PROSPECTS OF INTELLIGENCE-BASED INITIATIVES FOR ATTAINING SAFE SCHOOL INITIATIVES IN IKWERRE LOCAL GOVERNMENT AREA, RIVERS STATE

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Abstract

The study examined the prospects of intelligence-based initiatives for attaining safe school initiatives in Ikwerre Local Government Area, Rivers State. To achieve this, four (4) objectives that transformed to 4 research questions and their corresponding four hypotheses were formulated to guide the study. The study adopted the descriptive survey design. The population of this study comprised the principals, teachers, students, community leaders, and security officers in Ikwerre Local Government Area. A sample of 200 respondents (comprising 10 principals, 50 teachers, 100 students, 30 community leaders, and 10 local security officers) participated using a six-phased sampling procedure. A 30-item self-structured instrument titled "Intelligence-Based Safety Prospects for Attaining School Safety Questionnaire (IBSPASSQ) with a reliability coefficient of 0.875 necessitated its use to collect data, analyzed using mean and standard deviation (with a criterion mean cut off of 2.5) to answer the research questions, while Analysis of Variance (ANOVA) was used to test the hypotheses at 0.05 level of significance. The study revealed grand mean scores ranging from 3.72, and 3.73, indicating that the perceived effectiveness and feasibility of integrating intelligence-based initiatives into the existing school safety infrastructure in Ikwerre Local Government Area. The study also revealed p-values of 0.004, and 0.003, indicating that actionable strategies or policies for integrating intelligence-based technologies significantly enhanced school safety in Ikwerre Local Government Area. The study recommended, among others, that government and corporate organizations should partner to reform policies that

support increased investment in infrastructure, stable power, training, and digital literacy that will ease the adoption of intelligence-based safety technologies in schools.

Keywords:

Safe School Initiative, Community Intelligence, Drone Surveillance, AI Alerts, CCTV, IOT Devices, Predictive Analytics, School Safety.

Introduction

In recent years, the need to foster a safe and conducive learning environment in Nigerian schools has become increasingly urgent, especially in areas vulnerable to social unrest, insecurity, and infrastructural decay. Intelligence-based initiatives present promising prospects for actualizing the goals of the Safe School Initiative (SSI), which is a national effort aimed at protecting students, teachers, and school infrastructure from violence and hazards that can impede the smooth and continued conduct of schooling processes at any given time. Given this, studies by (Adieme & Oliobi, 2024; Osegbue, Okeke & Obikwelu, 2025a) stated that Intelligence-Based Initiatives (IBIs) involve the use of data, advanced analytics, and technologies, like artificial intelligence (AI), predictive modeling, the Internet of Things (IoT), crisis intelligence systems, and community intelligence policing to proactively identify and mitigate potential threats while enhancing resilience in educational environments. Unlike traditional reactive security approaches, IBIs adopt a forward-looking, data-informed strategy for anticipating and managing risks.

One of the key prospects of intelligence-based initiatives lies in the deployment of surveillance systems powered by Artificial Intelligence (AI) for real-time monitoring of school premises. Smart cameras equipped with facial recognition, motion sensors, and threat detection capabilities can help security personnel respond swiftly to unauthorized access, bullying, or potential violence. In a context like Ikwerre Local Government Area, where some schools are located in semi-urban and rural settings prone to community disturbances, such technology can serve as a critical deterrent to intrusions and criminal activity. Thus, integrating advanced technologies and data-driven strategies into school safety tends to enhance stakeholders, like government, educators, communities, and corporate organizations, responsiveness, resilience, and sustainability of educational institutions in any area.

The Safe School Initiative (SSI), introduced nationally in Nigeria in 2014, has sought to create secure environments for learning. However, implementation has often faltered due to funding shortages, weak monitoring, and stakeholder disengagement, limiting its impact on human security in schools (Ogunode, Ayeni, & Adebayo, 2024). Against this backdrop, intelligence-based initiatives, encompassing AI, IoT, predictive analytics, and data-informed

crisis management, offer a transformative opportunity to enhance the efficacy of SSI in contexts like Ikwerre Local Government Area of Rivers State.

Intelligence-based systems can streamline communication during emergencies through mobile alert systems, SMS broadcasting, and automated crisis response platforms. These tools ensure rapid dissemination of safety instructions to students, staff, parents, and local authorities, thereby minimizing panic and improving coordination (Ogunode et al., 2024). Osegbue, Okeke and Obikwelu(2025b) introduced the Crisis Intelligence for Resilient Education (CIRE) model, which integrates AI into crisis planning by enabling proactive risk assessment, early warning alerts, and psychological support plans for leadership. This model aids emergency decision-making and enhances preparedness within school leadership teams.

With increasing mobile penetration in Nigeria, the integration, domestication or adaptation of such digital tools, models, and systems into school operational, emergency, and safety plans would be considered timely, feasible, and effective in the 21st century. Corroborating this view, Osegbue et al. (2025a) assert that integrating or adapting digital tools, models and systems to local realities, such as flood, communal disruption, banditry, or internal violence can enable and enhance the resilience and proactiveness of educational stakeholders to detect threats early, set-up mediations and coordinate leadership responses across sectors, against issues that hamper's the safety and smooth operations of schools in an area, including Ikwerre Local Government Area.

