

The impact of digital tools on curriculum delivery in public and private secondary schools in Awka south local government area

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Abstract

Background: With the increasing reliance on technology in education, it is crucial to assess how these tools enhance or hinder teaching effectiveness. This is because, integration of digital tools in education can transform curriculum delivery in secondary schools, influencing teaching methodologies and learning outcomes. Employing a descriptive correlational design, the study explored the extent of digital tool integration in teaching and its effects on curriculum delivery.

Method: The sample consisted of 118 teachers from both public and private schools, selected using a purposive sampling technique. Data were collected through a structured questionnaire, which included both closed-ended and Likert-scale items, assessing the integration of digital tools and teachers' perceptions of their effectiveness. The questionnaire was administered via an online survey for accessibility and timely data collection. Statistical analysis, including regression analysis, was used to determine the relationships between variables such as school location, school type, and gender, and their effects on the use of digital tools.

Findings: Results indicated that while school location significantly influenced digital tool integration, there is a moderate use of digital tools in lesson delivery (mean: 3.41) and communication (mean: 3.03), but limited support for personalized learning (mean: 1.81). Digital tools enhance student engagement (mean: 3.02) and curriculum delivery (mean: 3.32). Regression analysis indicates that location ($B = 2.806$, $t = 4.716$, $p < 0.001$) significantly affects integration, while school type and gender do not. The findings highlight the importance of location in shaping digital tool utilization, offering valuable insights for policymakers and educators seeking to enhance curriculum delivery through technology.

Keyword: Digital tools, curriculum delivery, secondary schools, teaching effectiveness

INTRODUCTION

The integration of digital tools in curriculum delivery has transformed educational practices globally and in Nigeria. Digital technologies enhance the teaching-learning process by promoting interactive learning, improving access to resources, and fostering students' engagement. In the Nigerian context, the impact of these tools varies across public and private secondary schools due to differences in resources, training, and infrastructure. Digital tools, such as multimedia content, online platforms, and virtual laboratories, significantly improve student engagement and comprehension. Egbulem et al (2024) highlight that digital tools, such as interactive whiteboards and e-learning platforms, provide students with visual and auditory



stimuli that aid better retention of knowledge. Similarly, Eze et al (2023) found that in private secondary schools where digital resources are more readily available, students exhibit higher academic performance and interest in subjects like science and technology.

Digital tools in curriculum delivery refer to technology-based resources and platforms used to enhance and support the teaching and learning process. These tools enable teachers to present content more dynamically, engage students actively, and personalize learning experiences. Examples include learning management systems (LMS) like Moodle or Google Classroom, interactive whiteboards (e.g., SMART Boards), educational apps (like Kahoot or Quizlet), multimedia resources (videos, podcasts), and digital textbooks. Other tools, such as online collaboration platforms (Google Docs, Padlet), and simulation software, also facilitate communication, critical thinking, and real-time feedback, ultimately improving student engagement and curriculum delivery efficiency. Digital tools play a crucial role in bridging the educational gaps between rural and urban schools. According to Ajonbadi et al (2023), e-learning platforms enable students in rural areas to access quality educational resources that would otherwise be unavailable. However, the lack of reliable internet connectivity and electricity in many rural Nigerian communities limits the potential of these tools in public schools (Olugbade, 2023). Private schools, often better funded, have been more successful in leveraging digital tools to ensure equitable curriculum delivery.

The effective use of digital tools in curriculum delivery requires skilled teachers. In their study, Egberi and Madubueze (2023) observed that teachers in private schools were more likely to receive professional development on the use of digital technologies compared to their counterparts in public schools. This training empowers teachers to integrate technology into lesson plans, adopt student-centered pedagogies, and assess learning outcomes more effectively. Conversely, many teachers in public schools lack the necessary skills to utilize digital tools efficiently, which hinders their ability to deliver the curriculum effectively. According to Olurinola and Olugbade (2024), insufficient training programs and limited access to digital tools in public schools contribute to the digital divide in education.

Despite the potential benefits, several challenges impede the widespread adoption of digital tools in Nigerian secondary schools. Adebayo et al (2023) identify high costs of digital infrastructure, inadequate funding, and lack of maintenance culture as significant barriers. Public schools, in particular, struggle with outdated facilities and a lack of government investment in educational technology. On the other hand, private schools, which rely on tuition fees, often have the financial capability to

procure and maintain digital tools, giving them a competitive advantage in curriculum delivery.

