

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

Winter 1-23-2024

Assessment of the Implementation of Information and Communication Technology (ICT) tools among Library Educators in Tertiary Institution in Anambra State

Ngozi Celestina Uzoagba Dr

Medical Library, College of Medicine, University of Nigeria, Ituku Ozolla, Enugu,
ngozi.uzoagba@unn.edu.ng

Eliezer Chukwuyere Agim

Sure Foundation Polytechnic, Ukanafun Akwa Ibom State, agimeliezer@gmail.com

Victoria Obianuju Ezejiofor Dr

Prof. Festus Aghagbo Nwako Library Nnamdi Azikiwe University, Awka, voezejiofor@gmail.com

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Scholarly Communication Commons](#)

Uzoagba, Ngozi Celestina Dr; Agim, Eliezer Chukwuyere; and Ezejiofor, Victoria Obianuju Dr, "Assessment of the Implementation of Information and Communication Technology (ICT) tools among Library Educators in Tertiary Institution in Anambra State" (2024). *Library Philosophy and Practice (e-journal)*. 8068.

<https://digitalcommons.unl.edu/libphilprac/8068>

ASSESSMENT OF THE IMPLEMENTATION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) TOOLS AMONG LIBRARY EDUCATORS IN TERTIARY INSTITUTION IN ANAMBRA STATE

UZOAGBA, Ngozi Celestina (PhD, CLN)

Senior Librarian

Medical Library, College of Medicine,
University of Nigeria, Ituku Ozolla, Enugu
ngozi.uzoagba@unn.edu.ng

AGIM, Eliezer Chukwuyere (MLIS, CLN)

Polytechnic Librarian

Sure Foundation Polytechnic, Ukanafun
Akwa Ibom State
agimeliezer@gmail.com

EZEJIOFOR, Victoria Obianuju (PhD, CLN)

Head, Africana Section

Prof. Festus Aghagbo Nwako Library
Nnamdi Azikiwe University, Awka
voezejiofor@gmail.com

Abstract

The study was designed to assess the implementation of information and communication technology (ICT) tools among library educators in tertiary institutions in Anambra state. A descriptive survey research design was used. The sample population comprised of 50 library educators selected randomly from 5 tertiary institutions in Anambra state which are Nnamdi Azikiwe University Awka, Federal Polytechnic Oko, Pauls University Awka, Federal College of Education (T) Umunze, and Chukwuemeka Odumegwu Ojukwu University Igbariam. A structured questionnaire was used for collection of data for this study. Data collected from the study were analyzed using mean scores. The study found that tertiary institutions in Anambra state have ICT tools such as PowerPoint, Moodle, Blackboard, Canvas, Zoom, Google Meet, Microsoft Teams, Google Docs, Microsoft Teams, and Quizizz. The level of implementation of ICT tools by library educators in tertiary institutions in Anambra state is low on majority of the ICT tools. The impact of implementation of ICT tools among library educators in tertiary institutions in Anambra state were that it will lead to improved engagement with ICT tools, flexibility of ICT tools, enables personalization of media contents, among others. The challenges to implementation of ICT tools among library educators in tertiary institutions in Anambra state are that some library educators and students are not proficient in using ICT tools, insufficiency of ICT tools and infrastructure, erratic power supply, lack of technical support to use ICT tools, among others. The study concluded that the implementation of ICT tools by library educators in tertiary institution has emerged as a pivotal endeavor with far-reaching implications. The poor and low implementation of various ICT tools will significantly affect the learning experiences of students in tertiary institution. The study recommended that Library educators and students in tertiary institution should have access to continuous professional development opportunities on how to use ICT tools so as to enhance their knowledge and skills. Funding should be provided to procure the needed ICT tools to improve learning

Keyword: Implementation, Information and Communication Technology (ICT), ICT tools, Library Educators, Tertiary institutions