A major opportunity presented by intelligence-based initiatives is in predictive analytics. By analyzing historical data on school incidents, absenteeism, and neighborhood crime patterns, AI algorithms can help school administrators and policymakers identify risk-prone areas and design proactive intervention strategies (Adeyemi & Ogunlade, 2024). This kind of data intelligence supports evidence-based decision-making, enabling more efficient resource allocation, such as deploying security personnel to high-risk zones or scheduling safety drills in vulnerable schools. Also, intelligence-based initiatives offer immense potential for capacity building among educators and security officers. Digital platforms can be used to deliver continuous training on safety protocols, conflict resolution, and psychological first aid.

Intelligence-based initiatives can support Safe School efforts through real-time surveillance, predictive resource allocation, and AI-driven crisis response (Ishola & Edem, 2023). These tools enhance security, resilience, decision-making, and shared responsibility among government, educators, parents, and communities to legitimately and collaboratively initiate strategies to create a safer, more responsive, sustainable, and community-backed educational environment (Adeyemi & Ogunlade, 2024). However, the full realization of these prospects requires strong political will, stakeholder collaboration, and investment in digital infrastructure, as well as addressing power supply, internet connectivity, and digital literacy gaps in underserved schools.

Owolabi and Orhewere's (2021) study in Lagos State found that while many schools had basic security apparatus, they lacked structured training and disaster committees, including absence of emergency management curricula, and students often did not know how to use security tools when disasters struck. In this light, Osegbue et al. (2025) emphasized that integrating intelligent systems alone is insufficient unless paired with human intelligence gathering, institutional capacity-building, continuous training, clearly constituted safety teams, updateable curricula, and hands-on drills.On a broader scale, national studies emphasize the effectiveness of human and community-driven intelligence-led policing helps to advocate for early-warning protocols, preventive reconnaissance activities, and swift law enforcement to mitigate school attacks, usurpation, and disruptions (Kaalu, 2022).

To this end, intelligence-led policing and community collaboration could become an ideal response and strategy towards attaining school safety in society. Kaalu (2022) reiterated that local community and security agencies'collaboration with schools would lead to adopting protocols or procedures to monitor local threats and integrate alerts,among other interventions,into school safety frameworks. This standpoint strengthens the human capacity component of safe school implementation, which ensures that school staff and host community members are not only vigilant but also equipped to respond to diverse threats, including mental health crises among learners.

Evidence from Taraba State and Kafanchan (Kaduna State) shows that IoT-enabled smart surveillance reduces intrusions, improves detection, and triggers immediate alerts for security personnel to enhance security in secondary schools (Kaalu, 2022). This approach could be implemented towards deterring vandalism or unauthorized entry, and perimeter security in in secondary schools in Ikwerre Local Government Area. The deployment of intelligence-based safety systems faces challenges, like poor power supply, weak internet, lack of technical training, limited funding, and poor AI surveillance, including data privacy, ethical and policy issues (Ogunode et al., 2024).

From the foregoing, effectively implementing intelligence-based policy initiatives requires coordinated efforts and targeted interventions among stakeholders to address funding, infrastructural, ethical, and policy issues to bridge existing safety gaps andcreate a secure learning environment that supports the academic, emotional, and physical well-being of students in Ikwerre Local Government Area. In summary, intelligence-based initiatives offer a transformative approach to achieving Safe School goals in Ikwerre Local Government Area by integrating surveillance, emergency systems, analytics, and training. These efforts enhance school safety, support educational development, and provide a replicable model for other LGAs facing similar challenges in Nigeria. This forms the core of the study.

Statement of the Problem

Insecurity in Nigerian schools is rising, exposing students and infrastructure to cultism, vandalism, kidnapping, and violence. In Ikwerre Local Government Area, safety policy implementation remains weak, with inadequate security structures, untrained personnel, and

poor emergency preparedness, leaving schools vulnerable to multiple physical and psychological threats. Traditional safety methods like fencing and gatekeeping that have hitherto been used in schools are reactive and limited. In this light, intelligence-based initiatives (IBIs), using AI, IoT, and predictive analytics, offer proactive alternatives, enabling early warnings, risk detection, and effective crisis response, especially vital for vulnerable school communities. However, infrastructure constraints, technical capacity, data privacy and ethics, among others, tend to challenge the prospects of intelligence-based initiatives

Another problem is that intelligence-based initiatives (IBIs) are still emerging in Nigeria, with little local data on their effectiveness. In Ikwerre, infrastructure deficits, low digital literacy, and weak stakeholder engagement hinder adoption. Their integration with existing Safe School frameworks remains unclear and largely underexplored. Given these challenges, there's an urgent need to examine how intelligence-based initiatives can support Safe School goals in Ikwerre Local Government Area, Rivers State.

Aim and Objectives of the Study

This study aims to examine prospects of intelligence-based initiatives for attaining safe school initiatives in Ikwerre Local Government Area, Rivers State, Nigeria. The objectives of the study are to:

1. identify the intelligence-based technologies that can be integrated to enhance school safety in Ikwerre Local Government Area.
2. examine the perceived effectiveness and feasibility of integrating intelligence-based initiatives into the existing school safety infrastructure in Ikwerre Local Government Area.
3. determine the key challenges and barriers against the successful adoption of intelligence-based technologies for attaining safe school initiatives in Ikwerre Local Government Area.
4. propose actionable strategies or policies for incorporating intelligence-based approaches that can be implemented locally to attain secure, inclusive, and resilient educational environments in Ikwerre Local Government Area.

