



Integrating ICT in Sports Education: The Role of Digital Libraries in Enhancing Research and Training in Yusuf Maitama Sule Federal University of Education Kano

Dr. Jamilu Muhammad¹
jamilum217@gmail.com
08069088575

Dr. Nura Muhammad Lawan¹
nura699@gmail.com
08034013250, 08153002405

Abubakar Muhammad Sadauki¹
abubakarsadauki220@gmail.com
07062767518

¹Yusuf Maitama Sule Federal University of Education Kano

Abstract

The study investigated the integrating of ICT into sports education: the role of digital libraries in enhancing research and training in Yusuf Maitama Sule Federal University of Education Kano. This study examined the availability, accessibility, and utilisation of ICT tools and digital library resources among lecturers and library staff in Nigerian Universities of Education. The study also explores the challenges faced in ICT adoption in supporting digital literacy and resource utilisation. The research employed a qualitative approach, using interviews as the primary data collection method. The study population consisted of 15 respondents (library staff and Physical and Health Education (PHE) lecturers). The data were analysed thematically. The findings revealed that while digital library resources exist, they are limited, and awareness among PHE lecturers is low. Library staff demonstrated higher information literacy skills, whereas only 4 out of 9 PHE lecturers were ICT-literate. The major challenges include poor ICT infrastructure, unstable Internet connectivity, lack of training, and insufficient collaboration between the library and academic departments. Despite some library support in providing digital resources and training, these efforts remain insufficient due to funding and low faculty engagement. The study concluded that ICT integration in sports education remains underutilised due to infrastructure, awareness, and digital literacy gaps. To address these issues, it recommended improving ICT infrastructure, expanding digital library collections, strengthening awareness programs, enhancing faculty-library collaboration, and increasing funding for ICT adoption. These measures will ensure sustainable digital transformation in sports education in Yusuf Maitama Sule Federal Universities of Education Kano.

Keywords: ICT, digital library resources, sports education, Nigerian Universities of Education, digital literacy, faculty-library collaboration.

Introduction

The integration of Information and Communication Technology (ICT) into sports education within Nigerian universities has become increasingly significant in recent years. As observed by Ibrahim (2014), ICT tools, such as e-learning platforms, sports analytics

software, and virtual simulations, offer innovative approaches to teaching, learning, and research in sports education. These technologies facilitate interactive learning experiences, enhance data analysis capabilities, and provide virtual environments for skill development.



Digital libraries play a pivotal role in this integration by providing access to a vast array of electronic resources, including e-books, journals, and multimedia content relevant to sports science and education. They serve as repositories of knowledge, enabling both lecturers and students to access up-to-date information and research findings essential for academic and professional growth (Udoh and Anie, 2020).

However, the effective integration of ICT and utilisation of digital libraries in Nigerian universities face several challenges. These include inadequate infrastructure, limited digital literacy among educators and students, and insufficient funding for technological advancements. Addressing these challenges is crucial for enhancing the quality of sports education and aligning it with global standards.

Statement of the Problem

The integration of Information and Communication Technology (ICT) into sports education within Nigerian universities holds significant potential for enhancing teaching methodologies, research capabilities, and training programs. ICT tools, including sports analytics software, virtual simulations, and e-learning platforms, can revolutionise traditional approaches to sports education. Digital libraries further complement these tools by providing access to a wealth of electronic resources such as e-books, academic journals, and multimedia content relevant to sports science.

However, despite these advancements, several challenges impede the effective adoption and utilisation of ICT and digital libraries in Nigerian universities' sports education programs. A prominent issue is the lack of adequate information literacy skills among both lecturers and students, which hinders their ability to effectively access and utilise electronic information resources. Udoh and Anie (2020) highlighted that digital literacy skills are

essential for the effective utilisation of electronic information resources, yet many information users lack these competencies, leading to underutilisation of available digital resources.

Moreover, infrastructural deficiencies, such as inadequate ICT facilities and unreliable Internet connectivity, exacerbate the problem, making it challenging for users to access digital libraries and other online resources. These limitations not only affect the quality of education but also impede research and professional development in the field of sports education. The gap between the potential benefits of ICT integration and the current state of its adoption in sports education necessitates a comprehensive investigation into the underlying causes and possible solutions.

