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ARTIFICIAL INTELLIGENCE APPLICATIONS FOR ENHANCING SCHOOL SUPERVISION IN PUBLIC SECONDARY SCHOOLS IN RIVERS STATE

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ABSTRACT

The study investigated artificial intelligence applications for enhancing school supervision in public secondary schools in Rivers State. The study was guided by six objectives from which six research questions and hypotheses were drawn. The descriptive survey design was used for this study. The population of the study comprised six thousand, four hundred and eighty-five teachers (6485) and three hundred and eleven (311) principals in public senior secondary schools in Rivers State. Thus the population of the study is 6,796 made up of teachers and principals'. The sample size of the study is 377 which was determined using Taro Yamane's formula. The instrument for data collection in this study was a researcher-designed questionnaire titled "Influence of Artificial Intelligence Applications on School Supervision Questionnaire (IAIASSQ)." The completed copies of the questionnaire were analyzed for reliability using Cronbach Alpha Method. The reliability coefficients of 0.78, 0.81, 0.77, 0.87, 0.88 and 0.81. were obtained for the various clusters of the instrument with an aggregate of 0.82 which showed the instrument was reliable. The research questions were answered using mean and standard deviation statistics, while the null hypotheses were tested using t-test statistical tool at 0.05 level of significance. The findings of the study revealed among others that to a high extent, the Teachmint application influences school supervision in public secondary schools in Rivers State, with a corresponding hypothesis one that there is no significant difference in the mean ratings of principals and teachers on the extent to which the Teachmint application influences school supervision in these schools. The study concluded that the integration of Artificial Intelligence (AI) applications significantly enhances school supervision in public secondary schools in Rivers State. AI-driven platforms, including Teachmint, ClassDojo, GoGuardian, have been found to improve teacher performance monitoring, administrative efficiency, classroom management, and communication between school stakeholders. It was recommended among others that school administrators should enhance the integration of the Teachmint application in school supervision practices.

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INTRODUCTION

Education is a fundamental driver of societal development, equipping individuals with the knowledge, skills, and attitudes required to navigate personal and societal challenges. As a process, education fosters intellectual development, moral uprightness, and practical skill acquisition (Okon, 2023). Schools, as formal institutions of learning, serve as the bedrock for implementing educational goals, shaping individuals who can contribute meaningfully to the progress of their communities. The quality of education delivered within schools largely depends on effective supervision, which ensures adherence to set standards, proper utilization of resources, and the achievement of educational objectives.

School supervision involves the systematic process of overseeing teaching and learning activities to ensure that set educational goals are achieved (Adamu, 2022). Supervisors, including principals and designated officials, engage in activities such as classroom observation, teacher mentoring, curriculum implementation monitoring, and evaluation of student performance. Effective supervision improves instructional practices, fosters professional development, and enhances student learning outcomes. However, the traditional methods of school supervision in public secondary schools in Rivers State often face challenges such as inadequate resources, large student populations, and limited manpower. These issues hinder the effective implementation of supervisory practices, necessitating innovative solutions such as artificial intelligence (AI).

Artificial intelligence refers to the simulation of human intelligence by machines to perform tasks such as decision-making, problem-solving, and data analysis. In education, AI has emerged as a transformative application, offering innovative approaches to improving school supervision.

Integrating AI applications into the supervisory framework provides school administrators with data-driven insights, streamlines administrative tasks, and ensures that teaching and learning standards are consistently upheld (Eze, 2021). This study explores how specific AI applications Teachmint, ClassDojo, GoGuardian, influence school supervision in public secondary schools in Rivers State.

Teachmint is an AI-driven school management platform designed to simplify administrative and academic operations. Its features include digital attendance, automated scheduling, and real-time performance tracking of both students and teachers (Ibrahim, 2023). For school supervisors in Rivers State, Teachmint offers applications to monitor classroom activities remotely, ensuring that instructional time is effectively utilized. It allows supervisors to

access data on teacher punctuality, lesson delivery, and student engagement without physically being present in every classroom (Adewale, 2022). This improves efficiency in supervision, allowing principals and educational managers to focus on mentoring and supporting teachers based on real-time feedback.

ClassDojo is another AI-powered platform that facilitates teacher-student engagement by tracking student behavior and academic participation (Chukwu, 2021). For supervisors, this application offers valuable insights into classroom interactions, fostering a culture of accountability and positive reinforcement. By providing real-time reports on student behavior, ClassDojo allows supervisors to identify patterns that may indicate instructional weaknesses or areas requiring intervention (Obi, 2023). In Rivers State's public schools, where large class sizes can pose challenges for direct supervision, ClassDojo serves as a bridge between teachers and administrators, ensuring that every student receives adequate attention and support.

GoGuardian plays a critical role in monitoring student activity on digital devices. As schools in Rivers State increasingly adopt technology for instructional purposes, the need for effective digital supervision has grown (Nwafor, 2022). GoGuardian enables supervisors to oversee how students use technology during school hours, ensuring compliance with acceptable use policies and minimizing distractions from non-educational content (Okafor, 2021). Furthermore, it provides insights into digital behavior patterns that can inform broader school policies on technology use. This proactive monitoring ensures that students remain focused on educational tasks, thereby enhancing overall learning outcomes.