. Introduction

Tertiary institutions, also known as higher education institutions, play a crucial role in shaping the future of individuals and societies by providing advanced education, conducting research, and fostering innovation (UNESCO, 2015). These institutions encompass a diverse range of organizations, including universities, colleges, polytechnics, and vocational schools, each with its unique mission and focus (OECD, 2013). Learning in tertiary institutions is characterized by a shift from teacher-centered instruction to student-centered learning, emphasizing independent study, critical thinking, and problem-solving skills (Biggs, 2003). This shift aligns with the demands of a rapidly changing global landscape that requires individuals to be adaptable, creative, and resourceful. In tertiary institutions, academic staffs are part of the workforce that are expected to provide instructions to the students. Most especially, library educators are part of this workforce in tertiary institutions

A library educator, also known as an instructional services librarian or academic librarian, is a professional who provides instruction and support to students, faculty, and staff on how to use library resources and services (Cahier, Yurko, & Schwartz, 2011). They play a crucial role in fostering information literacy skills, promoting effective research practices, and enhancing the overall learning experience within academic institutions (Association of College and Research Libraries [ACRL], 2016). Library educators typically engage in a wide range of activities to support the academic community, including:

- **Instructional Design and Delivery:** Developing and delivering library instruction sessions, workshops, and tutorials tailored to specific courses, disciplines, or research needs (Head, 2011).
- **Information Literacy Instruction:** Integrating information literacy concepts into teaching and learning, helping students evaluate information sources, conduct effective research, and synthesize information effectively (Stripling, 2017).
- **Research Support:** Providing one-on-one research consultations to students, faculty, and staff, assisting them in identifying and accessing relevant resources, and guiding them through the research process (American Library Association [ALA], 2005).
- **Collection Development and Management:** Contributing to the selection and acquisition of library materials, ensuring that the collection aligns with the institution's curriculum and research needs (ACRL, 2016).
- **Teaching and Learning Collaborations:** Collaborating with faculty to integrate library instruction and resources into their courses, promoting active learning and student engagement (Head, 2011).

- **Assessment and Evaluation:** Developing and implementing assessment strategies to evaluate the effectiveness of library instruction and services, identifying areas for improvement and demonstrating the impact of library resources on student learning (ACRL, 2016).

In carrying out these wide ranges of activities to support the academic community, library educators must employ a variety of forms and methods to cater to diverse learning styles and preferences of their students. These include traditional classroom lectures, tutorials, library sessions, field trips, online courses, and blended learning approaches that combine traditional and online elements (Laurillard, 2002). The library educators will need to evaluate and adopt new technologies to enhance library services and instruction, ensuring that students have access to the latest tools and resources (Cahier, Yurko, & Schwartz, 2011). Most especially, the advent of technology may have played a role in the new technological approach that the library educators may use. Technology has revolutionized various of learning in tertiary institutions leading to widespread adoption of information and communication technology (ICT) have transformed the way people learn, communicate, and access information (Prensky, 2001).

Information and Communication Technology (ICT) encompasses a broad spectrum of technologies, including computers, software applications, the internet, and communication devices (Richardson, 2010). ICT include a variety of digital tools, including computers, the internet, software applications, and multimedia devices. These tools have the potential to enhance learning experiences, provide access to vast amounts of information, and facilitate collaboration and communication (UNESCO, 2011). The multifaceted nature of ICT provides library educators with a toolbox for creating interactive and dynamic learning environments, fostering student engagement and participation. This calls for the need for their implementation in tertiary institution

The implementation of ICT by library educators in tertiary institutions has gained significant momentum in recent years. The implementation of ICT in teaching within tertiary institutions involves the incorporation of digital tools into the curriculum (Sharma & Yadav, 2012). This may include the use of Learning Management Systems (LMS), virtual classrooms, multimedia presentations, and other technology-driven methods aimed at enriching the learning experience (Zhao, et al, 2009). Educators are increasingly utilizing ICT tools to create interactive learning environments, deliver personalized instruction, and provide students with opportunities for self-directed learning (Ally, 2009). The

implementation of ICT by library educators in tertiary institution has the potential to facilitate learning, remote access to learning resources, improved skills in using digital tools and improved access to online learning aids.

