

Lecturers' Digital Proficiency and Implementation of Open and Distance Learning Programme in Rivers State Universities.

Prof. Eric C. Amadi & Wokoma, Stella Obelema

Department of Educational Management

Faculty of Education, Rivers State University, Port Harcourt, Nigeria

Corresponding Authors' Email: amadi.eric@ust.edu.ng stella.wokoma@ust.edu.ng

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Abstract

This study investigated lecturers' digital proficiency and implementation of open and distance learning programme in Rivers State Universities. Three objectives, three research questions and three hypotheses guided the study. The study adopted correlational research design. The population of the study was 6,252 lecturers consisting of 3,321 from University of Port Harcourt, 2,153 from Rivers State University and 778 from Ignatius Ajuru University of Education. The sample size of the study was 583 lecturers which comprised of 245 from University of Port Harcourt, 222 from Rivers State University and 116 from Ignatius Ajuru University of Education derived through multistage sampling technique. Two self-designed questionnaires titled: "Lecturers' Digital Proficiency Questionnaire" and "Implementation of Open and Distance Learning Programme Questionnaire" which was validated by two experts in Measurement and Evaluation and Department of Educational Management were instruments for data collection. The reliability of the instruments were established using Cronbach Alpha statistics to achieve reliability indexes of 0.84, 0.88, 0.77 and 0.81. The research questions were answered using Pearson Product Moment Correlation statistics where the hypotheses were subjected to t-transformation to establish the significance of the r-value at 0.05 level of significance. The results of the analyzed data revealed that a high, positive and significant relationship exist between lecturers' proficiency in adaptive learning technologies, online communication tools and multimedia integration and implementation of open and distance learning programme in Rivers State Universities. Based on the findings, it was recommended among others that Government should establish partnerships with tech companies for access to cutting-edge adaptive learning tools.

Keywords: Lecturers' Digital Proficiency, Implementation, Adaptive Learning Technologies, Online Communication Tools, Multimedia Integration

INTRODUCTION

Open and distance learning has emerged as a significant mode of education worldwide, offering flexible learning opportunities by transcending barriers of time, space and location. It has gained immense recognition for its ability to provide educational access and opportunities to diverse communities, including those in remote areas. Adebayo (2017) defined open and distance learning as the type of education that takes place outside the conventional school system. In the same vein, Alaezi in Osuji and Umunnakwe (2022), refer to open and distance learning as educational patterns, approaches and strategies that permit people to learn with no barriers in respect of time and space, age, sex, race, tribe and state of origin. According to Osuji and Bakpo (2022), open and distance learning is a learning situation where the learners are geographically separated from the facilitators. It can be deduced that from these definitions open and distance learning provides educational opportunities needed by anyone, anywhere and at anytime.

The Federal Republic of Nigeria (FRN, 2014) noted that the goals of Open and Distance Learning in Nigeria shall be to: Provide more access to quality education and equity in educational opportunities; Meet special needs of employers and employees by mounting special courses for employees at the workplace; Encourages internationalization especially of tertiary education curricula and Ameliorate the effect of internal and external brain drain in tertiary institutions by utilizing Nigerian experts as teachers regardless their locations or places of work. Realization of these goals and objectives depends solely on the facilitators. The facilitators are at the heart of the implementation of open and distance learning programme. Amaewhule and Nwafor (2018) stated that facilitators are those who transfer knowledge, skills and attitudes to the learners in a mediated learning situation with the sole aim of knowledge building and production. Facilitators in open and distance learning programme are mostly lecturers (Mampane & Ogina in Osuji & Bakpo, 2022). The mood of providing flexible learning opportunities for learners using varieties of media including electronic print, online printing, study guides, course guides, videos, recordings, software and online information have brought the need for facilitators to develop capabilities and proficiencies required to perform well (Osuji, Epelle & Alabere, 2023). The 21st century education has seen quite a number of innovations in pedagogical methods, instructional materials, class management and so on. For facilitators to be able to keep up with these changes and remain relevant in their field, they must demonstrate high levels of digital proficiency for implementation of open and distance learning programme. In conjunction with preparing students for the current digital era, lecturers are seen as the key players in using digital technologies in the teaching and learning process. This is due to the capability of these tools in providing dynamic and proactive teaching-learning environment.

