



Attitude Towards Digital Literacy Among Postgraduate Students In Higher Education

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Abstract: Our present world is the world of AI, Machine learning, quantum physics where study has been shifted from bookish knowledge to online learning. Every sector has been growing and growing up rapidly; especially in higher education it shifted to online learning or virtual mood. Many courses and exams are conducted through online and also certificate is provided digitally. The present study focuses on about the attitude of digital literacy among post graduate students. Hundred samples has taken for the study; a self-made Likert scale used for the data collection by the researcher and t-test, SD, Mean deviation also used for statistical treatment. The researcher finds that there is no significant difference among post graduate students towards digital literacy according to their race, gender, locality basis.

Keywords: Digital Literacy, Skills & Components, Post Graduate Students Status

I. INTRODUCTION:

After covid-19 pandemic a rapid change has been seen in every sector in the world. Especially in higher education, formal education has shifted to online and blended mood. Many platforms we have seen like Eduncle, Test-Book, Byjues Aap, Khan Research Centre, Physics Wallah, DRISTI and so many more. Indian govt. also lunch MOOCS and SWAYAM. Many educational channels have provided their content from lower level to higher level. IIT, JEE Mains, IAS, IIM, CAT, NTA NET, GATE, NEET etc. exams. Now we often seen many online courses have been offered different educational institution; their evaluation and exams result also conducted and provided through digitally. The concept of information literacy first commence by Paul Zurkowski in 1974. In our digital area, we talks about digital literacy, students are not only read and write ability to acquire but also they gained more advanced completeness to acquire, access, evaluate, examined, ethically use of information both printed and electronic sources. Digital literacy plays an important role in higher education particularly post graduate students who are associates seminar, workshops, scholarly writings, publishing various papers, collecting data of information

through online mode. NEP-2020 also emphasizes education through digitally. AI and ML, Chatgpt helps them acquire knowledge in various ways. Now we often looks that many experts can give their valuable lecture through online mode. We see many online courses and degrees also provided to the students. Moreover Ph.D. degree is also examined and evaluated through digitally over last decades the way of gathering knowledge has been changed through rapid change of availability of information 24*7 digitally. From school education to higher education digital literacy has become our every day's life parts. SWAYAM, MOOCS, platforms are important in digital literacy. It means that the activities necessary to ensure all persons including differently abled also have access the role of digital technology. The digital literacy assigned about the policies and programmes that provide the internet regularly of gender, income, race or ability. Examples of digital literacy is-voter registration, ration registration, aadhar authentication, online job services.

II. RELATED STUDY

Hamutoglu, N.B. et al. (2019) indicated that the effectiveness of the treatment on the participants' attitudes towards e-learning platforms. And also findings of the regression tests demonstrated that tendency is one of the most significant predictors of digital literacy Skills. Paramasivam, T. et al. (2019) observe that students were highly intended to become digital entrepreneur. Specifically, the knowledge gain from classes had shaped the student's positive attitude and more self-confident to be an entrepreneur. Aswathi, P. & Mohamed, K. H. (2020) revealed that a fully positive attitude could not be observed among the students towards the construct comfort/anxiety. They had a medium level of computer anxiousness when using computer. Haneefa, M. et al. (2020) observes that there is no significant discipline and university wise difference in the attitude of the students towards digital reading. And also suggest that educators can tailor lessons and assignments to maintain positive attitude among the students towards digital reading. Stemberger, T. & Konrad, S.C. (2021) argued that student teachers' attitudes towards using digital technologies in education were proved as an important predictor of their level of proficiency in using digital technologies.

Hofmeyr, M. (2021) revealed that learners generally hold positive attitudes towards DGBLL before taking part in any intervention and, after playing a cooperative digital game over six weekly sessions, reported stronger positive attitudes towards this pedagogical approach. Anbalagan, S. (2021) observes that there is a considerable variation in Digital library Attitude with respect to locality between rural and urban students. In terms of marital status, there is a substantial difference between married and unmarried students in their Digital library Attitude. Kerexeta, I. et al. (2022) shows that basic and advanced levels of perception regarding the importance of inclusive education and digital competence are identified, which are similar in the basic levels and increasingly disparate at the advanced levels due to specialization. Yang, H. et al. (2022) found that digital literacy contributed most of the explanatory power to the prediction of quality of life. The higher digital literacy of older adults has the higher their quality of life.

