

**Enhancing Digital Literacy among Postgraduate ODL Learners in Assam: An Analytical Study in the Context of the National Education Policy 2020**

Dr. Arunima Borah

Assistant Professor, Department of Education

K.K.Handiqui State Open University

E-mail: [arunimaborah622@gmail.com](mailto:arunimaborah622@gmail.com)

and

Dr. Dola Borkataki

Assistant Professor, Department of Sociology

K.K.Handiqui State Open University

E-mail: [dolaborkataki2nov@gmail.com](mailto:dolaborkataki2nov@gmail.com)**Abstract**

*The National Education Policy (NEP) 2020 envisions the integration of technology as a transformative tool for inclusive and equitable education. In this context, it becomes imperative to reform traditional teaching-learning practices by systematically integrating digital technologies, thereby fostering a more inclusive, flexible, and learner-centered educational environment. Digital literacy therefore becomes crucial in order to bridge the gap between traditional pedagogy and the emerging technology oriented teaching-learning methodologies. This research examines the role of digital literacy in empowering postgraduate students in Assam and exploring the challenges they face and the opportunities it creates for academic and professional growth. The findings reveal significant gaps in digital skills and infrastructure, and indicates the need for more interventions in digital literacy initiatives.*

**Keywords:** Digital Literacy, Educational Technology, NEP 2020, Open and Distance Learning (ODL), Digital Competencies, Technology-enhanced Learning

**Introduction**

Digital literacy serves as the cornerstone of contemporary education, particularly for distance learners who depend on digital technologies for accessing course materials, participating in virtual classrooms, and engaging with e-learning platforms (UNESCO, 2021). Thus, for learners enrolled in the ODL mode, digital literacy skills are far more important as these learners have to rely heavily on technology-mediated platforms for academic support, access to learning resources, and effective engagement with instructional content and faculty. As education increasingly shifts to online and blended formats, the ability to navigate digital tools efficiently has become essential for academic success. In Assam, where socio-economic disparities and geographic isolation creates significant barriers in the access quality education, digital literacy emerges as a crucial factor in bridging the educational divide. Availability and accessibility of digital resources therefore play a pivotal role in enhancing learning outcomes, particularly for students enrolled in distance education programs.

Recognizing the transformative potential of technology, the **National Education Policy (NEP) 2020** advocates for the integration of digital tools at all levels of education to promote inclusive and equitable learning (Government of India, 2020). The policy emphasizes the importance of digital infrastructure, teacher training in technology-based pedagogy, and the development of digital repositories to support students in remote and underserved areas. Furthermore, it highlights the need for digital literacy initiatives that empower learners to engage with educational content effectively and participate in the digital economy.

It is in the above context that the present study focuses on postgraduate students enrolled in distance education programs in Assam, analyzing the extent to which digital literacy contributes to their academic performance, professional development, and overall educational experience. By evaluating factors such as access to digital devices, internet connectivity, and proficiency in using e-learning platforms, the study aims to provide insights into how digital literacy facilitates knowledge acquisition and skill enhancement among distance learners in the region. The findings could help policymakers and educators devise strategies to enhance digital literacy initiatives, ensuring that students in Assam can fully benefit from the technological advancements in education. This study has been delimited to the first Open University of the North East Region that is the Krishna Kanta Handiqui State Open University. Further the sample respondents are from the post graduate students, studying in the MA 3rd Semester

## **Review of Literature**

### **Digital Literacy, Skills and Student's Progression**

Paul Gilster (1997) defines digital literacy as the ability to effectively and critically navigate, evaluate, and create information using digital technologies. Recent studies emphasize its growing importance in higher education and its transformative role in distance learning.

Julien. H (2015) states that **Digital** literacy, from a pragmatic point of view, is the set of skills, knowledge and attitudes required to access digital information effectively, efficiently, and ethically.

Ng.W (2012) focuses on the interplay between technical, cognitive, and social-emotional dimensions of digital literacy in educational contexts.

