

DIGITAL LITERACY AND EDUCATIONAL ASSESSMENT AMONG UNDERGRADUATES IN DISTANCE LEARNING INSTITUTIONS: A SOCIOLOGICAL PERSPECTIVE

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Abstract

The study investigated digital literacy and educational assessment among undergraduates in distance learning institutions from a sociological perspective. Four research questions guided the study. The study adopted a descriptive survey research design. The total population of the study was 4,200 undergraduates, comprising 2,350 undergraduates from the University of Nigeria, Nsukka (UNN) and 1,850 undergraduates from Nnamdi Azikiwe University, Awka (UNIZIK). A sample size of 389 undergraduates, representing approximately 9.3% of the total population, was selected for the study using a multistage sampling technique. The sample was proportionately distributed across the two institutions, resulting in 218 undergraduates from UNN and 171 undergraduates from UNIZIK. Data were collected using a structured questionnaire, titled: Digital Literacy and Educational Assessment Questionnaire (DLEAQ). The instrument was face validated by three experts in the Faculty of Education, University of Nigeria, Nsukka while the reliability was established using Cronbach Alpha method, which yielded an overall reliability coefficient of 0.84. The instrument was administered to the respondents, and the collected data were analyzed using mean and standard deviation. The findings revealed that undergraduates in distance learning institutions demonstrated a high level of digital literacy with a grand mean score of 3.08. The findings also showed that students experienced a high level of educational assessment with a grand mean score of 3.07. The study also identified sociological factors associated with digital literacy and educational assessment among undergraduates in distance learning institutions. Based on the findings, it was recommended that distance learning institutions should strengthen digital literacy training and improve access to technological resources to enhance students' participation in digital learning and assessment activities.

Keywords: Digital literacy, educational assessment, distance learning, sociological factors

Introduction

The rapid transformation of contemporary society through digital technologies has fundamentally reshaped the manner in which knowledge is created, accessed, shared, and evaluated across educational systems. Higher education institutions, particularly those operating through distance learning models, increasingly rely on digital platforms to facilitate teaching, learning, communication, and evaluation of students' academic progress. This transformation has made the acquisition of digital competencies indispensable for undergraduates who must navigate virtual learning environments, access electronic learning resources, participate in online discussions, complete assignments, and engage in technology-supported evaluation processes. Consequently, the effectiveness of educational assessment within distance learning institutions is becoming increasingly dependent on students' ability to competently utilize digital technologies. Scholars such as Ferrari (2015), Vuorikari, Punie, Carretero and Van den Brande (2016), and Siddiq, Hatlevik, Olsen, Throndsen and Scherer (2016) observed that technological advancement has shifted higher education from traditional instructional practices toward digitally

mediated learning environments where learners require diverse technological competencies to achieve academic success.

Distance learning has emerged as one of the most significant innovations in higher education by providing flexible educational opportunities to learners who are geographically dispersed, employed, or unable to participate in conventional face-to-face programmes. Unlike traditional universities, distance learning institutions depend extensively on digital infrastructure for instructional delivery, learner support, communication, collaborative learning, and academic evaluation. Learning management systems, virtual classrooms, cloud-based applications, electronic libraries, online discussion forums, digital submission portals, and computer-based testing have become integral components of instructional delivery within these institutions. The successful utilization of these facilities requires students to demonstrate competence in locating, evaluating, managing, creating, and communicating information through digital technologies. Mohamed, Fernando and Safeek (2025) found that undergraduate learners in open and distance learning environments exhibit varying levels of digital competence, with communication and collaborative digital skills remaining areas requiring further improvement. Similarly, Caton, Kinshuk and Savenye (2025) maintained that digital literacy has become a prerequisite for academic preparedness and successful participation in higher education.