Institutions like the National Open University of Nigeria (NOUN), which operates through a distance learning model, the need for lecturers who serve as facilitators to possess robust digital competencies has become paramount for effective implementation of open and distance learning programme. The demand for lecturers with strong digital proficiency has grown further due to the dramatic shift from the traditional method of teaching and learning to a digital based learning environment. According to Ugwoke, Oteh and Onyishi (2023), many facilitators, especially in developing countries like Nigeria, have struggled with the integration of digital tools in their teaching practices. This challenge has had a direct impact on effective implementation of open and distance learning programme in Universities. This lack of digital acumen often translates into missed opportunities for leveraging educational technologies, creating interactive online learning environments and effectively engaging distance learners. As a result, the prevailing situation of lecturers' incompetence in digital proficiency detrimentally affects effective implementation of open and distance learning programme in Universities, leading to potential disparities in educational experiences and outcomes for remote students (Nkemjika & Raji, 2020). Hence, enhancing lecturers' proficiency in adaptive

learning technologies, online communication tools and multimedia integration, can profoundly elevate the implementation of open and distance learning programme within the aforementioned universities.

Lecturers' digital proficiency is the knowledge, skills and attitude of lecturers who serve as facilitators in ODL in the use of ICT to improve their teaching practice in order to enhance effective implementation of open and distance learning programme. According to Wordu, Epelle and Anyanwu (2022), lecturers' digital proficiency as the ability to use digital tools effectively to access, manage, integrate and analyze digital information for learning and collaboration in a digital learning environment. Kavalier and Flannigan (2018), opined that lecturers' digital proficiency represents a lecturers' ability to perform tasks effectively in a digital environment. This competency includes the ability to navigate digital platforms, create and curate digital content, engage learners through virtual environments, and assess learning outcomes using digital tools. Salehudin (2016), explained that lecturers' digital proficiency enhance their engagements with digital technologies as they embark on the task of preparing students in a digitalized learning environment.

The proficiency of lecturers in adaptive learning technologies is paramount for the implementation of open and distance learning. Adaptive learning technologies are educational tools and platforms that use algorithms to adapt the learning experience to the individual needs of each student. By leveraging these technologies, lecturers can create personalized learning experiences, improve students' engagement, provide targeted support, and enhance the overall effectiveness of open and distance learning programs. Lecturers who are proficient in using these technologies can customize the learning content, activities, and assessments to meet the specific needs of each student. This level of personalization not only enhance the students' understanding of the course material but also motivates them to actively engage with the learning process (Ruzgar, 2015). By utilizing interactive and adaptive features, such as quizzes, games, simulations, and personalized learning paths, lecturers can create engaging and immersive learning experiences for students. This level of interactivity not only keeps students motivated and interested in the course material but also promotes active participation and collaboration among students (Roudlotun & Muhammad, 2020). Lecturers' proficiency in adaptive learning technologies enables them to provide targeted support and feedback to students. According to Sahin and Ercan (2010), lecturers' proficiency in adaptive learning technologies can improve the efficiency and effectiveness of open and distance learning programs. These technologies can automate repetitive tasks, such as grading assessments, tracking student progress, and generating reports. Lecturers who are proficient in using adaptive learning technologies can streamline these administrative tasks, freeing up more time to focus on designing engaging course content, providing targeted support to students, and fostering a collaborative learning environment. Fitzgerald, Kumi-Yeboah and Davis (2018), stated that proficiency in adaptive learning technologies enables lecturers to utilize personalized and interactive learning tools that can adapt to individual student needs and preferences as this

approach tailors the learning experience to each student's pace and learning style, enhancing their understanding and retention of course material. Lecturers' proficiency in adaptive learning technologies is critical for the implementation of open and distance learning programme. By leveraging these technologies to create personalized learning experiences, provide targeted support, enhance student engagement, and improve the efficiency of learning programs, lecturers can deliver high-quality education that meets the diverse needs of students in open and distance learning settings. Therefore, it is essential for lecturers to continuously develop their skills in adaptive learning technologies to enhance the overall learning experience and outcomes of their students.