Hypotheses

The following hypotheses were tested at the 0.05 level of significance.

H_{O1}: There is no significant difference in the respondents' mean response on the intelligence-based technologies that can be integrated to enhance school safety in Ikwerre Local Government Area.

H_{O2}: There is no significant difference in the respondents' mean response on the perceived effectiveness and feasibility of integrating intelligence-based initiatives into the existing school safety infrastructure in Ikwerre Local Government Area.

H_{O3}: There is no significant difference in the respondents' mean response on the key challenges and barriers against the successful adoption of intelligence-based technologies for attaining safe school initiatives in Ikwerre Local Government Area.

H$_{O4}$: There is no significant difference in the respondents' mean response on the actionable strategies or policies for incorporating intelligence-based approaches that can be implemented locally to attain secure, inclusive, and resilient educational environments in Ikwerre Local Government Area.

Literature Review

Conceptual Review

Intelligence- Based Initiatives: Intelligence-Based Initiatives (IBIs) refer to strategies that harness data, analytics, and technology, such as AI, predictive modeling, IoT, and crisis intelligence platforms, to proactively prevent threats and bolster resilience in educational settings. These initiatives move beyond reactive security measures to create data-driven, anticipatory mechanisms for managing risks (Adieme & Oliobi, 2024; Osegbue et al., 2025).

In the Nigerian context, these initiatives offer multiple avenues for strengthening school safety:

i. **Risk assessment and early warning:** By analyzing incident trends, student attendance, and environmental data, IBIs help predict where vulnerabilities lie and trigger alerts for precautionary measures (Osegbue et al., 2025).

ii. **Surveillance and IoT integration:** Networked sensors, biometric access, and smart cameras allow real-time monitoring and immediate response to unauthorized access or emergencies (Adieme & Oliobi, 2024).

iii. **Capacity building through digital training platforms:** Intelligence-based initiatives (IBIs) often include tools for continuous training of school staff and administrators in crisis protocols and security technologies (Osegbue et al., 2025).

The prospects of these initiatives are substantial: they leverage existing digital expansion in Nigeria (e.g., mobile connectivity and growing AI expertise) and support scalable, evidence-based, and cost-effective interventions for school safety.

Safe School Initiatives: The Safe School Initiative (SSI) was launched in Nigeria in 2014 with support from UNESCO, UNICEF, and other partners, to protect education spaces from violence and improve learning continuity (Ogunode et al., 2024). The objectives of the safe school initiatives (SSIs) include enhancing physical infrastructure, psychosocial support, safety training, and stakeholder coordination at multiple levels (Federal, state, community).

Scholarly evaluations of SSI reveal both impact and persistent challenges:

i. In North-East Nigeria, the SSI programme has positively influenced the academic performance and social behaviour of students affected by insurgency. Victims showed reduced disruptive activities and improved engagement in school contexts (Chinwuba et al., 2024; Chinwuba, Adikwu & Usman, 2025).

ii. A national-level assessment underscores systemic weaknesses hindering SSI's effectiveness, such as inadequate funding, poor inter-governmental coordination, weak monitoring and evaluation, and lack of political commitment, leading to inconsistent impact across regions (Ogunode et al., 2022; Ogunode et al., 2024).

Efforts to strengthen SSI have recommended clearer role definitions, enhanced stakeholder involvement, and institutional capacity-building to sustain gains in school safety.

Intersection of Intelligence-Based Initiatives (IBIs) and Safe School Initiatives (SSI)
Although IBIs and SSI originate from distinct conceptual traditions, one technology-driven and proactive, the other programmatic and humanitarian, they share overlapping goals: ensuring safe, equitable, and secure schooling (Chinwuba et al., 2024). Given this, recent literature (Ogunode et al., 2022; Ogunode et al., 2024; Chinwuba et al., 2025; Osegbue et al., 2025), suggests that embedding IBIs within the SSI framework can amplify impact by:

1. Facilitating stakeholder collaboration: digital platforms and data intelligence support coordination between schools, local authorities, parent bodies, law enforcement, and communities (building on SSI's emphasis on multi-stakeholder engagement).
2. Improving monitoring and evaluation of safety interventions, enhancing data transparency and accountability (addressing weak SSI implementation).
3. Enabling early-warning systems that operationalize SSI's crisis preparedness and psychosocial support components through predictive alerts and surveillance.

Theoretical Framework

The Situational Crime Prevention (SCP) Theory was used to lay foundation to this study.

Situational Crime Prevention (SCP) Theory: The Situational Crime Prevention (SCP) Theory emphasizes reducing opportunities for crime through proactive environmental and systemic interventions. Originally developed by Clarke (1980), SCP posits that crime can be deterred by increasing the perceived risk of detection, reducing rewards for criminal behaviour, and making it more difficult to carry out unlawful acts. This theory has been widely applied in school safety research to explain how surveillance systems, access control, and monitoring protocols can help prevent violence and insecurity in schools (Gottfredson et al., 2022).

