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Awareness of Digital India Initiatives among Higher Education Students: A Study of North 24 Parganas District

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Abstract
*Digital technologies are rapidly transforming the global educational landscape, enabling inclusive, flexible, and technology-driven learning environments. In India, the **Digital India Initiative**, launched by the Government of India in 2015, aims to empower citizens through digital connectivity and integrate technology across various sectors, including education. To strengthen digital proficiency and bridge the educational divide, several national e-learning platforms—such as **SWAYAM**, **DIKSHA**, **e-PG Pathshala**, and the **National Digital Library (NDL)**—have been introduced to enhance access to quality resources and promote self-paced learning.*
*The present study seeks to examine the **awareness of Digital India initiatives among higher education students** in the **North 24 Parganas District of West Bengal**. A **quantitative survey method** was employed, involving **200 students** from both government and private colleges, representing urban and rural areas. A self-constructed **Digital Initiatives Awareness Test (DIAT)** was used to assess students' familiarity with digital learning platforms and government educational schemes. The findings revealed significant differences in awareness based on **gender, course type, and institutional locality**. Female students showed higher awareness levels than male students, professional course students exhibited greater familiarity than those in traditional courses, and rural students demonstrated slightly higher awareness than their urban counterparts.*
*The study highlights the urgent need to enhance **digital literacy and sensitization programs** in higher education to ensure equitable participation in India's digital transformation. Consistent with the **National Education Policy (NEP) 2020**, the findings emphasize the transformative potential of **AI-based pedagogy, online learning platforms, and 21st-century digital competencies** in reshaping higher education.*
Keywords: *Digital India, Higher Education, Awareness, SWAYAM, DIKSHA, Digital Literacy, Online Learning*

Introduction

The **Government of India** launched the **Digital India Programme** in 2015 with the vision of transforming the nation into a **knowledge-based economy** and a **digitally empowered society** (Government of India, 2015). Among its seven pillars, one of the most crucial is the integration of technology into education to promote equitable access, digital inclusion, and lifelong learning. Through online learning platforms, digital literacy initiatives, and ICT-enabled pedagogical tools, the program aims to modernize the traditional educational system and make learning more flexible, student-centered, and inclusive.

In the higher education sector, the influence of digitalization has been particularly significant. Platforms such as **SWAYAM**, **DIKSHA**, **e-PG Pathshala**, and the **National Digital Library of India (NDLI)** have opened new pathways for students and teachers to access quality educational content, collaborate virtually, and engage in self-paced learning. These digital initiatives are designed to democratize education, ensuring that students across diverse socio-economic and geographic backgrounds can benefit equally. However, the **effectiveness** of these programs largely depends on the **awareness, accessibility, and digital competence** of the users—particularly students, who are the primary beneficiaries.

To understand how digital innovations gain acceptance and use among students, this study is grounded in **Rogers' Diffusion of Innovations Theory (2003)**. Rogers posits that the adoption of any new technology or innovation occurs through five stages—**awareness**, **interest**, **evaluation**, **trial**, and **adoption**. The initial stage of **awareness** plays a decisive role in determining whether individuals will engage with or reject a technological innovation. In the context of higher education, awareness of digital platforms is the foundation upon which meaningful usage and adoption depend. Therefore, assessing students' awareness of government-led digital initiatives such as SWAYAM, DIKSHA, e-PG Pathshala, and NDLI becomes essential for understanding how far these efforts have penetrated the educational system.