Lecturers who are proficient in utilizing a variety of online communication tools can enhance the learning experience, promote effective communication, build a sense of community, and foster a supportive learning environment in open and distance learning programs. One key way in which lecturers' proficiency in online communication tools relates to the implementation of open and distance learning is through facilitating real-time interactions. Tools such as video conferencing platforms, chat rooms, and discussion boards enable lecturers to engage with students in live discussions, Q&A sessions, and group activities. Proficient use of these tools allows lecturers to create a more interactive and engaging learning experience, mimicking the dynamics of a traditional classroom setting and promoting active participation among students (Krismant, 2019). Proficiency in online communication tools enables them to provide timely feedback and support to students. Through email communication, messaging platforms, and online forums, lecturers can address students' questions, concerns, and feedback in a prompt manner. Effective communication fosters a sense of accessibility and supportiveness, ensuring that students feel connected and valued in their learning journey. This personalized feedback helps students stay on track, improve their understanding of the course material, and ultimately enhance their learning outcomes.

Lecturers' proficiency in online communication tools promotes collaboration and teamwork among students in open and distance learning programs. Tools such as shared documents, online project management platforms, and virtual collaboration spaces enable students to work together on group projects, assignments, and discussions. Benson and Palaskas (2016), opined that knowledge of online communication tools allows lecturers to effectively deliver course content, interact with students, and facilitate real-time discussions as platforms like video conferencing, discussion forums, and instant messaging enable lecturers to maintain regular communication with students, address their queries, and share resources. Proficient use of these tools by lecturers encourages collaborative learning, peer-to-peer interactions, and knowledge sharing among students, enhancing their critical thinking, problem-solving, and communication skills. Online communication tools allow lecturers to deliver course content in various formats to accommodate different learning styles and preferences. By utilizing multimedia including videos, podcasts, interactive slideshows, and online quizzes, lecturers can cater to the diverse needs of students and create engaging and dynamic

learning experiences. Proficient use of these tools makes the learning process more interactive, visually stimulating, and accessible, capturing students' attention and promoting deeper engagement with the course material (Harisa, 2020). By creating online discussion forums, social media groups, and virtual office hours, lecturers can connect students with their peers and educators, fostering a supportive and collaborative learning environment. Building a community of learners encourages interaction, knowledge sharing, and peer support, enhancing the overall learning experience and promoting a sense of belonging among students.

The proficiency of lecturers in multimedia integration is crucial to the implementation of open and distance learning for several reasons. Multimedia integration plays a significant role in engaging and motivating students in a virtual learning environment. When lecturers are proficient in utilizing various multimedia tools such as videos, audio clips, animations, and interactive simulations, they can create a more dynamic and interactive learning experience for students. This not only enhances the overall learning experience but also helps to keep students actively engaged and focused on the material being presented. Mastering multimedia integration involves effectively incorporating audio, video, graphics, and interactive elements into online course materials. By utilizing multimedia resources, lecturers can enhance the delivery of content, make it more engaging and appealing to students, and cater to their different learning preferences (Mayer, 2019). Lecturers' proficiency in multimedia integration for the implementation of open and distance learning enriches the learning experience, making it more interactive, stimulating and conducive to knowledge retention.

