University Research Resource Journal
ISSN : 2581-3730
JAYOTI VIDYAPEETH WOMEN'S UNIVERSITY, JAIPUR
Volume 6, Issue 1 (January to March, 2023)

Digital Literacy in Higher Schooling

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Abstract : The importance of digital literacy in higher education has grown considerably in the present digital age. The purpose of this study is to look into the level of digital literacy among college students and to determine the elements that influence it. A survey questionnaire was provided to a sample of college students to perform the research. According to the findings, the overall level of digital literacy among college students is satisfactory. However, there is always need for improvement in digital literacy skills, notably in data analysis and cybersecurity. The study also discovered that access to technology, motivation, and training programmes all have a substantial impact on students' digital literacy levels.

Key words : digital skills, digital literacy, higher education

INTRODUCTION : The emergence of digital technology has transformed the way we learn, work, and communicate. In today's digital world, digital literacy has become an essential component of higher education. Digital literacy refers to the abilities and competences required to effectively use digital technology, such as the capacity to access and analyse information, communicate online, and produce material using digital tools. It is critical for students to have digital literacy skills in order to succeed in today's workforce, when technology plays a key part in practically every field.

However, many students enter higher education with varying levels of digital literacy, and some may lack the necessary skills to thrive in a digital learning environment. To address this challenge, higher education institutions must take a proactive approach to promote digital literacy among students. This includes developing strategies to integrate digital literacy into the curriculum and providing students with access to the necessary tools and resources to develop their digital skills.

The rapid pace of technological advancement has transformed the way we interact with information and the world around us. In the education sector, digital technology has become an integral part of the learning experience, providing new opportunities for collaboration, creativity, and innovation. In order to succeed in the modern digital landscape, students need to possess a range of digital literacy skills that enable them to effectively navigate and use digital tools.

Digital literacy, defined as the ability to access, evaluate, create and communicate information using digital technology, has become an essential competency for students in higher education. Digital literacy skills are not only necessary for academic success but are also essential for career readiness in today's digital workplace. Thus, it is imperative for higher education institutions to ensure that students are adequately equipped with digital literacy skills to meet the demands of the 21st- century workforce.

This research paper aims to explore the importance of digital literacy in higher education, its impact on student learning. This study seeks to provide insights into the key skills and competencies that students need to develop to succeed in the digital age. The study also highlights the challenges faced by educators in integrating digital literacy into the curriculum and provides recommendations for how these challenges can be addressed. Ultimately, the aim of this study is to contribute to the ongoing conversation about how higher education can best prepare students for the challenges and opportunities of the digital age.

Literature Review :

The study by Tejedor et al.(2020) emphasizes the importance of digital literacy in higher education, especially during the COVID-19 pandemic, and highlights the need for improvement in key areas such as teachers' digital literacy, adaptable learning resources, student-university communication, and contemporary teaching methods. The authors suggest that higher education should be re- examined and transformed to reinforce the key components of this transformation, including communication, instruction, and digital competences, to guarantee digital literacy and achieve one of the goals of higher education. The study's findings have significant implications for higher education institutions, policy makers, and educators to provide effective digital education that meets the needs of students in the contemporary world.

The study by Chan et al. (2017) highlights the importance of developing digital literacy abilities for effective communication and expression through digital media. Digital literacy has been incorporated into the curriculum of educational systems worldwide. Digital storytelling is a promising approach to engage and inspire students to learn digital literacy skills. The study employed interviews and artifact analysis to examine the effectiveness of digital storytelling approach on three students taking a multimedia course. These students were selected from a purposive sample. The results indicate that the approach can improve students' digital literacy abilities, including digital competence, digital usage, and digital transformation, regardless of their prior knowledge and level of digital literacy. The findings suggest that digital storytelling is a valuable classroom activity for promoting digital literacy learning in higher education.