Despite the potential benefits of implementation of ICT by library educators in tertiary institution, challenges to the seamless implementation of ICT tools in teaching persist. These challenges may include issues related to infrastructure, faculty training, digital literacy, and the need for institutional policies that support the effective use of technology in education. Also, not all tertiary institutions have adequate access to computers, internet connectivity, and other ICT resources, particularly in developing countries (UNESCO, 2015). Many faculty members and educators lack the necessary training and support to effectively integrate ICT tools into their teaching practices (Greenfield, 2018). Some educators and faculty members may resist adopting new technologies due to concerns about their effectiveness, time constraints, or a lack of familiarity (Johnson, et al, 2015).

The need for a comprehensive assessment of the implementation of ICT tools by library educators in tertiary institutions arises from the imperative to address the aforementioned challenges and maximize the potential benefits. Assessing the implementation of ICT tools by library educators in tertiary institutions is crucial for identifying areas for improvement and ensuring that these tools are being used effectively to enhance student learning outcomes. Understanding the current state of ICT implementation is essential for informed decision-making, resource allocation, and the development of strategies that promote effective technology-enhanced learning environments. Therefore, this study will assess the implementation of information and communication technology (ICT) tools among library educators in tertiary institutions in Anambra state.

Objectives of the Study

1. ascertain the available ICT tools in tertiary institutions in Anambra state
2. assess the level of implementation of ICT tools by library educators in tertiary institutions in Anambra state
3. determine the impact of implementation of ICT tools by library educators in tertiary institutions in Anambra state
4. examine the challenges to the implementation of ICT tools by library educators in tertiary institutions in Anambra state

Literature Review

Library Educators

A library educator, also known as an instructional services librarian or academic librarian, is a professional who provides instruction and support to students, faculty, and staff on how to use library resources and services. They play a crucial role in fostering information literacy skills, promoting effective research practices, and enhancing the overall learning experience within academic institutions. They possess a unique blend of expertise in librarianship, education, and subject knowledge, which enables them to effectively guide users through the vast and ever-expanding world of information. Library educators possess a unique blend of expertise in librarianship, education, and subject knowledge (Stripling, 2017). They typically hold a Master's degree in Library and Information Science (MLIS) or equivalent, and may also have a background in a specific academic discipline or teaching experience (ALA, 2005). Strong communication, interpersonal, and presentation skills are essential for effective instruction and interaction with users (Head, 2011). Library educators play a pivotal role in empowering the academic community with the skills and knowledge necessary to navigate the vast and ever-expanding world of information (ACRL, 2016). Their expertise and guidance contribute significantly to student success, faculty research, and the overall intellectual vitality of the institution (Cahier, Yurko, & Schwartz, 2011).

ICT Tools Used by Library Educators

Library educators employ a variety of ICT tools to enhance their teaching, including presentation Software such as PowerPoint, Prezi, and Keynote allow library educators to create engaging and visually appealing presentations that incorporate multimedia elements (Ally, 2009). Library educators also use Online Learning Platforms like Moodle, Blackboard, and Canvas provide a structured environment for delivering online courses, workshops, and tutorials. According to Association of College and Research Libraries (ACRL) (2016) Video Conferencing Tools like Zoom, Google Meet, and Microsoft Teams enable library educators to conduct virtual instruction sessions and interact with students remotely. Library educators also use Online Collaboration Tools or Platforms like Google Docs, Microsoft Teams, and Slack which can facilitate collaborative learning activities among students and between students and library educators. According to Cahier, Jet al (2011), other ICT tools such as Interactive Learning Tools like Kahoot!, Quizizz, and Mentimeter allow library educators to create interactive quizzes, polls, and discussions to engage students and assess their understanding. The use of these ICT tools offer library educators a powerful means to enhance their teaching practices, provide more engaging and effective instruction, and prepare students for success in a digitally driven world

Implementation of ICT Tools by Library Educators in Teaching in Tertiary Institutions

The integration of information and communication technology (ICT) tools into teaching has become increasingly prevalent in tertiary education, and library educators are at the forefront of this transformation. By utilizing ICT tools, library educators can enhance their teaching practices, provide more engaging and effective instruction, and support students in developing the digital literacy skills required for success in the 21st century. The implementation of ICT tools by library educators offers a range of benefits, including:

- **Enhanced Engagement and Active Learning:** ICT tools can create more interactive and engaging learning experiences, fostering student participation, active learning, and collaboration (Laurillard, 2002).
- **Personalized and Differentiated Instruction:** ICT tools enable library educators to personalize instruction and adapt their teaching approaches to meet the diverse learning needs and styles of individual students (Ally, 2009).
- **Access to a Wider Range of Resources:** ICT tools provide access to a vast array of digital resources, including online databases, multimedia content, and interactive simulations, expanding the range of learning materials available to students (Prensky, 2001).
- **Development of Digital Literacy Skills:** By incorporating ICT tools into teaching, library educators can help students develop essential digital literacy skills, such as online research, information evaluation, and digital communication (Johnson, Adams Becker, Estrada, & Freeman, 2015).

