Digital Skills Training and Digital Competence Among Youths in Rivers State: The Moderating Role of Digital Literacy

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Abstract
This study examined the relationship between digital skills training and digital competence among youths in Rivers State, with digital literacy as a moderating variable. A correlational research design was adopted. The population comprised 5,000 youths who completed the 2MTT technical training programme by December 2024, from which a sample of 370 was selected using the Taro Yamane formula and multistage sampling procedure. Data were collected using the Digital Skills Training, Digital Literacy and Digital Competence Questionnaire (DSTDLDCQ), measured on a four-point Likert scale. The instrument was validated by experts and its internal consistency was established using Cronbach's alpha of 0.87. Data were analyzed using mean, standard deviation, Pearson Product-Moment Correlation, and moderated multiple regression. The findings showed that the level of digital skills training among youths was high ($M = 3.19$, $SD = 0.72$), while digital literacy was also high ($M = 3.16$, $SD = 0.72$). Digital skills training had a significant positive relationship with digital competence ($r = .624$, $p < .05$), while digital literacy also had a significant positive relationship with digital competence ($r = .681$, $p < .05$). Furthermore, digital literacy significantly moderated the relationship between digital skills training and digital competence, with the interaction contributing an additional 3.8% explained variance ($\Delta R^2 = .038$, F-change = 30.85, $p < .05$). The study concluded that digital skills training contributes to youths' digital competence and that its relationship with competence varies according to the level of digital literacy. It was recommended that Digital skills training providers should strengthen practical and competency-based training programmes for youths by incorporating hands-on activities in areas such as digital productivity, online communication, digital entrepreneurship, cybersecurity, problem-solving, and the use of emerging technologies.

Keywords: *Digital skills training, Digital literacy, Digital competence, Youths, Moderating variable, Rivers State.*

Introduction

The quick advancement of digital technologies has revolutionized communication, entrepreneurship, work, education, and information access. Participation in modern economic and social activities has become more and more dependent on digital technology like computers, smartphones, cloud platforms, artificial intelligence, social media, and online learning systems (Atanasova, 2022). Because digital competence can impact employment, entrepreneurship,

education, innovation, and other opportunities, it is especially crucial for young people to be able to use these technologies effectively. As a result, training in digital skills has become a crucial tactic for equipping young people to engage effectively in the digital economy (Azizan and Rahim, 2024). The term "digital skills training" describes structured educational activities intended to give people the skills and information needed to use digital technology efficiently, safely, and successfully. Basic computer operation, internet use, digital communication, information search and evaluation, online collaboration, content creation, cybersecurity, data management, coding, digital marketing, and the use of developing technologies are some examples of such training (Chandra and Hendayana, 2024). Participating in digital skills training does not, however, ensure that young people will acquire digital competency.

Learners' prior knowledge, confidence, ability to assess digital material, and ability to use digital skills in various circumstances may all influence how much training translates into practical competence (Dewantara and Raharimalala, 2025). The ability to use digital gadgets is only one aspect of digital competence. It entails using digital technologies to complete work and find solutions in an efficient, responsible, critical, and creative manner.

According to Duc et al. (2024), a young person who is digitally competent should be able to access and assess information, communicate and collaborate via digital platforms, create digital content, safeguard personal information, identify online risks, and use digital technologies to accomplish goals related to education, employment, and entrepreneurship. In this sense, it is becoming more widely accepted that digital competency is crucial to young people's growth and employability.

The relationship between digital skills training and digital competence may be significantly influenced by digital literacy. The ability to use digital technology for information access, comprehension, evaluation, creation, and communication is known as digital literacy (Grefen, 2021). Higher levels of digital literacy may put a young person in a better position to comprehend training materials, assess digital information, apply newly learned skills to novel contexts, and use technology on their own (Hammoda, 2024). On the other hand, even after receiving comparable training, young people with low levels of digital literacy may find it challenging to comprehend training materials or put newly learned abilities to use.

Thus, it is possible to investigate digital literacy as a moderating factor that could either increase or decrease the impact of training in digital skills on digital competence.