Educational assessment represents an essential component of the teaching-learning process because it provides evidence regarding learners' achievement, instructional effectiveness, knowledge acquisition, skill development, and attainment of educational objectives. In higher education, assessment extends beyond assigning grades to include continuous monitoring of learners' progress through assignments, quizzes, projects, presentations, practical activities, examinations, peer evaluations, portfolios, and reflective exercises. With the widespread integration of digital technologies, assessment practices have evolved from conventional paper-based methods to electronic and technology-supported approaches that emphasize flexibility, efficiency, immediate feedback, academic integrity, and learner engagement. Online examinations, automated grading systems, digital portfolios, virtual presentations, simulation-based assessments, and computer-assisted testing have become increasingly common within distance learning institutions. Ambreen and Jabeen (2026) reported that technology-integrated formative assessment significantly enhances learners' academic performance and engagement within online learning environments.

The increasing dependence on technology-supported assessment implies that undergraduates require adequate digital competence to participate effectively in contemporary evaluation processes. Students who possess strong digital capabilities are more likely to navigate online examination platforms confidently, retrieve assessment information efficiently, upload assignments correctly, communicate with instructors promptly, interpret digital feedback accurately, and comply with assessment guidelines. Conversely, learners with inadequate technological competence may experience challenges associated with accessing assessment portals, managing electronic submissions, utilizing assessment software, or responding appropriately to digital evaluation requirements. Li, Cheng, Wang, Shen, Ma and Islam (2025), through a comprehensive meta-analysis, established that digital literacy positively influences students' academic achievement across higher education, emphasizing that technological competence contributes significantly to successful learning outcomes. Likewise, Chan and Sung (2025) argued that purposeful engagement with digital technologies strengthens students' technological competence, critical thinking, and academic performance.

From a sociological perspective, technological competence is not merely an individual attribute but is shaped by broader social structures, institutional practices, economic resources, cultural experiences, and opportunities for digital participation. Sociology recognizes education as a social institution through which individuals acquire knowledge, values, skills, and competencies required for effective participation in society. Differences in access to digital technologies, internet connectivity, socioeconomic status, geographical location, gender, educational opportunities, and institutional support contribute to unequal technological experiences among learners. Such inequalities often influence students' academic participation, learning experiences, and assessment outcomes within digitally mediated educational environments. As digital technologies increasingly define educational participation, the concept of digital inequality has shifted from simple access to technology toward disparities in meaningful and productive utilization of digital resources for academic purposes. Contemporary sociological discussions therefore emphasize that educational success depends not only on the availability of digital devices but also on learners' capacity to utilize them effectively within educational settings.

Within distance learning institutions, the relationship between technological competence and educational assessment has become increasingly significant because virtually every aspect of academic evaluation relies on digital interaction. Students are expected to complete electronic registration, participate in online orientation programmes, access digital instructional materials, submit assignments electronically, interact through virtual discussion platforms, undertake computer-based examinations, receive automated feedback, and monitor their academic progress through institutional portals. These activities require learners to demonstrate confidence, adaptability, information management, digital communication, ethical technology use, and problem-solving abilities. Nguyen and Habók (2025) emphasized that university students' actual technological competence varies considerably from their perceived competence, suggesting that institutions should continuously evaluate learners' preparedness for technology-supported academic activities. Pinto, Caballero Mariscal and Fernández-Pascual (2025) similarly highlighted the growing importance of integrated digital, media, and information competencies among undergraduate students in higher education.

Notwithstanding continuous investments in educational technologies and expansion of distance learning opportunities across many countries, evidence suggests that numerous undergraduates continue to experience challenges associated with technological competence, including inadequate digital skills, unstable internet connectivity, limited access to digital resources, insufficient technological support, and varying levels of confidence in utilizing digital learning platforms. These challenges may adversely affect participation in online assessment activities and consequently influence academic performance. Given the increasing reliance on technology-supported educational assessment within distance learning institutions, understanding how students' digital competence relates to assessment practices has become both academically and socially important. Investigating this relationship from a sociological perspective provides an opportunity to examine how social conditions, institutional support systems, and technological experiences shape learners' participation in educational assessment. Such understanding will contribute to evidence-based strategies for strengthening digital competence, promoting equitable assessment practices, improving academic achievement, and enhancing the quality of distance learning in higher education.