Strategies for Successful ICT Integration

To effectively integrate ICT tools into their teaching, library educators should consider the following strategies:

- **Choose Appropriate Tools:** Select ICT tools that align with the learning objectives, the subject matter, and the students' needs and prior knowledge.
- **Provide Training and Support:** Ensure that students and faculty have access to training and support in using the implemented ICT tools.
- **Design Engaging Activities:** Develop interactive and engaging learning activities that utilize the capabilities of the ICT tools.
- **Promote Active Learning:** Encourage active participation, collaboration, and critical thinking among students through ICT-based learning activities.

- **Evaluate and Adapt:** Regularly evaluate the effectiveness of ICT integration and make adjustments as needed to ensure optimal learning outcomes (Stripling, 2017)

By carefully selecting appropriate tools, providing training and support, designing engaging activities, promoting active learning, and continuously evaluating and adapting their approaches, library educators can leverage ICT to foster a dynamic and enriching learning environment in tertiary institutions.

Methodology

A descriptive survey research design was used for the study. A descriptive survey design is a study that aims at collecting data on something and describing it in a systematic manner. This involves collection of data on a representative population of the target audience, on which generalization is made (Nworgu, 2015). The area of the study is Anambra state. The sample population comprised of 20 library educators selected randomly from 5 tertiary institutions in Anambra state which are Nnamdi Azikiwe University Awka, Federal Polytechnic Oko, Pauls University Awka, Federal College of Education (T) Umunze, and Chukwuemeka Odumegwu Ojukwu University Igbariam. A structured questionnaire on a four (4) – point Likert scale was used for collection of data for this study. The instrument was subjected to face validation and pilot test using Cronbach Alpha which gave a reliability coefficient value of 0.81. The study used on the spot method of distribution and data collection. Data collected from the study were analyzed using mean scores

Analysis and Discussion of Findings

Research Question 1: What are the available ICT tools in tertiary institutions in Anambra state?

Table 1: Responses on the available ICT tools in tertiary institutions in Anambra state

S/NO	Items	Available	Not available
1	PowerPoint	√	
2	Prezi		x
3	Keynote		x
4	Moodle	√	
5	Blackboard	√	
6	Canvas	√	
7	Zoom	√	
8	Google Meet	√	
9	Microsoft Teams	√	
10	Google Docs	√	

11	Slack		x
12	Kahoot		x
13	Mentimeter		x
14	Quizizz	√	

In Table 1, the available ICT tools in tertiary institutions in Anambra state are PowerPoint, Moodle, Blackboard, Canvas, Zoom, Google Meet, Microsoft Teams, Google Docs, Microsoft Teams, and Quizizz. However, there was no Prezi, Keynote, Slack, Kahoot!, and Mentimeter. This implies that majority of the ICT tools are available in tertiary institutions in Anambra state. This result is in line with the findings of Ally (2009) who asserted that ICT tools are available in many tertiary institutions and that these tools can help to improve teaching and learning. Ally, also noted that ICT tools such as Zoom, Google Meet, and Microsoft Teams are available in tertiary institution and are very key to supporting the academic programmes of the institution

Research Question 2: What is the level of implementation of ICT tools by library educators in tertiary institutions in Anambra state?