The study on the impact of digital tools on curriculum delivery in public and private secondary schools in Awka South Local Government Area is justified by the growing significance of digital technology in education. Despite its potential to enhance teaching and learning, disparities in access to digital tools, infrastructure, and teacher training between public and private schools remain prevalent. Awka South, a hub of educational activities in Anambra State, presents an ideal setting to examine these dynamics. The study will provide valuable insights into the effectiveness of digital tools, identify challenges, and offer recommendations to bridge educational gaps in the region.

Research questions

1. What is the level of integration of digital tools in the teaching and learning processes in public and private secondary schools in Awka South Local Government Area?
2. How effective are digital tools in enhancing student engagement in public and private secondary schools in Awka South Local Government Area?
3. What are the perceptions of teachers regarding the impact of digital tools on curriculum delivery in public and private secondary schools in Awka South Local Government Area?

Hypothesis

1. There is no significant difference in the level of integration of digital tools in the teaching and learning processes between public and private secondary schools in Awka South Local Government Area.
2. Digital tools have no significant effect on enhancing student engagement in public and private secondary schools in Awka South Local Government Area.
3. There is no significant difference in the perceptions of teachers regarding the impact of digital tools on curriculum delivery between public and private secondary schools in Awka South Local Government Area.

METHODS

The study employed a descriptive design. The sample consisted of 118 teachers who were selected to represent both school types. Data collection was carried out using a structured questionnaire comprising closed-ended and Likert-scale items designed to assess the integration of digital tools in teaching and learning processes

and their perceived impact on curriculum delivery. The questionnaire was distributed via an online survey to ensure ease of access and timely response collection. To validate the questionnaire's effectiveness, it underwent face and content validation by subject matter experts. A pilot test was conducted to ensure clarity and relevance, and reliability was assessed using Cronbach's alpha, which produced a coefficient of 0.84, indicating adequate internal consistency.

The data collected were then analyzed using a combination of descriptive statistics, regression analysis, and residual diagnostics. Descriptive statistics were used to summarize the demographic characteristics of the sample, such as the distribution of schools by location. A frequency distribution was created to categorize schools as urban and rural. Regression analysis was conducted to evaluate the influence of variables such as location, school type, and gender on the integration of digital tools. The regression coefficients were assessed, and the significance of each predictor was determined. To ensure the model's validity, residual analysis was performed, examining the minimum, maximum, mean, and standard deviation of residuals. The Normal P-P plot was also checked to confirm that the residuals were approximately normally distributed, supporting the reliability of the regression results.

RESULTS AND DISCUSSIONS

Table 1. Frequency Distribution of School Location

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Urban	81	68.6	68.6	68.6
	Rural	37	31.4	31.4	100.0
	Total	118	100.0	100.0	

Table 1 presents the frequency and percentage of schools based on their location. Out of 118 schools, 81 (68.6%) are in urban areas, while 37 (31.4%) are in rural areas. The cumulative percentage shows that all locations are accounted for (100.0%). These figures highlight a significant concentration of schools in urban areas compared to rural settings, suggesting potential disparities in resource availability and digital tool integration. Urban schools dominate the sample, possibly influencing the results of the study.

Table 2. Distribution of Respondents by School Type

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Public	44	37.3	37.3	37.3
	Private	74	62.7	62.7	100.0
	Total	118	100.0	100.0	

Table 2 shows the distribution of respondents by school type. Out of 118 respondents, 44 (37.3%) are from public schools, while 74 (62.7%) are from private schools. The data highlights a higher representation of respondents from private schools. The cumulative percentage confirms that all respondents were accounted for, with 100% cumulative inclusion. These proportions suggest that private schools have a stronger presence in the sample, which may influence observed differences in digital tool integration between public and private schools.

Table 3. Gender Distribution of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	48	40.7	40.7	40.7
Female	70	59.3	59.3	100.0
Total	118	100.0	100.0	

Table 3 presents the gender distribution of respondents. Out of the total 118 respondents, 48 (40.7%) are male, while 70 (59.3%) are female. The cumulative percentage shows that females constitute the majority, making up the final 100.0%. This gender distribution indicates a higher representation of females in the study sample, which may reflect the composition of the teaching workforce in secondary schools in Awka South Local Government Area.

Research question 1: What is the level of integration of digital tools in the teaching and learning processes in public and private secondary schools in Awka South Local Government Area?