Empirical evidence across different educational contexts has consistently demonstrated that digital literacy plays a significant role in improving students' participation in technology-mediated educational assessment, although the magnitude of

its influence varies according to institutional and contextual factors. At the international level, Pan, Reichert and Liang (2025) investigated the development and validation of a performance-based digital literacy assessment among learners across different age groups in Europe. The study adopted a quantitative research design involving participants drawn from multiple educational institutions. Standardized digital literacy assessment instruments were employed, while structural equation modelling was used for data analysis. The findings revealed that students with higher levels of digital literacy demonstrated greater competence in completing technology-supported assessment tasks accurately and efficiently. The study concluded that digital literacy significantly predicts successful engagement with digital assessment systems and recommended continuous integration of digital competence development into educational programmes.

Similarly, Li, Cheng, Wang, Shen, Ma and Islam (2025) conducted a meta-analysis involving empirical studies on digital literacy and students' academic achievement in higher education. The study synthesized findings from numerous international studies using systematic review and meta-analytic procedures. The results indicated a significant positive relationship between digital literacy and students' academic performance, particularly in technology-supported learning and assessment environments. The researchers concluded that students with stronger digital competencies consistently achieved better educational outcomes and recommended that universities strengthen digital literacy programmes for undergraduate learners. In another international investigation, Mohamed, Fernando and Safeek (2025) examined digital competence among undergraduate students enrolled in open and distance learning institutions. Using a descriptive survey design, data were collected from undergraduate learners through structured questionnaires and analysed using descriptive and inferential statistics. The findings showed that although students possessed moderate digital competencies, deficiencies existed in advanced digital communication, information management and online assessment skills. The study recommended institutional investment in continuous digital literacy training to improve students' participation in online learning and assessment activities.

Within the African context, evidence also supports the importance of digital literacy for successful educational assessment. Although conducted in West Africa, recent studies indicate that digital competence significantly enhances students' ability to engage in online instructional activities and technology-supported evaluation. The findings suggest that institutional support, internet accessibility, and students' technological preparedness remain important determinants of effective participation in digital assessment environments, particularly within developing educational systems where technological infrastructure is still evolving. In Nigeria, Iro-Idoro and Jimoh (2025) investigated digital literacy and students' research competence among students of the Federal Polytechnic, Ilaro, Ogun State. The study adopted a descriptive survey research design involving undergraduate students selected through appropriate sampling procedures. Data were collected using structured questionnaires and analysed using correlation and regression statistics. The findings revealed that digital literacy significantly predicted students' competence in literature searching, data processing, analysis and research report writing. The researchers concluded that digital literacy constitutes a strong foundation for academic performance and recommended increased institutional support for students' digital competence development.

Aremu and Udofia (2025) examined the impact of digital literacy skills on undergraduate students' performance in online tests in Lagos State, Nigeria. The researchers adopted a descriptive research design involving undergraduate students who

participated in computer-based examinations. Questionnaire responses and examination scores were analysed using descriptive statistics and regression analysis. The findings indicated that digital literacy significantly improved students' performance during online examinations by enhancing their ability to navigate examination platforms, retrieve information efficiently and complete assessment tasks within stipulated time limits. The study recommended continuous digital literacy programmes across Nigerian universities. Ezeugo and Nwankwo (2025) investigated digital literacy and test anxiety as predictors of students' satisfaction with computer-based examinations in tertiary institutions in Anambra State, Nigeria. The study adopted a correlational survey design involving 810 undergraduate students selected through multistage sampling procedures. Data were collected using the Digital Literacy Test, Test Anxiety Questionnaire and Satisfaction with Computer-Based Examination Questionnaire. Multiple regression analysis showed that digital literacy significantly predicted students' satisfaction with computer-based examinations, while higher digital competence reduced examination anxiety. The researchers recommended that tertiary institutions should strengthen digital literacy training before implementing large-scale computer-based assessments.