Table 2: Responses on the level of implementation of ICT tools by library educators in tertiary institutions

S/NO	Items	Mean	Decision
1	PowerPoint is implemented in my	2.86	High
2	Prezi	1.69	Low
3	Keynote	1.76	Low
4	Moodle	2.65	High
5	Blackboard	2.92	High
6	Canvas	2.74	High
7	Zoom	2.80	High
8	Google Meet	2.73	High
9	Microsoft Teams	2.88	High
10	Google Docs	2.74	High
11	Slack	1.45	Low
12	Kahoot	1.34	Low
13	Mentimeter	1.34	Low
14	Quizizz	2.34	High

In Table 2, the level of implementation of ICT tools by library educators in tertiary institutions in Anambra state is low as attested by majority of the responses who disagreed that Moodle, Prezi, Canvas, Quizizz. Keynote, Slack, Kahoot!, and Mentimeter is implemented by them in the school. However, only a few ICT tools such as PowerPoint, Blackboard, Zoom, Google Meet, Microsoft Teams, Google Docs are implemented by them. This implies that the level of implementation of ICT tools by library educators in tertiary

institutions in Anambra state is low. This result is in line with the findings of Cahier, Jet al (2011) who asserted that ICT tools are not available in many tertiary institutions and as such Canvas, Quizizz. Keynote are hardly used or implemented or use them for teaching and learning.

Research Question 3: What is the impact of implementation of ICT tools by library educators in tertiary institutions in Anambra state?

Table 3: Responses on the impact of implementation of ICT tools by library educators in tertiary institutions

S/NO	Items	Mean	Decision
1	Improved Engagement with media resources	2.86	Agree
2	Flexibility of ICT tools	2.69	Agree
3	Personalization of media contents	2.76	Agree
4	Improved comprehension	2.65	Agree
5	Improves efficient Learning	2.62	Agree
6	Access to Diverse Content	2.74	Agree
7	Convenience and Cost Savings	2.80	Agree
8	Immediate feedback	2.73	Agree
9	Enhances real-World Application	2.88	Agree
10	Promotes collaborative Learning	2.74	Agree
11	Enhances multimodal Learning	2.66	Agree
12	Increased Motivation to students	2.69	Agree

In Table 3, the impact of implementation of ICT tools by library educators in tertiary institutions in Anambra state as agreed by all the respondents are improved engagement with media resources, flexibility of ICT tools, enables personalization of media contents, improved comprehension, improves efficient learning, access to diverse content, convenience and cost savings, immediate feedback, enhances real-world application, promotes collaborative learning, enhances multimodal learning, and increased motivation to students. This result is in line with the findings of Khokhar and Javaid (2016) who stated that students can benefit from the implementation of ICT tools through the enhancement of their learning abilities. In agreement with the above findings, Greenfield (2018) also stated that the implementation of ICT tools can enable the personalization of media contents so that the students can easily adopt them for their instructional delivery

Research Question 4: What are the challenges to the implementation of ICT tools by library educators in tertiary institutions in Anambra state?

Table 4: Responses on challenges to the implementation of ICT tools by library educators in tertiary institutions

S/N	Items	Mean	Decision
1	Some library educators and Students are not proficient in using ICT tools	2.73	Agree
2	Insufficiency of ICT tools and infrastructure	2.92	Agree
3	Poor confidence in the use ICT applications	2.75	Agree
4	Erratic power supply	2.92	Agree
5	Poor maintenance culture on ICT tools	2.90	Agree
6	Low usage literacy skills in ICT tools	3.05	Agree
7	Lack of technical support to use ICT tools	3.12	Agree
8	High cost of data to use ICT tools	3.02	Agree
9	Poor funding to procure ICT tools	3.22	Agree
10	Low library educators and students attitude to the use ICT tools	2.98	Agree
11	Library educators and students may resist adopting new technology	3.11	Agree

In Table 4, the challenges to the implementation of ICT tools by library educators in tertiary institutions in Anambra state as agreed by the respondents are that some library educators and students are not proficient in using ICT tools, insufficiency of ICT tools and infrastructure, poor confidence in the use of ICT applications, erratic power supply, poor maintenance culture on ICT tools, low usage literacy skills of ICT tools, lack of technical support to use ICT tools, high cost of data to use ICT tools, poor funding to procure ICT tools, low library educators and students' attitude to the use ICT tools, and library educators and students may resist adopting new technology. This result is in line with the findings of Zhao, et al (2009) who found that the challenges faced in implementation of ICT tools were poor funding, and lack of ICT tools for instructions in the tertiary institution. Also, Sharma and Yadav (2012) in support of the above results, found that poor power supply, lack of skills in usage of ICT tools, and low internet connection were part of the challenges to the ICT tools tertiary institution