In the context of this study on the Prospects of Intelligence-Based Initiatives (IBIs) for Attaining Safe School Initiatives (SSI) in Ikwerre Local Government Area, SCP theory provides a strong conceptual foundation. Intelligence-based tools, such as AI-driven threat detection, predictive analytics, and smart surveillance, align directly with the SCP objective of preemptively reducing risk by detecting and deterring threats before they escalate. According to Adegboyega and Olanrewaju (2023), the use of intelligence systems in Nigerian schools has shown potential for enhancing situational awareness and enabling faster, more informed responses to safety threats. Similarly, Osegbue et al. (2025) argue that integrating IBIs into the existing Safe School Initiative framework can strengthen institutional capacity for monitoring, early warning, and rapid intervention.

Furthermore, **Situational Crime Prevention (SCP) Theory** aligns with the operational logic of Intelligence-Based Initiatives (IBIs) by emphasizing real-time responsiveness, deterrence, and targeted interventions. In volatile educational environments, such as those in parts of

Rivers State affected by community violence, cultism, and vandalism, IBIs offer tools to enforce SCP principles through data-driven risk assessments, geospatial mapping of threats, and automated alerts for unusual activities (Okafor & Ibe, 2024). These tools help school authorities and local governments act swiftly to prevent incidents, thereby creating an environment where crime is not only harder to commit but also more likely to be detected. Therefore, SCP theory is highly relevant to this study as it helps explain how technological interventions grounded in intelligence gathering and risk analysis can be systematically employed to reduce vulnerabilities and promote safer school environments in local contexts like Ikwerre Local Government Area.

Methodology

Research Design: This study adopts a descriptive survey research design to examine the prospects of Intelligence-Based Initiatives (IBIs) for achieving Safe School Initiatives (SSI) in Ikwerre Local Government Area (LGA) of Rivers State. The design is appropriate as it enables the researcher to collect data from a cross-section of stakeholders and analyze their perceptions, experiences, and readiness regarding the adoption of IBIs in educational safety.

Area of the Study: The area of the study is Ikwerre Local Government Area, located in the northwestern part of Rivers State, Nigeria. Ikwerre LGA is one of the 23 local government areas in the state and is characterized by a mix of urban and semi-rural communities. It is home to several public and private secondary schools, many of which face security challenges such as cultism, vandalism, unauthorized access, and occasional community-related disturbances. The area's socio-cultural diversity and proximity to Port Harcourt make it a strategic location for examining the application of intelligence-driven safety mechanisms in educational settings.

Population of the Study: The target population comprises principals, teachers, and students at the senior secondary level, including community leaders, and security personnel in Ikwerre Local Government Area. These groups are considered critical stakeholders in the planning, implementation, and sustainability of safe school strategies.

Sample and Sampling Technique: A sample size of 200 respondents were selected using a four-phased multistage sampling technique. First, schools were stratified based on ownership (public vs. private). Then, purposive sampling was used to select 10 secondary schools (5 public and 5 private) known to have experienced security-related issues in the past three years. Secondly, 10 principals were purposively selected (1 per school) from the 10 sampled secondary schools. In the third, 50 teachers were randomly selected (5 per school) from the 10 sampled secondary schools. Fourthly, 100 students were randomly selected (10 per school) from the 10 sampled secondary schools. In the fifth phase, 30 community leaders were selected from the study. While in the sixth and final phase, random sampling technique was used to select 10 Police Officers (5 each) from the Divisional Headquarters, and Area Command of the Nigerian Police Force (NPF). Overall, this constituted a sample of 200

respondents comprising 10 principals, 50 teachers, 100 students, 30 community leaders, and 10 local security officers.

Instrument for Data Collection: The main instrument for data collection was a self-structured 30-item questionnaire titled "Intelligence-Based Safety Prospects for Attaining School Safety Questionnaire (IBSPASSQ). The IBSPASSQ instrument consist of three (3) sections. Section A elicited the demographic variables of the respondents, Section B elicited variables on intelligence-based initiatives for school safety, while Section C elicited items on school safety.

Validity of the Instrument: The face and content validationof the IBSPASSQ instrument by two experts(1 in Foundations and Arts Education, and Security Studies). These validates were presented with the topic, objectives and research questions including the items in the questionnaire for their perusal, review and scrutiny of the clarity of language, readability of wordings and eligibility of the items in the IBSPASSQ instrument to appropriately measure what it purports to measure. Thereafter, the informed comments, suggestions, and views that were expressed by these validates was integrated towards modifying or improving the quality, accuracy, correctness of the final version of the IBSPASSQ instrument that was administered to the respondents (i.e., principals, teachers, students, community leaders, and local security officers).

Reliability of the Instrument: To determine reliability, a pilot test was conducted in Emohua Local Government Area (a neighbouring area) involving 50 respondents (comprising 5 principals, 10 teachers, 20 students, 10 community leaders, and 5 local security officers).Then 50 copies of the IBSPASSQ instrument was administered to these principals, teachers, students, community leaders, and local security officers) and upon completion of their responses, the copies of the IBSPASSQ instrument were retrieved. The data collected from the 50 copies of the IBSPASSQ instrument that was administered to these respondents was analyzed using Cronbach's Alpha (r_a)method to obtain a reliability coefficient of 0.875,which was considered appropriate and acceptable for internal consistency.