III. RELEVANCE OF THE STUDY:

Over last decades the way of gathering knowledge has changed not only ICT but also availability if 24*7 digitally. From school education to higher education digital literacy has become our every days life parts. In our present world where day by day so many experiment & invention has been found. In digital technology, digital literacy is very essential of our daily life. From grocery shop to going travel by plain or train we use an Aap for payment. So it has become essential needs of our daily life. Digital literacy is basic thing in higher education also.]

To get ready students for improvement their academic or work area, foster critical thinking, through research digital literacy looks like basic needs. Digital technology enables students to ethically inculcate digital environments, handle online and assist effectively. Digital technology bridges gaps between academic skills and professional impetuosity. In our digital era, we talks about digital literacy, students are not only read and write ability acquire but also they gained more advanced completeness to acquire, access, evaluate, ethically use of information from both printed and electronic sources. Digital literacy plays an important role in higher education particularly post graduate students who are associates seminar, workshops, scholarly writing, publishing various papers, collecting information from online mode. One of the key reasons of digital literacy is work force mobility. Through digital literacy it requires effectively in data analysis, digital communication and technology observer. By making creating digital literacy essential for assignment and future career development. Through academic achievement and success, students can update traditional physical sources, fostering their utility of teaching learning by using digital technology. Digital tools cheer up collaborative learning, many researcher work on various projects both online as well as offline. Durable digital skills not only helps the new 'Digital Divide' but also ensuring all students to access digitally and close equality gap of every individual.

This study examines how digital technologies are becoming more and more important in society and education. Knowing how students feel about digital literacy can help educators and policymakers assess the success of ongoing programs, spot participation and access hurdles, and develop strategies for ensuring that all students have

fair access to digital resources and abilities. Additionally, examining students' attitudes toward digital literacy might reveal information about how well-prepared they are for the demands of the industry and for participating in society as digital technology becomes more and more incorporated into academic and professional settings.

IV. Digital literacy:

Digital means E- technology that generates stores and processes data in terms of authentic states. In the context of technology, digital refers to electronic devices and systems that operate using binary code, which is made up of ones and zeros. Digital devices use this code to represent data, such as text, images, and sound, which can be manipulated and transmitted electronically.

Digital literacy is defined as “equitable, meaningful, and careful access to use, lead, and design of digital technologies, services, and associated opportunities for everybody, everywhere like banking, finance, share market. Digital literacy allows all people to access education, of their geographical location or abilities. This means that, with technology, it is possible to overcome barriers such as distance, lack of resources, or some disabilities.

UNESCO (2018) defines digital literacy: Digital literacy is “the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies for employment, decent jobs and entrepreneurship. It includes competences that are variously referred to as computer literacy, ICT literacy, information literacy and media literacy”.

Digital literacy skills means “the skills associated with using technology to enable users to find, evaluate, organize, create, and communicate information; and developing digital citizenship and the responsible use of technology” (Museum and Library Services Act of 2010, Pub. L. 111-340, 22 Dec. 2010).



Digital literacy (Eshet-Alkalai, 2004; Harris, 2015; Pegrum, 2010; Siemans, 2004) highlights an affluent of cum-savvy that can be illustrate as below-

Basic Computer Skills: It means the core competencies like navigating operating system, browsing, e-mail, using application like Ms-Office; Hardware operation like mice, keyboards, monitors and other external device; internet skill and digital communication- instant messaging (Whats Aap and video conferencing through Google meet). Moreover we use common and non-technical way to preface the inaugurate skills that we need to learn.

Network Literacy: It means learning about networks & learning through networks. It is the ability to maintain between personal utility and social kinship. It is the preparance of students of his bright carrier to operate digital network & development of civic where every individual use digital networks with local, national, and global issues. Learning through network based on concept of connectivism, it enables knowledge to connecting each individual up-to-date knowledge about their diversified viewpoints that ability to construct, navigate and connect these incidences. Key components are example in interaction with experts, peers, digital resources including MOOC & other online platform.

Digital Problem Solving: It is the ability to leverage digitally like trickery to recognize, analyse, sovlve problem across the network both personally in banking, education and broadly by using AI identity trends, analyse and produce creative prevention.

Information Literacy: It has become use of more complex technology assemble and notifies information like library websites, databases, e-search application. It enables

lifelong learning, civic engagement combatting misinformation. UNESCO explains – it is a set of skills assessing, analysing, evaluating, creating, using information.