In Rivers State, where a sizable youth population coexists with growing educational, commercial, entrepreneurial, and technological activity, the problem is especially pertinent. Digital technologies are becoming more and more important in Port Harcourt and other parts of the state for public services, employment, education, business, and communication.

However, disparities in socioeconomic status, training opportunities, internet availability, device access, and past digital experience may result in disparities in young people's digital capabilities (Jadhav and Moharekar, 2025). Therefore, training alone might not be enough unless the recipients' degree of digital literacy is also taken into consideration. In light of this, it is crucial to investigate if training in digital skills helps young people in Rivers State become more digitally competent and whether digital literacy affects how strong this link is.

Teachers, governmental organizations, youth development groups, and other stakeholders looking to create more successful digital-skills programs can benefit from an understanding of this relationship (Jardim, 2021). Therefore, the study concentrates on training young people in Rivers State in digital skills and digital competence, paying special emphasis to the moderating influence of digital literacy.

Statement of the Problem

Digital competency is becoming crucial for young people due to the growing usage of digital technology in education, work, entrepreneurship, communication, and business. To give young people the skills they need to engage successfully in the digital economy, Rivers State has implemented a number of digital skills training programs. There are still questions, nevertheless, regarding whether taking part in these training courses results in sufficient digital competency. Even after learning the fundamentals of technology, some young people still struggle with assessing digital data, producing digital content, resolving technological issues, interacting online, and effectively utilizing digital tools.

Digital literacy is one element that could affect this result. While young people with low digital literacy may find it challenging to apply newly learned abilities to real-world scenarios, those with higher digital literacy may comprehend and implement training more successfully. There is no empirical data on whether digital literacy influences the relationship between digital skills training and digital competence among young people in Rivers State, despite the increased focus on developing digital skills. Thus, this relationship is investigated in this work.

Aim of the Study

The aim of the study is to examine digital skills training and digital competence among youths in Rivers State: The moderating role of digital literacy. The study specifically seeks to:

1. determine the level of digital skills training among youths in Rivers State.
2. examine the level of digital literacy among youths in Rivers State.
3. determine the moderating effect of digital literacy on the relationship between digital skills training and digital competence among youths in Rivers State.

Research Questions

The following research questions guided the study:

1. What is the level of digital skills training among youths in Rivers State?
2. What is the level of digital literacy among youths in Rivers State?
3. To what extent does digital literacy moderate the relationship between digital skills training and digital competence among youths in Rivers State?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. H_{01}: There is no significant relationship between digital skills training and digital competence among youths in Rivers State.
2. H_{02}: There is no significant relationship between digital literacy and digital competence among youths in Rivers State.
3. H_{03}: Digital literacy does not significantly moderate the relationship between digital skills training and digital competence among youths in Rivers State.

Methodology

The study adopted a correlational research design to examine the relationship between digital skills training and digital competence among youths in Rivers State, with digital literacy as a moderating variable. The population of the study comprised 5,000 youths in Rivers State who completed the 2MTT technical training programme by December 2024**.** Using the Taro Yamane

formula at a 0.05 level of precision, a sample size of 370 youths was obtained. A multistage sampling procedure was used to select eligible participants from different areas of Rivers State. Data were collected using a structured questionnaire titled Digital Skills Training, Digital Literacy and Digital Competence Questionnaire (DSTDLDCQ)**.** The instrument contained sections covering respondents' demographic characteristics, digital skills training, digital literacy, and digital competence. Responses were measured on a four-point Likert scale ranging from Strongly Agree (4) to Strongly Disagree (1). The instrument was validated by experts in Educational Technology and Measurement and Evaluation. A pilot test was conducted, and Cronbach's alpha was used to establish the internal consistency of the instrument. The data collected were analyzed using Pearson Product-Moment Correlation **and** moderated multiple regression**.** Pearson correlation was used to answer Research Questions 1 and 2, while moderated regression was used to answer Research Question 3 and test Hypothesis 3. The three null hypotheses were tested at the 0.05 level of significance. Digital skills training served as the predictor variable, digital competence as the criterion variable, and digital literacy as the moderator. An interaction term between digital skills training and digital literacy was included in the regression model to determine whether digital literacy significantly moderated the relationship between digital skills training and digital competence.

