

DIGITAL LITERACY AMONG B.ED. STUDENT TEACHERS

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Abstract

Digital literacy is the capacity to effectively use computers and related technology, with skills ranging from fundamental operation to programming and complicated problem-solving. Everyone should be digitally literate in today's world. The major purpose of the study was to assess digital literacy among B. Ed. student teacher, data was obtained via a survey. The sample of 60 student teachers was selected from private and government TEIs using simple random sampling. The study's findings show that there was a significant difference in mean digital literacy scores between government and private student teachers of selected TEIs and UG and PG student teachers but there was no significant difference in mean digital literacy scores between male and female student teachers. Digital literacy scores slightly differ significantly between male and female student-teachers and UG and PG student-teachers from private and government institutions.

Keywords — Computer Basics, Digital Devices, Literacy, and ICT, Student Teacher

I. INTRODUCTION

Literacy goes beyond merely being able to read and write; it includes the effective use of these skills in various contexts where literacy is assumed. According to the UNESCO Institute for Statistics (2018), Digital Literacy is "the ability to access, manage, understand, integrate, communicate, evaluate, and create information safely and appropriately using digital technologies for employment, decent jobs, and entrepreneurship." This concept includes skills known as computer literacy, ICT literacy, and information literacy. In today's world, computers are ubiquitous, found in offices, institutions, factories, companies, agencies, malls, and more. Basic activities like paying bills, shopping, and using bank cards now rely on computer technology. Computers have become essential tools for accessing and sharing information and communicating globally. As computers and digital devices have become widespread, new vocabulary has emerged. Terms like "memory" are now more often associated with

computers than mental faculties, "storage" refers to data storage instead of physical space, and "communication" involves the exchange of ideas through digital means.

II. REVIEW OF RELATED LITERATURE

Heemskerk et al. (2012) conducted a study on the inclusiveness of ICT in secondary education, focusing on students' appreciation of ICT tools. The findings indicated that students learn more effectively when using these tools. Additionally, students preferred engaging in exploratory and cooperative activities, allowing them to experiment and consult with peers. It was also noted that girls were particularly attracted to ICT tools with clear and easy-to-understand instructions.

Misir (2018) discussed the importance of Digital Literacies and interactive multimedia tools in language education. He emphasized that Digital Literacies are crucial in education, workplaces, and personal lives. In a formal classroom setting, Digital Literacy skills can be developed through active engagement with web platforms and various

interactive web tools and applications. Learning management systems and massive open online courses, which support learner-centered pedagogy and innovative teaching methods, require a significant level of Digital Literacy.

Mohalik et al. (2018) examined the digital literacy levels of 170 teacher trainees from various secondary teacher training institutes in Odisha. The study found that these teacher trainees generally possessed a moderate level of digital literacy. Furthermore, while most trainees owned digital devices, they were not utilizing them effectively for learning and teaching purposes.

III. NEED & SIGNIFICANCE

Digital literacy is defined as the ability to effectively utilize computers for creation, communication, and collaboration in a literate society. Training for language teachers involves gaining the knowledge and skills needed to use common computer applications, language-specific software, and online resources confidently and proficiently. This training covers various areas such as understanding technology, technical terminology, computer components, data, and program concepts, computing methods, managing files, documents, and images, working with multimedia, evaluating resources, and communicating with others. Consequently, educators are required to keep up with the latest advancements in their fields and develop competencies in using computers and technology for effective teaching.

IV. OBJECTIVES

1. To study the digital literacy (DL) levels of pupil teachers in government and private teacher education institutions (TEIs).
2. To study the digital literacy (DL) levels among male and female pupil teachers of selected teacher education institutions (TEIs).
3. To study the digital literacy (DL) levels of undergraduate and postgraduate pupil teachers of selected teacher education institutions (TEIs).
4. To compare the digital literacy (DL) levels of pupil teachers in government and private teacher education institutions (TEIs).

5. To compare the digital literacy (DL) levels of male and female pupil teachers of selected teacher education institutions (TEIs).

6. To compare the digital literacy (DL) levels of undergraduate and postgraduate pupil teachers of selected teacher education institutions (TEIs).

V. HYPOTHESES

1. There is no significant difference in the digital literacy (DL) levels of pupil teachers in government and private teacher education institutions (TEIs).

2. There is no significant difference in the digital literacy (DL) levels of male and female pupil teachers of selected teacher education institutions (TEIs).

3. There is no significant difference in the digital literacy (DL) levels of undergraduate and postgraduate pupil teachers of selected teacher education institutions (TEIs).

VI. RESEARCH METHODOLOGY

A descriptive survey method was employed for this study. The survey was conducted among student-teachers from one government and one private Teacher Education Institution (TEI) in the Delhi and NCR region. A total of 60 student-teachers were selected using a random sampling technique. A self-constructed Digital Literacy Assessment Tool (DLAT) was utilized to assess the digital literacy of the student-teachers. Standard statistical techniques used in this study included descriptive and inferential statistics, such as mean, median, mode, standard deviation, and t-test. Graphical representations were used for comparing different variables in the study. The questionnaire aimed to evaluate digital literacy and comprised three sections: the first on information literacy, the second on digital literacy, and the third on digital media literacy. The digital literacy section consisted of 60 multiple-choice items covering various dimensions.