Media Literacy: It means not only news media or printed media, through social media like Facebook, x-handle, Twitter empowers individual what's going on into the world. So, media literacy empowers various videos like Blogs, Instagram. It is an account of production skills of original or remixes.

History of Digital literacy: The history of digital literacy influenced by American economic condition after post-industrial society. It is practically applied during 1990; Paul Gliner (1997) defines his book "Digital Literacy" "the ability to understand and use of information from digital sources, emphasizing critical thinking over mere technological proficiency". Thus it switches from computer literacy transform into digital way; capably focuses on cognitive skills into navigate digital media.

Lanhan(1995), admire as "multimedia literacy" is quite different from traditional literacy. Reviewers of Gliner's books of this aspect evolve it as, "not organized very well or very logically" (Nicholas and Williams, 1988) and nothing that "useful information for the reader is scattered it bits and pieces"(Bunz,1997). Lanham (1995),deliberation was that since a digital source could generate many forms of information like-text, images, sounds, etc.—a new form of literacy was useful, in order to make sense of these new forms of account. During 1980 digital literacy introduced 1st as Computer Literacy; its aim was on particular learning skills like coding or operating software. Then 1990s as The Internet Era; Digital literacy appeared to ascertain the retention to navigate and use of internet information rather than just hardware. After that 2000s-Present area - Digital Competence; it Shifted towards accomplishment of technological, cognitive, and social skills (e.g., social media usage, privacy protection, and critical thinking). Upliftment in the last decade it was raised, from the rapid acceptance of Google to the vivid of social networking have affirm the list as representing, in broad terms, the needed form of literacy for the present scenario.

Importance of Digital Literacy: Digital Technology has numerous changes we have seen last few years. From daily weather update to online payment digital technology has very important role. From this we may decide needs and adjust changing demands of digital world. Digital literacy is an essential skill for student and educator in higher education. The need of an individual to enlighten digital skills has support educational, professional and critical thinking. Importance of digital learning as stated as below-

- i. Career Opportunities- Today we need digital empowerment. Digital literacy helps job seekers to find their best suitable job. Now it become very easy to doing work from home.so job opportunities is open various window of different work field.
- ii. Lifelong Learning and Education- Digital Technology approve to access online learning, webinars and self-improvement. It helps students to become lifelong learners.
- iii. Content Creation- Digital Learning encourages students to create different content as per requirement of different field like NEET, UGC NET, JEE and also personal blogs for various information of learning.
- iv. International Collaboration- Digital Technology allows for individual to connect people all over the world even for collaboration. Many technology globally and exchange ideas as well as various projects. Students can take part through international agreement which teaches them to collaborate.
- v. Technical Knowledge- today in banking, financial, trade, social security technical knowledge is very important. Digital learning helps how to use all digital objects from hardware, software and various applications.
- vi. Equal Learning Opportunities- Digital Literacy helps every individual equal opportunity to learn in respect cast, religion, sex. For this reason learning through digitally anyone can study equally.
- vii. Online safety and digital citizenship- it is an unavoidable futurity of digital technology of students. Digital citizenship navigates to understand digital rights and responsibilities, online ethics and behaviour. Various programmes like copyright laws, intellectual property, and



ethical use of resources. These things are very important of an individual in abide by responsibilities towards digital culture and ensuring students to be peaceful citizen.

- viii. Critical Thinking and Problem Solving- digital learning empowers students to think problems critically in various ways. For this reason their problem solving ability is increasing to ready for new challenge to overcome.

Components of digital literacy:

There are some key components of digital literacy –

Access: Ensuring that every person has access digital tools, including internet connectivity and devices or using QR code.

Literacy: Furnish individuals with the skills to ensure and utilize digital technologies confidently.

Education: In the educational context, digital literacy ensures that all students can access fully in online learning, research, and collaboration.

Problem-solving: Communities in society benefit when students are youth can engage themselves in digital manner such as using AI or CHATGPT.

Skills: Knowing how to use technology is crucial. This includes digital literacy, like browsing the web, using email, and creating documents, transfer money and others by using QR code.

Support: many people need help navigating the technical aspects of using technology. Digital literacy initiatives often provide technical support.

In summary, Digital literacy aims to empower all students with the tools and skills needed for advancement in our increasingly digital world. Students' attitudes toward digital literacy play a vital role in shaping their learning experience.

