



## INTEGRATION OF SECURITY TECHNOLOGIES FOR EFFECTIVE MANAGEMENT OF BASIC EDUCATION IN MAKURDI METROPOLIS OF BENUE STATE, NIGERIA

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### **Abstract**

*The study assessed the integration of security technologies for effective management of basic education in Makurdi Metropolis of Benue State, Nigeria. Two research questions guided the study and two hypotheses were formulated and tested. A descriptive survey research design was adopted in this study. The population of the study comprised 3,562 teachers from 118 basic schools (1,923 teachers from 47 public schools and 1,639 teachers from 71 private schools) in Makurdi Metropolis of Benue State. The study's sample consisted of 178 teachers or 5% (96 public school teachers and 82 private schools' teachers) from 12 primary schools or 10% (5 public schools and 7 private schools) constituted the sample for the study. The sample size was determined using a multi-stage sampling procedure that included proportionate stratified, purposive and simple random sampling techniques. The integration of Security Technologies for Effective Management Questionnaire (ISTFMQ) was constructed and used to collect data for this study. The collected data were analyzed using Mean and Standard Deviation to answer the research questions and the Chi-square ( $\chi^2$ ) goodness-of-fit test was used to test the hypotheses at the 0.05 level of significance. The study revealed that biometric identification systems have significant positive impact on effective management of basic schools in Makurdi Metropolis. Intruders attempting to sneak in schools were easily identified. This has reduced unauthorized access to schools using such devices. The study further discovered that the video surveillance system had a significant positive impact on the effective management of basic schools, as it not only keeps records of pupils, staff and visitors who come in and out of the school but also monitors the manner of their entry and exit, including specific times and their activities within the school. The study recommended among other things that school administrators should collaborate with government and non-governmental organizations to install video surveillance systems in schools throughout Makurdi Metropolis and beyond to ensure the safety of these schools, given the increasing cases of insecurity.*

**Key Words:** Security Technologies, Biometric Identification, Video Surveillance & Management.

### **Introduction**

In this twenty-first century, education is no longer a luxury but rather a fundamental human right that provides lifelong benefits to the child, their family, their community, and the country as a whole. Factors such as leadership, infrastructure, teacher quality, timely salary payments and curriculum revisions are crucial for achieving desired growth in education. Pursuing and providing them fosters growth, while neglecting stifles. Additionally, other incidental factors, such as natural disasters, insurgencies and other security-related issues that appear to have led to incessant kidnapping, raping and killing, among others, can also hinder educational growth and development (Pinga, Aernyi & Yiye,



2021). This is because teaching and learning thrive in a calm and peaceful environment, where learners are not anxious or jittery.

Security is essential for the growth and development of any nation including Nigeria. This is crucial for the survival and well-being of its people, as stated in the 1999 Constitution. Therefore, the government is obligated to prioritize the security and welfare of its citizens at all levels to ensure the protection of lives and properties (Tor-Anyiin, 2013). Today, the government's obligation to protect lives and property, as enshrined in most countries' constitutions, appears to be under serious threat not only in Nigeria and African countries but also in other parts of the world, including developed nations such as Europe and the United States of America.

Several high-profile security threats have been reported in newspapers and television channels throughout the United States and Europe. Kidnapping and sporadic shootings in schools, which result in tragic deaths of students and teachers have become very common in these regions (Tyokyaa, & Pinga, 2018; Mudege, Zulu, Izugbara, & Muindi, 2008). Some argue that school violence is not as widespread as portrayed in the literature, attributing the increased sense of school insecurity to media sensationalism, which magnifies isolated incidents of violence. Furthermore, developing countries such as Iraq, Sudan, Afghanistan, Colombia, Ghana, Zimbabwe and the Democratic Republic of Congo have experienced widespread insecurity, which has impacted their schools, learners and teachers (O'Malley, 2007; Moser & Rodgers, 2005). This disturbing trend highlights the fact that places designed to be safe havens for children to learn and thrive are increasingly becoming targets for armed attacks.