Table 4. Descriptive Statistics on the level of integration of digital tools in the teaching and learning processes

	Mean	Std. Deviation
Digital tools are increasingly integrated into teaching and learning practices today.	1.79	1.176
Teachers use digital tools to enhance lesson delivery and engagement.	3.41	.742
Integration of digital tools helps improve overall curriculum delivery efficiency.	2.98	.952
Classroom technologies facilitate communication, collaboration, and creativity among students and teachers.	3.03	.826
Digital tools are used to support personalized learning, catering to individual student needs.	1.81	1.134

Table 4 presents descriptive statistics on the integration of digital tools in teaching. Responses from (118) participants show that digital tools are moderately

integrated into education, with a mean score of (1.79) and a standard deviation of (1.176) for the statement on increasing integration. Teachers actively use digital tools to enhance lessons (mean: 3.41, SD: 0.742), and technologies support curriculum delivery (mean: 2.98, SD: 0.952). Classroom technologies also facilitate communication (mean: 3.03, SD: 0.826), and digital tools support personalized learning (mean: 1.81, SD: 1.134).

Research question 2: How effective are digital tools in enhancing student engagement in public and private secondary schools in Awka South Local Government Area?

Table 5: Descriptive Statistics on the digital tools in enhancing student engagement

	Mean	Std. Deviation
Digital tools increase student engagement through interactive and dynamic learning experiences.	3.02	1.046
Students actively participate in lessons when digital tools are utilized.	1.47	.967
Digital tools help make learning more engaging, fostering student motivation.	3.05	.959
Visual aids in digital tools increase student interest and involvement.	3.31	1.025
Digital tools facilitate real-time feedback, keeping students engaged in lessons.	2.97	.910

Table 5 shows descriptive statistics on the role of digital tools in enhancing student engagement. Responses from (118) participants indicate that digital tools moderately increase student engagement (mean: 3.02, SD: 1.046). The use of digital tools leads to active student participation (mean: 1.47, SD: 0.967). Tools also foster motivation (mean: 3.05, SD: 0.959) and interest through visual aids (mean: 3.31, SD: 1.025). Additionally, digital tools provide real-time feedback to maintain student engagement (mean: 2.97, SD: 0.910).

Research question 3: What are the perceptions of teachers regarding the impact of digital tools on curriculum delivery in public and private secondary schools in Awka South Local Government Area?

Table 6 presents descriptive statistics on the impact of digital tools on curriculum delivery. Responses from (118) participants show that digital tools significantly enhance curriculum delivery, providing diverse resources (mean: 3.32, SD: 0.969) and fostering active student participation (mean: 3.29, SD: 0.962). They also increase

flexibility in delivery (mean: 3.33, SD: 0.952) and allow for real-time feedback (mean: 3.38, SD: 1.078). However, the use of digital tools in transforming traditional methods of delivery is less pronounced (mean: 1.72, SD: 1.176).

Table 6: Descriptive Statistics on the impact of digital tools on curriculum delivery

	Mean	Std. Deviation
Digital tools enhance curriculum delivery by providing diverse learning resources.	3.32	.969
Digital tools foster active student participation, enriching overall curriculum delivery.	3.29	.962
The integration of digital tools enhances the flexibility of curriculum delivery.	3.33	.952
Digital tools allow for real-time feedback, improving curriculum delivery processes.	3.38	1.078
The use of digital tools transforms traditional methods of curriculum delivery.	1.72	1.176

Hypothesis 1: There is no significant difference in the level of integration of digital tools in the teaching and learning processes between public and private secondary schools in Awka South Local Government Area.

Table 7: Coefficients for the Regression Analysis of Hypothesis 1

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	8.274	1.532		5.400	.000
	Location	2.806	.595	.416	4.716	.000
	School type	.610	.593	.094	1.029	.306
	Gender	.040	.571	.006	.071	.944

Durbin-Watson = 1.320

Table 7 shows the impact of location, school type, and gender on the level of integration of digital tools in teaching and learning processes. The regression results indicate that location significantly affects digital tool integration (B = 2.806, t = 4.716, p < .001). However, school type (p = .306) and gender (p = .944) are not statistically significant predictors. The Durbin-Watson statistic (1.320) suggests some correlation among residuals, though not severe. Therefore, location plays a critical role, while school type and gender do not significantly influence digital tool integration.

Table 8 evaluates the residuals from the regression model to ensure data consistency. The predicted values range from 11.73 to 15.19, with a mean of 13.02. The residuals, which reflect the differences between observed and predicted values, have a mean of 0, indicating no systematic error. The standard deviation of residuals (2.88)

shows acceptable variability. Standardized predicted and residual values fall within acceptable limits (-3 to +3), supporting the model's validity and reliability in predicting digital tool integration. Location significantly influences the level of digital tool integration, while school type and gender have no significant impact. The residual analysis confirms the regression model's appropriateness. Since location is statistically significant ($p < .001$), the hypothesis is rejected, suggesting a significant difference in digital tool integration between public and private schools, primarily influenced by location.