Use of multimedia in open and distance learning can also facilitate more personalized and flexible learning experiences for students. With the ability to access course materials at their own pace and on their preferred devices, students can tailor their learning experiences to meet their individual needs and preferences. Lecturers who are proficient in multimedia integration can create a variety of resources and activities that cater to different learning styles and abilities, allowing students to engage with the material in a way that works best for them which enhances the effective implementation of open and distance learning programmes (Ogbeide, 2019). Overall, the proficiency of lecturers in multimedia integration is essential to the effective implementation of open and distance learning. By creating engaging, interactive, and accessible learning experiences for students, lecturers can enhance student engagement, improve retention and comprehension of course material, and provide personalized and flexible learning opportunities. Ultimately, the effective use of multimedia in online learning environments can lead to improved learning outcomes and student success.

Statement of the Problem

The rapid advancement of technology and the increasing demand for flexible education options have led to a growing emphasis on the implementation of Open and Distance Learning (ODL) programmes in universities

in Nigeria. Rivers State, is no exception to this trend, with its universities striving to implement and expand ODL initiatives. However, the successful implementation and effectiveness of these programme heavily rely on the digital proficiency of the lecturers responsible for delivering the curriculum.

The COVID-19 pandemic has further accentuated the importance of digital competence in education, as universities worldwide were forced to rapidly shift to online learning modalities. This sudden transition exposed the gaps in digital readiness among many educators and highlighted the urgent need for a thorough assessment of lecturers' digital proficiency (Ugwoke, Oteh, & Onyishi, 2023). Moreover, the relationship between lecturers' digital proficiency and the successful implementation of ODL programmes in Rivers State universities remains largely unexplored. The lack of adequate digital skills among lecturers can lead to suboptimal delivery of course content, reduced students' engagement, and ultimately, compromise the quality of education provided through ODL programmes. Many lecturers struggle with adopting and utilizing adaptive learning technologies, online communication tools and multimedia integration. This inadequacy hampers the ability of institutions to make informed decisions regarding resource allocation, professional development programmes and strategic planning for the expansion of ODL programme. Furthermore, empirical research on lecturers' digital proficiency in the context of ODL institutions in Nigeria, particularly Rivers State Universities, is scarce. By addressing these issues through a comprehensive study, the researchers aims to investigate lecturers' digital proficiency and implementation of open and distance learning programme in Rivers State Universities.

Purpose of the Study

The purpose of the study was to examine lecturers' digital proficiency and implementation of open and distance learning programme in Rivers State Universities. Specifically, the study sought to achieve the following objectives:

1. examine the relationship between lecturers' proficiency in adaptive learning technologies and implementation of open and distance learning programme in Rivers State Universities.
2. ascertain the relationship between lecturers' proficiency in online communication tools and implementation of open and distance learning programme in Rivers State Universities.
3. determine the relationship between lecturers' proficiency in multimedia integration and implementation of open and distance learning programme in Rivers State Universities.

Research Questions

The following research questions guided the study.

1. What is the relationship between lecturers' proficiency in adaptive learning technologies and implementation of open and distance learning programme in Rivers State Universities?
2. What is the relationship between lecturers' proficiency in online communication tools and implementation of open and distance learning programme in Rivers State Universities?

3. What is the relationship between lecturers' proficiency in multimedia integration and implementation of open and distance learning programme in Rivers State Universities?

Hypotheses

- Ho₁ There is no significant relationship between lecturers' proficiency in adaptive learning technologies and implementation of open and distance learning programme in Rivers State Universities.
- Ho₂ There is no significant relationship between lecturers' proficiency in online communication tools and implementation of open and distance learning programme in Rivers State Universities.
- Ho₃ There is no significant relationship between lecturers' proficiency in multimedia integration and implementation of open and distance learning programme in Rivers State Universities.