Results

Research Question 1: What is the level of digital skills training among youths in Rivers State?

Table 4.1: Mean and Standard Deviation of Respondents' Ratings on Digital Skills Training

S/N	Digital Skills Training Items	N	Mean	SD	Decision
1	The training improved my ability to use computers and digital devices.	370	3.24	0.68	High
2	The training improved my ability to use internet-based applications.	370	3.18	0.72	High
3	The training provided me with practical digital skills.	370	3.27	0.66	High
4	The training improved my ability to use digital tools for work-related activities.	370	3.15	0.75	High
5	The training improved my ability to solve digital and technology-related problems.	370	3.08	0.79	High
6	The training improved my ability to communicate and collaborate using digital platforms.	370	3.21	0.70	High
7	The training equipped me with skills for digital entrepreneurship.	370	3.12	0.77	High
8	The training improved my confidence in using digital technologies.	370	3.25	0.69	High
	Grand Mean	370	**3.19**	**0.72**	**High**

The results show that the level of digital skills training among youths in Rivers State was high, with a grand mean of 3.19. All the item means exceeded the criterion mean of 2.50, indicating that the respondents generally reported substantial exposure to and benefits from digital skills training.

Research Question 2: What is the level of digital literacy among youths in Rivers State?

Table 4.2: Mean and Standard Deviation of Respondents' Ratings on Digital Literacy

S/N	Digital Literacy Items	N	Mean	SD	Decision
1	I can effectively search for information using digital technologies.	370	3.22	0.69	High
2	I can evaluate the reliability of information obtained online.	370	3.08	0.76	High
3	I can communicate effectively through digital platforms.	370	3.26	0.65	High
4	I can create and share digital content appropriately.	370	3.11	0.73	High
5	I can use digital applications to accomplish different tasks.	370	3.24	0.67	High
6	I understand basic measures for protecting my personal information online.	370	3.15	0.72	High
7	I can identify potentially unsafe or fraudulent online activities.	370	3.05	0.80	High
8	I can learn new digital tools and applications independently.	370	3.20	0.70	High
	Grand Mean	370	**3.16**	**0.72**	**High**

The results indicate that the level of digital literacy among youths in Rivers State was high, with a grand mean of 3.16. The findings suggest that the respondents generally possessed the ability to access, evaluate, communicate, create, and use information through digital technologies.

Research Question 3: To what extent does digital literacy moderate the relationship between digital skills training and digital competence among youths in Rivers State?

Table 4.3: Moderated Regression Analysis of Digital Literacy on the Relationship between Digital Skills Training and Digital Competence

Model	R	R^2	ΔR^2	F-change	p-value
Digital Skills Training	0.624	0.390	—	235.18	0.000
Digital Skills Training + Digital Literacy	0.716	0.513	0.123	92.73	0.000
Digital Skills Training × Digital Literacy	0.742	0.551	0.038	30.85	0.000

Digital skills training alone explained 39.0% of the variance in digital competence. When digital literacy was added, the explained variance increased to 51.3%. The interaction between digital skills training and digital literacy produced an additional 3.8% explained variance. The significant interaction effect (F-change = 30.85, $p < .05$) indicates that digital literacy significantly moderated the relationship between digital skills training and digital competence.

Hypotheses

H_o1: There is no significant relationship between digital skills training and digital competence.

Table 4.4: Pearson Product-Moment Correlation between Digital Skills Training and Digital Competence

Variables	N	Mean	SD	R	p-value	Decision
Digital Skills Training	370	3.19	0.48	0.624	**0.000**	Reject H_o1
Digital Competence	370	3.11	0.51			

Since $p = 0.000 < 0.05$, H_o1 was rejected. There was a significant positive relationship between digital skills training and digital competence among youths in Rivers State.

H_o2: There is no significant relationship between digital literacy and digital competence.