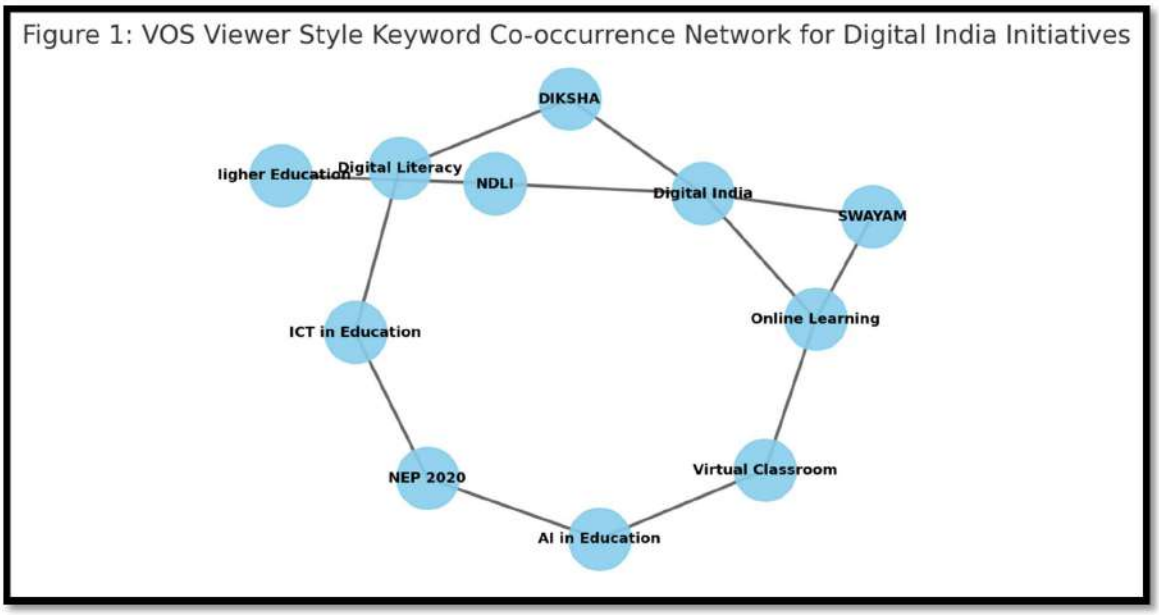
Despite the availability of these platforms, research indicates that a substantial number of students remain **unaware** of their existence or **unable to use them effectively**. Factors such as inadequate digital infrastructure, limited institutional support, lack of proper training, and insufficient digital literacy continue to restrict full participation. Moreover, the **digital divide** between urban and rural learners remains a persistent challenge,

leading to disparities in awareness and engagement with digital resources. While urban institutions often have superior access to technology, rural students are sometimes more proactive in utilizing government-provided digital resources due to targeted outreach campaigns and community initiatives.

Digital reforms have undoubtedly transformed India's educational and social landscape. They have also shifted the focus of learning from teacher-centered instruction to **learner autonomy**, self-learning, and collaborative engagement. However, for these reforms to achieve their intended impact, academic proficiency must go hand in hand with technological readiness. Recognizing this interdependence, the **Government of India's 2017 Budget Speech** emphasized the importance of leveraging information technology to improve the quality of higher education and strengthen digital infrastructure across institutions.

Yet, the overall success of Digital India's educational initiatives ultimately rests on how well both **students and teachers understand, adopt, and sustain** the use of digital tools. As Rogers' theoretical model suggests, **lack of awareness** remains one of the most critical barriers to innovation adoption. Therefore, systematic **training programs, digital sensitization workshops, and continuous professional development** are essential to cultivate balanced digital capabilities. Such efforts will not only bridge the urban–rural gap but also promote the **equitable delivery of quality higher education**, in line with the vision of the **National Education Policy (NEP) 2020**, which highlights the role of digital technology in building a holistic, inclusive, and future-ready learning ecosystem.

Figure 1: VOS Viewer Style Keyword Co-occurrence Network for Digital India Initiatives



Objectives of the Study

The present study aims to assess and analyze the level of awareness among higher education students regarding the various Digital India initiatives implemented by the Government of India to enhance teaching, learning, and digital inclusion in the education sector. In the context of the North 24 Parganas District of West Bengal, this study seeks to understand how effectively these initiatives—such as SWAYAM, DIKSHA, e-PG Pathshala, and the National Digital Library of India (NDLI)—is known, accessed, and utilized by students across diverse demographic and institutional backgrounds.

The specific objectives of the study are as follows:

1. To study the overall awareness level of higher education students about major Digital India initiatives in the field of education.
2. To compare the awareness level of male and female students regarding the use and benefits of Digital India educational platforms.
3. To examine the difference in awareness between students enrolled in traditional academic courses and those pursuing professional or technical courses.
4. To compare awareness levels among students studying in urban and rural institutions within North 24 Parganas District.
5. To suggest strategies and policy implications for improving digital awareness, literacy, and accessibility among higher education students, in alignment with the vision of Digital India and NEP 2020.

Hypotheses of the Study

In line with the objectives, the following **null hypotheses (H_o)** have been formulated to test the differences in awareness levels among higher education students regarding various **Digital India initiatives**. These hypotheses aim to examine whether significant variations exist based on gender, course type, and institutional locality.