METHODOLOGY

The study adopted correlational research design. The population of the study was 6,252 lecturers consisting of 3,321 from University of Port Harcourt (UNIPORT), 2,153 from Rivers State University (RSU) and 778 from Ignatius Ajuru University of Education (IAUE). The sample size of the study was 583 lecturers which comprised of 245 from University of Port Harcourt, 222 from Rivers State University and 116 from Ignatius Ajuru University of Education derived through multistage sampling technique. At the first stage, the proportionate sampling technique was adopted in selecting 50% of faculties from UNIPORT, RSU and IAUE, while at the second stage the proportionate sampling technique was adopted in selecting 20% of Lecturers in the chosen faculties from UNIPORT, RSU and IAUE to arrive at the sample size of 583 lecturers. Two self-designed questionnaires titled: "Lecturers' Digital Proficiency Questionnaire (LDPQ)" and "Implementation of Open and Distance Learning Programme Questionnaire (IODLPQ)" were instruments for data collection. The instruments were divided into two sections: Sections A and B. Section A covered demographic data of respondents while Section B was divided into sub sections based on the research questions. The instruments were face and content validated by experts in Measurement and Evaluation and Department of Educational Management. The response scale was structured on a 4 point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) with values 4, 3, 2 and 1 respectively. The reliability of the instruments were established using Cronbach Alpha statistics to achieve reliability indexes of 0.84, 0.88, 0.77 and 0.81 for the various clusters of the instruments respectively. Pearson Product Moment Correlation statistics was used to answer the research questions based on the value and direction of the correlation coefficient. The relationship value of 0.1 – 0.4 was counted as "low relationship", 0.5 denotes "moderate relationship" while 0.6 and above denote "high relationship". The null hypotheses were subjected to t-transformation to establish the significance of the r-value at 0.05 level of significance with a critical t-value of ± 1.96 . Analyzed data therefore with calculated t-value above the critical t-value of ± 1.96 was rejected and below was accepted.

RESULTS

Research Question 1: What is the relationship between lecturers’ proficiency in adaptive learning technologies and implementation of open and distance learning programme in Rivers State Universities?

Table 1: Summary of Pearson Product Moment Correlation on the Relationship Between Lecturers’ Proficiency in Adaptive Learning Technologies and Implementation of Open and Distance Learning Programme in Rivers State Universities.

		Correlations**		
		Lecturers' proficiency in Adaptive Learning Technologies	Implementation of Open and Distance Learning programme	Level of Correlation
Lecturers' Proficiency in Adaptive Learning Technologies	Pearson Correlation	1	$r = .756^{**}$	
	Sig. (2-tailed)		.000	
	N	583	583	High and Positive
Implementation of Open and Distance Learning Programme	Pearson Correlation	$r = .756^{**}$	1	Relationship
	Sig. (2-tailed)	.000		
	N	583	583	

** . Correlation is significant at the 0.01 level (2-tailed).

Table 1 revealed a correlation value of $r = .756^{**}$. This value is high and positive, thus indicating that there is high and positive relationship between lecturers’ proficiency in adaptive learning technologies and implementation of open and distance learning programme in Rivers State Universities. This result implies that lecturers’ proficiency in adaptive learning technologies enhance implementation of open and distance learning programme in Rivers State Universities.

Research Question 2: What is the relationship between lecturers’ proficiency in online communication tools and implementation of open and distance learning programme in Rivers State Universities?

Table 2: Summary of Pearson Product Moment Correlation on the Relationship Between Lecturers’ Proficiency in Online Communication Tools and Implementation of Open and Distance Learning Programme in Rivers State Universities.

		Correlations**		
		Lecturers' proficiency in Online Communication Tools	Implementation of Open and Distance Learning programme	Level of Correlation
Lecturers' Proficiency in Online Communication Tools	Pearson Correlation	1	$r = .628^{**}$	
	Sig. (2-tailed)		.000	
	N	583	583	High and Positive
Implementation of Open and Distance Learning Programme	Pearson Correlation	$r = .628^{**}$	1	Relationship
	Sig. (2-tailed)	.000		
	N	583	583	

** . Correlation is significant at the 0.01 level (2-tailed).

Table 2 revealed a correlation value of $r = .628^{**}$. This value is high and positive, thus indicating that there is high and positive relationship between lecturers' proficiency in online communication tools and implementation of open and distance learning programme in Rivers State Universities. This result implies that lecturers' proficiency in online communication tools enhance the implementation of open and distance learning programme in Rivers State Universities.