V. OBJECTIVES OF THE STUDY:

Researcher formulated the following objectives:

To know the attitude towards Digital Literacy among the male & female P.G. level Students at S.K.B. University.

To know the attitude towards Digital Literacy among the rural & urban P.G. level Students at S.K.B. University.

To know the attitude towards Digital Literacy among the 2nd Sem & 4th Sem P.G. level Students at S.K.B. University.

To know the attitude towards Digital Literacy among the Arts & Science P.G. level Students at S.K.B. University.

VI. HYPOTHESIS OF THE STUDY:

Based on the research objectives, the researcher will formulate the following research hypotheses.

H01: There is no significance difference in the attitude towards digital literacy among the male and female P.G. level students at S.K.B. University.

H02: There is no significance difference in the attitude towards digital literacy among the rural and urban P.G. level students at S.K.B. University.

H03: There is no significance difference in the attitude towards digital literacy among the 2nd Sem and 4th Sem P.G. level students at S.K. B. University.

H04: There is no significance difference in the attitude towards digital literacy among the arts and science P.G. level students at S.K.B. University.

VII. METHODOLOGY OF THE STUDY:

Researcher used quantitative method for study. For collection of the data through self-made five point Likert type attitude scale and besides researcher also collected data from the books, journal, article, newspaper etc. T- test, Mean, S.D. etc. was used for analysis of the study.

Objectives wise data analysis

Researcher analysis the study by objective wise firstly tabulated the collected data and then analysis by various angles.

Section 1:

The first objective is To know the attitude towards digital literacy among the male and female P.G. level students in S.K.B. University. Fulfillment the objective researcher set a null hypothesis like that, H01- There is no significant difference in the attitudes towards digital literacy between male and female postgraduate students in S.K.B.

University. After that researcher tested the level of significant difference or null hypothesis by an independent t- test.

Table 1: T- test of male & female P.G. level students in S. K. B. University attitude towards Digital Literacy

| Gr ou ps | N | Me ans | Σ | d f | Calc ulate d t value | Cri tica l t value | N S/ S | Rem arks |
|----------------|----|-----------|----------|--------|-------------------------------|-----------------------------|--------------|---|
| Ma le | 37 | 97.0811 | 12.21652 | 118 | 0.4192 | At level of 0.05=1.9808 | N S | Null hypothesis is Accepted in both level of significance |
| Fe mal e | 83 | 98.0361 | 11.20697 | 118 | 0.4192 | At level of 0.01=2.6186 | N S | Null hypothesis is Accepted in both level of significance |

The table showed that the t-value, which is a test statistically that is used to determine the significance of the difference between the means.

The table showed that the null hypothesis was accepted at both the 0.05 and 0.01 levels. The null hypothesis is the statement that there is no significant difference between the means of the two groups.

So, researcher concludes that there is not a significant difference between the attitudes of male and female P.G. level students at the S.K.B. University towards digital literacy. Reject the alternative hypothesis, which states that there is a significant difference in attitudes towards digital literacy between male and female postgraduate students.

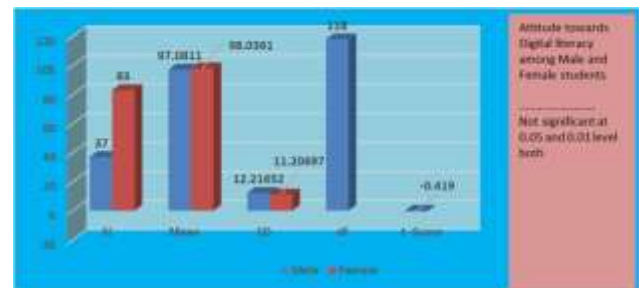


Figure 1: A bar graph for mean difference between male and female towards digital literacy among PG level Students.

Based on the t-value (0.419), which is smaller than table t value with 118 df and 0.05 and 0.01 confidential level, so researcher can fail to reject the null hypothesis. The null hypothesis is the statement that there is no significant difference between the means of the two groups (male and female students). Therefore both male and female post graduate students are highly desired to promote the digital literacy in educational sector.

Section 2:

The Second objective is To know the attitude towards digital literacy among the rural and urban P.G. level students in S.K.B. University. Fulfillment the objective researcher set a null hypothesis like that H02: There is no significance difference in the attitude towards digital literacy among the rural and urban P.G. level students in S.K.B. University. After that researcher try to find out significant difference or null hypothesis by an independent t- test.