- Device literacy
- Device media literacy
- Information literacy

VII. ANALYSIS AND INTERPRETATION OF DATA

The investigators used descriptive statistical approaches in this existing study. The mean, median, mode, and standard deviation were calculated, and the results are presented in the tables below.

Objective 1: To study the digital literacy (DL) levels of pupil teachers in government and private teacher education institutions (TEIs).

The mean, median, mode, and standard deviation acquired by pupil teachers in government and private teacher education institutions (TEIs). are listed below.

Table 1 score obtained by government and private student teachers in TEIs

Type of TEIs	Mean	Median	Mode	SD
Govt TEIs	48	46.5	50	12.364
Private TEIs	42	44	45	

Table 1 shows that the mean score of government and private student teachers at chosen TEIs is 48 and 42, respectively, and the median is 46.5 and 44, indicating that half of the participants scored lower than that level. The most frequent items in government and private student teachers' distributions are 50 and 45, respectively, with a standard deviation of 12.364.

Objective 2: To study the digital literacy (DL) levels among male and female pupil teachers of selected teacher education institutions (TEIs).

The mean, median, mode, and standard deviation obtained by male and female student teachers of selected TEIs are shown in Table 2.

Table 2 score obtained by male and female student teachers in TEIs

Gender	Mean	Median	Mode	SD
Male	41.8	43	50	12.264
Female	39.5	45	50	

The above table 2 shows that the mean score of male and female student teachers of selected TEIs is 41.8 and 39.5 respectively, and the median is 43 and 45 respectively, indicating that half of the participants scored less than that number. The most frequent item in the male and female distributions is 50 and 50, respectively, with a standard deviation of 12.264.

Objective 3: To study the digital literacy (DL) levels of undergraduate and postgraduate pupil teachers of selected teacher education institutions (TEIs).

The mean, median, mode, and standard deviation obtained from undergraduate and postgraduate pupil teachers of selected teacher education institutions (TEIs) are listed here.

Table 3 score obtained by UG and PG student teachers in TEIs

Qualifications	Mean	Median	Mode	SD
UG	48	42	50	12.364
PG	41	41.50	52	

The above table 3 shows that the mean score of UG and PG student teachers at chosen TEIs is 48 and 41, respectively, and the median is 42 and 41.50, indicating that half of the participants scored lower than that level. The most frequent items in the UG and PG student teachers' distributions are 50 and 52, respectively, with a standard deviation of 12.364.

Objective 4: To compare the digital literacy (DL) levels of pupil teachers in government and private teacher education institutions (TEIs).

To study the difference in the digital literacy (DL) levels of pupil teachers in government and private teacher education institutions (TEIs), the null hypothesis is formulated.

H₀₁: There is no significant difference in the digital literacy (DL) levels of pupil teachers in government and private teacher education institutions (TEIs).

T-ratio is calculated to compare the significant difference in the digital literacy (DL) levels of pupil teachers in government and private teacher education institutions (TEIs).

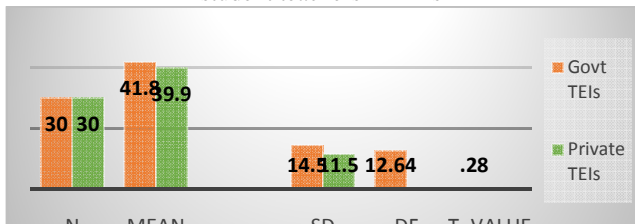
Table 4 score obtained by UG and PG student teachers in TEIs

Type of TEIs	N	Mean	SD	df	t- value
Govt TEIs	30	41.8	14.50	12.64	.2882*
Private TEIs	30	39.9	11.5		

*Significant at 0.05 level

Table 4. indicates that the mean scores and standard deviation of government and private student teachers of TEIs are 41.8 and 39.9 (refer to Fig. 1). The obtained result further indicates that the t-value of **.2882** is significant at 0.05. This shows rejection of the null hypothesis, thereby acceptance of the alternate hypothesis which states that there is a significant difference in digital literacy level as perceived by government and private student-teachers.

Fig. 1 shows scores obtained by government and private student teachers in TEIs



Objective 5: To compare the digital literacy (DL) levels of male and female pupil teachers of selected teacher education institutions (TEIs).

To study the difference in the digital literacy (DL) levels of male and female pupil teachers of teacher education institutions (TEIs), the null hypothesis is formulated.

H02: There is no significant difference in the digital literacy (DL) levels of male and female pupil teachers of selected teacher education institutions (TEIs).

T-ratio is calculated to compare the significant difference in the digital literacy (DL) levels of male and female pupil teachers of teacher education institutions (TEIs).

