume 2 | Issue 6 | 2026 | Article ID: 2126-0625-6753 | <https://doi.org/10.64823/ijter.2606018>

IORO Publications · Texas, USA · www.ioro.org

Dhawan (2020) The study emphasized that online learning platforms ensured educational continuity and provided flexibility, accessibility and opportunities for innovative teaching practices. However, challenges such as technological barriers, limited interaction and issues related to assessment and engagement were also identified.

Haleem et al. (2022) reviewed the role of digital technologies in education and found that technological tools such as artificial intelligence, cloud computing, virtual classrooms and learning management systems have enhanced educational accessibility and efficiency.

Muthuprasad et al. (2021) investigated Indian students' perceptions and preferences regarding online education during the COVID-19 pandemic. The findings revealed that students appreciated the flexibility and convenience of online learning.

Nambiar (2020) explored both students' and teachers' perspectives on online learning during the pandemic. The study found that while online education provided continuity in academic activities, participants experienced challenges such as technological difficulties, reduced student engagement and limited opportunities for collaborative learning.

Pokhrel and Chhetri (2021) conducted a comprehensive review of the impact of the COVID-19 pandemic on teaching and learning. Their analysis revealed that educational institutions worldwide rapidly transitioned to online learning environments.

Rapanta et al. (2021) examined online university teaching during and after the COVID-19 crisis. The authors emphasized the importance of teacher presence, effective communication, and well-designed learning activities in enhancing student engagement in virtual classrooms.

Scherer et al. (2021) focused on teachers' readiness for online teaching and learning in higher education. The findings indicated that educators' technological competence, pedagogical knowledge and attitudes toward digital technologies significantly influence the effectiveness of online instruction.

Singh and Thurman (2019) conducted a systematic review to clarify the concept of online learning. The study identified multiple definitions and dimensions of online learning, including technology-mediated instruction, distance education, and virtual learning environments.

Teng and Wang (2023) reviewed the relationship between digital learning technologies and student engagement in higher education. The study found that digital tools positively influence cognitive, emotional and behavioural engagement when effectively integrated into instructional practices.

3. Objectives of the Study

- To identify the digital tools and online learning platforms most commonly used by higher education students for academic purposes.
- To examine the usage patterns and academic significance of digital tools and online learning platforms among higher education students.

4. Research Methodology

The study adopts a descriptive research design to examine the adoption and utilization of digital tools and online learning platforms among higher education students. Primary data were collected from 564 respondents through a structured questionnaire. Secondary data were obtained from books, journals,

research articles, conference proceedings, government reports, and online databases. A convenience sampling technique was employed to select respondents from various higher education institutions in Coimbatore District. The collected data were analyzed using percentage analysis, mean score analysis, and ranking techniques to identify students' preferences and usage patterns regarding digital learning technologies.

5. Results and Discussion

5.1-Digital Tools and Online Learning Platforms Commonly Used by Students for Academic Purposes.

Table no:1 Descriptive Statistics-Mean Rank					
	N	Minimum	Maximum	Mean	Std. Deviation
Google Search	564	0	1	.66	.475
Google Classroom	564	0	1	.57	.496
Zoom / Google Meet	564	0	1	.23	.420
SWAYAM / NPTEL	564	0	1	.63	.482
Online libraries / e-journals	564	0	1	.15	.358
You tube	564	0	1	.38	.486
AI Chat Bot	564	0	1	.38	.486
Valid N (listwise)	564				

Table no.1 shows the descriptive statistics were computed to identify the extent of usage of various digital learning platforms among the respondents. Since the variables are coded as binary responses (0 = No, 1 = Yes), the mean values represent the proportion of respondents using each platform.

Digital Learning Platform	Mean	Std. Deviation	Rank
Google Search	0.66	0.475	1
SWAYAM / NPTEL	0.63	0.482	2
Google Classroom	0.57	0.496	3
YouTube	0.38	0.486	4*
AI Chat Bot	0.38	0.486	4*
Zoom / Google Meet	0.23	0.420	6
Online Libraries / E-Journals	0.15	0.358	7

*Tie rank

6. Discussion

The results indicate that Google Search emerged as the most frequently used digital learning platform among the respondents, with the highest mean score of 0.66, suggesting that approximately 66% of the respondents utilize Google Search for educational purposes. SWAYAM/NPTEL secured the second position with a mean value of 0.63, highlighting the growing acceptance of government-sponsored online learning platforms.

Google Classroom ranked third with a mean score of 0.57, reflecting its widespread adoption for academic communication and course management. Both YouTube and AI Chat Bots recorded identical mean values (0.38), indicating a moderate level of usage among respondents for learning and information-seeking activities.

Zoom/Google Meet obtained a mean score of 0.23, indicating comparatively lower usage among respondents. This may be attributed to the gradual transition from fully online learning environments to blended and face-to-face modes of instruction.

Online Libraries and E-Journals recorded the lowest mean score (0.15), indicating that only a small proportion of respondents regularly access scholarly digital resources. The mean rank analysis indicates that students

predominantly rely on easily accessible digital learning resources for academic purposes. Google Search, SWAYAM/NPTEL, and Google Classroom emerged as the most preferred platforms, reflecting their importance in information retrieval, online learning, and academic communication. The moderate use of YouTube and AI chatbots demonstrates a growing inclination toward self-directed and technology-assisted learning. However, the comparatively low utilization of online libraries and e-journals suggests the need for greater awareness and training regarding scholarly digital resources.

Conclusion

The study concludes that digital tools and online learning platforms have become integral components of contemporary higher education. Google Search, SWAYAM/NPTEL, and Google Classroom emerged as the most widely utilized platforms among students for academic purposes. The increasing use of AI chatbots and multimedia learning resources reflects evolving digital learning preferences among students. However, the limited use of online libraries and e-journals highlights the need for higher education institutions to strengthen awareness and training initiatives related to scholarly digital resources. Enhancing students' digital competencies and promoting effective utilization of academic technologies can contribute significantly to improving learning outcomes and academic engagement.

Acknowledgement

This Research Paper has been published using the Seed Money Grant provided by NGM College, Pollachi

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