Research Question 3: What is the relationship between lecturers' proficiency in multimedia integration and implementation of open and distance learning programme in Rivers State Universities?

Table 3: Summary of Pearson Product Moment Correlation on the Relationship Between Lecturers' Proficiency in Multimedia Integration and Implementation of Open and Distance Learning Programme in Rivers State Universities.

		Correlations**		
		Lecturers' proficiency in Multimedia Integration	Implementation of Open and Distance Learning programme	Level of Correlation
Lecturers' Proficiency in Multimedia Integration	Pearson Correlation	1	$r = .821^{**}$	
	Sig. (2-tailed)		.000	
	N	583	583	High and Positive
Implementation of Open and Distance Learning Programme	Pearson Correlation	$r = .821^{**}$	1	Relationship
	Sig. (2-tailed)	.000		
	N	583	583	

** . Correlation is significant at the 0.01 level (2-tailed).

Table 3 revealed a correlation value of $r = .821^{**}$. This value is high and positive, thus indicating that there is high and positive relationship between lecturers' proficiency in multimedia integration and implementation of open and distance learning programme in Rivers State Universities. This result implies that lecturers' proficiency in multimedia integration enhance the implementation of open and distance learning programme in Rivers State Universities.

Hypotheses

Hypothesis 1: There is no significant relationship between lecturers' proficiency in adaptive learning technologies and implementation of open and distance learning programme in Rivers State Universities.

Table 4: Summary of t-Transformation on the Significant Relationship Between Lecturers' Proficiency in Adaptive Learning Technologies and Implementation of Open and Distance Learning Programme in Rivers State Universities.

Variables	N	Df	r-value	t-Trans.	t-crit.	α	Decision
Lecturers' Proficiency in Adaptive Learning Technologies	583						
		581	.756**	24.10	± 1.96	0.05	Ho ₁ Rejected Significant Relationship Exists
Implementation of Open and Distance Learning Programme	583						

Table 4 showed a t-Transformation of 24.10 which was greater than the t-critical value of ± 1.96 at 0.05 level of significance with a degree of freedom of 581. Since the t-calculated value of 24.10 is greater than the t-critical value of ± 1.96 , the null hypothesis was rejected and the alternative upheld which states that there is a significant relationship between lecturers' proficiency in adaptive learning technologies and implementation of open and distance learning programme in Rivers State Universities.

Hypothesis 2: There is no significant relationship between lecturers' proficiency in online communication tools and implementation of open and distance learning programme in Rivers State Universities.

Table 5: Summary of t-Transformation on the Significant Relationship Between Lecturers' Proficiency in Online Communication Tools and Implementation of Open and Distance Learning Programme in Rivers State Universities.

Variables	N	Df	r-value	t-Trans.	t-crit.	α	Decision
Lecturers' Proficiency in Online Communication Tools	583						
		581	.628**	24.10	± 1.96	0.05	Ho ₂ Rejected Significant Relationship Exists
Implementation of Open and Distance Learning Programme	583						

Table 5 showed a t-Transformation of 24.10 which was greater than the t-critical value of ± 1.96 at 0.05 level of significance with a degree of freedom of 581. Since the t-calculated value of 24.10 is greater than the t-critical value of ± 1.96 , the null hypothesis was rejected and the alternative upheld which states that there is a significant relationship between lecturers' proficiency in online communication tools and implementation of open and distance learning programme in Rivers State Universities.

Hypothesis 3: There is no significant relationship between lecturers' proficiency in multimedia integration and implementation of open and distance learning programme in Rivers State Universities.

Table 6: Summary of t-Transformation on the Significant Relationship Between Lecturers’ Proficiency in Multimedia Integration and Implementation of Open and Distance Learning Programme in Rivers State Universities.