Method of Data Collection: Data was collected over a period of three weeks by the researcher with two (2) other research assistants. The 200 copies of the IBSPASSQ instrument or questionnaires were administered personally by the researcher and two trained research assistants to the respondents, comprising 10 principals, 50 teachers, 100 students, 30 community leaders, and 10 local security officers in Ikwerre Local Government Area (i.e., the study area). Out of the 200 copies of the IBSPASSQ instrument that was administered to the respondents, only 183 (representing approximately 92% return rate) were valid copies retrieved and used for the subsequent data analysis.

Method of Data Analysis: Quantitative data from the IBSPASSQ instrument or questionnaire was analyzed using descriptive statistics (means, and standard deviation) to answer the research questions. While the inferential statistics, like Analysis of Variance (ANOVA), was employed to determine differences in responses across respondents category or groups.

Results

Research Question 1: What are the intelligence-based technologies that can be integrated to enhance school safety in Ikwerre Local Government Area?

Table 1: Mean and standard deviation on the intelligence-based technologies that can be integrated to enhance school safety in Ikwerre Local Government Area

S/N	The intelligence-based technologies integrated to enhance school safety in Ikwerre LGA include:	N = 183 Mean	SD	Decision
1	Video surveillance (CCTV) systems like Analog CCTV camera, Dome cameras, etc.	3.72	.49	**SA**
2	Predictive analytics	3.69	.52	**SA**
3	AI-driven alert mechanisms	3.74	.46	**SA**
4	Aerial and satellite surveillance like Drone surveillance	3.77	.44	**SA**
5	IoT devices within public and private schools in the area	3.75	.45	**SA**
6	Community-driven intelligence strategy	3.78	.43	**SA**
Grand Mean		**3.74**	**0.47**	**SA**

SA (Strongly Agree) = ≥ 2.50 while SD (Strongly Disagree) < 2.50.

Table 1 shows that the mean rating and standard deviation on the intelligence-based technologies that can be integrated to enhance school safety in Ikwerre Local Government Area include: community-driven intelligence strategy ($\bar{x}$ =3.78) in item 6, aerial and satellite surveillance like Drone surveillance ($\bar{x}$ =3.77) in item 4, IoT devices within public and private schools in the area ($\bar{x}$ =3.75) in item 5, AI-driven alert mechanisms ($\bar{x}$ =3.74) in item 3, video surveillance (CCTV) systems like Analog CCTV camera, Dome cameras, etc.($\bar{x}$ =3.72) in item 1, while the least was predictive analytics ($\bar{x}$ =3.69) in item 2. Furthermore, the grand mean score of 3.74 indicates that items 1-6 relate to the intelligence-based technologies that can be integrated to enhance school safety in Ikwerre Local Government Area.

Research Question 2: What is the perceived effectiveness and feasibility of integrating intelligence-based initiatives into the existing school safety infrastructure in Ikwerre LGA?

Table 2: Mean and standard deviation on the perceived effectiveness and feasibility of integrating intelligence-based initiatives into the existing school safety infrastructurein Ikwerre Local Government Area

S/N	The perceived effectiveness and feasibility of integrating intelligence-based initiatives into existing school safety infrastructurein Ikwerre LGAinclude:	N = 183 Mean	SD	Decision
1	Improve crisis response	3.74	.48	**SA**
2	Threat detection that enhance student protection	3.69	.53	**SA**
3	Enhancing early-warning systems	3.70	.53	**SA**
4	Improving situational awareness among educational stakeholders like teachers, administrators, students, etc.	3.75	.47	**SA**

5	Strengthening institutional response capacity	3.71	.50	**SA**
6	Minimizing security risks within school environments	3.73	.49	**SA**
Grand Mean		**3.72**	**0.50**	**SA**

SA (Strongly Agree) = ≥ 2.50 while SD (Strongly Disagree) < 2.50.

Table 2 shows that the mean rating and standard deviation on the perceived effectiveness and feasibility of integrating intelligence-based initiatives into the existing school safety infrastructure in Ikwerre Local Government Area include: improving situational awareness among educational stakeholders like teachers, administrators, students, etc. ($\bar{x}$ =3.75) in item 4, improve crisis response ($\bar{x}$ =3.74) in item 1, minimizing security risks within school environments ($\bar{x}$ =3.73) in item 6, strengthening institutional response capacity($\bar{x}$ =3.71) in item 5, enhancing early-warning systems ($\bar{x}$ =3.70) in item 3, while the least was threat detection that enhance student protection ($\bar{x}$ =3.69) in item 2. Furthermore, the grand mean score of 3.72 indicates that items 1-6 relate to the perceived effectiveness and feasibility of integrating intelligence-based initiatives into the existing school safety infrastructure in Ikwerre Local Government Area.

Research Question 3: What are the key challenges and barriers against the successful adoption of intelligence-based technologies for attaining safe school initiatives in Ikwerre Local Government Area?