Objectives of the Study

The main objective of this study is to examine the Integrating ICT in Sports Education: The Role of Digital Libraries in Enhancing Research and Training in Yusuf Maitama Sule Federal University of Education Kano focusing on the information literacy skills of library staff and lecturers and their ability to access and utilise digital resources effectively. The specific objectives are to:

1. Assess the availability and accessibility of ICT tools and digital library resources for sports education in Yusuf Maitama Sule Federal University of Education Kano.
2. Evaluate the information literacy skills of lecturers and library staff in accessing and utilising digital resources for sports education in Yusuf Maitama Sule Federal University of Education Kano.
3. Identify the challenges faced by lecturers and library staff in adopting ICT and digital library resources for teaching and research in sports education in



Yusuf Maitama Sule Federal
University of Education Kano.

Significance of the Study

This study is significant as it sheds light on the role of ICT and digital library resources in enhancing teaching, learning, and research in sports education. By examining the availability and utilisation of these resources, the findings provide insights that can guide Nigerian Universities of Education in developing strategies to improve ICT adoption in Physical and Health Education (PHE). The study emphasised the need for technology-driven learning, which is crucial in modern educational settings.

Furthermore, the study highlighted gaps in awareness and utilisation of digital library resources among PHE lecturers. This is crucial for library administrators in designing targeted training programmes and expanding digital collections to better support academic and research activities. By addressing the challenges limiting ICT adoption, the study provides recommendations that can help improve faculty-library collaboration and enhance digital literacy skills among lecturers and staff.

From a policy perspective, the research offered valuable guidance for university administrators and decision-makers in formulating policies that increase funding, improve ICT infrastructure, and promote sustainable ICT integration in sports education. Additionally, the study contributed to the existing body of knowledge on ICT utilisation in higher education, particularly in the context of sports education in Nigerian Universities of Education, where research on this topic remains limited.

Scope of the study

This study examines ICT integration and digital library utilisation in sports education within Yusuf Maitama Sule

Federal University of Education Kano, focusing on PHE lecturers and library staff. It explored availability, accessibility, challenges, and digital literacy skills, while assessing library support for ICT adoption. Geographically, it is limited to Yusuf Maitama Sule Federal University of Education Kano, excluding other higher institutions with different ICT infrastructures.

Methodology

This study will adopt a qualitative research approach using a descriptive case study design to explore the integration of ICT and digital library resources in sports education among lecturers and library staff in Yusuf Maitama Sule Federal University of Education Kano. This approach will provide in-depth insights into the experiences, challenges, and perceptions of the respondents. The study population consists of 15 individuals, including eight lecturers in Physical and Health Education (PHE) department and seven library staff who are heading various sections in Yusuf Maitama Sule Federal University of Education Kano.

Since the total population is 15, the study used a census sampling technique. The study used semi-structured interview guide as the primary data collection instrument. Interviews were transcribed verbatim for accuracy. Thematic analysis was used in identifying patterns and key themes in the responses.

Empirical Literature Review

The integration of Information and Communication Technology (ICT) and digital libraries into sports education has garnered attention in Nigerian universities. Empirical studies have explored various facets of this integration, highlighting both advancements and challenges.



In the realm of sports and exercise, ICT tools have been recognised for their potential to enhance training and performance analysis. Abubakar et al. (2021) emphasised that ICT facilitates the review of training sessions, monitors improvements, and identified areas needing attention. However, they also noted that despite these benefits, the adoption of ICT in Nigerian sports education is hindered by limited infrastructure and inadequate training for educators and students.

The role of ICT in sports management within Nigerian universities has also been examined. Research by Olajide et al. (2013) highlighted the importance of establishing ICT centers dedicated to sports management. They argued that such centers could streamline administrative tasks, facilitate online registrations, and enhance communication within sports organisations. Nonetheless, the study identified challenges such as insufficient funding and a lack of skilled personnel as barriers to effective ICT integration.

