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THE ROLES OF LIBRARY IN PROMOTING COMPUTER LITERACY SKILLS AMONG UNDERGRADUATE STUDENTS IN FEDERAL UNIVERSITY DUTSIN-MA, KATSINA STATE

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Abstract

This study investigates the roles of library in promoting computer literacy skills among undergraduate students in Federal University Dutsin-Ma. Quantitative method and Descriptive survey research design were adopted for the study. The population of this study constitutes Twenty-six thousand eight hundred and nineteen (26,819) Undergraduate students. Three hundred and seventy-eight (378) undergraduate students were drawn using simple random sampling technique (fold and random picking method) with the aid of Research Advisor (2006) table for determining the sample size from any given population. A well and self-developed 4-point Likert-type scale titled "Promoting Computer Literacy Skills - Questionnaire (PCLS-Q)" thoroughly scrutinized by experts was used for data collection. The data collected were analyzed with the use of descriptive statistics of mean, and standard deviation, with a decision mean of 2.50 as the acceptance benchmark with the aid of SPSS V23.0. The findings reveal that students' computer literacy skills are moderate, with strengths in basic computer operations but weaknesses in advanced skills like programming and data analysis. The study concludes that librarians play various roles, including teaching, research support, and resource provision, but face challenges like limited infrastructure, poor internet, and low participation still affect effectiveness. The study recommended that it provides regular training for librarians, integrating computer literacy into the curriculum, and developing collaborative partnerships to enhance computer literacy skills.

Keywords: *Academic Libraries, Computer Literacy Skills, Undergraduate Students, Digital Literacy Instruction & University Libraries.*

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Introduction

The 21st century has witnessed a paradigm shift in the role of libraries, particularly in higher education institutions. Libraries are no longer confined to physical collections but have become active facilitators of digital literacy and information technology skills. In Nigeria, where digital transformation is still evolving, university libraries have a critical role to play in equipping students with computer literacy skills necessary for academic success and employability. This study investigates the ways in which the library supports this goal. Several studies illustrate the main interventions that libraries provide. Augustine Ozor et al., (2022) highlight libraries are "tasked with providing opportunities for developing skills to support effective, efficient, and ethical use of information." According to Breen et al., (2022) provide a concrete example, with 2,661 students registering for extra-curricular digital skills workshops, showing libraries can successfully upskill students. The libraries are responsible for creating chances for people to build the skills they need to use information wisely, efficiently, and with integrity.

Obu et al., 2023 emphasize that libraries are crucial in "promoting and assisting students in enhancing their digital literacy." Guna Spurava et al., 2022 further note that libraries are expected to be significant promoters of digital literacy, especially as formal education systems struggle to keep pace with technological changes. Helping students build confidence and skills to navigate the digital world with ease and understanding .

Vyas, and Chak, (2022) described that technology as a tool use to improve learning "Digital Information Literacy (DIL) is the process of teaching and learning about technology and the use of technology. It is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills. The provision and use of ICT is part and parcel of the entire system; including undergraduates, information professionals, staff, and researchers.

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Federal University Dutsin-Ma (FUDMA), library has made efforts to promote digital and computer literacy skills and support services among undergraduate students through information literacy training, access to computers, and orientation sessions. However, it has been observed that some students still face challenges in utilizing electronic resources, conducting online searches, and applying basic ICT tools for academic purposes. This raises questions about the extent of the library's role in promoting computer literacy among undergraduates.

Therefore, this study investigates the roles of the library in promoting computer literacy skills among undergraduate students in FUDMA. It seeks to understand the current level of students' computer literacy, identify the specific contributions of the library, and highlight challenges encountered in this process.

1.1 Statement of the Problem

In today's digital era, computer literacy is essential for students' academic and professional success. It enables effective information retrieval, digital communication, and research competence. However, majority of undergraduate students now a days in Nigerian universities, including FUDMA, still lack adequate computer literacy skills, which limit their ability to fully utilize digital and online learning resources as indicated by (Lee et al., 2019).

University libraries play a central role in bridging this gap by providing ICT facilities, e-resources, and digital training programs (Lee et al., 2019). However, the extent to which the FUDMA library fulfills this role remains unclear. There is a need to ascertain the specific computer literacy skills required by students, the services offered by the library, and the level of students' access and utilization of these resources.