Table 3: Mean and standard deviation on the key challenges and barriers against the successful adoption of intelligence-based technologies for attaining safe school initiatives in Ikwerre Local Government Area

S/N	The key challenges and barriers against the successful adoption of intelligence-based technologies for attaining safe school initiatives in Ikwerre Local Government Area include:	N = 183		Decision
		Mean	**SD**	
1	Infrastructural limitations	3.72	.49	**SA**
2	Epileptic power supply	3.78	.44	**SA**
3	Funding constraints	3.75	.46	**SA**
4	Shortage of trained technology professionals	3.68	.51	**SA**
5	Digital literacy	3.71	.49	**SA**
6	Policy gaps that hinder the successful adoption of intelligence-based safety solutions in schools	3.73	.46	**SA**
Grand Mean		**3.73**	**0.48**	**SA**

SA (Strongly Agree) = ≥ 2.50 while SD (Strongly Disagree) < 2.50.

Table 3 shows that the mean rating and standard deviation on the key challenges and barriers against the successful adoption of intelligence-based technologies for attaining safe school initiatives in Ikwerre Local Government Area include: epileptic power supply ($\bar{x}$ =3.78) in item 2, funding constraints ($\bar{x}$ =3.75) in item 3, policy gaps that hinder the successful adoption of intelligence-based safety solutions in schools ($\bar{x}$ =3.73) in item 6, infrastructural limitations ($\bar{x}$ =3.72) in item 1, digital literacy ($\bar{x}$ =3.71) in item 5, while the least was

shortage of trained technology professionals ($\bar{\bar{x}}$ =3.68) in item 4. Furthermore, the grand mean score of 3.73 indicates that items 1-6 relate to the key challenges and barriers against the successful adoption of intelligence-based technologies for attaining safe school initiatives in Ikwerre Local Government Area.

Research Question 4: What actionable strategies or policies for incorporating intelligence-based approaches that can be implemented locally to attain secure, inclusive, and resilient educational environments in Ikwerre Local Government Area?

Table 4: Mean and standard deviation on actionable strategies or policies for incorporating intelligence-based approaches that can be implemented locally to attain secure, inclusive, and resilient educational environments in Ikwerre Local Government Area

S/N	The perceived effectiveness and feasibility of integrating intelligence-based initiatives into the existing school safety infrastructure in Ikwerre Local Government Area include:	N = 183 Mean	SD	Decision
1	Installing AI-powered CCTV with facial recognition and motion sensors to detect threats, prevent intrusions, and ensure school safety	3.76	.48	**SA**
2	Establish a security operatives command center at the LGA office to monitor school feeds, track alerts, and coordinate quick emergency responses	3.78	.47	**SA**
3	Encouraging community-driven security surveillance and policing system	3.79	.44	**SA**
4	Conduct cyber safety and digital ethics training to equip educators, staff, students and community members with skills for responsible and secure tech use	3.77	.46	**SA**
5	Implement IoT-based emergency alert systems (panic buttons, smart alarms) in classrooms and offices linked to local emergency responders for rapid reaction to crises (e.g., fire, kidnapping, conflict)	3.75	.49	**SA**
6	Using analytics to assess threats, monitor trends, and guide policies on infrastructure, teacher deployment, and student support services	3.70	.50	**SA**
Grand Mean		**3.76**	**0.47**	**SA**

SA (Strongly Agree) = ≥ 2.50 while SD (Strongly Disagree) < 2.50.

Table 4 shows that the mean rating and standard deviation on the actionable strategies or policies for incorporating intelligence-based approaches that can be implemented locally to attain secure, inclusive, and resilient educational environments in Ikwerre Local Government Area include: encouraging community-driven security surveillance and policing system ($\bar{x}$ =3.79) in item 3, establish a security operatives command center at the LGA office to monitor school feeds, track alerts, and coordinate quick emergency responses ($\bar{x}$ =3.78) in item 2, conduct cyber safety and digital ethics training to equip educators, staff, students and

community members with skills for responsible and secure tech use ($\bar{x}$ =3.77) in item 4, installing AI-powered CCTV with facial recognition and motion sensors to detect threats, prevent intrusions, and ensure school safety ($\bar{x}$ =3.76) in item 1, implement IoT-based emergency alert systems (panic buttons, smart alarms) in classrooms and offices linked to local emergency responders for rapid reaction to crises (e.g., fire, kidnapping, conflict) ($\bar{x}$ =3.75) in item 5, while the least was using analytics to assess threats, monitor trends, and guide policies on infrastructure, teacher deployment, and student support services ($\bar{x}$ =3.70) in item 6. Furthermore, the grand mean score of 3.76 indicates that items 1-6 relate to the actionable strategies or policies for incorporating intelligence-based approaches that can be implemented locally to attain secure, inclusive, and resilient educational environments in Ikwerre Local Government Area.

Hypothesis 1: There is no significant difference in the respondents' mean response on the intelligence-based technologies that can be integrated to enhance school safety in Ikwerre Local Government Area.

Table 5: Summary of Analysis of Variance (ANOVA) on the difference in the respondents' (principals, teachers, students, community leaders, and security officers) mean response on the intelligence-based technologies that can be integrated to enhance school safety in Ikwerre Local Government Area

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.	Decision
Between Groups	2.062	2	.339	7.260	.003	S
Within Groups	26.836	180	.061			
Total	**28.898**	**182**				

Decision Rule: *if p<.05 reject H$_o$, else retain H$_o$. NS= Not Significant, p>.05, S= significant, p<.05*
Source: *SPSS Output*, **2025.**

Table 5 shows that category of the respondents (principals, teachers, students, community leaders, and security officers) has significant influence on the intelligence-based technologies that can be integrated to enhance school safety in Ikwerre Local Government Area (F2, 180=.003, p<.05). The null hypothesis was rejected. This indicated that the category of the respondents influenced their rating on the intelligence-based technologies that can be integrated to enhance school safety in Ikwerre Local Government Area (see Table 1). Hence, the integration of intelligence-based technologies enhanced school safety in Ikwerre Local Government Area.