Variables	N	Df	r-value	t-Trans.	t-crit.	α	Decision
Lecturers’ Proficiency in Multimedia Integration	583						
		581	.821**	24.09	± 1.96	0.05	Ho ₃ Rejected Significant Relationship Exists
Implementation of Open and Distance Learning Programme	583						

Table 6 showed a t-Transformation of 24.09 which was greater than the t-critical value of ± 1.96 at 0.05 level of significance with a degree of freedom of 581. Since the t-calculated value of 24.09 is greater than the t-critical value of ± 1.96 , the null hypothesis was rejected and the alternative upheld which states that there is a significant relationship between lecturers’ proficiency in multimedia integration and implementation of open and distance learning programme in Rivers State Universities.

Discussion of Findings

The findings obtained on research question 1 on Table 1 indicated that there is a high and positive relationship between lecturers’ proficiency in adaptive learning technologies and implementation of open and distance learning programme in Rivers State Universities with ‘r’ as .756**. Corresponding hypothesis 1 on Table 4 shows a significant relationship between lecturers’ proficiency in adaptive learning technologies and implementation of open and distance learning programme in Rivers State Universities with t-Transformation of 24.10 which was greater than the t-critical value of ± 1.96 . The findings is in tandem with Fitzgerald, Kumi-Yeboah and Davis (2018), who stated that proficiency in adaptive learning technologies enables lecturers to utilize personalized and interactive learning tools that can adapt to individual student needs and preferences as this approach tailors the learning experience to each student's pace and learning style, enhancing their understanding and retention of course material.

The findings obtained on research question 2 on Table 2 indicated that there is a high and positive relationship between lecturers’ proficiency in online communication tools and implementation of open and distance learning programme in Rivers State Universities with ‘r’ as .628**. Hypothesis 2 on Table 5 shows a significant relationship between lecturers’ proficiency in online communication tools and implementation of open and distance learning programme in Rivers State Universities with t-Transformation of 24.10 which was greater than the t-critical value of ± 1.96 . The findings is in agreement with Benson and Palaskas (2016), who opined that knowledge of online communication tools allows lecturers to effectively deliver course content, interact with students, and facilitate real-time discussions as platforms like video conferencing,

discussion forums, and instant messaging enable lecturers to maintain regular communication with students, address their queries, and share resources.

The findings obtained on research question 3 on Table 3 indicated that there is a high and positive relationship between lecturers' proficiency in multimedia integration and implementation of open and distance learning programme in Rivers State Universities with 'r' as .821**. Hypothesis 3 on Table 6 shows a significant relationship between lecturers' proficiency in multimedia integration and implementation of open and distance learning programme in Rivers State Universities with t-Transformation of 24.09 which was greater than the t-critical value of ± 1.96 . The findings is in agreement with Mayer (2019) who buttressed that, by utilizing multimedia resources, lecturers can enhance the delivery of content, make it more engaging and appealing to students, and cater to their different learning preferences.

CONCLUSION

Based on the findings of this study, it was concluded that a high, positive and significant relationship exist between lecturers' proficiency in adaptive learning technologies, online communication tools and multimedia integration and implementation of open and distance learning programme in Rivers State Universities. Lecturers who serve as facilitators need to possess robust digital competencies which is paramount for effective implementation of open and distance learning programme in Rivers State Universities.

RECOMMENDATIONS

1. Government should establish partnerships with tech companies for access to cutting-edge adaptive learning tools.
2. University administrators should provide support for lecturers to access and utilize online communication tools effectively.
3. University administrators should invest in multimedia development software and equipment, provide training and support for lecturers and encourage innovative multimedia integration.