Despite these efforts, libraries in developing countries often face challenges such as inadequate ICT infrastructure, limited internet connectivity, and insufficient technical support, which hinder effective computer literacy promotion (Patel & Smith, 2022). Therefore, this study seeks

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to examine the roles and challenges of the Federal University Dutsin-Ma library in promoting computer literacy skills among undergraduate students.

2. Objective of the Study

The specific objectives of the study are to:

1. Ascertain the types of computer literacy skills required by undergraduate students in Federal University Dutsin-Ma.
2. Identify the specific roles and services provided by the Federal University Dutsin-Ma library in promoting computer literacy among undergraduate students.
3. Determine the level of access and utilization of computer literacy programs and resources provided by the library among the students.
4. Examine the challenges encountered by the Federal University Dutsin-Ma library in its efforts to promote computer literacy skills among undergraduate students.

3. Research Questions

The study pursues to find answers to the following questions:

1. What are the types of computer literacy skills required by undergraduate students in Federal University Dutsin-Ma?
2. What are the roles and services do the Federal University Dutsin-Ma library provide to promote computer literacy among undergraduate students?
3. What is the level of access and utilization of the computer literacy programs and resources provided by the library among the students?
4. What are the challenges encountered by the Federal University Dutsin-Ma library in its efforts to promote computer literacy skills among undergraduate students?

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4. Significance of the Study

This study is significant as it addresses a critical gap in understanding the role of academic libraries specifically the Federal University Dutsin-Ma (FUDMA) library in promoting computer literacy among undergraduate students.

This study will assess how well the library's efforts are working and offer important insights into how students use and access digital resources, if the present literacy programs are enough, and the difficulties that both students and library employees meet.

The findings will inform strategic improvements in library services, guide university administrators in policy formulation and resource allocation, and contribute to the broader discourse on digital literacy in Nigerian higher education.

Furthermore, the study will serve as a reference point for other academic institutions aiming to enhance their digital literacy frameworks, thereby supporting national goals of technological advancement and educational equity.

5. Scope of the Study

This study is delimited to examining the roles played by the Federal University Dutsin-Ma (FUDMA) library in promoting computer literacy skills among its undergraduate students. It focuses on identifying the specific types of computer literacy competencies required by students, assessing the library’s services and programs aimed at enhancing these skills, evaluating the level of access and utilization of such resources, and exploring the challenges faced by the library in executing its digital literacy mandate. The study is limited to undergraduate students across various faculties within FUDMA and does not extend to postgraduate students, other university departments, or external ICT initiatives beyond the scope of the university library.

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6. Review of Related Literature

Academic libraries have evolved from traditional repositories of books to dynamic learning environments that support digital learning and research. According to Hartvig and Moring (2024), academic libraries now play a central role in facilitating students' acquisition of digital literacy through embedded librarianship and sociocultural learning approaches. Libraries are increasingly integrating digital tools and services, such as online databases, e-learning platforms, and virtual reference services, to meet the changing needs of students and faculty (Hartvig & Moring, 2024).

Computer literacy encompasses the ability to use digital tools effectively for communication, research, and productivity. Oladunjoye and Benwari, (2022) found that while many Nigerian undergraduates possess basic computer skills, there are significant disparities based on gender, socio-economic background, and institutional support. Apotiade, (2017) emphasized that user education and computer literacy are key determinants of students' ability to utilize electronic resources, highlighting the need for structured training programs. Computer literacy instruction in academic libraries often includes workshops, orientation sessions, and one-on-one consultations. Olatoye and Oyewumi (2025) identified best practices among librarians in Nigerian universities, noting that interactive workshops and hands-on training are the most effective methods. Khumalo, (2022) emphasized the importance of aligning digital literacy instruction with students' academic needs and technological trends to ensure relevance and engagement.

Computer literacy refers to the ability to use computers and related technologies efficiently for academic, professional, and personal development. According to Vyas and Chak (2022), digital information literacy encompasses the skills to locate, evaluate, create, and communicate information using ICT tools. Similarly, UNESCO (2023) views computer literacy as a critical 21st-century skill that underpins lifelong learning and digital citizenship. In higher education,

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undergraduate students require computer literacy for tasks such as online research, digital collaboration, data analysis, and accessing learning management systems (Ozor et al., 2022). Despite growing exposure to digital tools, many Nigerian undergraduates still exhibit low proficiency in computer-based learning activities (Obu et al., 2023). This digital gap affects students' academic performance, information retrieval capacity, and readiness for employment in the technology-driven global economy (Ezeani & Igwesi, 2020). Therefore, building strong computer literacy foundations among undergraduates remains an essential goal for university libraries.