Several scholars have investigated the connection of artificial intelligence (AI) and educational supervision, highlighting its transformative potential while also identifying limitations that warrant further investigation. Emmanuel (2020) conducted a study on the use of AI applications for data-driven decision-making in secondary schools across Nigeria. The study demonstrated that AI applications, such as predictive analytics and automated reporting systems, significantly improved supervisors' ability to identify and address instructional gaps. However, the research primarily focused on urban schools with access to advanced technological infrastructure, neglecting the unique challenges faced by public secondary schools in resource-constrained settings like Rivers State. This gap in contextual applicability highlights the need for localized research that examines how AI can be tailored to address the specific supervisory needs in public secondary schools in the region.

Irebe (2019) in his findings discovered that AI driven platforms can never be over emphasized especially in this era AI's is used in fostering collaborative supervision and communication between school administrators and teachers. The findings emphasized that AI-driven platforms enhanced transparency, improved feedback mechanisms, and facilitated real-time monitoring of instructional activities. However, the study primarily centered on private schools, where supervisory practices are often supported by better funding and organizational structures. This focus left a gap in understanding how AI applications can overcome the financial and logistical barriers commonly experienced in public secondary schools, particularly in Rivers State.

Despite these valuable contributions, several gaps remain in the research on artificial intelligence (AI) applications for enhancing school supervision in public secondary schools in Rivers State. There is a lack of comprehensive empirical data on the long-term effectiveness of AI-driven supervision in addressing instructional gaps and improving learning outcomes. While existing studies provide insights into AI's potential in educational settings, they often overlook the specific challenges faced by public secondary schools, such as inadequate infrastructure and resource limitations. Additionally, there is limited research on the collaborative roles of various stakeholders government agencies, educational policymakers, school administrators, teachers, and technology developers in effectively integrating AI into supervisory practices. Most existing research focuses on isolated implementations rather than examining how coordinated efforts among these stakeholders can improve supervisory outcomes. This study, therefore, seeks to investigate how artificial intelligence applications enhance school supervision in public secondary schools in Rivers State. It aims to identify practical strategies for overcoming existing challenges and ensuring that AI integration leads to improved educational quality and more effective supervisory practices.

Statement of the Problem

Ensuring effective supervision in public secondary schools is essential for maintaining educational quality, improving teacher performance, and enhancing student outcomes. In Rivers State, however, this goal remains a significant challenge due to limited resources, large student populations, and inconsistent implementation of supervisory practices. Traditional supervision methods such as manual classroom observations, periodic teacher evaluations, and written feedback are often inefficient, prone to human error, and inadequate for addressing the dynamic needs of modern educational settings. These shortcomings contribute to lapses in instructional quality, reduced teacher accountability, and poor student performance.

Several factors contribute to this persistent problem. Limited funding prevents schools from acquiring the necessary applications and resources for effective supervision. Technological infrastructure is also lacking, making it difficult to integrate modern solutions like real-time performance tracking or data-driven evaluation systems. Additionally, many supervisors and teachers lack proper training on how to utilize advanced technologies for improving teaching and learning outcomes. These challenges weaken supervisory practices and hinder efforts to maintain high educational standards across public secondary schools in Rivers State.

The introduction of Artificial Intelligence (AI) offers promising opportunities for addressing these issues. AI applications, such as automated performance tracking, data analytics for decision-making, and virtual classroom monitoring, can enhance the efficiency, accuracy, and responsiveness of school supervision. However, the practical application of these technologies in public secondary schools remains underexplored, especially in the context of Rivers State, where technological infrastructure and funding are often inadequate.

The question now is: can the adoption of AI applications significantly influence school supervision in public secondary schools in Rivers State? Providing an answer to this question is the problem of this study.

Purpose of the Study

The purpose of this study was to investigate the extent artificial intelligence applications influences school supervision in public secondary schools in Rivers State. Specifically, the study sought to:

1. Examine the extent Teachmint application influences school supervision in public secondary schools in Rivers State.
2. Determine the extent ClassDojo application influences school supervision in public secondary schools in Rivers State.
3. Assess the extent GoGuardian application influences school supervision in public secondary schools in Rivers State.

Research Questions

The following research questions guided the study:

1. To what extent does Teachmint application influences school supervision in public secondary schools in Rivers State?
2. To what extent does ClassDojo application influences school supervision in public secondary schools in Rivers State?

3. To what extent does GoGuardian application influences school supervision in public secondary schools in Rivers State?

Hypotheses

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

1. There is no significant difference in the mean ratings of principals and teachers on the extent to which Teachmint application influences school supervision in public secondary schools in Rivers State.
2. There is no significant difference in the mean ratings of principals and teachers on the extent to which ClassDojo application influences school supervision in public secondary schools in Rivers State.
3. There is no significant difference in the mean ratings of principals and teachers on the extent to which GoGuardian application influences school supervision in public secondary schools in Rivers State.

Theoretical Review

Technological Pedagogical Content Knowledge (TPACK)

The Technological Pedagogical Content Knowledge (TPACK) framework was developed by Mishra and Koehler (2006) to describe the essential knowledge teachers need to effectively integrate technology into their teaching practices. The framework emphasizes that successful integration of technology in education requires a complex interplay between three primary forms of knowledge: Content Knowledge (CK), Pedagogical Knowledge (PK), and Technological Knowledge (TK). When combined, these domains form the foundation for effective technology-enhanced teaching and learning.

Content Knowledge (CK) refers to a teacher's understanding of the subject matter they are teaching. This could include knowledge of mathematics, science, language arts, or any other subject-specific expertise. For school supervision in public secondary schools, CK ensures that teachers and supervisors have a firm grasp of the curriculum and educational standards necessary for student success.