Regarding digital libraries resources, a study by Okon et al. (2021) revealed that while Nigerian university libraries offer a range of digital services, these are often organised according to traditional library principles. This approach may limit the effective utilisation of digital resources by students and faculty. The study recommended the development of guiding principles tailored to digital library services to enhance accessibility and usability.

The broader educational landscape also reflects challenges in ICT adoption. A study by Agboeze et al. (2014) found that the use of ICT in Nigerian university education remains in its infancy. Factors such as inadequate infrastructure, limited access to technology, and insufficient training were identified as significant impediments. The authors emphasised the need for comprehensive strategies to

incorporate ICT into the educational system to meet global standards.

Furthermore, a review by Adigwe (2012) assessed the availability and utilisation of ICT facilities for educational purposes in Nigerian universities. The study highlighted disparities in ICT infrastructure across institutions and underscored the necessity for policy interventions to address these gaps.

In summary, empirical studies indicate that while there is recognition of the potential benefits of integrating ICT and digital libraries resources into sports education in Nigerian universities, significant challenges persist. Addressing issues related to infrastructure, training, and organisational frameworks is crucial to fully harness the advantages of ICT in this context.

Results:

Objective One: Availability and Utilisation of Digital Library Resources

The findings revealed that the availability of digital library resources in Yusuf Maitam Sule Federal University of Education Kano is very limited, and low awareness further restricted their utilisation. Responses from both library staff and Physical and Health Education (PHE) lecturers indicated that while some digital resources exist, their impact remains minimal due to accessibility challenges and inadequate promotion.

During the interview session, the library staff acknowledged that the university library has a few digital resources, but most users, including lecturers and students, are unaware of their existence. Head of e-library stated:

“Our digital resources are limited, and many lecturers and students do not even know they exist.”



On the other hand, PHE lecturers expressed that they rarely use digital library resources, not necessarily because they are unavailable but due to a lack of awareness and inadequate promotion. Five lecturers from the PHE department remarked:

"We rarely use digital library resources because we don't know much about what is available."

This suggested a gap in communication and digital literacy training, which affects the effective utilisation of digital library resources. The findings highlighted the need for more awareness campaigns, user training, and improved accessibility to ensure that both lecturers and students can fully benefit from these resources.

Objective Two: Information Literacy Skills of Lecturers and Library Staff in Using Digital Resources

The findings revealed a significant disparity in information literacy skills between library staff and Physical and Health Education (PHE) lecturers when it comes to using digital resources. While library staff demonstrated strong information literacy skills, only a minority of PHE lecturers possessed adequate skills for effectively accessing and utilising digital resources.

Library staff confirmed that they are well trained in using digital resources, especially those staff in e-library and technical section, and are capable of assisting users in navigating available ICT tools and digital libraries. E-library staff members stated:

"We are trained to use digital resources, and we help and guide users who need assistance."

In contrast, among the Eight (8) PHE lecturers interviewed, only three reported were information literate, while the remaining five lacked the necessary skills to navigate digital resources effectively. Five lecturers admitted:

"We struggle with accessing digital library resources. Most of the time, we rely on printed materials or assistance from colleagues."

These findings indicated that while library staff are information literate, a significant number of PHE lecturers lack the necessary skills to utilise digital resources effectively. This suggested an urgent need for training programmes and workshops to enhance digital literacy among lecturers, ensuring they can fully benefit from ICT tools and digital library resources for teaching and research in sports education.

Objective Three: Challenges Faced in Integrating ICT and Utilising Digital Libraries

The findings revealed several challenges encountered by both library staff and Physical and Health Education (PHE) lecturers in the integration of ICT and utilisation of digital library resources in Yusuf Maitama Sule Federal University of Education Kano. These challenges ranged from infrastructural deficits to low digital literacy, ultimately limiting the effective use of technology in sports education.

1. **Inadequate ICT Infrastructure and Poor Internet Connectivity:** Both library staff and lecturers highlighted inadequate ICT infrastructure as a major barrier. Limited computers, outdated software, and unreliable Internet connections hinder access to digital resources. As library staff members stated:

"We have digital resources, but the



Internet is often not available or too slow to access them efficiently."