Nigeria's security situation is comparable to that of the aforementioned countries, if not worse, as armed bandits and unknown gunmen, as decorated and reported by several media outlets, have attacked communities, killed, kidnapped and raped women and occupied their territory after driving the original inhabitants out. In addition to killing and destroying property, their activities have significantly impacted schools across the country, affecting both learners and teachers. As they dislodged the inhabitants, they settled in these schools and destroyed their facilities (Tyokyaa & Pinga, 2018). According to Adekunle (2020), the pervasive threat of insurgency in the North-East, banditry, kidnapping, unknown gunmen, and marauder herdsmen in the North East and North central regions have caused enough harm to force the closure of numerous schools for safety reasons. There have been numerous reports of these monsters' invading schools, holding learners, and teachers' hostages. In some cases, they shot sporadically, killing several members of the community.

The presence of bandits, kidnapers, and other security challenges have instilled fear among learners and parents, resulting in lower enrollment rates and disrupted learning environments. Additionally, targeting educational facilities by these armed groups has resulted in the destruction of school buildings and infrastructure, exacerbating the challenges faced by the education sector (Pinga & Sani, 2019; Tyokyaa & Pinga, 2018). According to a report from the Benue State Ministry of Education (2024), over 23 primary schools were destroyed or burned down by bandits and armed Fulani herdsmen between 2020 and 2023, displacing over 4,332 learners. Okeke (2019) also adds that the abduction of learners and staff has become a recurring phenomenon, leading to the temporary shutdown of schools and creating a climate of fear and uncertainty. This rising incidence of kidnappings for ransom has not only disrupted academic activities but also had a profound psychological impact on learners and their families. Furthermore, parents' reluctance to send their children to school out of fear of their safety has contributed to a decline in school attendance rates in the hither land. Parents appear to have all moved their children from schools in the outskirts of the Makurdi Local Government Area and other surrounding Local Government Areas to schools in Makurdi Metropolis; however, no one appears to be safe, as learners are abducted on a daily basis even in Makurdi Metropolis. Even in Makurdi Metropolis, incidents of abduction of pupils and educators have started happening. On 8th May 2024, unidentified gunmen attacked Father Angus Frazer Memorial High School in the heart of Makurdi in an attempt to abduct students. Although the attack was unsuccessful, the gunmen managed to shoot one of the security guards in the buttocks.



In addition to the invasion and kidnapping of staff and pupils, teachers who are responsible for identifying and validating learners' availability appear to have difficulty recording their pupils' attendance using traditional methods, such as calling out names or signing off on an attendance sheet. Despite its strenuous nature, it exposes these children's personal information to those who may want to exploit it, necessitating the implementation of security technologies such as biometric identification systems and video surveillance systems to assist in identifying and keeping track of people who attend school, visit, or invade the premises (Pinga, Okpe & Akoji, 2021). Most importantly, most of the conventional approaches to managing these crises, such as building parameter fences and employing more security guards, seem not to be working effectively, as some of the security guards and even staff and pupils of some schools appeared to be involved in the kidnapping and killing of innocent citizens.

Biometric identification systems are advanced technological tools designed to capture and analyze distinctive physical or behavioral traits, enabling the automatic identification of individuals. These systems utilize biometric technologies to electronically capture, process and assess these traits and compare them with stored records to establish a highly precise identity management capability (New York State of Opportunity, 2022). It was verified that these biometrics provide a one-of-a-kind and virtually unforgeable method of identification, effectively controlling unauthorized access while ensuring precise identification. Furthermore, the system makes it easier to issue digital badges to authorized visitors, allowing them to enter the premises whenever necessary. This is to say that everyone has physical or behavioral characteristics that are unique to them and change little over time. Fingerprints are well-known examples and fingerprint details can be measured and recorded for subsequent identification purposes. Other characteristics can be used in this way, such as retinal and iris patterns, voice, facial shape, hand measurements, and behavioral characteristics such as handwriting and typing patterns (Good Governance, 2008).