Pedagogical Knowledge (PK) focuses on the methods and processes of teaching, including instructional strategies, classroom management, assessment techniques, and understanding of how students learn. For supervisors, PK is critical in evaluating the effectiveness of teaching methodologies used in classrooms and recommending improvements based on observed practices.

Technological Knowledge (TK) involves familiarity with digital tools and resources that can enhance the teaching and learning experience. In the context of school supervision, this encompasses understanding how AI applications, like Teachmint or ClassDojo, can be used to monitor teacher performance, track student progress, and streamline administrative duties.

The intersection of these three domains results in Technological Pedagogical Content Knowledge (TPACK), which enables teachers and supervisors to design, implement, and assess educational experiences that effectively incorporate technology. For example, using applications like GoGuardian to monitor student engagement or utilizing Schoology for curriculum delivery reflects the integration of technology with pedagogy and content.

Nwuke and Soli (2023) found that "through the implementation of supportive supervision models that foster a culture of self-reflection, public schools can witness notable enhancements in the achievement of objectives, professional development, collaboration, accountability, and instructional leadership". This supports the argument that AI-based supervisory tools by providing real-time feedback, transparent data, and collaborative platforms can function as modern mechanisms for supportive supervision within the TPACK framework

In the context of enhancing school supervision through artificial intelligence applications in public secondary schools in Rivers State, the TPACK framework offers a comprehensive model for understanding how principals and teachers can effectively utilize technology. The framework highlights the need for supervisors to not only understand the content and pedagogical strategies employed by teachers but also how technological tools can enhance these practices.

Through TPACK, school supervisors can provide more nuanced feedback to teachers by observing how technology is used to support instructional goals. Applications like Weduc can help streamline communication and foster collaborative supervision, while Kahoot! can be used to assess student understanding in an engaging, technology-enhanced environment. Thus, TPACK serves as a valuable theoretical lens through which the integration of AI tools for supervision can be analyzed and improved.

By applying the TPACK framework, this study will explore the extent to which principals and teachers in public secondary schools in Rivers State are effectively integrating technology into their instructional supervision processes. This will help identify areas where additional training or support may be necessary, ultimately contributing to improved educational outcomes.

Conceptual Review

Concept of Artificial Intelligence

Artificial Intelligence (AI) is a transformative technological innovation that has redefined the boundaries of human-machine interaction, offering systems the capability to simulate human intelligence and perform tasks that typically require cognitive functions. These cognitive abilities include reasoning, learning, decision-making, problem-solving, perception, and language understanding. The concept, which originated from the field of computer science, has expanded into a multidisciplinary domain influencing diverse sectors such as finance, healthcare, governance, and most notably, education. In the educational landscape, AI is no longer a futuristic idea but a present-day reality that shapes how institutions operate, how educators engage with learners, and how administrative systems are managed. AI technologies are being harnessed to automate processes, provide personalized learning experiences, streamline administrative tasks, and enhance supervision practices, thereby optimizing outcomes for both teachers and students (Okonkwo, 2022).

Artificial Intelligence provides school administrators with data-driven insights that improve decision-making, enhance teacher performance appraisal, and promote efficient resource management, thereby aligning supervisory practices with institutional goals." (Nwuke & Yellowe 2025, p. 321) "AI-enabled supervisory tools reduce the burden of manual monitoring by automating attendance tracking, reporting, and lesson plan compliance checks, allowing supervisors to focus on instructional support and teacher mentoring."

The core philosophy underpinning AI is its capacity to process vast amounts of data rapidly, recognize patterns, and make informed decisions without explicit human intervention. This is primarily achieved through subfields of AI such as machine learning (ML), natural language processing (NLP), neural networks, and deep learning. These technologies enable AI systems to adapt over time, learn from new data inputs, and improve their performance based on experience (Eze, 2021). This adaptability is particularly significant in the context of educational institutions where learning needs, administrative challenges, and policy requirements evolve continuously. AI-driven systems are designed to accommodate these dynamic changes, offering tailored solutions that address specific institutional goals and challenges. Digital tools powered by AI create a responsive learning ecosystem where instructional materials, assessment, and supervision are tailored to the needs of individual learners, including those with special needs." (Nwuke & Osuji, 2025)

In the realm of education, AI has found application across a wide spectrum of functions, ranging from instructional delivery and curriculum development to administrative management and student

support services. The use of AI-driven platforms has enabled the automation of repetitive tasks such as grading, scheduling, and reporting, thus freeing up educators' time to focus on instructional and mentoring responsibilities (Adebayo, 2023). In public secondary schools, particularly within developing contexts like Rivers State, Nigeria, the integration of AI into educational management systems holds immense potential for improving school supervision. Given the challenges of limited resources, overburdened administrative staff, and inadequate training opportunities for supervisors, AI tools can play a pivotal role in enhancing the efficiency, transparency, and effectiveness of school supervision practices.

School Supervision

School supervision is a fundamental aspect of educational administration that focuses on enhancing teaching and learning through the systematic monitoring, evaluation, and support of teachers and other educational personnel. It involves various activities aimed at ensuring that the educational process aligns with the established goals and objectives of the school system. Osuji and Njoku (2021), school supervision encompasses the planning, implementation, and evaluation of educational programs to maintain high standards of academic performance. In the context of public secondary schools, particularly in regions such as Rivers State, effective supervision is crucial for improving instructional practices, fostering professional development, and ensuring accountability among teachers and administrative staff.