The study by Abbas et al. (2019)aimed to investigate the impact of digital literacy on academic performance among higher education students. The study employed a mixed-method approach and utilized a questionnaire and semi-structured interviews for data collection. The study sample consisted of M.S/M.Phil and Ph.D. students from 10 universities, with 800 students selected randomly. The study found that digital literacy had a significant impact on students' communication and research skills, as well as their confidence levels. However, the study found an insignificant impact of digital literacy on students' CGPA. These findings indicate that digital literacy is an important factor in developing essential skills beyond academic performance in higher education. The study's findings suggest that educators and policymakers should prioritize developing digital literacy skills among students to enhance their communication, research, and confidence levels

Yustika and Iswati (2020) conducted a library description study to explain the current findings of digital literacy in formal online education. The study used relevant scientific articles obtained from internet

search media library engines with the keyword "digital literacy." The authors found that digital literacy is multi-dimensional and built by multi-construct hypotheses. Previous research has shown that a higher level of digital literacy is positively related to learning outcomes in the subjects studied. Online learners may feel anxious if they do not understand or are not accustomed to online classes, especially for those who have limited computer skills. Additionally, independent students perform better than non-independent students, with academic skills, reading, and writing abilities being the best predictors of academic success measured by final grades. The study concluded that higher levels of digital literacy positively affect the output of learning outcomes and academic performance.

The paper by Pritika Reddy, Bibhya Sharma, and Kaylash Chaudhary (2020) provides a literature review of the growing importance of ICT and its impact on various aspects of people's daily lives. The paper highlights the emergence of digital literacy as an important concept in the technological era, and its contribution towards achieving sustainable development goals. The authors also discuss the role of ICT in the development of various sectors, particularly in the education sector. The paper concludes by presenting three new models of digital literacy, namely the four gear model, the model for flexible learning, and a model showing the impact of ICT on the learning process. These models aim to provide a comprehensive understanding of digital literacy and its various dimensions, including technical, cognitive, and social aspects. The authors argue that these models can be used to guide the development of digital literacy programs in different contexts and settings.

Natalia Churchill et al (2008) focuses on the use of digital storytelling as a means of developing digital literacy among upper primary school students in an English language classroom. The study aims to examine how digital storytelling can increase digital literacy necessary for meaning-making and representing through electronic multimodal texts. the paper provides valuable insights into the potential of digital storytelling as a pedagogical tool for developing digital literacy in primary school English language classrooms. The study's recommendations could be useful for educators looking to incorporate digital storytelling in their teaching practices to enhance digital literacy skills among students.

Research Methodology :

The Population of the study consists of students from various degree colleges in the Budgam district of Kashmir division. In this study cluster sampling was used. The clusters were created by dividing the students into different departments of different colleges based on their field of study. The selected departments were Computer Science, Humanities, Science, and Commerce .A random sample of the college's departments was chosen, and then from each selected department random sample of students was chosen. This guarantees that the data is accurate and valid and that the sample is representative of the population. Data was collected through a combination of online surveys and interviews. The online surveys was conducted through questionnaires where list of questions were prepared and given to all the selected students, while the interviews were conducted with a purposive sample of participants who demonstrate a high level of digital literacy skills.

The online survey included questions that measure the participants' digital literacy skills, as well as their perceptions of the importance of digital literacy in higher education. The interviews allowed

participants to elaborate on their responses and provided more in-depth information about their experiences with digital technology in the classroom.

Data analysis was carried out using both descriptive and inferential statistics. Descriptive statistics was used to summarize the characteristics of the sample, while inferential statistics was used to test hypotheses and draw conclusions about the population.

Overall, cluster sampling helped us in selecting representative and reliable sample from different colleges of district Budgam, providing insights into the digital literacy skills and perceptions of students in different departments. The combination of online surveys and interviews provided a comprehensive understanding of the topic, the use of both descriptive and inferential statistics ensured that the data collected is robust and meaningful.

Data analysis :

A total of 800 students participated in the study, out of 800 only 560 responses were collected. The respondents were from different departments e.g., Computer Science, Humanities, Science, and Commerce.

The results of the online survey showed that the majority of students in different degree colleges in Budgam demonstrated a moderate level of digital literacy skills. In particular, students reported feeling confident in using basic software applications, such as Microsoft Office, and accessing information online. However, there was a notable lack of skills related to programming, coding, and advanced data analysis.

When asked about the importance of digital literacy in higher education, the majority of students reported that it was either important or very important. However, there were some differences in perceptions between departments, with students in the Computer Science and Science departments reporting a higher level of perceived importance compared to students in the Humanities and Commerce departments.

The interviews provided additional insights into the students' experiences with digital technology in the classroom. Many students reported feeling that digital technology had a positive impact on their learning experience, such as providing access to online resources and facilitating collaboration with classmates. However, some students also reported feeling overwhelmed by the amount of technology used in the classroom and struggled to keep up with the pace of instruction.