Conclusion

The implementation of ICT tools by library educators in tertiary institution has emerged as a pivotal endeavor with far-reaching implications. The poor and low implementation of various ICT tools will significantly affect the learning experiences of students in tertiary institution. These ICT tools if fully implemented can cater for the diverse learning styles and preferences of the library educators and students, fostering engagement and interaction. ICT tools have introduced a new level of flexibility and accessibility to learning. Library educators and students can access materials and courses at their convenience, enabling self-paced learning and accommodating work and life commitments. Similarly, if tertiary institutions can efficiently manage ICT tools through the digitization of

materials, reducing costs associated with print resources and expanding the range of available content, it will promote learning to a high extent. Therefore, the non implementation of information and communication technology (ICT) tools among library educators in tertiary institutions in Anambra state has been a problem to the growth of online learning. The implementation of ICT tools will mark a significant transition toward more accessible, interactive, and flexible education if sustained.

Recommendations

From the data analysis and conclusion of the study, it can be recommended that:

1. Library educators and students in tertiary institution should have access to continuous professional development opportunities on how to use ICT tools so as to enhance their knowledge and skills
2. Funding should be provided to procure the needed ICT tools to improve learning
3. The institution should prioritize the implementation of ICT tools. This will ensure that online education and access to learning in remote areas is achieved.
4. To bridge the digital divide, tertiary institution should work to improve library educators' access to ICT tools and technology, including computers and internet connectivity.
5. Tertiary institution should promote the implementation of ICT tools which will provide library educators and students the benefits of both traditional and online learning.

References

- Ally, M. (2009). *Foundations of educational technology for lifelong learning* (2nd ed.). Merrill Prentice Hall.
- American Library Association (ALA). (2005). Guidelines for academic librarians. Chicago: American Library Association.
- Association of College and Research Libraries (ACRL). (2016). Information literacy standards for higher education. *College & Research Libraries*, 77(2), 1-39.
- Biggs, J. (2003). *Teaching for quality learning at university: What the student does*. McGraw-Hill International.
- Cahier, J., Yurko, D., & Schwartz, L. (2011). The professional responsibilities of academic librarians: A conceptual framework. *College & Research Libraries*, 72(2), 151-165.
- Greenfield, D. (2018). Digital fluency in higher education: A conceptual framework for ICT implementation. *Journal of Asynchronous Learning Networks*, 22(4), 181-192.
- Head, A. J. (2011). New directions in academic librarianship. Chicago: Association of College and Research Libraries.
- Johnson, L., Adams Becker, S., Estrada, V., & Freeman, A. (2015). *NMC horizon report: 2015 higher education edition*. The New Media Consortium.
- Khokhar, A. J., & Javaid, S. (2016). *Students and Teachers Perceptions of ICT Use in Classroom*. Pakistani Classrooms
- Laurillard, D. (2002). *Rethinking university teaching: A framework for the effective use of educational technologies*. RoutledgeFalmer.
- OECD. (2013). *Education at a glance 2013: OECD indicators*. OECD Publishing.
- Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the Horizon*, 9(5)
- Richardson, M. (2010). *Using technology to support student learning*. Jossey-Bass.
- Sharma, S., & Yadav, J. N. (2012). Impact of information and communication technology (ICT) on higher education. *International Journal of Advanced Research in Computer Science and Software Engineering*, 2(7), 2391-2396.
- Stripling, J. (2017). Information literacy education: An essential collaboration between librarians and faculty. In M. A. Bruce, A. S. Byerly, & C. A. McKechnie (Eds.), *The handbook of information literacy* (2nd ed., pp. 48-69). New York: John Wiley & Sons.
- UNESCO. (2015). *ICT in education: A roadmap for the future*. UNESCO.
- Zhao, Y., Lei, J., & Zhang, L. (2009). Effects of information and communication technology (ICT) enhanced teaching on student engagement: An empirical study of a blended learning course. *Computers & Education*, 53(4), 578-586