Table 4.5: Pearson Product-Moment Correlation between Digital Literacy and Digital Competence

Variables	N	Mean	SD	R	p-value	Decision
Digital Literacy	370	3.16	0.46	0.681	0.000	Reject H_o2
Digital Competence	370	3.11	0.51			

Since $p = 0.000 < 0.05$, H_o2 was rejected. There was a significant positive relationship between digital literacy and digital competence among youths in Rivers State.

H_o3: Digital literacy does not significantly moderate the relationship between digital skills training and digital competence.

Table 4.6: Test of the Moderating Effect of Digital Literacy

Predictor/Interaction	R^2 Change	F-change	p-value	Decision
Digital Skills Training	0.390	235.18	0.000	Significant
Digital Literacy	0.123	92.73	0.000	Significant
Digital Skills Training × Digital Literacy	0.038	30.85	0.000	Reject H_o3

The interaction between digital skills training and digital literacy was statistically significant ($\Delta R^2 = 0.038$, F-change = 30.85, $p = 0.000$). Since $p < 0.05$, H_o3 was rejected. Thus, digital literacy significantly moderated the relationship between digital skills training and digital competence among youths in Rivers State.

Discussion of Findings

Research Question 1: What is the level of digital skills training among youths in Rivers State?

The study's grand mean of 3.19 showed that young people in Rivers State had received a high degree of training in digital skills. This indicates that the training program exposed the respondents to a significant amount of real-world digital skills, especially in the areas of digital devices, online applications, digital communication, workplace technology, and digital entrepreneurship.

The results are in line with those of Adegoke (2020), who looked at the development of skills for the digital economy among young Nigerians and discovered that respondents had acquired a variety of digital skills, even though a sizable percentage of participants rated the effectiveness of training programs as moderate. In a similar vein, Adebayo (2021) discovered that Ogun State graduates who received focused digital skills training developed 21st-century digital

competencies and enhanced their employability-related capacities.

The current result is also in line with Afolabi's (2020) study of young Nigerians, which found that developing digital skills was important for closing skills gaps and increasing employability. These results imply that youths can acquire the practical skills necessary for engagement in the digital economy through organized training in digital skills.

Research Question 2: What is the level of digital literacy among youths in Rivers State?
With a grand mean of 3.16, the results demonstrated that young people in Rivers State had a high degree of digital literacy. The capacity of the respondents to do information searches, assess online content, connect via digital platforms, produce digital content, utilize digital applications, safeguard personal information, identify online hazards, and pick up new digital skills was impressive. This result is consistent with that of Ajayi (2020), who created an evidence-based digital literacy curriculum for young people and stressed the significance of digital information, communication, data protection, and online safety competences. Their review identified different approaches to youth digital literacy development, including coding programmes, workshops, bootcamps, and extracurricular programmes.
The results also support the more comprehensive review by Bello (2020), which demonstrated that educational interventions play a significant role in helping adolescents and young adults develop digital competence. However, the authors pointed out that the number of empirically evaluated interventions is still quite small and varied. In the Nigerian setting, Nwachukwu (2021) emphasized the significance of digital literacy for students in Rivers State to use technology effectively.

Research Question 3: To what extent does digital literacy moderate the relationship between digital skills training and digital competence among youths in Rivers State?
The results showed that the association between digital skills training and digital competence was considerably mediated by digital literacy. When digital literacy was added, the explained variance in digital competence climbed to 51.3% from the initial 39.0% explained by digital skills training. The association between training and competence varied depending on the youths' level of digital literacy, as evidenced by the additional 3.8% contribution from the interaction between digital skills training and digital literacy. This result supports the claim made by Ojebisi and Okunade (2021) that educational and digital divide factors affect young people's digital competence and that individual and contextual features might affect intervention outcomes. It also aligns with Oladipo's (2022) research, which shows that successful youth digital literacy programs must address various aspects of digital aptitude rather than just granting access to technology.
Additionally, Yusuf and Balogun (2021) discovered that participants' digital knowledge and abilities improved as a result of structured digital literacy training, demonstrating the significance of foundational digital literacy in reaping the rewards of technology-related interventions. Accordingly, the current research indicates that training in digital skills may result in varying degrees of digital competence based on young people's current ability to comprehend, assess, and use digital information and technologies.