Question No.	Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	I am comfortable using various digital tools and applications.	180	250	80	40	10
2	I can effectively search and find information on the internet.	200	220	80	40	20
3	I can critically evaluate the credibility of information found on the internet.	150	250	90	40	30

4	I am confident in my ability to use digital tools to communicate with others.	170	240	80	40	30
5	I am able to effectively manage and organize digital files and documents.	120	200	150	50	40
6	I have a good understanding of online privacy and security practices.	110	240	120	60	30
7	I can use digital tools to collaborate with others on projects or assignments.	160	250	70	50	30
8	I am able to use digital tools to present information in a clear and engaging way.	190	250	60	30	30
9	I can use digital tools to create and edit multimedia content, such as images and videos.	150	250	80	50	30
10	I am able to adapt to new digital tools and technologies quickly.	220	220	80	20	20
11	I have a good understanding of intellectual property rights and plagiarism issues online.	140	220	100	50	50
12	I can use digital tools to conduct research and analyze data effectively.	170	220	90	40	40
13	I am able to troubleshoot and solve technical issues that arise when using digital tools.	180	230	70	40	40
14	I can use digital tools to participate in online discussions and forums effectively.	160	250	70	40	40
15	I am able to use digital tools to engage in lifelong learning and professional development.	200	250	60	30	20

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Departments	No. of Participants	Average Digital Literacy Score
Computer Science	176	96
Science	149	67
Humanities	110	63
Commerce	125	61

This table shows the number of participants in each department who completed the questionnaire, along with the average digital literacy score for each department. These results suggest that students in the Computer Science and Science departments have higher digital literacy levels on average compared to those in the Humanities and Commerce departments. These findings can be used to inform targeted interventions and support to improve digital literacy levels among students in the lower-performing departments.

Result : Based on the results of this study, it can be concluded that the majority of students in different colleges of budgam district demonstrate a moderate level of digital literacy skills which can be seen in figure 1. Where 169 out of 176 students from computer science background is showing 96% of digital literacy score impact, 101 out of 149 from science stream is showing 63% of digital literacy score impact, 70 out of 110 from humanities department is showing 63% of digital literacy score impact whereas 77 out of 125 students from commerce background is showing 61% of digital literacy score impact.

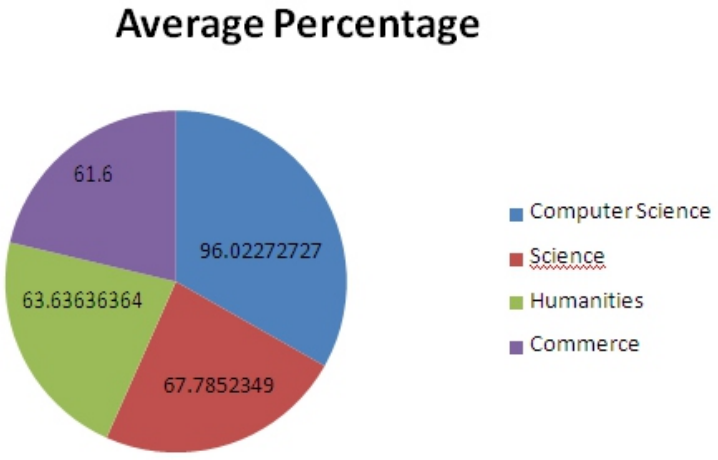

Figure 1: Average digital literacy score percentage on different participants

Conclusion:

Overall, the results suggest that while students in different colleges in the district of Budgam demonstrate a moderate level of digital literacy skills, there is a need for more advanced digital skills training, particularly in areas related to programming and data analysis. The findings also highlight the importance of digital technology in higher education and the need for effective integration and use of digital tools in the classroom.

The study also revealed that there were differences in perceptions of the importance of digital literacy between departments, with students in the Computer Science and Science departments reporting a higher level of perceived importance compared to students in the Humanities and Commerce departments.

The interviews provided additional insights into the students' experiences with digital technology in the classroom, highlighting both the positive impact of digital technology on the learning experience and the challenges that students face in keeping up with the pace of instruction and the amount of technology used in the classroom.

Overall, the findings of this study highlight the need for more advanced digital skills training in higher education, particularly in areas related to programming and data analysis. The study also underscores the importance of effective integration and use of digital tools in the classroom to enhance the learning experience and prepare students for the demands of the digital age.

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