1) **H_{o1}:** There is no significant difference between male and female students in their level of awareness regarding Digital India initiatives in higher education.
2) **H_{o2}:** There is no significant difference in awareness of Digital India initiatives between students enrolled in traditional academic courses and those pursuing professional or technical courses.
3) **H_{o3}:** There is no significant difference in students' awareness of Digital India initiatives based on the locality of their institution (urban or rural).
4) **H_{o4} (optional / extended hypothesis**): There is no significant combined effect of gender, course type, and institutional locality on students' overall awareness of Digital India initiatives.

Methodology

Research Design

The present study adopted a **descriptive quantitative survey design** to investigate the awareness levels of higher education students regarding various **Digital India initiatives** in the field of education. The design was chosen because it allows for an objective assessment and comparison of students' perceptions, knowledge, and familiarity with government-supported digital learning platforms. The study focused specifically on students enrolled in different colleges within the **North 24 Parganas District of West Bengal**, providing a balanced representation of urban and rural educational institutions.

Population and Sample

The **population** of the study comprised undergraduate and postgraduate students studying in government and private higher education institutions across **North 24 Parganas District**. A total of **200 students** were selected using a **random sampling technique** to ensure adequate representation across different demographic and academic backgrounds.

The composition of the sample was as follows:

- **Urban Institutions:** 100 students (50 male and 50 female)
- **Rural Institutions:** 100 students (50 male and 50 female)
- Both **traditional academic courses** and **professional/technical courses** were proportionately represented in the sample to maintain diversity and comparability.

This sampling framework ensured gender balance, academic diversity, and equitable representation of both rural and urban student populations, reflecting the overall demographic structure of higher education in the district.

Tool Used

To collect relevant data, the researcher developed a **self-constructed questionnaire** titled the **Digital Initiatives Awareness Test (DIAT)**. The tool was designed to measure students' awareness and understanding of various **Digital India educational platforms** such as SWAYAM, DIKSHA, e-PG Pathshala, and the National Digital Library of India (NDLI).

Key features of the DIAT included:

1) The test consisted of 25 multiple-choice questions (MCQs), each with one correct answer.
2) For each correct response, one mark was awarded, and an incorrect response received zero marks.
3) The tool underwent expert validation to ensure face validity, clarity, and relevance of content.
4) A pilot study was conducted to establish reliability and refine the items for the final administration.

This instrument effectively captured variations in awareness levels among different student groups while maintaining objectivity in scoring.

Statistical Technique

The collected data were analyzed quantitatively using appropriate parametric statistical techniques. An independent samples t-test was employed to compare the mean awareness scores between different groups—based on gender (male/female), type of course (traditional/professional), and locality of institution (urban/rural).

This statistical method was selected because it is suitable for comparing two independent groups and determining whether observed differences in awareness are statistically significant. The analysis helped to validate or reject the formulated null hypotheses and provided deeper insights into the factors influencing students' awareness of Digital India initiatives in higher education.

Results and Findings

The results of the study are presented and interpreted in accordance with the objectives and hypotheses formulated earlier. The data obtained through the Digital Initiatives Awareness Test (DIAT) were analyzed using

an independent samples t-test to determine whether significant differences existed in the awareness levels of students with respect to gender, course type, and institutional locality.