Table 8: Residuals Statistics for Hypothesis 1

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	11.7306	15.1871	13.0169	1.27039	118
Residual	-7.34047	8.26937	.00000	2.87509	118
Std. Predicted Value	-1.013	1.708	.000	1.000	118
Std. Residual	-2.520	2.839	.000	.987	118

Normal P-P Plot of Regression Standardized Residual

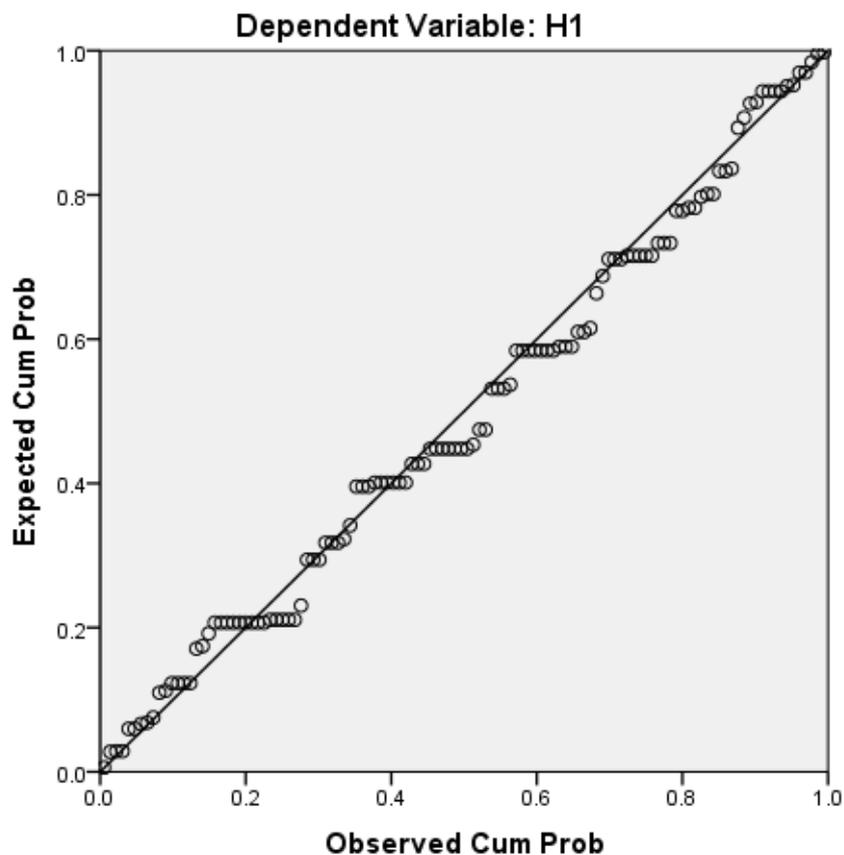


Figure 1: Normal P-P Plot of Regression Standardized Residual for Hypothesis 1

The Normal P-P Plot in Figure 1 demonstrates how the standardized residuals align with the expected cumulative probabilities under a normal distribution. The data points closely follow the diagonal line, suggesting that the residuals are approximately normally distributed. This indicates that the assumption of normality in regression analysis is met for this hypothesis. A good alignment, as observed here, supports the validity and reliability of the regression model used in analyzing the relationship between digital tools and student learning outcomes. Minor deviations at the tails are negligible and unlikely to impact the analysis significantly.

Hypothesis 2: Digital tools have no significant effect on enhancing student engagement in public and private secondary schools in Awka South Local Government Area.

Table 9: Coefficients of Regression Analysis for Hypothesis 2

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.166	1.974		6.164	.000
	Location	1.117	.767	.139	1.457	.148
	School type	.042	.764	.005	.055	.956
	Gender	.070	.735	.009	.096	.924

Durbin-Watson=1.582

Table 9 presents the unstandardized and standardized coefficients, t-statistics, and significance levels for the variables in the regression model. The constant term shows a significant value of 12.166 ($p < 0.05$), indicating that, in the absence of predictors, student engagement is predicted to be at 12.166. However, none of the predictors (Location, School type, Gender) have significant effects on student engagement, with all p-values above the 0.05 threshold. The Durbin-Watson statistic of 1.582 suggests that there is no major autocorrelation among the residuals, confirming the model's suitability.