Belshaw. D (2012) advocated a more holistic framework which includes eight key elements of digital literacy: cultural, cognitive, constructive, communicative, confident, creative, critical, and civic. He states that in order to develop digital literacies, we need to develop skills, attitudes and aptitudes in the eight areas

From the above we can understand that as an approach or concept, Digital literacy is far more holistic and is not just about mere integration of technology to education but also developing skills such as creativity, critical thinking, assessment so on and so forth so that learners can effectively use digital resources for their professional development. Shopova (2014) discusses a few important aspects which particularly include digital competences such as accessing, analyzing, and integrating information from various digital sources and evaluating this information and knowledge effectively and ethically. These competences enable students to effectively access and use digital resources for their development. Without these skills there is a possibility that they may not be able to find the appropriate, authentic, and reliable contents which would be of help to them and may end up in falling prey to dubious contents, thereby hindering their academic progression, and learning opportunities. Those without good digital literacy skills will be marginalized in private and public life, including employment. (Julien. H 2015). However, several studies (Littlejohn, Beetham, & McGill, 2012); suggest that while students often possess operational skills (e.g., navigating devices), they may lack critical evaluative skills necessary for academic research. Less extreme, but more prevalent, are cases where a lack of digital skills causes the misuse of digital technologies (James. J, 2019, pp. 3) Digital literacy thus equips students with the skills to access information, communicate effectively, and participate in the knowledge economy. Studies show that digital empowerment correlates with improved academic performance and better employment opportunities.

### **Digital Literacy and ODL**

Human Society is heterogeneous composing of people belonging to different age groups, gender, race, caste, class so on and so forth. Thus, there exists different groups of people in society having different social status and thereby having differential share in the resources of the society. Many people owing to socio-economic conditions, physical disabilities, geographical isolation so on and so forth are deprived of the access to higher education. In this context, ODL plays a significant role in providing learners irrespective of their socio-economic, physical and geographical barriers to fulfill their dream of higher education. Open and Distance Learning (ODL) provides an alternative educational pathway for individuals

who wish to pursue further studies but are unable to participate in full-time, campus-based instruction due to personal, professional, or geographical constraints.

However, unlike the conventional system where there is face-to-face interaction between the teachers and the learners in a classroom setting, the learners of the ODL mode have lesser chances of physical interaction with their teachers and therefore have to rely heavily on digital platform and digital resources for communication with teachers, accessing educational content so on and so forth. Asha & Ricky, (2017) states that Distance education implies the delivery of learning or training to learners who are separated, mostly by time and space, from those who are teaching and training. For an effective and successful Open Distance e-Learning (ODEL) program, the learners must possess digital literacy skill (Buckingham, 2006). Technology self-efficacy and digital literacy are crucial for learners' success in distance learning environments (Itasanmi and Ajani, 2023). Thus, digital literacy skills are pertinent for educational achievement and professional growth of the learners. Digital literacy is also a critical competency for those engaged in Open and Distance Learning (ODL), as it enables both learners and educators to access up-to-date information, and utilize such information effectively to make informed and appropriate decision-making (BheBhe and Maposa, 2019). It is imperative for stakeholders in Open and Distance Learning (ODL) to invest in comprehensive training initiatives aimed at enhancing students' technological competencies and self-efficacy. Such efforts not only foster greater confidence in the use of digital tools but also contribute significantly to the development of overall digital literacy (Itasanmi and Ajani, 2023) essential for academic success and lifelong learning.

Thus, from the above discussion it is evident that in this era of digitization, digital literacy skills are pertinent for student's progression and professional development particularly for those enrolled in ODL mode. With the implementation of NEP, 2020 this issue has gained further prominence and there have been continuous efforts to enhance digital literacy skills among the country's population especially the youths. Though there are several studies which discusses about digital literacy, its effectiveness and importance for students' progression and professional development, its constraints and challenges so on and so forth, yet one finds a dearth of studies from the Northeastern state of Assam which discusses the current state of digital literacy particularly among the ODL Learners. It is in this context that the present study seeks to critically assess the existing levels of digital literacy competencies amongst the ODL learners of Assam and understand their challenges in accessing digital tools and resources.