In educational settings, biometric recognition systems leverage various physical or behavioral characteristics, such as fingerprints, facial features, iris patterns and voiceprints, to monitor learners' attendance and participation in class activities. This application of biometric recognition in personal authentication not only enhances security measures but also paves the way for its adoption across diverse domains (Hoo & Ibrahim, 2019). When used in schools, administrators can identify learners and ensure that there are no outsiders in the classroom or school premises. In addition, a blocking protocol can be activated in an emergency on school premises to ensure that no one enters or leaves without being noticed. Using identification chips (based on radio frequency) and combining them with intelligent data, learners can be located to guarantee their safety (The Scottish Government, 2008). Smith (2020) also noted that the implementation of biometric devices, especially those capable of capturing or recognizing fingerprints, offers significant advantages in enhancing security in school environments. With biometric information stored for both learners and staff, individuals can effortlessly verify their identities upon arrival by placing their fingers against the device as instructed. The device promptly authenticates whether a person's records exist within the system. Upon confirmation, it registers an individual's presence within the school premises at a specific time. This not only safeguards against unauthorized access by verifying the authenticity of entrants, but also facilitates accurate attendance tracking for both learners and teachers. Such a system not only enhances security but also streamlines administrative processes within educational institutions. Uga (2020) emphasized that this setup assists schools in preventing kidnappers and other dangerous elements from entering school, which significantly improves the school's security architecture. However, this technology can also be used in tandem with surveillance cameras to detect strangers.

Video surveillance systems are another popular and important security technology used by the majority of organizations. Video surveillance systems collect visual images, which are then transferred to a central recording device for storage and review (Amaechi, Orih & Ohalet, 2020; American Institutes for Research, 2018). School premises are monitored using video surveillance systems, which provide real-time information about what is going on. This information can be used to respond to security incidents in a timely and effective manner, lowering the risk of damage and injury. According



to Amaechi, Orih and Ohalete (2020) and Matthew (2017), schools have adopted modern technologies such as Closed-Circuit Television (CCTV) cameras and other gadgets to track children and their activities in order to keep them safe, monitor and deter outsiders who may illegally enter the school premises, provide evidence in the event of criminal activity investigations in schools, protect school property from vandalism and monitor staff as they perform their duties. Today, as the security of schools and communities deteriorates, schools have increasingly adopted various surveillance such as radio-frequency identification tags (RFID), X-ray inspection of pupil packs, sniffer dogs, drug testing, closed-circuit television (CCTV) cameras, and school officers, among others (Taylor, 2013), to provide a safe and more secure environment as the school premises is covered, thereby sending a warning to intruders who may want to come into the school. This practice has helped schools keep records of all the people who come in and out of the school, as well as the times when the incidents occurred. It has also helped schools that have installed cameras to keep track of everything that happens on and around the school premises (Pinga, Okpe, & Akoji, 2021; Perry-Hazan & Birnhack, 2019; Taylor, 2012).

Video surveillance systems have become essential tools for improving security in educational institutions (Smith, 2019). By strategically installing cameras throughout the school premises, management can effectively monitor activities and detect potential threats (Johnson & Thompson, 2020). These systems function as vigilant eyes, alerting school administrators in real time to any perceived danger (Jones et al., 2018). This timely notification enables swift action because authorities can be quickly informed and mobilized to intervene and mitigate the threat (Brown & Davis, 2021). As a result, video surveillance systems play an important role in strengthening security measures within schools, ensuring a safer environment conducive to learning and growth (Miller, 2017). Furthermore, video surveillance systems contribute to deterrence by fostering a sense of accountability among students and staff (Chen & Wang, 2020). Individuals are more likely to follow school policies and norms when they are aware that their actions are being recorded (Taylor, 2019). Furthermore, in the event of an incident, the recorded footage can serve as vital evidence for investigations and disciplinary actions (Roberts & Garcia, 2022). This comprehensive approach to security not only addresses immediate threats but also fosters a culture of safety and responsibility among the school community (Wilson et al., 2018). As a result, the integration of video surveillance systems aligns with the broader goal of promoting a secure and conducive learning environment necessary for learners' holistic development (Adams & Lee, 2020).