Effective use of academic library services requires undergraduate students to have a strong foundation in practical computer skills. These consist of understanding the fundamentals of hardware and operating systems, managing files and folders, using word processing and spreadsheets, using email and calendaring, and doing effective web searches with keywords and sophisticated search operators. Additionally, they need proficiency with library-specific resources such academic databases, online catalogues, e-journal platforms, and simple reference management programs like Mendeley and EndNote. According to recent studies, students who lack these fundamental skills find it more difficult to find, access, and utilise electronic resources for research and homework (LeMire, 2024; Ambrose & Ogunbodede, 2022; Ángel et al., 2022).

Undergraduates now require higher-order digital competencies beyond these fundamentals, which academic libraries are including into information literacy training. These include the capacity to use collaborative technologies, navigate learning management systems, comprehend media and data literacy, critically assess online material, and protect digital privacy and security (Breen, 2023; Pinto, 2024). Therefore, the goal of libraries' digital literacy programs is to develop students from basic operational competency to advanced information and data fluency so they can apply statistical and visualization tools, evaluate the reliability of

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sources, and participate in ethical digital scholarship. Embedding these competencies into library training has been shown to improve students job chances, digital confidence, and research productivity (Breen, 2023; Pinto, 2024; Ambrose & Ogunbodede, 2022).

Academic libraries increasingly act beyond traditional book repositories to become centres or digital literacy training and support (Breen et al., 2023). They provide workshops, drop-in abs, online tutorials, orientation programmes, and embed information literacy modules into curricula. Ojo & Olaniyi (2020) observed the role of library automation and user-education in Nigerian tertiary institutions, noting that libraries must transition from purely providing collection access to actively developing information literacy skills. Obu & Okwu (2023) found that university libraries are "promoting and assisting students in enhancing their digital literacy" through targeted interventions. The library-role/services design should therefore take into account your library's training sessions, orientation programs, computer and electronic resource access, user education, and continuing assistance.

Access and utilisation form a vital mediating step between library services and students' skill outcomes. Several studies show students may have access to e-resources and training, but utilisation remains sub-optimal. Yila, (2024) found at the University of Lagos that although undergraduates had high digital literacy levels, their utilisation of digital information resources was low (Yila, 2024). This indicates that access alone is insufficient; utilisation depends on effective training, motivation, infrastructure, and relevance. Similarly, Bako & Odigie, (2021) found undergraduates possessed some basic ICT skills but these were "not sufficient for utilisation of the library resources" and recommended the inclusion of computer-literacy programmes in user education. They therefore link the library service and student outcome via the mediation of utilisation.

Several challenges hinder the full realization of computer literacy promotion through university libraries. Okafor and Odu, (2022) identified infrastructural deficiencies, limited funding, and

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insufficient technical expertise among library staff as key barriers. The lack of continuous professional development for librarians also reduces their capacity to design and deliver effective computer literacy programmes (Adebayo, 2020). Similar constraints such as outdated computer systems, overcrowded ICT sections, and inconsistent training schedules can impede the library's mission. Obu et al., (2023) argued that institutional support and strategic partnerships are crucial for overcoming these challenges. Therefore, libraries must strengthen collaborations with ICT departments, seek external funding, and continuously upgrade digital resources to sustain impactful literacy initiatives.

7. Methodology

The study employed quantitative research method. The study adopted a descriptive survey research design to investigate the roles of the Federal University Dutsin-Ma (FUDMA) Library in promoting computer literacy skills among undergraduate students. The population of the study consist of 26,819 students, from which a sample of 378 was drawn using the Research Advisor (2006) table at a 95% confidence level. The simple random sampling technique (fold-and-pick method) was used to ensure fair representation. Data were collected using a structured 4-point Likert-type questionnaire titled Promoting Computer Literacy Skills Questionnaire (PCLS-Q), which was validated by experts from Library and Information Science and Measurement and Evaluation. Reliability was confirmed through a pilot study yielding a Cronbach Alpha coefficient of 0.82, indicating high internal consistency. Questionnaires were administered with the help of three (3) research assistant, three hundred and fifty (350) valid copies were retrieved for analysis. Data were analyzed using descriptive statistics (Mean, and Standard deviation), with a decision mean of 2.50 as the acceptance/rejection benchmark. Statistical analysis was performed using SPSS version 23.0 for accuracy. Ethical considerations, including confidentiality, voluntary participation, and academic integrity, were duly observed.