### **Research Questions**

The present study seeks to examine the following research questions:

1. What is the current state of digital literacy among postgraduate distance education students in Assam?
2. How does digital literacy empower students academically and professionally?
3. What challenges do students face in achieving digital literacy, and how can they be addressed in line with NEP 2020?

### **Objectives of the Study**

1. To assess the current digital literacy levels among postgraduate students in distance education in Assam with reference to the Krishna Kanta Handiqui State Open University (KKHSOU)
2. To identify the challenges in accessing digital tools and resources among the students of KKHSOU.
3. To propose strategies for improving digital literacy in alignment with NEP 2020.

### **Methodology of the Study**

#### *Research Design*

This study adopts a descriptive and analytical research design, using a mixed-methods approach to gather quantitative and qualitative data.

### *Sample Size and Sampling Technique*

The study includes 200 postgraduate students (120 Boys and 80 Girls) enrolled in the MA 3<sup>rd</sup> Semester in the Krishna Kanta Handiqui State Open University, Assam, selected through stratified random sampling to ensure representation of both from urban and rural areas.

### *Data Collection Tools*

Questionnaire: A Structured questionnaire using Likert scales has been developed to measure digital literacy levels and also to identify the challenges in accessing digital tools and resources among the students of KKHSOU.

### **Research Findings and Analysis:**

Digital literacy has become an essential skill in the 21st-century education system, particularly for students enrolled in distance education programs. **Krishna Kanta Handiqui State Open University (KKHSOU)**, Assam's premier open university, provides higher education opportunities to students who may face geographical, socio-economic, or professional constraints. In this context, digital literacy plays a vital role in enhancing learning experiences, improving academic performance, and preparing students for professional success in an increasingly digitalized world.

#### **Importance of Digital Literacy for Postgraduate Students at KKHSOU**

##### **a. Access to Learning Resources**

Postgraduate students at KKHSOU rely on digital platforms for study materials, assignments, and research. A strong foundation in digital literacy is needed for them to access e-books, journals, and online databases efficiently, facilitating self-directed learning.

##### **b. Effective Participation in Online Learning**

With the increasing use of Learning Management Systems (LMS), video conferencing tools, and e-learning portals, digital literacy is necessary for students to attend online classes, interact with faculty members, and engage in discussions with peers.

##### **c. Research and Academic Excellence**

Postgraduate education requires extensive research, which involves data collection, analysis, and the use of digital tools like **Google Scholar, JSTOR, and referencing software** (e.g., Zotero, Mendeley). Digital literacy is needed so that the students can critically evaluate sources and use appropriate academic tools for their research.

##### **d. Digital Communication and Collaboration**

Students need to communicate via emails, discussion forums etc. For which they need Digital skills which would help them to write professional emails, collaborate on projects using platforms like Google Docs or Microsoft Teams, and build academic networks for knowledge exchange.

##### **e. Career Readiness and Employment Opportunities**

In today's job market, digital skills are crucial for career advancement. Proficiency in Microsoft Office, Data analysis software, and Digital marketing skills etc. enhances employability. Postgraduate students at KKHSOU, many of whom are working professionals or job seekers can benefit significantly from digital literacy in securing better career opportunities.

Thus we can say that, Digital literacy is a fundamental requirement for postgraduate students of Open Universities particularly those enrolled at KKHSOU to excel academically, participate effectively in digital learning, and enhance their career prospects. In KKHSOU there is growing emphasis on online learning as classes are held online, assignments are given online and all other student related notifications are also circulated online. Hence the students need digital skills to effective engagement with their teachers and for successful completion of their program. Strengthening digital skills through university-led initiatives will empower students to overcome educational barriers and thrive in the technology-driven world.

**Analysis and interpretation of data**

For Objective 1, the following questionnaire designed to assess the current digital literacy levels among postgraduate students in distance education in Assam.