Hypothesis 2: There is no significant difference in the respondents' mean response on the perceived effectiveness and feasibility of integrating intelligence-based initiatives into the existing school safety infrastructure in Ikwerre Local Government Area.

Table 6: Summary of Analysis of Variance (ANOVA) on the difference in the respondents' (principals, teachers, students, community leaders, and security officers) mean response on the perceived effectiveness and feasibility of integrating intelligence-based initiatives into the existing school safety infrastructure in Ikwerre Local Government Area

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.	Decision
Between Groups	3.131	2	.648	5.857	.000	S
Within Groups	22.948	180	.039			
Total	**26.079**	**182**				

Decision Rule: *if p<.05 reject H$_o$, else retain H$_o$. NS= Not Significant, p>.05, S= significant, p<.05*
Source: *SPSS Output*, **2025.**

Table 6 category of the respondents (principals, teachers, students, community leaders, and security officers) has significant influence on the perceived effectiveness and feasibility of integrating intelligence-based initiatives into the existing school safety infrastructure in Ikwerre Local Government Area ($F_{2, 180}$=.000, p<.05). The null hypothesis was rejected. This indicated that the category of the respondents influenced their rating on the perceived effectiveness and feasibility of integrating intelligence-based initiatives into the existing school safety infrastructure in Ikwerre Local Government Area (see Table 2). Hence, the perceived effectiveness and feasibility of integrating intelligence-based initiatives enhanced school safety infrastructure in Ikwerre Local Government Area.

Hypothesis 3: There is no significant difference in the respondents' mean response on the key challenges and barriers against the successful adoption of intelligence-based technologies for attaining safe school initiatives in Ikwerre Local Government Area.

Table 7: Summary of Analysis of Variance (ANOVA) on the difference in the respondents' (principals, teachers, students, community leaders, and security officers) mean response on the key challenges and barriers against the successful adoption of intelligence-based technologies for attaining safe school initiatives in Ikwerre Local Government Area

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.	Decision
Between Groups	4.724	2	.638	8.472	.001	S
Within Groups	24.579	180	.049			
Total	**29.303**	**182**				

Decision Rule: *if p<.05 reject H$_o$, else retain H$_o$. NS= Not Significant, p>.05, S= significant, p<.05*
Source: *SPSS Output*, **2025.**

Table 7 category of the respondents (principals, teachers, students, community leaders, and security officers) has significant influence on the key challenges and barriers against the successful adoption of intelligence-based technologies for attaining safe school initiatives in Ikwerre Local Government Area ($F_{2, 180}$=.001, p<.05). The null hypothesis was rejected.

This indicated that the category of the respondents influenced their rating on the key challenges and barriers against the successful adoption of intelligence-based technologies for attaining safe school initiatives in Ikwerre Local Government Area (see Table 3). Hence, the key challenges and barriers affected the successful adoption of intelligence-based technologies for attaining safe school initiatives in Ikwerre Local Government Area.

Hypothesis 4: There is no significant difference in the respondents' mean response on the actionable strategies or policies for incorporating intelligence-based approaches that can be implemented locally to attain secure, inclusive, and resilient educational environments in Ikwerre Local Government Area.

Table 8: Summary of Analysis of Variance (ANOVA) on the difference in the respondents' (principals, teachers, students, community leaders, and security officers) mean response on the actionable strategies or policies for incorporating intelligence-based approaches that can be implemented locally to attain secure, inclusive, and resilient educational environments in Ikwerre Local Government Area

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.	Decision
Between Groups	4.614	2	.574	7.318	.004	S
Within Groups	23.868	180	.045			
Total	**28.482**	**182**				

Decision Rule: *if p<.05 reject H$_o$, else retain H$_o$. NS= Not Significant, p>.05, S= significant, p<.05*
Source: *SPSS Output*, 2025.

Table 8 category of the respondents (principals, teachers, students, community leaders, and security officers) has significant influence on the actionable strategies or policies for incorporating intelligence-based approaches that can be implemented locally to attain secure, inclusive, and resilient educational environments in Ikwerre Local Government Area (F2, 180=.000, p<.05). The null hypothesis was rejected. This indicated that the category of the respondents influenced their rating on the actionable strategies or policies for incorporating intelligence-based approaches that can be implemented locally to attain secure, inclusive, and resilient educational environments in Ikwerre Local Government Area (see Table 4). Hence, integrating local actionable strategies/policies for intelligence-based enhanced the attainment secure, inclusive, and resilient educational environments in Ikwerre Local Government Area.