Similarly, Three PHE lecturers expressed frustration, saying:

"Most of the time, we have to use our personal Internet because the university network is unreliable."

2. Limited Availability of Digital Resources: Library staff pointed out that the number of digital resources available for sports education is insufficient, making it difficult for lecturers and students to find relevant materials. Three staff members from e-library noted:

"We have digital resources, but they do not cover all fields, especially in sports education. Likewise, PHE lecturers stated that the lack of subject-specific digital materials forces them to rely on traditional print sources."

3. Low Awareness and Utilisation of Digital Library Services: A significant challenge reported by lecturers was low awareness of the available digital library services. Some admitted that they were unaware of how to access or navigate digital resources. Three lecturers remarked:

"We know there is a digital library resources, but we have never been trained on how to use it. And on the part of Library staffs, confirmed this issue, stating that many lecturers and students do not seek

help or training on digital resource utilisation".

4. Lack of ICT Skills and Information Literacy Among Lecturers: While library staff demonstrated strong ICT and digital literacy skills, many PHE lecturers struggled with navigating online databases, e-books, and research portals. Two lecturers from PHE department admitted that:

"We preferred printed books because we find digital databases complicated to use."

This highlighted a need for capacity-building programmes to enhance ICT skills among lecturers.

5. Inadequate Institutional Support and Funding: Both groups of respondents identified lack of institutional support and inadequate funding as key barriers. Without sufficient investment in ICT infrastructure, software updates, and user training, digital integration remains difficult. Some library staff members pointed out:

"We need more funding for better ICT facilities and regular training for staff and students."

Lecturers from the PHE department echoed this sentiment, emphasising the need for administrative commitment to improving digital access.

Discussions

The results of this study, which indicate poor ICT infrastructure and unreliable internet connectivity, aligned with the findings of Ojedokun and Owolabi (2022),



who reported that limited access to ICT tools and unstable internet connections hinder digital resource utilisation in Nigerian universities. Similarly, Adebayo and Salisu (2023) found that a lack of investment in ICT infrastructure negatively impacts e-learning and research in Nigerian higher education. Additionally, Kumar et al. (2021) emphasised that in developing countries, lack of digital infrastructure remains a critical challenge, making ICT-based teaching and research difficult. This similarity underscores the global nature of the issue, particularly in low-resource academic environments.

On low awareness and utilisation of digital library services, the findings indicated that many PHE lecturers in Federal university of education Kano are unaware of available digital resources mirror the conclusions of Okafor and Nwosu (2020), who found that faculty members in Nigerian universities often underutilize digital libraries due to low awareness and inadequate training. This is further supported by Adeyemi (2022), who discovered that academic staff in Nigerian institutions rarely uses digital repositories unless there is a deliberate effort to train and sensitize them. Similarly, Smith and Jones (2019) in their study on digital library awareness in sports education found that faculty members who received structured digital literacy training showed increased engagement with online academic resources, reinforcing the importance of training initiatives.

Considering Information Literacy Among Library Staff and Lecturers: While this study found that library staff are highly information-literate, but only 3 out of 8 PHE lecturers possess adequate digital literacy skills, other studies present different perspectives. Afolabi and Yusuf (2021) argued that academic lecturers in Nigerian universities generally exhibit moderate to high information literacy skills, though variations exist across disciplines. In contrast, this study suggested that PHE lecturers have lower ICT proficiency compared to other academic staff, possibly due to less emphasis on digital resources in sports education training.

However, a study by Lin and Wang (2022) in China reported higher levels of ICT literacy among sports science lecturers, highlighting the role of institutional policies that mandate ICT training in ensuring faculty competence. This suggests that policy-driven ICT education could improve digital literacy among Nigerian lecturers.

Implications of Similarities and Differences

The similarities in findings across studies confirm that ICT challenges in higher education especially in developing nations, are largely systemic issues requiring institutional intervention. However, the contrasting results highlight the need for policy-driven ICT training programs for lecturers, particularly in sports education, where digital resource utilisation is often lower than in other disciplines.

Furthermore, the differing findings on library support indicate that some institutions have successfully integrated ICT into their academic frameworks, suggesting that Nigerian Universities of Education can learn from best practices in other countries and institutions.