Musa (2025) examined digital literacy skills for accessing and utilizing online information resources among staff and students of the College of Education, Akwanga, Nasarawa State. Using a descriptive survey design, questionnaires were administered to participants and analysed using descriptive statistics. The study established that digital literacy significantly enhanced access to online educational resources, independent learning and effective utilization of digital educational services. The study further recommended continuous investment in digital literacy programmes and improved technological infrastructure within higher institutions. Collectively, the reviewed empirical studies demonstrate a consistent positive relationship between digital literacy and students' effective participation in technology-supported educational activities, including assessment. International studies largely emphasize the predictive influence of digital competence on academic achievement and digital assessment performance, while African studies highlight infrastructural and institutional factors affecting technology utilization. Nigerian studies similarly establish that digital literacy contributes significantly to students' performance in computer-based examinations, online learning and academic research. However, despite these contributions, existing studies have concentrated mainly on academic achievement, research competence, computer-based testing, or digital resource utilization. There appears to be limited empirical evidence specifically examining the relationship between digital literacy and educational assessment among undergraduates in distance learning institutions from a sociological perspective. This identified gap provides the justification for the present study.

The integration of digital technologies into higher education has transformed teaching, learning, and educational assessment, making digital literacy an indispensable competence for undergraduate students, particularly those enrolled in distance learning institutions. Recent scholarly works have shifted from viewing digital literacy merely as the ability to operate digital devices to recognizing it as a multidimensional competence encompassing information retrieval, communication, content creation, critical thinking, problem-solving, ethical technology use, and digital collaboration. Contemporary studies have also demonstrated that educational assessment has evolved from conventional paper-and-pencil examinations to technology-mediated approaches such as computer-based testing, online quizzes, electronic assignments, digital portfolios, virtual presentations, and automated feedback systems. Consequently, current research has increasingly emphasized the need for students to possess adequate digital competencies to participate effectively in

these digitally supported assessment environments. Existing literature further indicates that digital literacy contributes positively to students' academic achievement, engagement, self-directed learning, technological confidence, and successful participation in online educational activities.

Regardless of these significant scholarly contributions, existing empirical evidence reveals notable limitations. Most international studies have concentrated on the relationship between digital literacy and academic achievement, online learning, technology acceptance, or general educational outcomes. African studies have primarily examined digital inclusion, access to technological facilities, and institutional challenges affecting technology adoption, while Nigerian studies have focused largely on computer-based examinations, digital resource utilization, e-learning adoption, information literacy, and students' research competencies. Comparatively, very few studies have specifically investigated how digital literacy influences educational assessment among undergraduate students in distance learning institutions. Furthermore, previous investigations have paid limited attention to the sociological dimensions of this relationship, particularly how social factors such as institutional support, socioeconomic background, technological access, learning environment, and digital inequality shape students' participation in technology-supported educational assessment. This deficiency in the existing body of knowledge constitutes a significant empirical and contextual gap.

Hence, it is against this background that the present study seeks to examine the relationship between digital literacy and educational assessment among undergraduates in distance learning institutions from a sociological perspective. The study is expected to contribute to the existing literature by providing empirical evidence from the distance learning context, broadening the understanding of how social conditions influence students' digital competencies and assessment experiences, and offering useful insights for educational administrators, policymakers, lecturers, curriculum developers, and managers of distance learning institutions in designing strategies that enhance digital literacy and improve educational assessment practices. Ultimately, the findings are expected to contribute to the promotion of equitable, effective, and technology-driven higher education capable of meeting the demands of the twenty-first-century knowledge society.

Statement of the Problem

The increasing integration of digital technologies into distance learning has made digital literacy essential for effective participation in educational assessment. Ideally, undergraduates in distance learning institutions are expected to possess the digital competencies required to access learning platforms, complete online assessments, submit assignments electronically, utilize digital learning resources, and interact effectively within virtual learning environments. Such competencies are expected to promote fairness, accuracy, and efficiency in technology-supported assessment. However, in reality, many undergraduates continue to experience challenges such as inadequate digital skills, limited access to technological resources, poor internet connectivity, and difficulties in navigating online assessment platforms. These challenges may hinder their effective participation in educational assessment, reduce academic performance, and widen existing educational inequalities. The problem, therefore, is that despite the growing reliance on digital technologies for educational assessment in distance learning institutions, it remains unclear how digital literacy influences educational assessment among undergraduates from a sociological perspective. This gap necessitated the present study on digital literacy and

educational assessment among undergraduates in distance learning institutions: A sociological perspective.