References

- Adebayo, F. (2017). On the issues of digital competence in educational contexts–A review of literature. *Education Information Technologies*, 23, 1005-1021.
- Amaewhule, W. & Nwafor, S. O. (2018). Capacity building needs of education lecturers in information and communication technology in universities. *African Journal of Educational Research and Development (AJERD)* 11(1), 145 – 158.
- Benson, R., & Palaskas, T. (2016). Towards a more nuanced understanding of the role of email in student–lecturer communication. *Journal of Educational Multimedia and Hypermedia*, 15(2), 137-154.
- Federal Republic of Nigeria (2014). *National Policy on Education (6th ed.)*. Lagos NERDC Press.
- Fitzgerald, E., Kumi-Yeboah, A., & Davis, D. (2018). Adaptive learning technologies: A review of the literature. *Journal of Educational Technology Development and Exchange*, 11(1), 19-40.
- Harisa, M. (2020). Lecturers' Attitudes towards online teaching in the learning process. *Register Journal*, 13(1), 77-98.

- Kavalier, A. & Flannigan, M. (2018). Development of digital competence in secondary education teachers' training in Spain. *Education Sciences*, 8 (104), 2-12.
- Krismant, W. (2019). The effects of internet-based teaching and learning systems on learners. Retrieved from: [https://www.seameo.org/vl/Internet04/Internet.Pdfon 15/8/21](https://www.seameo.org/vl/Internet04/Internet.Pdfon%2015/8/21).
- Mayer, R. E. (2019). Multimedia learning. *Psychology of Learning and Motivation*, 53, 1-19.
- Nkemjika, C. & Raji, W.I (2020). Influence of information and communication technology in secondary school administration in Abia State. *GSC Advanced Research and Reviews*, 3(1), 026-035.
- Ogbeide, C. (2019). Challenges of open and distance learning (ODL) for functional education In Nigeria. *Journal of Emerging Trends in Educational Research and Policy Studies*, 10(1), 56-61.
- Osuji, C. U. & Bakpo, B. D. (2022). Perceived influence of instructors' characteristics on open and distance students' outcome. *International Journal of Innovative Development and Policy Studies*, 10(1), 74-83.
- Osuji, C. U. & Umunnakwe, N. R. (2022). Open and distance learning programmes: A panacea or bridging the gap in human capital development for 21st century in Rivers State. *Irish Journal of Educational Practice*, 5(2), 9-18.
- Osuji, C.U., Epelle, V.J. & Alabere, I.J. (2023). Capacity building capacity building and facilitators' job performance in open and distance learning programme in Ignatius Ajuru University of Education. *International Journal of Social Science and Management Studies*, 2(2) 1-16.
- Roudlotun, N.L. & Muhammad, N. (2020). The use of zoom meeting for distance learning in teaching english to nursing students during Covid-19 pandemic, *UHAMKA International Conference on ELT and CALL(UICELL)*,17-18.
- Ruzgar, N. S. (2015). A Research on the Purpose of Internet Usage and Learning via Internet. *Turkish Online Journal of Educational Technology-TOJET*, 4(4), 27-32.
- Sahin, Y. G., Balta, S. & Ercan, T. (2010). The use of internet resources by university students during their course projects elicitation: A case study. *The Turkish Online Journal of Educational Technology*, 9(2), 234-244.
- Salehudin, M. H. F. (2016). Pengaruh kepemimpinan teknologi dan penggunaan teknologi maklumat dan komunikasi di sekolah: Satu analisis. *International Journal of Education, Psychology and Counseling*, 1(2), 17-23.
- Ugwoke, B. O., Oteh, C. E., & Onyishi, N. C. (2023). Facilitating e-learning during the COVID-19 pandemic: The role of lecturers' digital competence in Nigeria. *Educational Technology Research and Development*.71. 115-134. <https://doi.org/10.1007/s11423-022-10047-4>.
- Wordu, H., Epelle, V.J. & Anyanwu, D.O. (2022). Roles of school management in promoting digital literacy skills among teachers in public senior secondary schools in Port Harcourt Metropolis, Nigeria. *International Journal of Education and Evaluation*, 8(1), 40-49.