Table 10: Residuals Statistics for Hypothesis 2

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	13.3954	14.6244	13.8136	.51369	118
Residual	-9.58262	6.60465	.00000	3.70380	118
Std. Predicted Value	-.814	1.579	.000	1.000	118
Std. Residual	-2.554	1.760	.000	.987	118

Table 10 provides descriptive statistics for the residuals, showing the distribution of predicted values, residuals, and standardized residuals. The mean of the residuals is 0, which indicates no bias in the model's predictions. The standard deviation of the residuals is 3.70380, suggesting moderate variability in the error terms. The minimum and maximum values for both predicted and residual values indicate a range of

predicted engagement levels and errors. The standardized residuals lie within the range of -2.554 to 1.760, which is typical for residuals in regression analysis, supporting the assumption of homoscedasticity. The regression results show that none of the independent variables (Location, School type, Gender) significantly influence student engagement, as all their p-values exceed the 0.05 significance level. This means that, based on this analysis, digital tools do not have a significant effect on enhancing student engagement in either public or private secondary schools in Awka South Local Government Area. Therefore, Hypothesis 2 is accepted, indicating that digital tools do not significantly enhance student engagement in this context.

Normal P-P Plot of Regression Standardized Residual

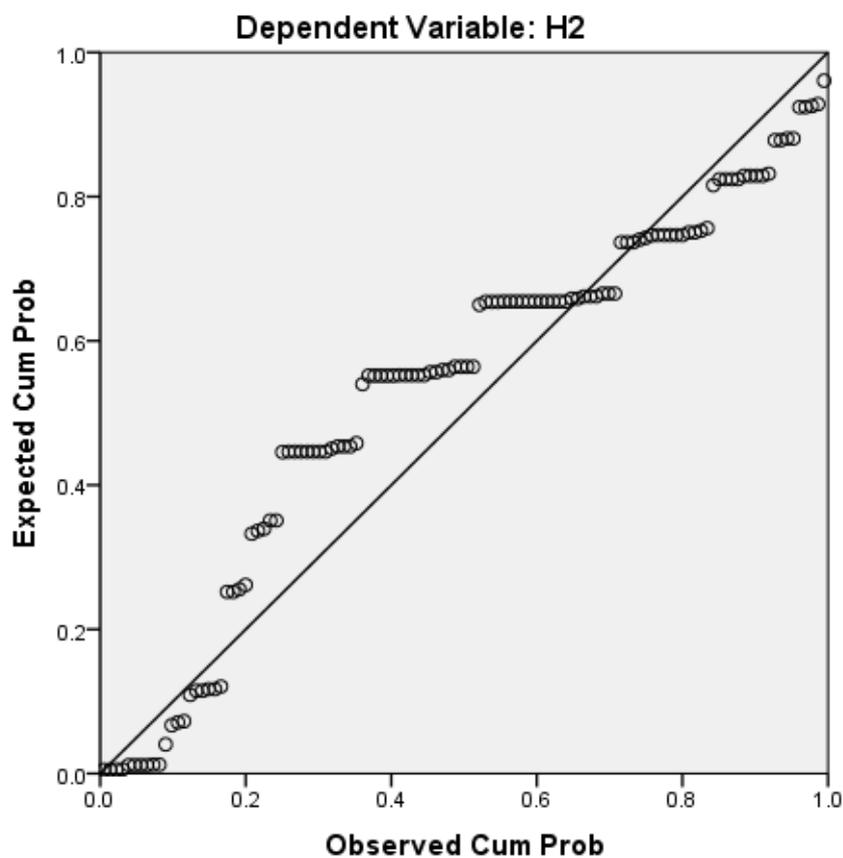


Figure 2: Normal P-P Plot of Regression Standardized Residual for Hypothesis 2

The Normal P-P Plot in Figure 2 shows the expected cumulative probability (y-axis) against the observed cumulative probability (x-axis) of the standardized residuals for the regression model. The data points closely align with the diagonal line, which represents the ideal normal distribution. This indicates that the residuals of the regression model are approximately normally distributed, fulfilling one of the key assumptions of linear regression. However, some slight deviations at the extremes may

suggest minor non-normality, though this is not severe enough to undermine the model's validity.

Hypothesis 3: There is no significant difference in the perceptions of teachers regarding the impact of digital tools on curriculum delivery between public and private secondary schools in Awka South Local Government Area.