Table 5 score obtained by male and female student teachers in TEIs

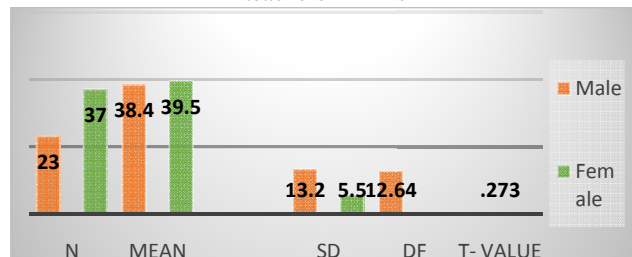
Gender	N	Mean	SD	df	t- value
Male	23	38.4	13.2		

Female	37	39.5	5.5	12.64	.2736
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*Significant at 0.05 level

Table 5 indicates that the mean scores and standard deviation of male and female group student teachers of TEIs are 39.5 and 38.4 (refer to Fig. 2). The obtained result further indicates that the t-value **0.2736** is insignificant at 0.05. This indicates acceptance of the null hypothesis, thereby rejection of the alternate hypothesis which states that there is a significant difference in digital literacy as perceived by male and female student-teachers.

Fig. 2 shows scores obtained by male and female student teachers in TEIs



Objective 6: To compare the digital literacy (DL) levels of undergraduate and postgraduate pupil teachers of selected teacher education institutions (TEIs).

To study the difference in the digital literacy (DL) levels of undergraduate and postgraduate pupil teachers of selected teacher education institutions (TEIs), the null hypothesis is formulated.

H03: There is no significant difference in the digital literacy (DL) levels of undergraduate and postgraduate pupil teachers of selected teacher education institutions (TEIs).

Table 6 score obtained by UG and PG student teachers in TEIs

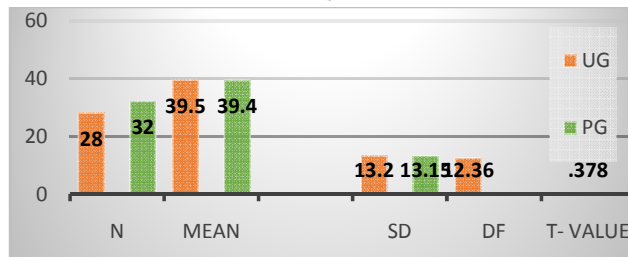
Qualification	N	Mean	SD	df	t- value
UG	28	39.5	13.2	12.36	.3781*
PG	32	39.4	13.15		

*Significant at 0.05 level

Table 6 indicates that the mean scores and standard deviation of UG and PG student teachers of TEIs

are 39.5 and 39.4 respectively (refer to Fig. 3). The obtained result further shows that the t-value .3781 which is significant at 0.05 level. This indicates rejection of the null hypothesis, thereby acceptance of the alternate hypothesis which states that there is a significant difference in digital literacy as perceived by UG and PG student teachers of the selected TEIs.

Fig. 3 shows scores obtained by UG and PG student teachers in TEIs



VIII. DISCUSSION

This study seeks to explore student-teachers' of levels of digital literacy in both government and private teacher education institutions. The results reveal that student-teachers across various categories—whether in government or private institutions, undergraduate or postgraduate programs, and regardless of gender—hold a highly positive view of digital literacy. In terms of computer literacy among B. Ed teacher trainees have undergone comprehensive training on understanding and applying digital tools. Deivam (2016) exploratory research notably enhanced digital literacy among these student-teachers.

IX. MAJOR FINDING

1. There is a significant difference in the digital literacy (DL) levels of UG and PG pupil teachers and pupil teachers of government and private teacher education institutions (TEIs).
2. There is no significant difference in the digital literacy (DL) levels of male and female and UG and PG pupil teachers of selected teacher education institutions (TEIs).
3. Digital literacy scores slightly differ significantly between male and female student teachers, UG and PG student teachers from private and government institutions.

X. EDUCATIONAL IMPLICATION

1. Promoting proficiency in digital skills among aspiring educators could enhance their readiness to address contemporary educational challenges.
2. Aspiring educators stand to gain from possessing digital skills in both their teaching and learning endeavours.
3. Enhanced digital skills facilitate better utilization of online resources.
4. Enhanced digital proficiency contributes to a more competent cadre of educators.
5. Offering digital training programs aids in broadening knowledge and keeping abreast of advancements in relevant fields.
6. Digital orientation programs furnish enriched knowledge and competencies to enhance performance.

XI. CONCLUSION

In summary, advancing teaching methods involves not only imparting textbook knowledge but also sourcing information from various outlets such as reference materials, journals, encyclopedias, and the expanding realm of electronic media. The internet particularly serves as a vast repository of information, easily accessible to educators. Gender-wise, male and female student teachers showed similar levels of computer literacy on average. However, a notable contrast emerged in digital literacy scores between government and private student-teachers and undergraduate and postgraduate student teachers. Consequently, B.Ed. Student-teacher trainees exhibit a relatively modest level of digital integration.

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