Gender-wise Comparison

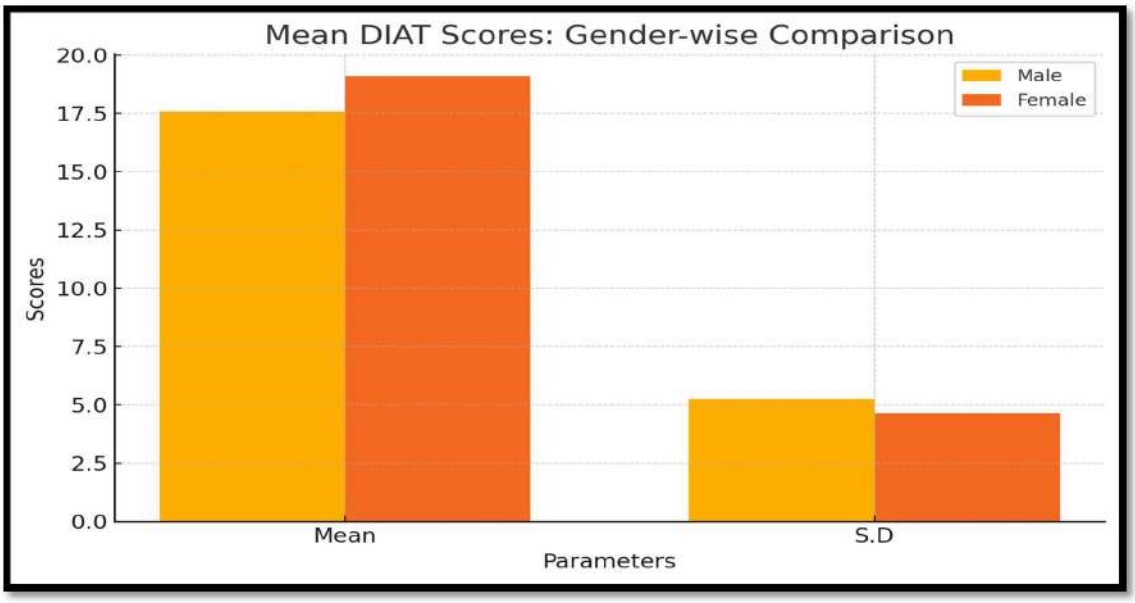
Table: 1

Gender	N	Mean	SD	t-value	Significance
Male	100	17.58	5.26	2.29	$p < 0.05$
Female	100	19.11	4.66	—	Significant

Interpretation

The results indicate a statistically significant difference in awareness of Digital India initiatives between male and female students. Female students (M = 19.11, SD = 4.66) demonstrated higher awareness levels than their male counterparts (M = 17.58, SD = 5.26). The lower standard deviation for female students suggests more uniformity and consistency in their responses.

Figure: 2



This outcome suggests that female learners are more actively engaged with digital learning platforms such as **SWAYAM**, **DIKSHA**, and the **National Digital Library**, possibly due to greater motivation for self-learning and exposure to online educational resources. The findings are in line with **NEP 2020**, which emphasizes gender equity and inclusivity in access to digital education.

Course-wise Comparison

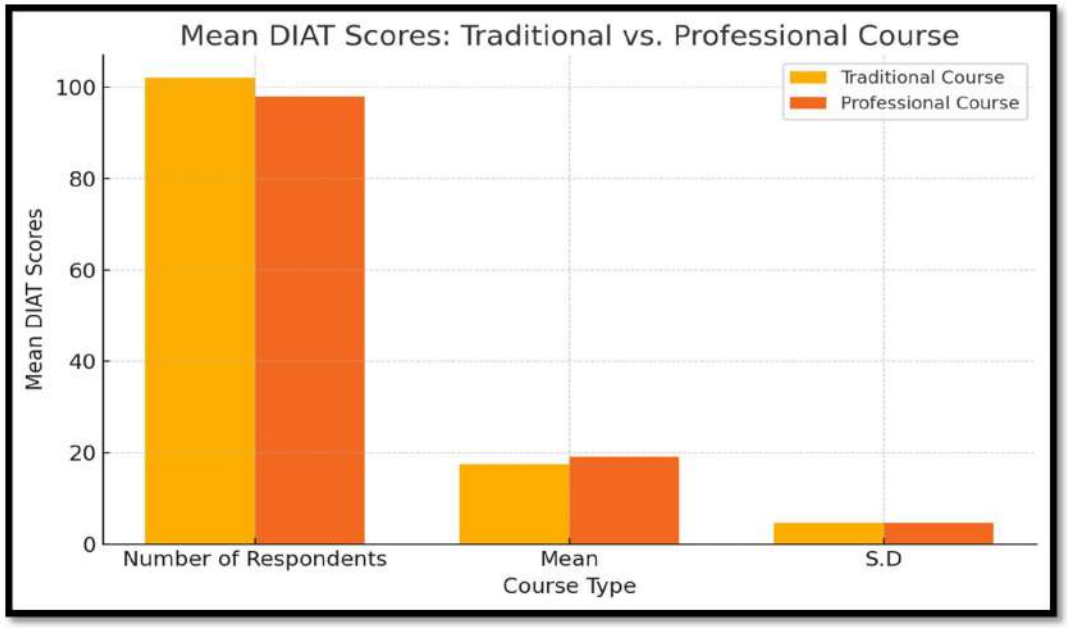
Table: 2

Course Type	N	Mean	SD	t-value	Significance
Traditional	102	17.54	4.69	2.39	$p < 0.05$
Professional	98	19.11	4.66	—	Significant

Interpretation:

A significant difference was found between students pursuing traditional academic courses and those enrolled in professional or technical courses. Professional course students (M = 19.11, SD = 4.66) showed higher levels of awareness compared to traditional course students (M = 17.54, SD = 4.69).