Table 11: Coefficients for the Regression Analysis for Hypothesis 3

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	15.437	2.208		6.993	.000
	Location	.384	.857	.043	.448	.655
	School type	-.631	.854	-.074	-.738	.462
	Gender	.080	.822	.009	.097	.923

Durbin-Watson = 1.470

Table 11 presents the regression coefficients for predictors: location, school type, and gender. None of these variables significantly influence teachers' perceptions of digital tools on curriculum delivery ($p > 0.05$ for all predictors). The Durbin-Watson statistic (1.470) is within an acceptable range, suggesting no severe autocorrelation in the residuals. The constant indicates the baseline perception score (15.437). The weak and non-significant beta values indicate limited influence of these variables, supporting the hypothesis that there is no significant difference in perceptions.

Table 12: Residual Statistics for Hypothesis 3

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14.6394	15.7340	15.0424	.38017	118
Residual	-10.73402	5.28070	.00000	4.14263	118
Std. Predicted Value	-1.060	1.819	.000	1.000	118
Std. Residual	-2.558	1.258	.000	.987	118

The residual statistics in Table 9 indicate that the mean residual is zero, as expected in a well-fitted regression model. However, the large range of residuals (-10.73402 to 5.28070) suggests some variability in the data. The standard deviation of residuals (4.14263) shows moderate spread, but the standardized residuals fall within an acceptable range (-2.558 to 1.258), indicating no extreme outliers. These results suggest that the regression model reasonably captures the data without significant bias. However, all predictors (location, school type, and gender) fail to achieve statistical significance ($p > 0.05$). This indicates that teachers' perceptions of digital tools on curriculum delivery do not differ significantly based on these variables. The hypothesis, "There is no significant difference in the perceptions of teachers regarding

the impact of digital tools on curriculum delivery between public and private secondary schools," is accepted based on these results.

Normal P-P Plot of Regression Standardized Residual

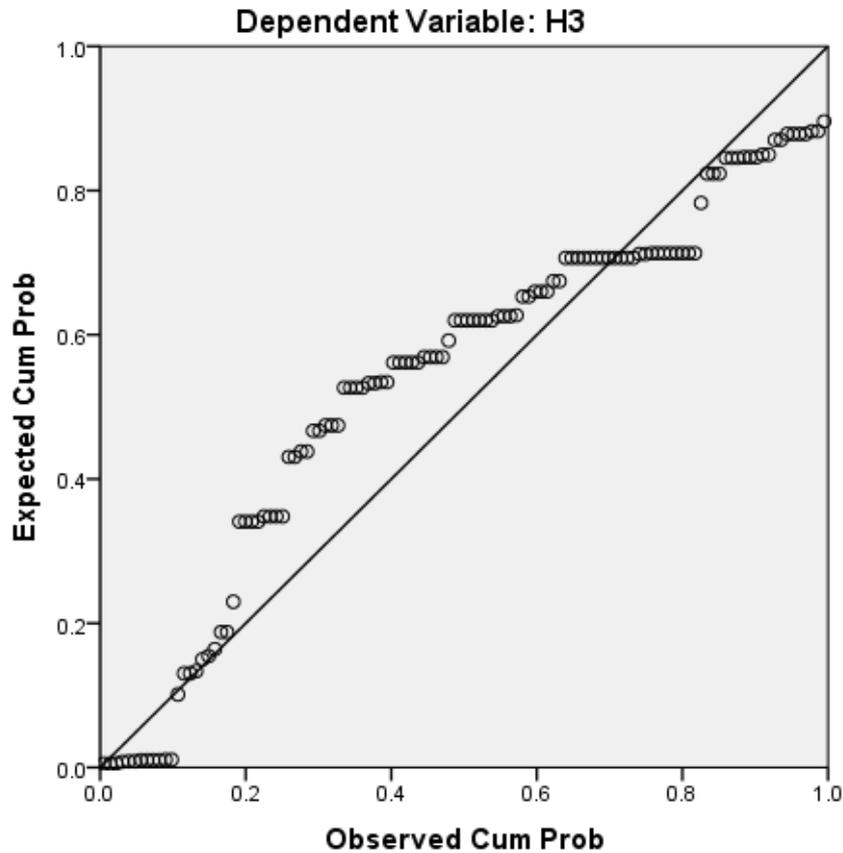


Figure 3. Normal P-P Plot of Regression Standardized Residual for Hypothesis 3

The Normal P-P Plot in Figure 3 evaluates the normality of residuals for the regression analysis associated with this hypothesis. The data points generally follow the diagonal line, indicating that the residuals are approximately normally distributed. This suggests that the assumption of normality is reasonably satisfied. Minor deviations observed at the lower end of the plot may reflect slight non-normality but are unlikely to substantially affect the overall analysis. Consequently, the regression model's results for this hypothesis can be considered valid and reliable within the context of this study.