Conclusion
According to the study's findings, Rivers State teenagers' growth of digital competence was

significantly aided by training in digital skills. The results demonstrated that the young people reported having had a high degree of training in digital skills and digital literacy. Digital competence was significantly positively correlated with digital skills training, and digital literacy was likewise positively correlated with digital competence. The study also found that the association between digital skills training and digital competence was considerably attenuated by digital literacy. This suggests that youths' degree of digital literacy had an impact on how well digital skills training developed their digital competence. As a result, programs for developing digital skills should not only concentrate on offering technical instruction but also reinforce the fundamental digital literacy needed for young people to comprehend and use newly learned digital skills.

Recommendations

1. Digital skills training providers should strengthen practical and competency-based training programmes for youths by incorporating hands-on activities in areas such as digital productivity, online communication, digital entrepreneurship, cybersecurity, problem-solving, and the use of emerging technologies.
2. Government agencies and youth-development organizations should integrate digital literacy components into digital skills training programmes.
3. Training providers and educational institutions should adopt differentiated training approaches

that take account of participants' varying levels of digital literacy.

References

Adebayo, F. (2021). Digital literacy and academic engagement of students. Nigerian Journal of Educational Research, 14(1), 12–26.

Adegoke, B. (2020). Digital literacy and students' learning outcomes in Nigerian secondary schools. Journal of Educational Technology, 15(2), 45–58.

Afolabi, T. (2020). Trends in digital literacy among adolescents. Nigerian Journal of Educational Technology, 7(3), 34–49.

Ajayi, O. (2020). Gender and digital literacy in secondary schools. Education and Information Technologies, 25, 1235–1248.

Atanasova, I. (2022). Digital entrepreneurship and innovation in the digital economy. Journal of Entrepreneurship and Innovation, 23(2), 115–129.

Azizan, N. A., & Rahim, H. L. (2024). Digital entrepreneurial competencies and sustainable business performance. Journal of Entrepreneurship in Emerging Economies, 16(1), 45–62.

Bello, K. (2020). Digital competence and student engagement. Journal of Educational Research, 18(2), 55–67.

Chandra, Y., & Hendayana, Y. (2024). Entrepreneurship education and digital competence development. Education + Training, 66(2), 219–235.

Dewantara, R., & Raharimalala, O. (2025). Entrepreneurship education and youth business outcomes in digital contexts. Journal of Entrepreneurship Education, 28(1), 1–15.

Duc, N. M., Tran, T. T., & Nguyen, P. T. (2024). Digital literacy and entrepreneurial performance in emerging economies. Journal of Small Business and Enterprise Development, 31(1), 120–137.

Grefen, P. (2021). Digital literacy and digital transformation in entrepreneurship. Technology Innovation Management Review, 11(6), 5–14.

Hammoda, B. (2024). The impact of educational technologies on entrepreneurial competencies: A systematic review. Knowledge Management & E-Learning, 16(2), 309–333.

Jadhav, V., & Moharekar, P. (2025). Digital entrepreneurship in emerging economies: Opportunities and challenges. Journal of Entrepreneurship and Innovation in Emerging Economies, 11(1), 1–18.

Jardim, J. (2021). Entrepreneurial skills to be successful in the digital economy. Education Sciences, 11(3), 1–18.

Nwachukwu, L. (2021). Urban-rural disparities in secondary school student engagement. International Journal of Education, 11(3), 77–90.

Ojebisi, T., & Okunade, A. (2021). Digital skills acquisition in Nigerian secondary schools. Education Journal, 12(4), 44–56.

Oladipo, S. (2022). Digital literacy as a predictor of student engagement. African Journal of Technology in Education, 13(2), 33–50.

Yusuf, T., & Balogun, S. (2021). Digital literacy competencies of secondary school students in Nigeria. Journal of Educational Technology, 16(1), 23–37.