The researchers also discovered that some schools in Makurdi Metropolis of Benue State, such as Nadi Schools Makurdi, Towering Tots Makurdi, Vetex Nursery and Primary School Makurdi, and Source of Wisdom Makurdi, among others, had installed and been utilizing these security systems to monitor and manage the influx of individuals entering the school premises. Additionally, these methods had enabled such schools to detect persons involved in vandalism or with plans to harm the school community, such as kidnapping and rape or other sorts of security concerns. As a result, the integration of video surveillance and biometric identification systems has considerably reduced unauthorized access to schools. The monitoring of teacher participation and student attendance has also been made easier by these devices, which guarantees a well-recorded record of all activities in the school. It is important to note, though, that public schools, in spite of their substantial financial resources, have not yet embraced this vital initiative, while only a small number of private schools have implemented similar security measures.

Other studies in the United Kingdom, the United States, Australia, and Israel have found that, while video security surveillance has been implemented primarily for safety and security purposes at school perimeters, it has resulted in more harm than benefit and has spoiled the educational climate. Although video surveillance technologies may be integrated in schools with well-intentioned causes, the way they have been practiced may expose schools to a new dimension of risks, such as legal risks for privacy and human rights issues (Perry-Hazan & Birnhack, 2016), and risks for learners' health and academic performance (Tanner-Smith & Fisher, 2016). For example, intensive surveillance in schools



has resulted in situations in which students are increasingly criminalized, dominated, abused (Bracy, 2011), mistrustful, oppressed, and their privacy rights violated (Taylor, 2010).

The current state of insecurity in schools has reached alarming levels, prompting concerns among human rights activists regarding the integration of security technologies into school management. Despite their opposition, it has become increasingly evident that without the aid of these security gadgets, schools will struggle to effectively address the pervasive issues of kidnapping, the alarming incidence of minors being subjected to rape, rampant vandalism of school facilities, widespread bullying, and other reprehensible social vices. The urgent need to combat these disturbing trends has underscored the necessity of embracing security technologies as a crucial means of safeguarding the well-being and safety of students within educational environments. It is against this background that the researchers assessed the integration of security technologies such as biometric identification system and video surveillance system for effective management of primary schools in Benue State, Nigeria.

### **Statement of the Problem**

Primary school security and safety are critical components of school management because they create an environment conducive to effective teaching and learning for both learners and teachers. Today, however, most schools appear unsaved and unsecured, with pupils and teachers kidnapped, raped and killed for no apparent reason. This has caused fear and anxiety in the minds of not only pupils and teachers because it creates an unstable teaching and learning environment, but also in the minds of parents and school administrators who are concerned about the welfare of their wards and pupils entrusted to them. In order to address some of the security issues that have arisen in our schools, scholars have advocated for the integration of biometric identification systems and video surveillance systems. It is expected that the integration of these technological systems will aid in identifying those who commit this inhumane act. Today, schools that have used these technologies appear to have apprehended those who commit these crimes. Despite the opportunities provided by these security technologies, some human rights activists appear to be opposed to their integration due to legal concerns about privacy and human rights.

The most worrisome issue is that, despite the proposed integration of these technological devices as which seem to aid in improving learners and staff safety, some school administrators appear to be unaware of their significance, as they do not incorporate them even in the Makurdi Metropolis, where the infrastructure supports it. This appears to have resulted in many parents losing their children to kidnappers, criminals repeatedly vandalizing school property and school administrators being forced to pay a ransom or tax to criminals in order to keep their schools open and safe. Some schools in the study area appear to have closed as a result of these events. As a result of this worrisome situation, the researchers evaluated the integration of a biometric identification system and a video surveillance system on the effective management of basic schools in Makurdi Metropolis, Benue State, Nigeria.

### **Purpose of the Study**

The purpose of this study was to assess the integration of security technologies for effective management of basic schools in Makurdi Metropolis of Benue State, Nigeria. Specifically, the study sought to:

1. Find out the impact of biometric identification systems on effective management of basic schools in Makurdi Metropolis of Benue State, Nigeria.
2. Ascertain the impact of video surveillance systems on effective management of basic schools.



## Research Questions

The study was guided by the following research questions:

1. What is the impact of biometric identification systems on effective management of basic schools in Makurdi Metropolis of Benue State, Nigeria?
2. What impact does the video surveillance systems on effective management of basic schools?