Discussion of Findings

The results in Table 1 revealed a grand mean of 3.74, indicating that tools such as community intelligence, drone surveillance, AI alerts, CCTV, IoT devices, and predictive analytics enhance school safety in Ikwerre Local Government Area. This finding alignswith Adeoye and Afolabi (2022), who suggest that localized intelligence with technology ensures responsive protection. Similarly, Chukwuma (2023) notes AI alerts automate threat detection, reducing dependence on manual monitoring. Furthermore, the widespread support for video surveillance like such as analog CCTV and dome cameras, aligns with Ezeani and Onwuka (2022), who found it deters school violence. Okeke and Uche (2023) confirmed its role in early threat detection, while Salami and Musa (2024) emphasized combining traditional

surveillance with AI for greater effectiveness in tertiary institutions. The researcher agrees with this finding, which highlights the importance of combining local engagement with advanced technology.

Table 2 revealed a grand mean of 3.72, indicating that enhancing situational awareness, crisis response, and institutional capacity are key intelligence-based strategies in Ikwerre Local Government Area. This finding supports the studies by Okonkwo and Eze (2022) and Adebayo and Musa (2023), who found such tools significantly, improve preparedness, response, and decision-making in school security. Also, the study highlights that intelligence systems provide timely, relevant information to teachers, administrators, and security personnel. This supports Ibrahim and Adediran (2023), who found these tools improve safety protocol coordination. Similarly, Salami and Okoro (2022) found that smart technologies reduce breaches through early detection of behavioural anomalies and potential security threats.

Table 3 revealed a grand mean of 3.73, indicating that epileptic power supply, funding issues, and policy gaps hinder IBT adoption for school safety in Ikwerre Local Government Area. This aligns with Onyema et al. (2020) and Adedoyin and Soykan (2020), who linked poor infrastructure to ineffective technology deployment in schools. Also, the study found that limited education funding restricts ICT integration, echoing Afolabi et al. (2021) on the impact of low capital investment on safety technologies. A shortage of trained personnel also emerged, reflecting Eze et al. (2018)'s call for targeted capacity-building. Additionally, policy gaps remain a key challenge, aligning with Okoye and Fapohunda (2022) on the absence of frameworks guiding digital school security in Nigeria.

Table 4 revealed a grand mean of 3.76, indicating that community-driven surveillance and local command centers monitoring AI-powered CCTV are key strategies for school safety in Ikwerre Local Government Area. This supports Akinola and Uwazuruike (2022) and Onyema (2021), who emphasized local ownership, trust, and decentralized responses in enhancing school security frameworks. Moreover, the strong support for cyber safety and digital ethics training aligns with Adedoyin and Soykan (2020), who stress inclusive digital literacy. Implementing IoT-based alerts and AI-powered CCTV enhances school emergency responsiveness. This agrees with Obielum and Olumide (2022) that real-time analytics integrated with local services reduces response time and prevents escalation.

Table 5 shows a significant difference in mean responses (F(2,180) = 7.260, p = .003), indicating varied stakeholder perceptions of intelligence-based technologies. This supports Nwachukwu and Ibrahim (2022), who attribute such differences to awareness and roles. Obi and Adebanjo (2022) suggested participatory planning to ensure inclusive, sustainable policy implementation. Table 6 shows a significant difference in mean responses among principals, teachers, students, community leaders, and security officers (F(2,180) = 5.857, p = .000), highlighting varied perceptions of intelligence-based safety tools. Chinedu and Olanrewaju (2021) note that these differences reflect role-based priorities. Effective implementation

requires inclusive planning, training, and community engagement to ensure stakeholder buy-in and sustainability, as emphasized by Obi and Alabi (2023).

Table 7 revealed a statistically significant difference in perceived challenges across stakeholder groups $(F(2,180) = 8.472, p = .001)$, indicating varied experiences of barriers. Agbo and Oyelere (2020) emphasize the importance of stakeholder-specific insights for context-sensitive school security interventions. Table 8 shows a significant difference in stakeholder views on strategy feasibility and effectiveness $(F(2,180) = 7.318, p = .004)$, suggesting perceptions vary by role. This supports findings by Agbo and Oyelere (2020), who emphasized the need for stakeholder-specific policies in implementing school technologies.

Conclusion

The study found strong support for intelligence-based technologies like AI-powered CCTV, predictive analytics, and IoT alerts in improving school safety in Ikwerre Local Government Area. Key barriers include poor infrastructure, unreliable electricity, limited digital literacy, inadequate funding, and weak policy frameworks. However, the respondents believed targeted interventions could address these challenges. Community surveillance, digital safety training, and IoT emergency systems were identified as practical, locally relevant solutions. These strategies are seen as essential for fostering secure, inclusive, and resilient school environments in Ikwerre Local Government Area.

Recommendations

Based on the findings of the study, the following recommendations were proffered.
1. Public schools should integrate technologies like CCTV, predictive analytics, and drones to improve visibility, threat detection, and proactive response in school safety systems.
2. The Ministry of Education should institutionalize intelligence-based tools to enhance early warning, situational awareness, and crisis response, as well as help promote resilience and safer learning environments in public schools.
3. Government and corporate organizations should partner to reform policies that support increased investment in infrastructure, stable power, training, and digital literacy that will ease the adoption of intelligence-based safety technologies in schools.
4. Local authorities should deploy AI surveillance, IoT alerts, and community security efforts, supported by digital literacy and cyber safety education for inclusive school safety.

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