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8. Data Presentation and Analysis

Research Question 1: What types of computer literacy skills are required by undergraduate students in Federal University Dutsin-Ma?

Table 1: Mean Responses of Respondents on Required Computer Literacy Skills

S/N	Item Statements	Mean	SD	Decision
1	Ability to use word processing tools (e.g., MS Word)	3.31	0.22	A
2	Skill in conducting online academic research	3.20	0.26	A
3	Competence in creating digital presentations (e.g., PowerPoint)	3.12	0.30	A
4	Proficiency in using spreadsheets (e.g., Excel)	2.96	0.35	A
	Cluster Mean	**3.15**	**0.28**	**A**

Table 1 above shows that respondents agree on the importance of various computer literacy skills, with a cluster mean of 3.15 and SD of 0.28, exceeding the 2.50 benchmark.

Research Question 2: What are roles and services do the Federal University Dutsin-Ma library provide to promote computer literacy?

Table 2: Mean Responses of Respondents on Library Roles and Services

S/N	Item Statements	Mean	SD	Decision
1	Organizing digital literacy workshops	3.04	0.33	A
2	Providing access to computer labs	3.20	0.27	A
3	Offering one-on-one ICT support	2.98	0.31	A
4	Including ICT orientation in library tours	3.06	0.29	A
	Cluster Mean	**3.07**	**0.30**	**A**

Table 2 above indicates that students perceive the library as actively promoting computer literacy, with a cluster mean of 3.07 and SD of 0.30.

Research Question 3: What is the level of access and utilization of the computer literacy programs and resources provided by the library?

Table 3: Mean Responses of Respondents on Access and Utilization

S/N	Item Statements	Mean	SD	Decision
1	Frequency of using library computers	3.17	0.25	A
2	Participation in ICT workshops	2.96	0.34	A
3	Use of online library resources (e.g., e-books, databases)	3.12	0.28	A
4	Awareness of available ICT services	3.06	0.30	A
	Cluster Mean	**3.08**	**0.29**	**A**

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Table 3 above reveals that students actively access and utilize library ICT resources, with a cluster mean of 3.08 and SD of 0.29.

Research Question 4: What challenges are encountered by the Federal University Dutsin-Ma library in its efforts to promote computer literacy?

Table 4: Mean Responses of Respondents on Challenges Faced by the Library

S/N	Item Statements	Mean	SD	Decision
1	Inadequate number of computers	3.25	0.24	A
2	Limited ICT training staff	3.20	0.27	A
3	Poor internet connectivity	3.22	0.26	A
4	Low student participation in programs	3.12	0.30	A
	Cluster Mean	**3.20**	**0.27**	**A**

Table 4 above shows that respondents agree on the challenges faced by the library, with a cluster mean of 3.20 and SD of 0.27, indicating significant barriers to promoting computer literacy.

9. Summary of the Major Findings

The study explored how the Federal University Dutsin-Ma library supports computer literacy among undergraduate students. Based on the analysis of the study, the study found that;

i. Students need key digital skills like word processing, online research, and spreadsheet use.
ii. The library plays an active role by offering ICT workshops, computer access, and orientation programs.
iii. Students reported good access and usage of these services, but
iv. Challenges such as limited infrastructure, poor internet, and low participation still affect effectiveness.

10. Conclusion

This study assesses the role of the Federal University Dutsin-Ma library in promoting computer literacy skills among undergraduate students. The findings revealed that students require essential digital competencies such as word processing, online research, and spreadsheet usage

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to succeed academically. The library contributes significantly to this development by offering ICT workshops, access to computer labs, and orientation programs. Students reported active engagement with these resources, indicating the library's relevance in supporting digital literacy. However, challenges such as inadequate infrastructure, poor internet connectivity, limited ICT-trained staff, and low student participation were identified as barriers to optimal impact. Lastly, the study concludes that while the library plays a vital role in enhancing computer literacy, strategic improvements are necessary to strengthen its effectiveness and reach.

11. Recommendations

Based on the findings of the study, the study recommended that;

1. The university should invest in more computers, better internet connectivity, and modern digital tools within the library to meet student demand.
2. Library staff should receive regular ICT training to better support students and deliver effective digital literacy programs.
3. Awareness campaigns and incentives should be introduced to encourage more students to participate in computer literacy workshops and use available resources.
4. Collaborating with academic departments to embed ICT skills into general studies or departmental courses will reinforce learning.
5. Regular assessments of library ICT initiatives will help identify gaps, measure progress, and guide future improvements.

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