Purpose of the Study

The main purpose of this study is to examine digital literacy and educational assessment among undergraduates in distance learning institutions from a sociological perspective. Specifically, the study seeks to:

1. examine the level of digital literacy among undergraduates in distance learning institutions.
2. examine the level of educational assessment among undergraduates in distance learning institutions.
3. examine the perceived contributions of digital literacy to educational assessment among undergraduates in distance learning institutions.
4. identify the sociological factors associated with digital literacy and educational assessment among undergraduates in distance learning institutions.

Research Questions

The following research questions guided the study:

1. What is the level of digital literacy among undergraduates in distance learning institutions?
2. What is the level of educational assessment among undergraduates in distance learning institutions?
3. What are the perceived contributions of digital literacy to educational assessment among undergraduates in distance learning institutions?
4. What sociological factors are associated with digital literacy and educational assessment among undergraduates in distance learning institutions?

Methods

The study adopted a descriptive survey research design. The design was considered appropriate because it enabled the researcher to obtain information from undergraduates on digital literacy and educational assessment in distance learning institutions without manipulating any of the variables under investigation. The study was carried out in distance learning institutions in Nigeria. The area was considered suitable for the study because distance learning institutions extensively utilize digital platforms, online learning resources, and technology-supported assessment approaches in delivering educational services to students.

The total population of the study was 4,200 undergraduates, comprising 2,350 undergraduates from the University of Nigeria, Nsukka (UNN) and 1,850 undergraduates from Nnamdi Azikiwe University, Awka (UNIZIK). A sample size of 389 undergraduates, representing approximately 9.3% of the total population, was selected for the study using a multistage sampling technique. The sample was proportionately distributed across the two institutions, resulting in 218 undergraduates from UNN and 171 undergraduates from UNIZIK. The proportionate distribution was adopted to ensure that each institution was adequately represented according to its undergraduate distance learning population, thereby providing a balanced representation of respondents for the study.

The instrument used for data collection was a structured questionnaire titled Digital Literacy and Educational Assessment Questionnaire (DLEAQ). The instrument was divided into sections covering digital literacy, educational assessment, perceived contributions of digital literacy to educational assessment, and sociological factors associated with digital learning and assessment. The items were structured on a four-point rating scale of Very High Level (4), High Level (3), Low Level (2), and Very Low Level

(1). The instrument was subjected to face validation by three experts in the Faculty of Education. Two experts were from the area of Educational Foundations, while one expert was from Measurement and Evaluation. Their corrections and suggestions were incorporated to ensure that the instrument adequately measured the variables of the study. The reliability of the instrument was established through a trial test conducted on respondents outside the study area. The data obtained were analyzed using Cronbach Alpha method, which yielded an overall reliability coefficient of 0.84, indicating that the instrument was reliable for the study.

The researcher administered the questionnaire directly to the respondents with the assistance of trained research assistants. The completed copies of the questionnaire were collected immediately after completion to ensure a high return rate. The data collected were analyzed using descriptive statistics. Mean and standard deviation were used to answer all the research questions. The decision rule was based on a criterion mean of 2.50. Any item with a mean score of 2.50 and above was interpreted as high level or accepted, while items with a mean score below 2.50 were interpreted as low level or not accepted.

Results

Research Question 1: What is the level of digital literacy among undergraduates in distance learning institutions?

Table 1: Mean Ratings of Undergraduates' Level of Digital Literacy in Distance Learning Institutions

S/N	Items on Digital Literacy	Mean ($\bar{X}$)	Standard Deviation (SD)	Decision
1	I can access online learning platforms for academic activities.	3.21	0.74	High Level
2	Search for and evaluate academic information from online sources.	3.15	0.81	High Level
3	Use digital tools to communicate with lecturers and fellow students.	3.08	0.86	High Level
4	Upload and submit assignments through online platforms.	3.18	0.79	High Level
5	Use computer and mobile applications for learning activities.	3.12	0.83	High Level
6	Protect my personal information while using digital platforms.	2.97	0.88	High Level
7	Participate effectively in online tests and digital assessment activities.	3.05	0.84	High Level
8	Solve basic technical challenges encountered during online learning activities.	2.89	0.91	High Level
Aggregate Score		3.08	0.83	High Level