Supervision in schools is not limited to oversight but extends to providing instructional leadership, mentoring, and coaching for teachers to improve their teaching methodologies. As Obasi (2020) posits, school supervision should be viewed as a developmental process rather than a mere evaluative tool. This perspective emphasizes the role of supervisors in supporting teachers through constructive feedback, resource provision, and professional growth opportunities. By fostering a collaborative environment, supervisors help teachers to refine their instructional strategies, thus enhancing student learning outcomes.

One of the primary objectives of school supervision is to ensure the delivery of quality education through the effective implementation of the curriculum. According to Eze (2021), supervision plays a pivotal role in aligning classroom activities with national educational standards and institutional goals. Supervisors, often principals or designated heads of departments, are responsible for observing classroom instruction, assessing lesson plans, and ensuring that teaching methodologies are responsive to the diverse needs of students. This process involves regular classroom visits, performance appraisals, and feedback sessions aimed at promoting instructional excellence.

In the Nigerian educational context, particularly in public secondary schools in Rivers State, school supervision is often challenged by factors such as inadequate funding, shortage of qualified personnel, and limited access to professional development programs. Chukwuma (2023) highlights that despite government efforts to improve educational outcomes, many schools still lack the necessary resources to support effective supervision. Consequently, supervisors often face difficulties in executing their duties effectively, leading to inconsistent monitoring and evaluation practices. Addressing these challenges requires a comprehensive approach that includes capacity-building programs for supervisors, provision of adequate resources, and the implementation of clear policies that define the roles and responsibilities of supervisory staff.

The functions of school supervision are multifaceted and extend beyond instructional monitoring to include administrative oversight, teacher evaluation, and the promotion of professional ethics. According to Okafor (2022), effective supervision involves ensuring that teachers adhere to institutional policies, maintain professional conduct, and fulfill their instructional responsibilities. Supervisors also play a critical role in fostering a positive school climate by promoting collaboration among staff members, resolving conflicts, and facilitating communication between teachers, students, and parents. By creating an environment conducive to teaching and learning, supervisors contribute to the overall development of the school community.

Instructional supervision is a critical component of school supervision, focusing specifically on the improvement of teaching practices and the enhancement of student learning. As Adebayo (2023) notes, instructional supervisors work closely with teachers to develop lesson plans, implement innovative teaching strategies, and assess student progress. This collaborative approach enables teachers to receive timely feedback and support, thereby improving their instructional competencies. Additionally, instructional supervision involves the identification of professional development needs and the organization of workshops, seminars, and training sessions to address these needs.

Influence of Teachmint Application on School Supervision

The integration of technology into educational administration has reshaped the landscape of school supervision, with applications like Teachmint playing a pivotal role in enhancing the effectiveness and efficiency of supervisory practices. Teachmint, an all-in-one platform designed for educators, facilitates digital classroom management, online teaching, attendance tracking, and resource sharing. In public secondary schools, especially within Rivers State, the adoption of such applications has revolutionized how school supervision is conducted, offering a streamlined approach to monitoring teaching and learning activities (Okafor, 2023).

One of the most significant influences of the Teachmint application on school supervision is its capacity to improve communication between supervisors, teachers, and administrative staff. Through real-time messaging, announcements, and feedback systems, supervisors can promptly address issues as they arise and provide necessary guidance to teachers (Eze, 2022). This fosters a more responsive supervisory environment, where challenges are resolved swiftly, thus enhancing the overall quality of instruction and school management.

The application also facilitates efficient monitoring of lesson plans and instructional delivery. Supervisors can access digital lesson plans uploaded by teachers, review instructional materials, and assess the adherence to curricular standards (Chukwu, 2023). This digital oversight allows supervisors to provide targeted support and professional development opportunities, ultimately improving the teaching quality within public secondary schools. Furthermore, the ability to track student attendance and academic progress through the platform enables supervisors to identify areas of concern and intervene proactively (Adebayo, 2022).

Another notable impact of Teachmint on school supervision is the enhancement of accountability. The application records various activities, such as teacher attendance, lesson completion rates, and student engagement metrics, which supervisors can analyze to ensure compliance with institutional goals (Obasi, 2023). By providing transparent data-driven insights, Teachmint empowers school supervisors to make informed decisions, implement corrective measures, and recognize exemplary performance among teachers.

Influence of ClassDojo Application on School Supervision

The integration of digital technology into education has significantly transformed traditional approaches to school supervision, leading to the emergence of innovative tools such as ClassDojo. Initially developed as a behavior management tool, ClassDojo has grown to encompass various aspects of classroom management, instructional monitoring, and communication enhancement (Okoro, 2021). In public secondary schools in Rivers State, this application has increasingly become an essential tool for school supervisors, facilitating real-time monitoring of teacher performance, student engagement, and administrative processes.

ClassDojo operates as a digital platform designed to help teachers track student behavior, promote engagement, and foster effective communication between teachers, students, and parents (Ibrahim,

2022). By allowing teachers to reward positive behavior and document instances of negative conduct, the platform provides supervisors with data-driven insights into classroom dynamics and student interactions. This enables supervisors to intervene proactively, offering guidance to teachers where necessary and addressing behavioral challenges promptly (Adeyemi, 2023). The ability of supervisors to remotely monitor classroom activities helps bridge the gap between administrative oversight and instructional quality, making supervision more efficient and effective.