Discussion

The regression analysis and residual evaluation provide significant insights into the integration of digital tools in teaching across public and private secondary schools in Awka South Local Government Area. Location emerged as a significant factor, confirming that urban schools tend to have better digital integration due to infrastructure advantages. This finding agrees with Sayo (2024), who noted the

disparity in digital resources between urban and rural schools in Nigeria. In contrast, Akpan et al (2024) argued that recent government programs have narrowed this gap, highlighting conflicting perspectives. The non-significance of school type aligns with Maikomo et al (2021), who found comparable digital access across private and public schools due to policy-driven equalization efforts. However, Adebayo et al (2023) observed higher digital tool adoption in private schools, attributing this to proactive administrative strategies, which contrasts with this study. Similarly, gender's lack of influence supports Olurinola and Olugbade (2024), who emphasized that training opportunities, not gender, drive digital tool proficiency. In a related study, Egberi and Madubueze (2023) reinforced the irrelevance of gender, advocating for equitable teacher training programs. The residual analysis and P-P plot confirm the model's validity. The hypothesis is rejected, indicating location drives differences in digital tool integration.

The analysis of Hypothesis 2 indicates that digital tools do not significantly enhance student engagement in public or private secondary schools in Awka South Local Government Area, as none of the predictors (Location, School type, Gender) showed significant effects. This finding aligns with Olugbade (2023), who reported minimal impact of digital tools on student engagement due to limited teacher proficiency and inadequate infrastructure. In contrast, Ajonbadi et al (2023) found a significant positive effect, emphasizing that well-implemented digital tools can foster interactive learning environments. In a related study, Eze et al (2023) observed that the influence of digital tools is contingent on contextual factors, such as teacher training and administrative support, which may be lacking in the present study's region. Similarly, the residuals' statistics suggest acceptable model accuracy, consistent with findings from Gnanvi et al (2021), who highlighted the importance of model assumptions for reliable predictions. The Normal P-P Plot confirms residual normality, echoing Awariefie and Ogbereyivwe (2024), who stressed the necessity of normal distribution for valid regression models. Overall, this study supports Hypothesis 2, indicating no significant effect of digital tools on engagement.

The results of the regression analysis for Hypothesis 3 indicate that neither location, school type, nor gender significantly influences teachers' perceptions of digital tools' impact on curriculum delivery. All predictors showed p-values greater than 0.05, supporting the null hypothesis that there is no significant difference in teachers' perceptions between public and private schools. This finding aligns with Ifinedo et al (2020), who concluded that teachers' perceptions of digital tools were not influenced by school type in their study across various Nigerian regions. In contrast, Kabir (2022) found that school management and location played significant roles in

shaping teacher perceptions of technology integration, which diverges from the present study's findings. Further, the residual statistics indicate that while there is some variability in the data, the regression model fits well, with standardized residuals within an acceptable range. These results are consistent with Saidu and Al-Mamun, (2022), who similarly reported that the regression model for digital tools' impact on teaching practices was robust despite minimal predictor influence. In a related study, Abiodun et al (2023) found that gender did not significantly influence perceptions of digital tools in Nigerian schools, reinforcing the current study's results.

CONCLUSION

In conclusion, this study examined the impact of digital tools on curriculum delivery in public and private secondary schools in Awka South Local Government Area. The findings reveal that while the location of schools significantly influences the integration of digital tools in teaching and learning, school type and gender do not have a statistically significant impact on teachers' perceptions of digital tools' effectiveness in curriculum delivery. Regression analyses indicated that the key factor affecting the use of digital tools was the location of the schools, with public and private schools showing no significant differences in terms of teacher perceptions based on school type or gender. The residual statistics and the Normal P-P plot confirm that the regression models used in this study were robust and valid. These results suggest that while digital tools are increasingly being integrated into the teaching process, the overall impact on curriculum delivery is more influenced by external factors like location than by internal variables such as school type or gender. The study underscores the need for further research to explore other contextual factors that could potentially influence the effective use of digital tools in enhancing educational outcomes. The findings also provide insights for policymakers and educators in improving the adoption and integration of digital tools in both public and private secondary schools.