Data in Table 1 showed that undergraduates in distance learning institutions demonstrated a high level of digital literacy, with a grand mean score of 3.08 and a grand standard deviation of 0.83. The grand mean was obtained by adding the mean scores of the eight items, which gave a total mean value of 24.64, and dividing the value by the number of items (8), resulting in an average score of 3.08. The grand standard deviation of 0.83 indicates that the respondents' ratings were relatively consistent around the mean score. Since the obtained grand mean score of 3.08 was above the decision benchmark of 2.50, the result indicates that undergraduates possess a high level of digital literacy. This implies that students are capable of accessing online learning platforms, utilizing digital tools, managing academic tasks electronically, and participating effectively in technology-supported educational assessment within distance learning institutions.

Research Question 2: What is the level of educational assessment among undergraduates in distance learning institutions?

Table 2: Mean Ratings of Undergraduates' Level of Educational Assessment in Distance Learning Institutions

S/N	Items on Educational Assessment	Mean ($\bar{X}$)	Standard Deviation (SD)	Decision
9	Online assessments provide opportunities for me to demonstrate my knowledge and skills.	3.14	0.82	High Level
10	I can access and complete electronic assignments through digital platforms.	3.20	0.76	High Level
11	Computer-based tests help to assess my academic understanding effectively.	3.05	0.87	High Level
12	I receive timely feedback on my academic performance through online assessment platforms.	2.96	0.90	High Level
13	Digital assessment activities encourage my active participation in learning.	3.11	0.84	High Level
14	I can follow assessment instructions provided through online learning platforms.	3.17	0.78	High Level
15	Online assessment methods promote fairness and transparency in academic evaluation.	2.91	0.93	High Level
16	I can effectively manage my time during technology-supported assessments.	3.02	0.86	High Level
Aggregate Score		3.07	0.85	High Level

Data in Table 2 showed that undergraduates in distance learning institutions demonstrated a high level of educational assessment, with a grand mean score of 3.07 and a grand standard deviation of 0.85. The grand mean was obtained by adding the mean scores of the eight items, which produced a total mean value of 24.56, and dividing the value by the number of items (8), resulting in an average score of 3.07. The grand standard deviation of 0.85 indicates that the respondents' ratings were relatively close to the mean score, showing consistency in their responses. Since the obtained grand mean score of 3.07 was above the decision benchmark of 2.50, the result indicates that the level of educational assessment among undergraduates in distance learning institutions was high. This implies that students actively participate in online assessments, complete electronic academic tasks, receive feedback through digital platforms, and engage effectively in technology-supported assessment processes.

Research Question 3: What are the perceived contributions of digital literacy to educational assessment among undergraduates in distance learning institutions?

Table 3: Mean Ratings of Perceived Contributions of Digital Literacy to Educational Assessment among Undergraduates in Distance Learning Institutions

S/N	Items on Contributions of Digital Literacy to Educational Assessment	Mean ($\bar{X}$)	Standard Deviation (SD)	Decision
17	Digital literacy enables me to access online assessment platforms effectively.	3.20	0.78	Accepted
18	Digital literacy improves my ability to complete electronic assignments.	3.18	0.80	Accepted
19	Digital literacy enhances my participation in computer-based tests.	3.12	0.84	Accepted
20	Digital literacy helps me understand instructions provided through digital assessment platforms.	3.15	0.82	Accepted
21	Digital literacy improves my ability to receive and	3.06	0.86	Accepted

	utilize online assessment feedback.			
22	Digital literacy helps me manage time during technology-supported assessments.	3.10	0.83	Accepted
23	Digital literacy increases my confidence in participating in online assessment activities.	3.14	0.81	Accepted
24	Digital literacy supports my effective use of digital resources during assessment activities.	3.22	0.75	Accepted
Aggregate Score		3.15	0.81	Accepted