Figure: 3



This disparity may be attributed to the **greater integration of technology** in professional disciplines such as teacher education, engineering, and management, where digital learning platforms and ICT-based instruction are more commonly used. In contrast, traditional academic courses often have limited exposure to such platforms.

The results underscore the need for **curriculum restructuring** in traditional programs to incorporate online learning modules, blended learning environments, and ICT-supported pedagogy to enhance digital literacy across all disciplines.

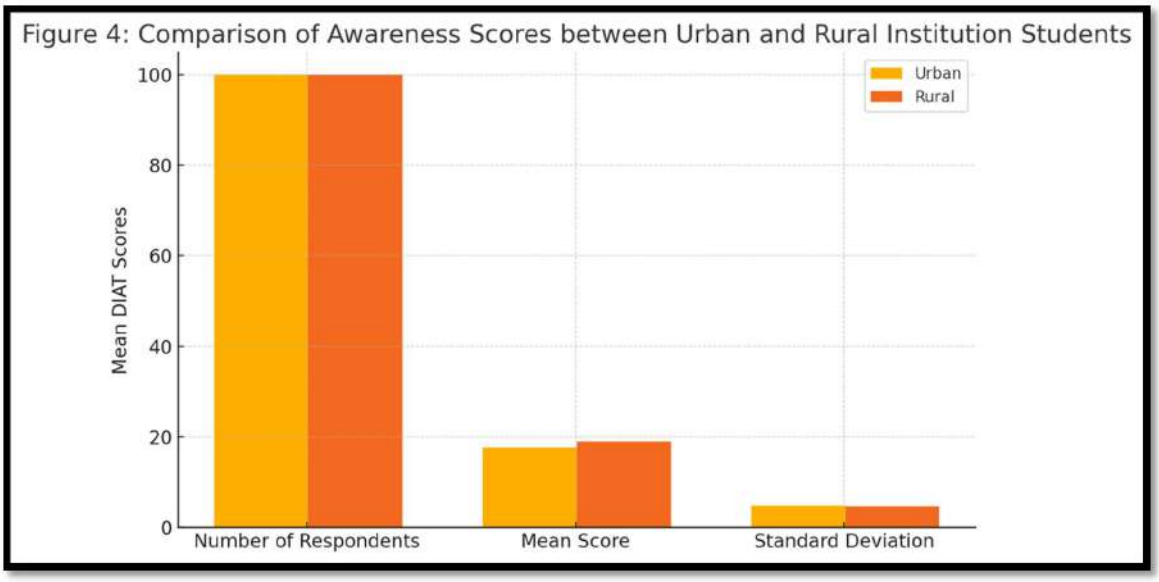
Locality-wise Comparison

Table: 3

Locality	N	Mean	SD	t-value	Significance
Urban	100	17.70	4.74	2.17	$p < 0.05$
Rural	100	18.99	4.67	—	Significant

Interpretation

The results reveal a statistically significant difference in awareness levels between students studying in urban and rural institutions. Surprisingly, students from rural institutions (M = 18.99, SD = 4.67) displayed slightly higher awareness levels than those from urban institutions (M = 17.70, SD = 4.74).



This finding challenges the traditional assumption that urban students are inherently more digitally literate due to better infrastructure. The increased awareness among rural students may be the outcome of **targeted government programs** such as the Digital Saksharta Abhiyan, BharatNet, and various community-based digital literacy campaigns implemented under the **Digital India Mission**.

Such initiatives have helped improve accessibility and digital participation in rural areas, thereby reducing the digital divide. The results also reflect the **policy effectiveness** of government-led digital outreach programs in fostering inclusive education.

Summary of Findings:

1. Female students exhibited significantly higher awareness levels than male students.
2. Students from professional courses demonstrated greater awareness than those from traditional academic courses.
3. Students from rural institutions reported slightly higher awareness levels compared to urban students.

Overall, the findings indicate that **gender, course type, and institutional locality** play a crucial role in shaping awareness of **Digital India initiatives** among higher education students in **North 24 Parganas District**.

Discussion

The findings of the present study clearly demonstrate that **students' awareness of Digital India initiatives varies significantly across gender, course type, and institutional locality**. These variations provide valuable insights into how demographic and academic factors influence students' familiarity and engagement with government-led digital learning platforms. The results underscore the necessity of strengthening digital literacy and awareness-building measures to ensure equitable participation across all sections of higher education.