Table 2: T - Test of Rural & Urban P.G. level Students in S.K.B. University attitude towards Digital Literacy

| Gro ups | N | Me ans | Σ | d f | Calc ulate d t value | Cri tica l t value | N S/ S | Rema rks |
|---------|----|--------|----------|-----|----------------------|---------------------------|--------|--|
| Rur al | 94 | 97.00 | 11.32 | 118 | 1.3498 | At level of 0.05 = 1.9808 | N S | Null hypot hesis is accept ed in both level of signifi cance |
| Urb an | 26 | 100.42 | 11.91 | 118 | 1.3498 | At level of 0.01 = 2.6186 | N S | Null hypot hesis is accept ed in both level of signifi cance |

The table showed the t-value, which is a test statistically that is used to determine the significance of the difference between the means.

The table showed that the null hypothesis was accepted at both the 0.05 and 0.01 levels of significant. The null hypothesis is the statement that there is no significant difference between the means of the two groups.

So, researcher concludes that there is not a significant difference between the attitudes of rural and urban P.G. level students at S.K.B. University towards digital literacy.

Reject the alternative hypothesis, which states that there is a significant difference in attitudes towards digital literacy between rural and urban postgraduate students.

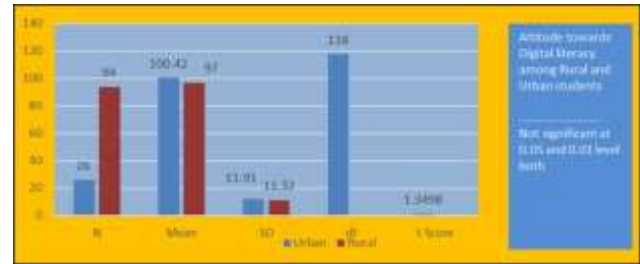


Figure 2: [A bar graph for mean difference between Rural & Urban towards digital literacy among PG level Students.]

Based on the t-value (1.3498), which is smaller than table value with 118 df and 0.05 and 0.01 confidential level, so researcher can fail to reject (null hypothesis is accepted)the null hypothesis. The null hypothesis is the statement that there is no significant difference between the means of the two groups (rural and urban students' attitude towards digital literacy). Hence both Rural and Urban students are highly desired to promoted the digital literacy in educational sector especially in the higher education. The opined that without digital literacy we are unable to reach at the dream goals of 'Atmanirbhar Bharat'.

Section 3:

The third objective is, To know the attitude towards digital literacy among the 2nd Sem & 4th Sem P.G. level students in S. K. B. University. Fulfilment the objective researcher set a null hypothesis like that H03: There is no significance difference in the attitude towards digital literacy among the 2nd& 4th Sem P.G. level Students in S.K.B. University. After that researcher try to find out whether there is significant difference or null hypothesis by an independent t- test.

Table 3: T - Test of 2nd Sem & 4th Sem P.G. level Students in S.K.B. University attitude towards Digital Literacy

| Groups | N | Means | Σ | df | Calculated t value | Critical t value | N/S/S | Remarks |
|---------|----|-------|----------|-----|--------------------|-------------------------|--|---------|
| 2nd Sem | 82 | 98.63 | 1308 | 118 | 1.2535 | At level of 0.05=1.9808 | Null hypothesis is accepted in both level of significance. | |
| 4th Sem | 82 | 95.82 | 628 | 118 | 1.2535 | At level of 0.01=2.6186 | Null hypothesis is accepted in both level of significance. | |

The table show the t-value, which is a test statistic that is used to determine the significance of the difference between the two means.

The table showed that the null hypothesis was accepted at both the 0.05 and 0.01 levels. The null hypothesis is the statement that there is no significant difference between the means of the two groups.

So, researcher concludes that there is not a significant difference between the attitudes of 2nd Sem and 4th Sem P.G. level students at S.K.B. University towards digital literacy. Reject the alternative hypothesis, which states that there is a significant difference in attitudes towards digital literacy between 2nd Sem and 4th Sem postgraduate students.