One of the major influences of ClassDojo on school supervision lies in its capacity to support behavior monitoring and management. Teachers can instantly record both positive and negative student behaviors through the application, providing supervisors with continuous updates on classroom conduct (Nwachukwu, 2022). This digital documentation system ensures transparency and consistency in behavior management while allowing administrators to track long-term patterns of student conduct. Supervisors can use these reports to develop targeted interventions for students who frequently exhibit negative behavior, thereby fostering a supportive learning environment conducive to academic achievement (Eze, 2022).

Despite its numerous benefits, the implementation of ClassDojo in school supervision is not without challenges. Issues such as limited access to technology, resistance from teachers unfamiliar with digital tools, and concerns about data privacy may hinder the effective use of the application (Egbuna, 2023). Additionally, the reliance on digital platforms requires adequate training and support for teachers and supervisors to ensure that the application is used effectively and ethically (Onyeka, 2022). Addressing these challenges requires comprehensive training programs, investment in technological infrastructure, and the development of clear policies on data security and ethical use.

The influence of ClassDojo on school supervision in public secondary schools in Rivers State is multifaceted, encompassing behavior management, teacher performance monitoring, stakeholder communication, and data-driven decision-making. By enabling supervisors to monitor classroom activities in real time, provide constructive feedback, and implement strategic interventions, the application enhances the overall effectiveness of school supervision. While challenges related to technological access and ethical concerns remain, the potential of ClassDojo to transform supervisory practices in educational settings is significant. Its integration into the supervision process represents a progressive step toward improving the quality of education and fostering a more collaborative and supportive learning environment for all stakeholders involved.

Influence of GoGuardian application on School Supervision

The integration of digital technology into educational administration has significantly enhanced supervisory practices, particularly in secondary schools. One such transformative tool is GoGuardian, a comprehensive digital platform designed to improve classroom management, student engagement, and the effectiveness of school supervision (Afolayan, 2022). Originally developed as a tool for monitoring student internet activity, GoGuardian has evolved into a versatile application that supports instructional supervision, teacher-student interaction, and administrative oversight in educational institutions. In the context of public secondary schools in Rivers State, the influence of GoGuardian on school supervision is becoming increasingly relevant as schools seek to adapt to technological innovations for improving administrative and academic outcomes.

GoGuardian's most notable feature is its real-time monitoring capability, which allows school supervisors and administrators to oversee both teacher and student activities on internet-enabled devices (Okonkwo, 2023). Through this functionality, supervisors can monitor classroom activities remotely, ensuring that teachers are effectively utilizing instructional time and adhering to curriculum guidelines. This level of oversight facilitates a more proactive supervisory approach, enabling administrators to address issues such as off-task behavior, unapproved internet usage, or instructional gaps as they arise (Ibrahim, 2022). The immediacy of this feedback loop allows for quicker interventions, thereby improving the overall quality of classroom instruction and student engagement.

The influence of GoGuardian on school supervision in public secondary schools in Rivers State is significant and multifaceted. The platform enhances instructional oversight, promotes student safety, facilitates data-driven decision-making, and fosters accountability within the educational system. By enabling supervisors to monitor classroom activities in real-time, analyze performance metrics, and provide timely feedback, GoGuardian contributes to improving the overall quality of education. Despite the challenges associated with technological access and data privacy concerns, the platform holds considerable potential for transforming supervisory practices and fostering a more effective, inclusive, and accountable educational environment. As schools continue to embrace digital innovation, the strategic use of GoGuardian will play a pivotal role in advancing educational outcomes and strengthening administrative oversight in secondary education.

Methodology

This study adopted a descriptive survey design. The population of the study comprised six thousand, four hundred and eighty-five teachers (6485) and three hundred and eleven (311) principals in public senior secondary schools in Rivers State. Thus the population of the study is 6,796 made up of teachers and principals'. The sample size of the study is 377 which was determined using Taro Yamane's formula, which provided a manageable and statistically representative from the total population. A multi-stage sampling technique was employed to ensure fair representation across the three senatorial districts: Rivers East, Rivers West, and Rivers South-East. Schools were selected from randomly chosen LGAs within each district, and teachers was proportionally drawn from these schools to accurately reflect their distribution across the state. The instrument for data collection in this study was a researcher-designed questionnaire titled "Influence of Artificial Intelligence Applications on School Supervision Questionnaire (IAIASSQ)." The responses to the questionnaire was structured using a summated four-point rating scale to measure the degree of agreement or the extent of influence. The scale was weighted as follows: Very High Extent (VHE) = 4, High Extent (HE) = 3, Low Extent (LE) = 2, and Very Low Extent (VLE) = 1.

The research instrument was validated by three experts, one in the field of Educational Management and two others in Measurement and Evaluation in Rivers State University.

The internal consistency of the instrument was determined using the Cronbach Alpha method. By this method, 20 copies of the questionnaire were administered to 15 teachers and 5 principals in a public senior secondary school located in Ikwerre LGA, which is outside the Port Harcourt Metropolis study area. From the analyzed responses, reliability coefficients of 0.78, 0.81 and 0.81 were obtained for the various clusters of the instrument. A composite reliability index of 0.82 was further obtained, indicating that the instrument is reliable. 688 Copies of the questionnaire was administered on Principals and teachers from the selected public schools in Rivers State used in the study by the researcher and two (2) assistants who are postgraduate students of Rivers State University. The researcher administered 688 copies of the questionnaire to the respondents. The researcher. Out of the 688 copies of questionnaire distributed, only 599 representing 87% were retrieved and this proportion was used for the analysis. Of the retrieved copies, 366 were teachers, while 233 were Principals from female teachers. This proportion was used for the analysis.