Firstly, the study revealed that **female students exhibit higher awareness levels** than male students regarding Digital India initiatives such as **SWAYAM**, **DIKSHA**, and the **National Digital Library of India (NDLI)**. This finding indicates that female learners are increasingly motivated to explore and utilize online educational resources. It also reflects a positive shift toward women's empowerment in digital education. Consistent with the **National Education Policy (NEP) 2020**, which emphasizes *equitable and inclusive education*, this outcome suggests that the gender gap in technology adoption is narrowing. Nevertheless, institutions should continue promoting gender-sensitive digital literacy programs to sustain this progress and encourage equal participation in the evolving digital learning ecosystem.

Secondly, the analysis showed that **students pursuing professional courses** demonstrated significantly higher awareness compared to those enrolled in traditional academic disciplines. This difference can be attributed to the **greater integration of technology** in professional education, where ICT tools, e-learning modules, and blended learning approaches are increasingly embedded within the curriculum. Professional courses such as teacher education, engineering, and management often involve regular interaction with online resources, simulations, and project-based digital assignments, thereby enhancing students' digital exposure. Conversely, traditional courses—particularly in the humanities and social sciences—may still rely heavily on conventional classroom teaching, leading to relatively lower awareness of digital initiatives. This finding highlights the need

to **restructure traditional curricula** by embedding ICT-based instruction, online assessments, and access to national digital platforms to ensure uniform digital competency among all students.

Thirdly, an interesting pattern emerged regarding **institutional locality**. Contrary to popular assumptions, **students from rural institutions displayed slightly higher awareness** than those from urban institutions. This suggests that **government-led digital outreach efforts**, such as *Digital Saksharta Abhiyan (DISHA)*, *BharatNet*, and community-based ICT literacy programs, have begun to make a measurable impact in rural areas. Enhanced connectivity, digital training camps, and the availability of affordable mobile data may have collectively contributed to greater engagement among rural learners. In contrast, urban students, despite having better access to infrastructure, may exhibit a sense of complacency or underutilization of available digital resources. This finding reinforces the importance of **localized digital awareness campaigns** and continuous monitoring to ensure balanced participation across regions.

From a theoretical perspective, these findings align closely with **Rogers' Diffusion of Innovations Theory (2003)**, which posits that the adoption of any innovation progresses through stages—awareness, interest, evaluation, trial, and adoption. In this context, awareness acts as the *foundation* for subsequent engagement with digital platforms. The results of this study confirm that awareness is not uniformly distributed among student groups and is influenced by socio-demographic factors. Therefore, targeted interventions are necessary to enhance awareness as a precursor to meaningful digital adoption.

Furthermore, the study's implications resonate with the broader goals of **Digital India** and the **NEP 2020**, both of which advocate for *"technology-enabled learning for all"*. The NEP envisions the creation of a holistic digital learning ecosystem that bridges gaps across gender, geography, and discipline. The current findings reaffirm this vision by highlighting the ongoing disparities and the potential pathways for achieving **digital equity and inclusion**.

In conclusion, the study emphasizes that **raising awareness** is a crucial step toward realizing the transformative potential of the Digital India mission in higher education. Institutions must prioritize systematic **digital sensitization, training workshops, and curriculum integration** to ensure that every student—regardless of gender, course, or locality—can effectively engage with and benefit from India's rapidly expanding digital education infrastructure.

Educational Implications

The findings of this study hold significant implications for policymakers, educational administrators, teachers, and students in promoting the effective implementation of **Digital India initiatives** within higher education. Strengthening digital awareness and literacy is essential for realizing the goals of equitable and inclusive education envisioned under the **National Education Policy (NEP) 2020**. The following implications emerge from the study:

1. **Organization of Regular Digital Awareness Workshops:** Colleges and universities should conduct periodic workshops, seminars, and orientation programs to enhance students' awareness and practical knowledge of digital learning platforms. Special attention should be given to **urban institutions**, where awareness levels were found to be relatively lower than expected, ensuring that all students actively participate in digital education initiatives.
2. **Integration of Digital Platforms into Curriculum:** Digital learning platforms such as **SWAYAM**, **DIKSHA**, and the **National Digital Library (NDLI)** should be systematically integrated into the syllabus. Institutions may introduce **mandatory online assignments, micro-credits, or blended learning modules** using these platforms to encourage students to engage with digital content regularly. This integration will not only enrich classroom teaching but also make students digitally competent and self-reliant learners.
3. **Institutionalization of Teacher Training Programs:** Teachers play a crucial role in the success of digital initiatives. Therefore, **teacher training and professional development programs** focusing on ICT tools, online pedagogy, and digital resource management should be institutionalized. Faculty members must be equipped with the skills to guide students in using digital platforms effectively, thus bridging the gap between technological access and pedagogical application.
4. **Establishment of Digital Ambassador Programs:** Higher education institutions should initiate **Digital Ambassador Programs**, where trained students act as peer mentors to assist their classmates in navigating and utilizing digital learning tools. Such peer-led initiatives will foster collaborative learning environments, encourage knowledge sharing, and strengthen the culture of digital participation among students.
5. **Rural–Urban Collaboration and Resource Sharing:** The study highlights that rural students often exhibit proactive engagement with digital initiatives. To

balance digital participation, **collaborative networks** between rural and urban colleges should be established. These collaborations can include **joint online projects, digital resource exchanges, webinars, and shared training sessions**, promoting mutual learning and equitable access to technology.

In summary, the educational implications of this study stress the need for a **comprehensive digital strategy** within higher education—encompassing awareness, infrastructure, training, and collaboration. Implementing these measures can help bridge the digital divide, enhance technology adoption, and foster a digitally empowered academic community aligned with the transformative vision of the **Digital India Mission** and **NEP 2020**.

Limitations of the Study

Although the present study provides valuable insights into the awareness levels of higher education students regarding **Digital India initiatives**, certain limitations must be acknowledged to ensure an appropriate interpretation of the results.

1. **Geographical Limitation:**
   The study was confined to higher education institutions located within the **North 24 Parganas District** of West Bengal. Therefore, the findings may not be fully representative of the broader student population in other regions of India, where socio-economic and technological contexts may differ significantly.
2. **Sample Size:**
   The sample comprised **200 students**, which, although adequate for basic statistical analysis, limits the extent of **generalization** to the entire higher education population. Future studies with larger and more diverse samples could provide a deeper and more comprehensive understanding of digital awareness across different educational contexts.
3. **Focus on Awareness Only:**
   The scope of this study was restricted to assessing **awareness** of digital initiatives. It did not explore the actual **usage behavior**, **digital skills**, or **competency levels** of students. As such, while the study identifies awareness gaps, it does not measure how effectively students apply digital tools for learning and academic growth.

Suggestions for Future Research

The findings and limitations of this study open several promising directions for future investigation in the field of digital education and awareness.

1. **Teacher-Centric Studies:**
   Future research may focus on assessing **teachers' awareness, readiness, and training needs** for integrating digital platforms into classroom instruction. Teachers' digital competence plays a crucial role in shaping students' attitudes and engagement.
2. **Comparative and Regional Studies:**
   Similar studies should be conducted in other **districts and states** to enable **comparative analysis** across regions. Such studies will help identify contextual differences in awareness levels and the effectiveness of digital education policies at the national level.
3. **Longitudinal Research:**
   To monitor progress over time, **longitudinal studies** could be undertaken to track changes in digital awareness, adoption patterns, and behavioral shifts among students and faculty members.
4. **Discipline-Specific Investigations:**
   Future studies may explore how awareness and adoption of digital initiatives vary across academic disciplines—such as **medicine, engineering, teacher education, and humanities**—to design targeted interventions and training programs.
5. **Framework Development for Digital Literacy:**
   Based on empirical findings, researchers should work toward developing a **comprehensive framework for digital literacy enhancement** in higher education. Such a model could guide policymakers and institutions in implementing structured programs for awareness, accessibility, and digital skill development.

Conclusion

The Digital India Mission has created new avenues for inclusive and technology-enabled education across India. Through initiatives such as SWAYAM, DIKSHA, e-PG Pathshala, and the National Digital Library of India (NDLI), the Government of India has sought to expand access to quality learning resources and promote digital empowerment in higher education. However, this study reaffirms that awareness remains the cornerstone of success for these initiatives.

The findings indicate that female students, professional course learners, and rural students demonstrate comparatively higher awareness of Digital India educational platforms. Female students show greater motivation to explore online learning resources, professional course student's benefit from technology-integrated curricula, and rural students appear more responsive to government outreach programs such as Digital Saksharta Abhiyan and BharatNet. These results collectively reveal how demographic and institutional factors influence awareness and participation in digital learning.