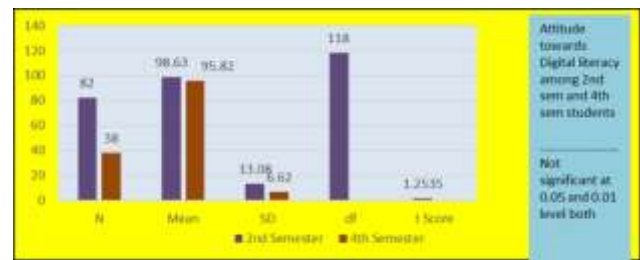


Figure 3: [A bar graph for mean difference between 2nd Sem & 4th Sem towards digital literacy among PG level Students.]

Based on the t-value (1.2535), which is smaller than table t value with 118 df and 0.05 and 0.01 confidential level, so researcher can fail to reject the null hypothesis. The null hypothesis is the statement that there is no significant difference between the means of the two groups (2nd Sem & 4th Sem students). Therefore both 2nd Sem and 4th Sem Post Graduate Students are highly desired to promote the digital literacy in educational sector.

Section 4:

The fourth objective is, To know the attitude towards digital literacy among the Arts & Science P.G. level students in the S. K. B. University. Fulfillment the above objective researcher set a null hypothesis like that H04: There is no significance difference in the attitude towards digital literacy among the arts & Science P.G. level students in the S.K.B. University. After that researcher try to find out significant difference or null hypothesis by an independent t- test.

Table 4: T - Test of Arts & Science P.G. level Students in S.K.B. University attitude towards Digital Literacy

| Gro ups | N | Me ans | Σ | d f | Calcu lated t value | Crit ical t value | N S/S | Rem arks |
|----------|----|--------|----------|-----|---------------------|---------------------------|-------|-----------------------------|
| Arts | 73 | 96.44 | 10.68 | 11 | 1.5586 | At level of 0.05 = 1.9808 | N S | Null hypothesis is accepted |
| Scie nce | 47 | 99.77 | 12.48 | 11 | 1.5586 | At level of 0.01 = 2.6186 | N S | Null hypothesis is accepted |

The table shows the t-value, which is a test statistically that is used to determine the significance of the difference between the means among the two group.

The table showed that the null hypothesis was accepted at the both level i.e 0.05(1.9808) and 0.01(2.6186). The null hypothesis is the statement that there is no significant difference between the means of the two groups.

So, researcher concludes that there is not a significant difference between the attitudes of arts and science P.G. level students at S.K.B. University towards digital literacy. Reject the alternative hypothesis, which states that there is a significant difference in attitudes towards digital literacy between arts and science postgraduate students. Hence every student wants to spread the digital literacy all across in our country.

Figure 4: [A bar graph for mean difference between arts & science towards digital literacy among PG level Students.] Based on the t-value (1.5586), which is smaller than table t value with 118 df and 0.05 and 0.01 confidential level, so researcher can fail to reject the null hypothesis. The null hypothesis is the statement that there is no significant difference between the means of the two groups (arts & science students). Therefore, both arts and science post graduate students are highly desired to promote the digital literacy in educational sector.

VIII. FINDINGS:

1. On the basis of the data analysis researcher reveals that there is no significance difference among the male and female students attitude towards digital literacy in S. K. B. University.
2. Through the testing of null hypothesis researcher reveals that there is no significance difference among the urban and rural students attitude towards digital literacy in S. K. B. University.
3. Researcher shows that there is no significance difference among the 2nd Sem and 4th Sem students attitude towards digital literacy in S. K. B. University.
4. Through the testing of null hypothesis researcher reveals that there is no significance difference among the arts and science student's attitude towards digital literacy in S. K. B. University.

IX. CONCLUSION:

Digital Literacy is changing the future higher education. During and after covid-19 pandemic it goes to virtual and digital literacy expand by skills. Like breathing digital technology has also become an emergent skill of every person in our society. Though higher students are adequate of applying diverse technologies, but they are not able how and when it uses properly. Thus digital literacy act as a significant role in defining their abilities to obey in academics and give opportunities to learn every day and empowers changing in various ways which have been seen last few years. This study provides attitude towards digital literacy skills among post graduate students of sidhokanho-birsha University. This study shows there is no significant difference between male and female; urban and rural students. This study also examines positive attitude

towards technology and it can lead high engagement and quick adoption of digital skills. Overall in this research pointed out that digital literacy address particular needs of different academic fields and demographic groups, in future aiming to enhance the digital competencies of post graduate students in a rapidly amplify educational landscape.

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