Data in Table 3 showed that undergraduates in distance learning institutions perceived digital literacy as contributing positively to educational assessment, with a grand mean score of 3.15 and a grand standard deviation of 0.81. The grand mean was obtained by adding the mean scores of the eight items, which gave a total mean value of 25.20, and dividing the value by the number of items (8), resulting in an average score of 3.15. The grand standard deviation of 0.81 indicates that the respondents' ratings were relatively consistent around the mean score. Since the obtained grand mean score of 3.15 was above the decision benchmark of 2.50, the result indicates that digital literacy contributes positively to educational assessment among undergraduates in distance learning institutions. This implies that digital literacy enhances students' ability to access assessment platforms, complete electronic academic tasks, participate in computer-based tests, and utilize digital feedback effectively.

Research Question 4: What sociological factors are associated with digital literacy and educational assessment among undergraduates in distance learning institutions?

Table 4: Mean Ratings of Sociological Factors Associated with Digital Literacy and Educational Assessment among Undergraduates in Distance Learning Institutions

S/N	Items on Sociological Factors	Mean ($\bar{X}$)	Standard Deviation (SD)	Decision
25	Availability of institutional support influences students' use of digital learning facilities.	3.22	0.76	Accepted
26	Access to internet facilities affects students' participation in digital learning activities.	3.18	0.81	Accepted
27	Socioeconomic background influences students' access to digital devices for learning.	3.11	0.85	Accepted
28	Peer support encourages students' effective use of digital technologies for academic activities.	3.05	0.88	Accepted
29	Learning environment contributes to students' ability to participate in online assessment activities.	3.16	0.79	Accepted
30	Availability of digital training programmes enhances students' confidence in using technology.	3.20	0.77	Accepted
31	Family and social support influence students' engagement with digital learning resources.	2.98	0.91	Accepted
32	Students' previous exposure to technology affects their participation in digital assessment activities.	3.09	0.86	Accepted
Aggregate Score		3.12	0.83	Accepted

Data in Table 4 showed that sociological factors were associated with digital literacy and educational assessment among undergraduates in distance learning institutions, with a grand mean score of 3.12 and a grand standard deviation of 0.83. The grand mean was obtained by adding the mean scores of the eight items, which produced a total mean value of 24.96, and dividing the value by the number of items (8), resulting in an average score of 3.12. The grand standard deviation of 0.83 indicates that the

respondents' ratings were relatively consistent around the mean score. Since the obtained grand mean score of 3.12 was above the decision benchmark of 2.50, the result indicates that institutional support, internet accessibility, socioeconomic background, peer support, learning environment, digital training opportunities, family support, and previous technological exposure are important sociological factors associated with digital literacy and educational assessment among undergraduates in distance learning institutions.

Discussion of the Findings

The findings of the study revealed that undergraduates in distance learning institutions demonstrated a high level of digital literacy, with a grand mean score of 3.08. This indicates that students possess the required digital competencies for accessing online learning platforms, searching for academic information, communicating through digital tools, submitting assignments electronically, and participating in technology-supported academic activities. The finding suggests that continuous exposure to digital learning environments has enhanced students' ability to utilize digital technologies for academic purposes. The finding agrees with Carretero, Vuorikari and Punie (2017), who explained that digital competence involves the ability to use digital technologies confidently and effectively for communication, information management, and problem-solving. Similarly, Redecker (2017) emphasized that digital competence is essential for effective engagement in technology-supported educational environments. The finding also supports Mohamed, Fernando and Safeek (2025), who reported that undergraduate learners in open and distance learning environments require adequate digital competencies to successfully participate in online learning activities. The similarity between the present finding and previous studies may be attributed to the increasing adoption of digital platforms in distance learning institutions, which provides students with regular opportunities to interact with online academic resources. From a sociological perspective, students' digital literacy development may be influenced by institutional support, technological exposure, and social learning experiences within their educational environment.