Nevertheless, gaps persist in ensuring consistent access, infrastructure, and systematic digital sensitization across all institutions. To bridge these disparities, higher education institutions must prioritize structured digital training programs, integration of digital platforms within curricula, and continuous awareness campaigns for both students and teachers.

In harmony with the goals of the National Education Policy (NEP) 2020, this study emphasizes that the creation of a digitally empowered, equitable, and future-ready higher education system depends on sustained awareness, accessibility, and active engagement with technology—transforming Digital India's vision into an educational reality.

References

i. Aslam, S. (2019). *Online learning with special reference to SWAYAM and e-PG Pathshala: An overview.* [Publication details not available — please provide journal or publisher].

ii. Biswas, A. K. (2021). Digital India initiatives and the online education system in India amidst the COVID-19 pandemic. *Khazanah Pendidikan Islam, 3*(3), Article 3. https://doi.org/10.15575/kp.v3i3.14113

iii. Fernández, A., Gómez, B., Binjaku, K., & Meçe, E. (2023). Digital transformation initiatives in higher education institutions: A multivocal literature review. *Education and Information Technologies, 28*, 1–32. https://doi.org/10.1007/s10639-022-11544-0

iv. Government of India. (2015). *Digital India: Power to empower.* Ministry of Electronics & Information Technology. https://www.digitalindia.gov.in/ *(verify exact URL used in citation)*

v. Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.

vi. Scheel, L., Vladova, G., & Ullrich, A. (2022). The influence of digital competences, self-organization, and independent learning abilities on students' acceptance of digital learning. *International Journal of Educational Technology in Higher Education, 19*, Article 44. https://doi.org/10.1186/s41239-022-00350-w

vii. Ministry of Education, Government of India. (2020). *National Education Policy 2020.* Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

viii. Biswas, S., & Sarkar, K. (2020). MOOCs: Challenges and prospects in Indian higher education. *[Conference paper / journal — full details required]*.

ix. Liyanagunawardena, T. R., Adams, A. A., & Williams, S. A. (2013). MOOCs in higher education: A review of the literature. *International Review of Research in Open and Distributed Learning, 14*(3), 202–227. *(Verify page range if required.)*

x. Suri, K. (2025). Digital learning in higher education in India: An exploration of government initiatives at the University of Jammu. *IJSRT Journal. (Full citation details required — verify volume/issue/pages.)*

xi. Chakravarty, S. (2016). MOOCs and digital education: Challenges and opportunities in India. *[Journal/Publisher details required].*

xii. Grover, S. (2022). Exploring the digital revolution in education in India. *International Journal for School Quality and Educational Accountability, 12*(2), [page range]. *(Please verify page numbers/DOI.)*

xiii. Goswami, M. P. (2021). Impact of online learning in India: A survey of university students during the COVID-19 crisis. *Asia-Pacific Journal of Research (AJPOR). (Full citation details required — verify volume/issue/pages.)*

xiv. Fatima, S. (2021). Role of MOOCs for technology and business education: Opportunities and challenges in the Indian context. In *Handbook of Research on Future Opportunities for Technology Management Education* (pp. [xx–xx]). [Publisher]. *(Provide publisher and page numbers.)*

xv. UNESCO. (2022). *Massive Open Online Courses: The emerging landscape of digital education.* UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000367825

xvi. Bahar, H. (2017). The quality of higher education through MOOC penetration and implications for developing countries. *UKSG Insights, 30*(1), Article 1. https://doi.org/10.1629/uksg.377 *(Please verify DOI / article number.)*

xvii. Fernández, A., et al. (2023). Digitalization of higher education: Opportunities and challenges. *[Report / Journal — full details required]*. *(This appears similar to item 3 — verify whether it is distinct and provide full citation.)*

xviii. Sharma, S., & Dangwal, K. L. (2024). Adapting bMOOCs in the blended learning environment of the Indian higher education landscape. *[Journal name — full details required]*.

xix. Jensen, L. X. (2023). Digital education for health professionals in India: A scoping review. *[Journal / Publisher]*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10410828/ *(Verify authorship and journal if needed.)*

xx. [Author(s) Unknown]. (2023). Barriers towards the continued usage of Massive Open Online Courses. *[Journal]*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9760107/ *(Please replace with full author list, year, journal name and volume/issue/pages as appropriate.)*