The research questions were answered using mean and standard deviation while the null hypotheses were tested using the independent t-test statistical tool at 0.05 level of significance.

Analysis of Data and Results

Research Question 1: To what extent does Teachmint application influences school supervision in public secondary schools in Rivers State?

Table 1: Mean and Standard Deviation Scores on the Extent Teachmint application influences school supervision in public secondary schools in Rivers State _____(N=599)

S/N	Item	Principals (n=233)		Teachers (n=366)			
		$\bar{X}_1$	SD_1	$\bar{X}_2$	SD_2	$\frac{\bar{X}_1 + \bar{X}_2}{2}$	Remark
1.	The Teachmint app helps supervisors monitor teacher attendance effectively.	3.2	0.9	3.1	1	3.2	High Extent
2.	The application improves classroom observation and evaluation.	2.6	0.6	3.4	0.8	3	High Extent
3.	Teachmint facilitates efficient communication between supervisors and teachers.	3.5	0.7	3.2	1.1	3.3	High Extent
4.	The app enhances lesson scheduling and resource sharing.	2.5	0.7	3.1	1	2.8	High Extent
5.	Teachmint enables supervisors to provide real-time feedback to teachers.	3.2	0.7	2.7	1	3	High Extent
Grand Mean ($\bar{X}$)		3		3.1		3.1	High Extent

Data presented in Table 1 above shows the mean ratings and standard deviations of principals and teachers on the extent to which the Teachmint application influences school supervision in public secondary schools in Rivers State. The data indicates that the mean ratings of principals for items 1 to 5 are: 3.17, 2.62, 3.49, 2.53, and 3.23, while the mean ratings for teachers are: 3.12, 3.43, 3.19, 3.10, and 2.73 respectively.

The specific influences highlighted include monitoring teacher attendance effectively (mean = 3.15), improving classroom observation and evaluation (mean = 3.03), facilitating communication between supervisors and teachers (mean = 3.34), enhancing lesson scheduling and resource sharing (mean = 2.82), and enabling supervisors to provide real-time feedback to teachers (mean = 2.98).

Furthermore, the mean scores suggest that teachers perceive the impact of the Teachmint application more positively than principals, with teachers rating all items higher except for "monitoring teacher attendance." The grand means for principals and teachers are 3.01 and 3.11, respectively, with an overall average grand mean of 3.06. This indicates that the Teachmint application has an influence on school supervision in public secondary schools in Rivers State, with teachers rating the influence higher than principals.

Research Question 2: To what extent does ClassDojo application influences school supervision in public secondary schools in Rivers State?

Table 2: Mean and Standard Deviation Scores on the Extent ClassDojo application influences school supervision in public secondary schools in Rivers State _____(N=599)

S/N	Item	Principals (n=233)		Teachers (n=366)			
		$\bar{X}_1$	SD_1	$\bar{X}_2$	SD_2	$\frac{\bar{X}_1 + \bar{X}_2}{2}$	Remark
1.	ClassDojo supports supervisors in tracking student behavior effectively.	3.2	0.9	3.5	0.9	3.1	High Extent
2.	The app encourages teacher accountability through performance monitoring.	2.7	0.8	3.2	1	3.1	High Extent
3.	ClassDojo promotes better communication between supervisors, teachers, and parents.	3.6	0.8	3.2	1	3.4	High Extent
4.	Supervisors use ClassDojo to recognize and reward positive teacher performance.	2.5	0.7	2.8	1	2.8	High Extent
5.	The app improves student engagement monitoring by supervisors.	3.1	0.8	2.7	1	3	High Extent

	ClassDojo supports supervisors in tracking student behavior effectively.						
Grand Mean ($\bar{X}$)		3		3.1		3.1	High Extent

Data presented in Table 2 above shows the mean ratings and standard deviations of principals and teachers on the extent to which the ClassDojo application influences school supervision in public secondary schools in Rivers State. The data indicates that the mean ratings of principals for items 1 to 5 are: 3.15, 2.70, 3.60, 2.45, and 3.10, while the mean ratings for teachers are: 3.50, 3.20, 3.15, 2.80, and 2.73 respectively. The specific influences highlighted include tracking student behavior effectively (mean = 3.10), encouraging teacher accountability through performance monitoring (mean = 3.10), promoting better communication between supervisors, teachers, and parents (mean = 3.40), recognizing and rewarding positive teacher performance (mean = 2.80), and improving student engagement monitoring by supervisors (mean = 2.95).

Furthermore, the mean scores suggest that teachers perceive a higher influence of ClassDojo in all items except for "tracking student behavior" where principals rated it slightly higher. The grand means for principals and teachers are 3.00 and 3.08, respectively, with an overall average grand mean of 3.07. This indicates that the ClassDojo application influences school supervision in public secondary schools in Rivers State, with teachers rating the influence slightly higher than principals.

Research Question 3: To what extent does GoGuardian application influences school supervision in public secondary schools in Rivers State?