The findings of the study revealed that undergraduates in distance learning institutions demonstrated a high level of educational assessment, with a grand mean score of 3.07. This implies that students effectively participate in electronic assignments, online tests, digital feedback systems, and other technology-supported assessment activities. The finding indicates that digital assessment practices have become an important component of learning experiences among students in distance learning institutions. The finding is supported by Ambreen and Jabeen (2026), who found that technology-integrated formative assessment enhances students' engagement and participation in online learning environments. Similarly, Law, Woo, de la Torre and Wong (2018) emphasized that digital literacy skills are necessary for learners to effectively participate in technology-mediated educational activities, including digital assessment processes. The finding may be explained by the increasing use of learning management systems, online assessment platforms, and electronic submission channels in distance education. From a sociological perspective, students' experiences with educational assessment are shaped by institutional structures, access to digital facilities, and opportunities for meaningful interaction with educational technologies.

The findings of the study revealed that undergraduates in distance learning institutions perceived digital literacy as contributing positively to educational assessment, with a grand mean score of 3.15. This indicates that digital literacy enhances students' ability to access online assessment platforms, complete electronic assignments, participate in computer-based tests, understand digital assessment instructions, and utilize feedback

provided through technology-supported assessment systems. The finding agrees with Li, Cheng, Wang, Shen, Ma and Islam (2025), who established that digital literacy contributes significantly to students' academic achievement by improving their engagement with digital learning environments. Similarly, Caton, Kinshuk and Savenye (2025) reported that digital literacy enhances students' academic preparedness by equipping them with the competencies required to effectively participate in technology-supported educational activities. The finding further supports Mohamed, Fernando and Safeek (2025), who observed that undergraduate learners in open and distance learning environments require digital competencies to successfully navigate online learning platforms and complete academic tasks. The finding suggests that digital literacy serves as an important support system for effective educational assessment in distance learning institutions. From a sociological perspective, students' ability to benefit from digital assessment practices is shaped by institutional support, access to technological resources, and opportunities for meaningful interaction with digital learning environments.

The findings of the study revealed that sociological factors such as institutional support, internet accessibility, socioeconomic background, peer support, learning environment, digital training opportunities, family support, and previous technological exposure were associated with digital literacy and educational assessment among undergraduates in distance learning institutions, with a grand mean score of 3.12. This indicates that digital literacy and assessment experiences are influenced by social and environmental conditions surrounding students. The finding is consistent with UNESCO (2018), which highlighted that digital literacy development is influenced by access, learning opportunities, and supportive educational environments. It also agrees with Pinto, Caballero-Mariscal and Fernández-Pascual (2025), who emphasized that students' digital, media, and information competencies are shaped by educational experiences and contextual factors. The finding further supports Nguyen and Habók (2025), who noted that university students' digital competence is influenced by differences in learning experiences and opportunities for technology use. Therefore, the result suggests that improving digital literacy and educational assessment in distance learning institutions requires attention to institutional support systems, digital infrastructure, and social conditions that enable students to effectively engage with educational technologies.

Educational Implications of the Study

The findings of the study imply that digital literacy is essential for effective participation in educational assessment within distance learning institutions. The study highlights the need for institutions to strengthen digital support systems, provide continuous digital skills training, and improve access to technological resources to enhance students' learning and assessment experiences.

Conclusion

The study concluded that undergraduates in distance learning institutions possess a high level of digital literacy and experience a high level of educational assessment. The study further concluded that digital literacy is positively associated with educational assessment among students, indicating that students' digital competencies support their effective participation in technology-supported assessment activities. The study also concluded that sociological factors, including institutional support, access to technology, learning environment, and social support systems, are associated with students' digital literacy and assessment experiences. Therefore, strengthening digital literacy and improving supportive learning conditions remain essential for enhancing educational assessment in distance learning institutions.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. Distance learning institutions should provide continuous digital literacy training programmes for undergraduates to strengthen their ability to effectively utilize digital platforms for learning and assessment activities.
2. Institutions should improve access to reliable digital infrastructure, internet facilities, and technological resources to support students' participation in online learning and assessment processes.
3. Distance learning administrators should develop supportive digital learning environments that consider students' social and technological backgrounds to promote equal opportunities for effective academic participation.
4. Educational policymakers and institutional authorities should encourage the integration of digital assessment practices alongside adequate technical support to improve students' experiences with technology-supported evaluation.

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