## Hypotheses

The following null hypotheses were formulated and tested at .05 level of significance:

1. Biometric identification systems have no significant positive impact on effective management of basic schools in Makurdi Metropolis of Benue State, Nigeria.
2. Video surveillance systems have no significant positive impact on effective management of basic schools.

## Research Method

The study adopted the descriptive survey design. The population comprised 3,562 teachers from 118 basic schools (1,923 teachers from 47 public schools and 1,639 teachers from 71 private schools) in Makurdi Metropolis of Benue State. A sample of 178 teachers or 5% of the 3,562 respondents from 12 out of the 118 schools in Makurdi Metropolis of Benue State was selected using multistage sampling procedure (proportionate stratified, purposive and simple random sampling techniques).

The Integration of Security Technologies for Effective Management Questionnaire (ISTFMQ) was used to collect data. Sections A and B of the questionnaire were developed. Section A requested respondents' personal information, whereas Section B contained items 1-5 dealing with the impact of biometric identification systems on effective management of basic schools and items 6-10 dealing with the impact of video surveillance systems on effective management of basic schools. The responses were collected using a 4-point scale with response modes of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The instrument was validated by three experts in Benue State University, Makurdi, two from the Department of Educational Foundations, Faculty of Education, Benue State University Makurdi and one from Strategy Education Lowestoft, Suffolk, United Kingdom. The ISTFMQ underwent trail testing, yielding a coefficient of 0.82. To answer the research question, the collected data were analyzed using Mean and Standard Deviations. Any item with a score less than 2.50 was considered to have a negative impact, while those with a score of 2.50 or higher were considered to have a positive impact. The null hypotheses were tested using the Chi-square test of goodness-of-fit at .05 level of significance.

## Data Analysis and Interpretation

The data were analyzed and interpreted in response to the research questions and hypotheses.

**Research Question 1:** What is the impact of biometric identification systems on effective management of basic schools in Makurdi Metropolis of Benue State, Nigeria?

**Table 1:**

*Mean Ratings and Standard Deviations of the Impact of Biometric Identification Systems on Effective Management of Basic Schools in Makurdi Metropolis*

S/N	Item Description	N	SA	A	D	SD	M	SD	Dec.
1	Biometric identification systems facilitate accurate attendance tracking for both learners and teachers at the school.	171	64	70	23	14	3.08	0.91	Agreed
2	Biometric Identification Systems help schools ensure that no outsiders enter the classroom or school premise unnoticed.	171	58	67	31	15	2.98	0.94	Agreed
3	Biometric identification systems assist schools in identifying all pupils, teachers and visitors.	171	38	74	30	29	2.71	0.99	Agreed



4	Biometric identification systems prevent unauthorized access by verifying the identity of entrants.	171	49	63	32	27	2.78	0.97	Agreed
5	If a child goes missing, the school can determine whether or not the incident occurred at school.	171	41	67	34	29	2.70	0.93	Agreed
<b>Cluster Mean</b>							<b>2.85</b>		<b>Agreed</b>

**Source:** *Researchers' Field Survey Results (2024)*

Table 1 revealed that the mean ratings of items 1-5 are 3.08, 2.98, 2.71, 2.78 and 2.70 with the corresponding standard deviations of 0.91, 0.94, 0.99, 0.97 and 0.93. Item by item analysis of the items shows that the respondents unanimously agreed that biometric identification systems facilitate accurate attendance tracking for both learners and teachers at the school and that it helps schools to ensure that no outsiders enter the classroom or school premise unnoticed. The respondents were of the opinion that biometric identification systems assist schools in identifying all pupils, teachers and visitors. In addition, they also agreed that biometric identification systems prevent unauthorized access by verifying the identity of entrants. Furthermore, respondents agreed that if a child goes missing, the school can use biometric identification systems to determine whether the incident occurred on school premises. The table also showed that the respondents had a cluster mean of 2.85. This is above the cut-off point of 2.50. This demonstrated that the integration of biometric identification systems has an impact on the effective management of basic schools in Makurdi Metropolis of Benue State, Nigeria.