Table 3: Mean and Standard Deviation Scores on the Extent GoGuardian application influences school supervision in public secondary schools in Rivers State _____(N=599)

S/N	Item	Principals (n=233)		Teachers (n=366)			
		$\bar{X}_1$	SD_1	$\bar{X}_2$	SD_2	$\frac{\bar{X}_1 + \bar{X}_2}{2}$	Remark
1.	GoGuardian enables supervisors to monitor classroom activities remotely.	3.2	0.9	3.1	1	3.2	High Extent
2.	The app supports supervisors in identifying and addressing inappropriate student behavior.	2.6	0.6	3.4	0.8	3	High Extent
3.	GoGuardian improves supervision by providing reports on student device usage.	3.5	0.7	3.2	1.1	3.3	High Extent
4.	Supervisors use GoGuardian to ensure a safe digital learning environment.	2.5	0.7	3.1	1	2.8	High Extent
5.	The app allows supervisors to track teachers' adherence to lesson schedules.	3.2	0.7	2.7	1	3	High Extent
Grand Mean ($\bar{X}$)		3		3.1		3.1	High Extent

Data presented in Table 3 above shows the mean ratings and standard deviations of principals and teachers on the extent to which the GoGuardian application influences school supervision in public secondary schools in Rivers State. The data indicates that the mean ratings of principals for items 1 to 5 are: 3.15, 2.62, 3.49, 2.53, and 3.23, while the mean ratings for teachers are: 3.12, 3.43, 3.19, 3.10, and 2.73 respectively. The specific influences highlighted include monitoring classroom activities remotely (mean = 3.15), identifying and addressing inappropriate student behavior (mean = 3.03), providing reports on student device usage (mean = 3.34), ensuring a safe digital learning environment (mean = 2.82), and tracking teachers' adherence to lesson schedules (mean = 2.98).

Furthermore, the mean scores suggest that teachers rate the influence of GoGuardian higher than principals, with teachers giving higher ratings on all items except for "monitoring classroom activities remotely" where principals rated it slightly higher. The grand means for principals and teachers are 3.00 and 3.11, respectively, with an overall average grand mean of 3.06. This indicates that the GoGuardian application influences school supervision in public secondary schools in Rivers State, with teachers perceiving a higher level of influence than principals.

Test for Hypotheses

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

1: There is no significant difference in the mean ratings of principals and teachers on the extent the Teachmint application influences school supervision in public secondary schools in Rivers State.

Table 4: Summary of t-test on the difference in the mean ratings of principals and teachers on the extent the Teachmint application influences school supervision in public secondary schools in Rivers State.

Status	N	Mean	Std. Dev.	Df	t-cal	t-crit	Sig. t	Decision
Principals	233	3.01	0.72	597	0.44	1.96	0.679	Not Significant
Teachers	366	3.11	0.97					

From Table 7 above, it is observed that the t-calculated value (0.44) is less than the t-critical value (1.96), using 597 degrees of freedom at the 0.05 level of significance. Since the t-calculated is less than the t-critical, the null hypothesis is accepted. This indicates that there is no significant difference in the mean ratings of principals and teachers on the extent to which the Teachmint application influences school supervision in public secondary schools in Rivers State. Both principals and teachers have similar views on how the Teachmint application impacts school supervision, as the difference in their ratings is not statistically significant.

2: There is no significant difference in the mean ratings of principals and teachers on the extent the ClassDojo application influences school supervision in public secondary schools in Rivers State.

Table 5: Summary of t-test on the difference in the mean ratings of principals and teachers on the extent the ClassDojo application influences school supervision in public secondary schools in Rivers State.

Status	N	Mean	Std. Dev.	Df	t-cal	t-crit	Sig. t	Decision
Principals	233	3.00	0.78	597	-0.62	1.96	0.537	Not Significant
Teachers	366	3.08	0.97					

From Table 5 above, it is observed that the t-calculated value (-0.62) is less than the t-critical value (1.96), using 597 degrees of freedom at the 0.05 level of significance. Since the t-calculated is less than the t-critical, the null hypothesis is accepted. This indicates that there is no significant difference in the mean ratings of principals and teachers on the extent to which the ClassDojo application influences school supervision in public secondary schools in Rivers State. Both principals and teachers have similar views on how the ClassDojo application impacts school supervision, as the difference in their ratings is not statistically significant.

3: There is no significant difference in the mean ratings of principals and teachers on the extent the GoGuardian application influences school supervision in public secondary schools in Rivers State.

Table 6: Summary of t-test on the difference in the mean ratings of principals and teachers on the extent the GoGuardian application influences school supervision in public secondary schools in Rivers State.

Status	N	Mean	Std. Dev.	Df	t-cal	t-crit	Sig. t	Decision
Principals	233	3.00	0.72	597	0.00	1.96	0.999	Not Significant
Teachers	366	3.11	0.97					

From Table 6 above, it is observed that the t-calculated value (0.00) is less than the t-critical value (1.96), using 597 degrees of freedom at the 0.05 level of significance. Since the t-calculated is less than the t-critical, the null hypothesis is accepted. This indicates that there is no significant difference in the mean ratings of principals and teachers on the extent to which the GoGuardian application influences school supervision in public secondary schools in Rivers State. Both principals and teachers have similar views on how the GoGuardian application impacts school supervision, as the difference in their ratings is not statistically significant.

Discussion of Findings

Extent Teachmint Application Influences School Supervision in Public Secondary Schools in Rivers State

The results of this study show that the Teachmint application has a strong influence on school supervision in public secondary schools in Rivers State. The overall mean score was 3.06, with principals rating it 3.01 and teachers rating it 3.11. This means both groups agree that Teachmint helps improve school supervision, although teachers see its benefits a little more.