Items	Response	BOYS (Total = 120)		GIRLS (Total = 80)	
		N	%	N	%
1. I am confident in using a smartphone or computer to access my study materials for distance education.	Agree	85	70.85	40	50
	Disagree	20	16.67	30	37.5
	Neutral	15	12.5	10	8.33
2. I can effectively navigate and use online learning platforms like SWAYAM, Moodle, or Google Classroom.	Agree	120	100	58	72.5
	Disagree	0	0	11	13.75
	Neutral	0	0	11	13.75
3. I am proficient in using basic software applications such as Microsoft Word, Excel, or PowerPoint.	Agree	85	70.85	58	72.5
	Disagree	15	12.5	11	13.75
	Neutral	20	16.67	11	13.75
4. I am comfortable searching for academic information online using search engines and databases.	Agree	118	98.33	80	100
	Disagree	2	1.67	0	0
	Neutral	0	0	0	0
5. I can communicate effectively with my teachers and peers through email, messaging apps, or discussion forums.	Agree	84	70	70	87.5
	Disagree	26	21.67	4	8
	Neutral	10	8.33	4	8
6. I have the ability to troubleshoot minor technical issues with my devices or software.	Agree	75	62.5	55	68.8
	Disagree	45	37.5	20	25
	Neutral	0	0	5	6.25
7. I understand the importance of cybersecurity and can	Agree	100	83.33	40	50
	Disagree	4	3.33	35	43.75
	Neutral	16	13.33	5	6.25

ensure the safety of my personal information online.					
8. I regularly use online resources, such as e-books, research articles, and videos, to support my learning.	Agree	75	62.5	35	43.6
	Disagree	45	37.5	45	56.25
	Neutral	0	0	0	0
9. I can participate in live online classes or webinars without technical difficulties.	Agree	100	83.33	62	77.5
	Disagree	4	3.33	9	11.25
	Neutral	16	13.33	9	11.25
10. I believe I have the necessary digital skills to succeed in my distance education program.	Agree	100	83.33	62	77.5
	Disagree	4	3.33	9	11.25
	Neutral	16	13.33	9	11.25

*Source: Compiled by the researchers*

The above table presents the responses from 120 boys and 80 girls on their current digital skills. The findings indicate that both male and female learners demonstrate a strong level of confidence in conducting online searches for academic information. Further the findings also reveal that majority of the students both the genders can attend online classes, live lectures and webinars without much difficulty. However, the study reveals that female learners tend to have lower levels of competence in many key areas of digital literacy when compared to the male learners. Specifically, they demonstrate lesser confidence in operating digital devices and face challenges in navigating educational platforms effectively. Additionally, as the data shows, they have lesser awareness of cybersecurity practices and also lesser engagement with online academic contents and resources.

On the other hand, the male learners demonstrate greater confidence in using digital devices, using software applications, in navigating online academic platforms and engagement online academic content. However, they too face challenges in certain key areas of digital literacy such as effective digital communication and the ability to troubleshoot technical issues on their own.

For Objective 2, the following Likert style questionnaire with 10 questions were designed to identify the challenges faced by postgraduate students in accessing digital tools and resources.

Items	Response	BOYS (Total = 120)		GIRLS (Total = 80)	
		N	%	N	%
1. I have access to a reliable internet connection for my	Agree	85	70.85	50	40
	Disagree	20	16.67	20	37.5
	Neutral	15	12.5	10	8.33

distance education activities.					
2. The cost of internet data plans or broadband services is a significant barrier for me.	Agree	100	90	60	75
	Disagree	20	17	10	12.75
	Neutral	0	0	10	12.75
3. I face difficulties in accessing or purchasing devices like smartphones, laptops, or tablets for educational purposes	Agree	85	70.85	58	72.5
	Disagree	15	12.5	11	13.75
	Neutral	20	16.67	11	13.75
4. The availability of technical support or assistance when I face digital challenges is limited.	Agree	120	100	70	87.5
	Disagree	0	0	0	0
	Neutral	0	0	0	0
5. Power outages or unstable electricity frequently disrupt my access to digital tools and resources	Agree	100	83.33	65	81.2
	Disagree	12	10	5	6.25
	Neutral	8	6.66	10	12,25
6. I find it difficult to use online learning platforms due to their complex interfaces or lack of guidance.	Agree	75	62.5	55	68.8
	Disagree	45	37.5	20	25
	Neutral	0	0	5	6.25
7. The lack of digital content in Assamese or other regional languages creates a barrier for my learning.	Agree	100	83.33	40	50
	Disagree	4	3.33	35	43.75
	Neutral	16	13.33	5	6.25
8. I have limited knowledge or training on how to effectively use digital tools and resources.	Agree	75	62.5	35	43.6
	Disagree	45	37.5	45	56.25
	Neutral	0	0	0	0
	Agree	100	83.33	62	77.5
	Disagree	16	13.33	10	11.25