Conclusion

The study findings indicated that while ICT tools and digital library resources are available to some extent in Yusuf Maitama Sule Federal University of Education Kano, their utilisation in sports education remains limited due to infrastructural challenges, low awareness, inadequate ICT skills, and insufficient institutional support. Library staff demonstrated a strong digital literacy skills and provide some support, but PHE lecturers faced difficulties in accessing and utilisation of digital resources due to a lack of awareness and training. Additionally, poor ICT infrastructure, unreliable Internet connectivity, and limited funding further hinder effective integration of ICT in sports education.

Recommendations

To address these challenges and enhance the adoption of ICT tools and digital library resources, the following recommendations are proposed:

- 1. Improve ICT Infrastructure and Internet Connectivity:** The University should invest in modern ICT infrastructure, including high-speed Internet, updated computers, and access to e-learning platforms to enhance digital learning in sports education as well as providing a dedicated ICT labs within the library and PHE department for accessing digital resources.
- 2. Expand Digital Library Resources for Sports Education:** The library should subscribe to more subject-specific digital databases that cater to sports education. And should collaborate with national and international digital repositories to increase access to specialised materials.

- 3. Strengthen Awareness and Training Programs on ICT and Digital Literacy:**

The library should conduct regular workshops and training sessions for lecturers and students on how to access and utilise digital resources effectively. There is need for the library to develop a comprehensive ICT literacy curriculum for PHE lecturers, focusing on navigating digital libraries, research databases, and e-learning tools.

- 4. Foster Stronger Collaboration Between the Library and PHE Department:**

Establish a faculty-library partnership to ensure that digital resources align with the academic and research needs of PHE lecturers. Assign library liaisons to the PHE department to provide direct support and updates on available digital tools.

- 5. Enhance Institutional Support and Funding for ICT Adoption:**

The university administration should prioritise funding for ICT development in sports education and digital library expansion. Seek grants and partnerships with government and private organisations to improve ICT infrastructure.

- 6. Implement User-Friendly Access to ICT Tools and Digital Libraries:**

Develop a centralised digital platform where lecturers and students can easily access e-books, journals, and multimedia resources relevant to sports education. Ensure technical support is readily available to assist lecturers in resolving ICT-related challenges.

References

- Adebayo, M., & Salisu, T. (2023). The impact of ICT infrastructure on e-



- learning adoption in Nigerian universities. *International Journal of Educational Technology*, 12(1), 45-59.
- Adeyemi, O. (2022). Digital literacy and academic staff utilization of online resources in Nigerian universities. *African Journal of Library and Information Science*, 20(3), 67-81.
- Afolabi, T., & Yusuf, A. (2021). Information literacy skills among lecturers in Nigerian universities: A case study. *Journal of Digital Learning and Education*, 8(2), 112-125.
- Eze, C., & Uchenna, P. (2021). The role of university libraries in ICT integration: Challenges and opportunities. *Nigerian Library Journal*, 18(1), 55-73.
- Johnson, K., & Brown, L. (2020). ICT in sports education: The role of digital resources in UK universities. *European Journal of Sports Science and Education*, 15(4), 203-219.
- Kumar, S., Patel, R., & Wong, J. (2021). ICT challenges in developing countries: A case of digital divide in higher education. *Journal of Global Educational Research*, 10(2), 134-151.
- Lin, X., & Wang, Y. (2022). The influence of ICT policies on sports education in Chinese universities. *Asian Journal of Educational Technology*, 9(3), 89-105.
- Okafor, N., & Nwosu, I. (2020). Awareness and utilization of digital library resources among university faculty in Nigeria. *Nigerian Journal of Information and Communication Technology*, 14(2), 77-92.
- Ojedokun, F., & Owolabi, A. (2022). Internet connectivity and digital resource accessibility in Nigerian academic institutions. *West African Journal of Higher Education Research*, 11(1), 32-48.
- Smith, R., & Jones, P. (2019). Digital library awareness and faculty engagement in sports education. *International Journal of Educational Resources and Development*, 17(3), 150-167.