**Research Question 2:** What impact does the video surveillance systems on effective management of basic schools?

**Table 2:**

*Mean Ratings and Standard Deviations of the Impact of Video Surveillance Systems on Effective Management of Basic Schools*

S/N	Item Description	N	SA	A	D	SD	M	SD	Dec.
6	Video surveillance systems keep photographic/video records of real-time information about what is going on in the school.	171	38	76	31	26	2.74	0.97	Agreed
7	The integration of video surveillance systems deters criminals from vandalizing school facilities because it provides concrete evidence.	171	50	63	30	28	2.78	0.95	Agreed
8	In the event of an emergency on school premises, it keeps track of everyone who enters and exits without notice.	171	42	69	33	27	2.74	0.99	Agreed
9	Video surveillance systems deters male teachers from engaging in sexual misconduct with female students as all instances are recorded on video.	171	40	71	35	25	2.74	0.98	Agreed
10	Video surveillance systems decrease the occurrence of kidnappings by swiftly identifying and apprehending individuals within the school community who conspire with outsiders to execute such acts.	171	45	67	39	20	2.80	0.96	Agreed
<b>Cluster Mean</b>							<b>2.76</b>		<b>Agreed</b>

**Source:** *Researchers' Field Survey Results (2024)*

Table 2 showed that the mean ratings of items 6-10 are 2.97, 2.78, 2.74, 2.74 and 2.80 with the corresponding standard deviations of 0.97, 0.95, 0.99, 0.98 and 0.96. The table revealed that respondents had agreed that video surveillance systems keep photographic/video records of real-time information about what is going on in the school and that the integration of video surveillance systems deters criminals from vandalizing school facilities because it provides concrete evidence. They also agreed



that in the event of an emergency on school premises, it keeps track of everyone who enters and exits without notice. The respondents unanimously agreed that installation of video surveillance systems deter male teachers from engaging in sexual misconduct with female students as all instances are recorded on video. Moreso, that the video surveillance systems decrease the occurrence of kidnappings by swiftly identifying and apprehending individuals within the school community who conspire with outsiders to execute such acts. The cluster mean of 2.76 was found to be above the cut-off point of 2.50. The standard deviations were closely related, suggesting homogeneity. Thus, indicating that the installation of video surveillance systems has impact on effective management of basic schools.

**Hypothesis 1:** Biometric identification systems have no significant positive impact on effective management of basic schools in Makurdi Metropolis of Benue State, Nigeria.

**Table 3:**

*Chi-Square Analysis of the Impact of Biometric Identification Systems on Effective Management of Basic Schools in Makurdi Metropolis of Benue State, Nigeria*

Responses	SA	A	D	SD	Total	df	$\chi^2$ cal.	P-val.	Remark
Observed	50	68	30	23	171	3	29.070 <sup>a</sup>	.000	Significant
Expected	42.8	42.8	42.8	42.8					

**Source:** Researchers' Field Survey Results (2024)

Table 3 shows that  $\chi^2$ -cal.= 29.070<sup>a</sup>;  $P < .05$  with 3 degree of freedom. Thus, the null hypothesis which states that biometric identification systems have no significant positive impact on effective management of basic schools in Makurdi Metropolis of Benue State, Nigeria was rejected. This result clearly shows that biometric identification systems have significant positive impact on effective management of basic schools in Makurdi Metropolis of Benue State, Nigeria.

**Hypothesis 2:** Video surveillance systems have no significant positive impact on effective management of basic schools.

**Table 4:**

*Chi-Square Analysis of the Impact of Video Surveillance System on Effective Management of Basic Schools.*

Responses	SA	A	D	SD	Total	df	$\chi^2$ cal.	P-val.	Remark
Observed	43	69	34	25	171	3	25.281 <sup>a</sup>	.000	Significant
Expected	42.8	42.8	42.8	42.8					

**Source:** Researchers' Field Survey Results (2024)

Table 4 shows that  $\chi^2$ -cal.= 25.281<sup>a</sup>;  $P < .05$  with 3 degree of freedom. Thus, the null hypothesis which states that video surveillance systems have no significant positive impact on effective management of basic schools was rejected. This demonstrates that video surveillance systems have significant positive impact on effective management of basic schools.