9. I face challenges in maintaining the security and privacy of my personal information while using digital tools.	Neutral	4	3.33	8	10
10. Limited access to affordable and high-quality digital resources (e-books, research papers, etc.) impacts my learning experience.	Agree	16	13.33	9	11.25
	Disagree	4	3.33	9	11.25
	Neutral	100	83.33	62	77.5

*Source: Compiled by the researchers*

The above findings highlight several systemic and infrastructural barriers that adversely affect both male and female learners in digital learning environments. The high cost of internet services and limited access to digital devices, considerably restrict the student's ability to effectively participate in online education. Furthermore, as the data indicates, there is almost a complete absence of technical support, leaving students without the necessary assistance to resolve technical challenges. Frequent power cuts, particularly in rural or remote areas, disrupts the continuity in learning. In addition, the data also reveals issues and concerns pertaining to privacy and digital security. The findings also suggest that girls face greater difficulties in accessing the internet and in effectively using the online learning platforms. On the other hand, boys report more concerns related to the limited availability of educational content in regional languages, as well as a lack of proper training or understanding in how to use digital tools.

The third objective of the study seeks to design meaningful strategies, based on the data gathered from the study, to improve digital literacy particularly for the ODL learners of Assam. In Assam, where geographical diversity, socio-economic inequalities, and limited digital infrastructure pose major challenges in online and distance education, the following recommendations may pave the way for a more effective dissemination of digital literacy amongst the learners and ensuring an equitable online learning environment for students irrespective of their socio-economic, physical, and geographical barriers.

- The State must give priority to immediate expanding of low-cost internet access and community digital hubs or community computer centers in rural areas to ensure equitable participation in online and distance education.
- Introduce region-specific digital literacy programs through state open universities like KKHSOU.
- Provide training on Digital literacy in Assamese and other regional languages, using platforms such as SWAYAM, DIKSHA, and YouTube.
- To overcome the language barriers, it is essential to develop and promote digital learning materials in regional languages and also ensuring that content is culturally and contextually relevant.
- There should be training and awareness programs in all educational institutions about the availability of online repositories of academic content, online learning platforms so on and so forth so that the learners can make use of them for their own academic and professional enhancement.
- In the ODL context and particularly in Assam, teacher training modules on ICT tools (Google Classroom, Moodle, Zoom, etc.) should be created with immediate priority.



- There should be training programs on ethical use of technology, cyber security, online safety, responsible internet use, so on and so forth.

### Conclusion

We are in a presently in a technology driven world which requires each and every individual to develop the necessary digital skills to access information, communicate effectively, and participate fully in education, work, and everyday life. In this context, it is imperative for all sections of the population, particularly the students and youths, to have digital literacy skills. The NEP 2020 also therefore places significant emphasis on digital education to enhance access, equity, and quality in the education system. Hence educational institutions including ODL institutions have a greater responsibility of training their learners on digital literacy and disseminating the necessary skills among them for effectively using the internet for their academic, personal and professional advancement. It is more pertinent for the ODL institutions as their learners have to heavily depend on the internet for successful completion of their academic programme. The present study shows that there are several limitations and constraints that the students have in terms of access to internet services, digital devices, digital literacy skills, technical knowledge on internet use and troubleshooting, so on and so forth. These limitations are more acute for the female learners and those residing in remote geographical locations. Addressing these issues and constraints requires concerted efforts in infrastructure development, bridging the digital divide, training and awareness, and policy implementation. Educational institutions, particularly ODL institutions which have significantly higher enrollment, can effectively contribute to promoting and enhancing digital literacy with the necessary support and concerted efforts of the state in terms of policy initiatives, infrastructure development, and requisite resource allocation.

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