This agrees with the findings of Ayeni and Olusola (2020), who explained that digital tools like Teachmint help supervisors monitor teachers in real time and improve communication between supervisors and teachers. They also pointed out that features such as tracking teacher attendance and giving immediate feedback are important for better supervision. This matches our findings where items like monitoring attendance scored highly.

Also, the test for difference between principals' and teachers' views showed no significant difference (t = 0.44, p = 0.679). This means both groups have similar opinions about how Teachmint affects supervision. Eze et al. (2021) made a similar point that when digital tools are introduced in schools and they help improve work, both teachers and principals usually accept them. The fact that teachers gave slightly higher ratings may be because they use the app more in their daily work. Ajayi (2022) also found that teachers often see more benefits from educational technologies because they interact with students directly and use these tools for planning and resource sharing. This could explain why teachers appreciate Teachmint more.

From a Nigerian perspective, Owolabi (2019) emphasized that new technologies that are easy to use and fit well with existing school activities are more likely to be accepted by school staff. Teachmint seems to meet these conditions, making it popular among both principals and teachers.

In conclusion, Teachmint is seen as a useful tool that improves how school supervision is done in Rivers State. Both principals and teachers agree on its positive impact. Future studies can look at how Teachmint continues to affect supervision over time and what challenges might stop some schools from using it fully.

Extent ClassDojo Application Influences School Supervision in Public Secondary Schools in Rivers State

The study also examined how ClassDojo influences school supervision. The findings showed a positive effect, with principals having a mean score of 3.05 and teachers 3.12, giving an overall mean of 3.09. This indicates that both groups believe ClassDojo helps improve supervision, especially in managing student behavior and communication. This supports the view of Okeke and Nwosu (2020), who found that ClassDojo is useful in helping supervisors and teachers to track student behavior and improve parent-teacher communication. Their study emphasized that ClassDojo's real-time reporting features assist supervisors in making quick decisions during classroom visits.

Furthermore, the study found no significant difference in the perceptions of principals and teachers (t = 0.53, p = 0.60), showing that both stakeholders have similar opinions about the influence of ClassDojo on supervision. This is similar to what Eze et al. (2021) reported regarding digital tools gaining wide acceptance when they improve work processes in Nigerian schools.

Chukwuemeka (2021) also noted that teachers in Nigerian schools value applications that enhance communication with parents and allow better monitoring of student progress. Since ClassDojo provides these features, it is understandable why both principals and teachers view it positively. ClassDojo plays an important role in improving school supervision in Rivers State. Both principals and teachers agree on its usefulness, especially in areas of student management and communication. Future research could explore how ClassDojo affects long-term student outcomes as part of supervisory processes.

Extent GoGuardian Application Influences School Supervision in Public Secondary Schools in Rivers State

In examining the GoGuardian application, the findings in Table.3 indicate that both principals and teachers perceive it to have a significant impact on school supervision, with grand mean scores of 3.00 for principals and 3.11 for teachers. The overall grand mean of 3.06 shows a general positive perception of GoGuardian's influence on school supervision. Items such as monitoring classroom activities remotely (mean = 3.15) and providing reports on student device usage (mean = 3.34) were rated highly by both groups.

These results resonate with the findings of Alhaji and Rabiu (2020), who observed that tools like GoGuardian enhance the ability of school administrators to oversee classroom activities and track digital device usage, which are critical components of modern educational supervision. Furthermore, the application's role in ensuring a safe digital learning environment, as evidenced by the ratings for "ensuring a safe digital learning environment" (mean = 2.82), emphasizes its importance in maintaining safe and productive learning environments. The hypothesis tested in Table 4.9 confirmed that there is no significant difference between the mean ratings of principals and teachers on the extent to which GoGuardian influences school supervision. The t-calculated value of 0.00 and a significance level of 0.999 strongly suggest that both principals and teachers have similar views on the effectiveness of GoGuardian in enhancing school supervision.

Conclusion

Based on the study, it was concluded that the integration of Artificial Intelligence (AI) applications significantly enhances school supervision in public secondary schools in Rivers State. AI-driven platforms, including Teachmint, ClassDojo and GoGuardian , have been found to improve teacher performance monitoring, administrative efficiency, classroom management, and communication between school stakeholders. The corresponding hypotheses revealed no significant difference in the perceptions of school principals and teachers regarding the effectiveness of these AI applications in enhancing the supervision process. Despite challenges such as limited technological infrastructure, resistance to change, and privacy concerns, the study underscores the potential of AI to revolutionize school supervision practices, offering a more efficient and data-driven approach to improving educational outcomes.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. School administrators should enhance the integration of the Teachmint application in school supervision practices. Administrators should ensure that all teachers and principals are fully trained to utilize its features, such as performance tracking, digital attendance, and lesson management, to monitor classroom activities effectively.
2. School administrators should prioritize the use of the ClassDojo application to improve school supervision. Since Administrators should encourage its use across all classrooms. Regular training should be provided to ensure that teachers effectively utilize the platform's features, including tracking student behavior, academic progress, and fostering communication between teachers, parents, and school leaders.
3. School administrators should expand the use of the GoGuardian application for monitoring digital activities. Administrators should ensure that GoGuardian is utilized to its full potential for overseeing student internet usage during school hours.

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