## Discussion of Findings

The first finding of this study revealed that biometric identification systems have significant positive impact on effective management of basic schools in Makurdi Metropolis of Benue State, Nigeria. This finding indicates that schools with biometric identification systems have accurate attendance tracking for both learners and teachers. Most importantly, it helps schools ensure that no



outsiders enter the classroom or school premise unnoticed. The studies by Hoo and Ibrahim (2019) and Uga (2020) support the first finding as they demonstrate that biometric identification systems enhance security measures and facilitate efficient management, particularly in educational settings like primary schools. These systems enable accurate attendance tracking for learners and teachers, prevent unauthorized access to school premises and contribute to a safer environment by effectively deterring potential threats such as kidnappers, aligning with the objective of improving security and management in schools. The alignment between the first finding and the studies by Hoo and Ibrahim (2019) as well as Uga (2020) validate the discovery that biometric identification systems serve as integral tools for ensuring the safety and efficient operation of primary schools, aligning with the overarching objective of enhancing security and management within educational settings.

The second finding revealed that video surveillance systems have a significant positive impact on the effective management of basic schools. This is because the integration of video surveillance systems into the school security architecture discourages criminals from vandalizing school facilities as it provides concrete evidence of those involved in such activities and it also discourages male teachers from engaging in sexual misconduct with female learners by recording all incidents on video. This finding supports Amaechi, Orih, and Ohalet (2020) and Matthew (2017) discovery that schools have adopted modern technologies such as Closed-Circuit Television (CCTV) cameras and other gadgets to track children and their activities in order to keep them safe; monitor and deter outsiders who may illegally enter the school premises; provide evidence in the event of criminal activity investigations in schools; protect school property from vandalism; and monitor staff. Furthermore, Brown and Davis' (2021) research discovered that video surveillance systems serve as vigilant eyes, alerting school administrators in real time to any perceived threat. This timely notification allows for immediate action because authorities can be quickly informed and mobilized to intervene and mitigate the threat. The current study's alignment with that of Amaechi, Orih, and Ohalet (2020) and Brown and Davis (2021) reinforce how video surveillance systems act as proactive tools, allowing real-time monitoring and timely intervention by school authorities in response to perceived threats, thereby contributing to improved security and management within educational environments. This is likely due to the fact that, despite being conducted in varied settings and periods, these studies shared a common goal, demonstrating the effectiveness of these tools across all institutions when implemented correctly.

## **Conclusion**

Today, there are persistent security traits everywhere in society, including schools, as they do not leave in isolation but as part and parcel of the communities. These security traits range from insurgencies to criminal activities, which appear to undermine the development and effective management of basic schools in Benue State, particularly in Makurdi Metropolis. In response to these challenges, security technologies such as biometric identification systems and video surveillance systems have emerged as critical strategies for addressing these challenges. Despite concerns raised by human rights activists regarding privacy and legal implications, the urgent need to safeguard the well-being and safety of students underscores the importance of adopting these security technologies. The integration of biometric identification and video surveillance systems is a proactive approach to addressing security concerns and promoting a conducive learning environment, which is critical for learners' overall development. Given the escalating security threats and their negative impact on education, assessing the integration of security technologies in basic schools in Makurdi Metropolis, Benue State, Nigeria is critical for informing effective management strategies and ensuring the safety and well-being of pupils, teachers, and the broader school community.



## Recommendations

Based on the findings, this study recommended that:

1. School administrators should collaborate with government and non-governmental organizations to implement biometric identification systems in basic schools throughout Makurdi Metropolis and beyond to enable them to identify everyone entering into the school to reduce some crimes.
2. The Benue State government should provide comprehensive training for school administrators and staff members on how to use and manage video surveillance systems. Provide clear guidelines for ethical considerations, data privacy, and security protocols to ensure that technology is used responsibly and effectively. Regular refresher training sessions should be held to keep personnel up to date on the best practices and emerging trends in video surveillance technology.

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