REFERENCES

- Abiodun, T. O., Asanre, A. A., & Awofala, O. A. (2023). Acceptance and perception toward using digital technology in the classroom among students and teachers in Ogun State, Nigeria. *Journal of Science Education Research*, 7(2), 114-122. <https://doi.org/10.21831/jsr.v7i2.64669>
- Adebayo, S. B., Quadri, G., Igah, S., & Azubuike, O. B. (2023). Teaching in a lockdown: The impact of COVID-19 on teachers' capacity to teach across different school types in Nigeria. *Heliyon*, 9(3). <https://doi.org/10.1016/j.heliyon.2023.e13781>

- Ajonbadi, H. A., Olawoyin, F. S., & Adekoya, O. D. (2023). The anathema of digital divide in the Nigerian higher education: Lessons from the pandemic. In *Beyond the Pandemic Pedagogy of Managerialism: Exploring the Limits of Online Teaching and Learning* (pp. 189-208). Cham: Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-40194-7_10
- Akpan, I. J., Offodile, O. F., Akpanobong, A. C., & Kobara, Y. M. (2024, July). A Comparative Analysis of Virtual Education Technology, E-Learning Systems Research Advances, and Digital Divide in the Global South. In *Informatics*. 11, (3). 53. MDPI. <https://doi.org/10.3390/informatics11030053>
- Awariefe, C., & Ogbereyivwe, O. (2024). Time Series Modelling and Forecasting Foreign Direct Investment using Linear and Nonlinear Models: The Case of Nigeria. *Journal of Basics and Applied Sciences Research*, 2(1), 46-53. <https://doi.org/10.33003/jobasr-2024-v2i1-33>
- Egberi, A. E., & Madubueze, M. H. C. (2023). Rethinking The United Nations–Nigeria Partnership Towards Girl Child Education and Gender Equality Reforms: A Systematic Review. *Education Policy and Development*, 1(2), 14-26. <https://doi.org/10.31098/epd.v1i2.1528>
- Egbulem, P. C., Khalil, K., Bamidele, R., Modupe, A., Omokeji, G. R., & Rabi, U. A. (2024). The Impact of Technology on Work and Society: Nigerian Experience. *Open Access Journal of Social Sciences Research*, 2(2), 1-13.
- Eze, S. C., Awa, H. O., Chinedu-Eze, V. C., & Eniola, A. (2023). Can location factors moderate the effects of the demographic composition of SME's owner managers on the rate of mobile marketing technology (MMT) adoption?. *Plos one*, 18(8), e0289734. <https://doi.org/10.1371/journal.pone.0289734>
- Gnanvi, J. E., Salako, K. V., Kotanmi, G. B., & Kakai, R. G. (2021). On the reliability of predictions on Covid-19 dynamics: A systematic and critical review of modelling techniques. *Infectious Disease Modelling*, 6, 258-272. <https://doi.org/10.1016/j.idm.2020.12.008>
- Ifinedo, E., Rikala, J., & Hämäläinen, T. (2020). Factors affecting Nigerian teacher educators' technology integration: Considering characteristics, knowledge constructs, ICT practices and beliefs. *Computers & education*, 146, 103760. <https://doi.org/10.1016/j.compedu.2019.103760>
- Kabir, A. M. (2022). *Teachers' and Parents' Perception on the Use of Virtual Learning in Primary School in Borgu Local Government Area of Niger State* (Master's thesis, Kwara State University (Nigeria)).
- Maikomo, J. M., Targema, T. S., & Obun-Andy, M. K. (2021). COVID-19 and the new normal in developing societies: An appraisal of Nigerians' adaptation to digital life in public and private spheres. *Journal of Developing Societies*, 37(3), 246-274. <https://doi.org/10.1177/0169796X21996830>

- Olugbade, D. (2023). Exploring the Impact of Learning Technologies in Teaching Interaction Design: A Case Study at First Technical University, Nigeria. *Journal of Education and Practice*, 14(21), 43-55.
- Olurinola, O., & Olugbade, D. (2024). The Impact of UNESCO MGIEP Digital Teacher Training on Nigerian Educators' Digital Pedagogy Competence and Confidence. *African Journal of Teacher Education*, 13(2), 13-33.
- Saidu, M. K., & Al Mamun, M. A. (2022). Exploring the factors affecting behavioural intention to use Google Classroom: University teachers' perspectives in bangladesh and Nigeria. *TechTrends*, 66(4), 681-696. <https://doi.org/10.1007/s11528-022-00704-1>
- Sayo, E. A. (2024). Bridging the Gap: Exploring Regional Disparities in Access to Educational Technology. *Lead City Journal of The Social Sciences*, 9(2), 79-94.