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USE OF TECHNOLOGICAL GADGETS IN INSTRUCTIONAL SUPERVISION AND ACADEMIC PERFORMANCE OF STUDENTS IN PRIVATE SECONDARY SCHOOLS IN OWERRI EDUCATION ZONE I

by

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Abstract

This study investigated the use of technological gadgets on instructional supervision and academic performance of students in private secondary schools in Owerri education zone I. The correlational research design wasused in this study. The population of the study is 6,904. The sample size is690, drawn using simple random sampling technique. Rating scales and academic profoma were used as the instruments for data collection in this study. The instrument was developed by the researchers after a thorough review of literature while the academic profoma was used to collect the students'(Junior Secondary School 3 (JSS3) promotion examinations results. The instrument covered the specific objectives of the study. The instrument was validated by five specialists. The reliability of the instrument was tested through a test re-test method using the Pearson Product Moment Corelation Coefficient (PPMCC) and a reliability co-efficient of 0.74 was realized showing that the instrument was reliable for the study. The researchers computed the raw scores, by using SPSS, 21.0 version. Findings showed among others that there is a very high positive relationship between principal-implemented instructional supervision and students' academic performance in private secondary schools, in Imo State. Based on the findings, it was concluded that principal-implemented instructional supervision and supervisor-implemented instructional supervision are effective in improving students' academic performance in private private secondary schools

Keywords: gadgets, technological, performance, supervision.

Introduction

Education is one of the main pillars of the society. It provides individuals with the knowledge, skills and values they need to succeed in life. It is equally a powerful tool that can shape the future of individuals, communities and countries. One of the major benefits of education is its ability to empower individuals. This is based on the fact that education gives people the opportunity to improve their economic prospects and quality of life. Barry. (2021) maintains that this is part of the reason why instructional supervision was enshrined into education by introducing it to schools.

Instructional supervision is a practice that involves observing, familiarizing and providing feedback to teachers in order to improve their instructional techniques and enhance students' learning outcomes. It is a critical component of any educational institution. Effective instructional supervision is meant to ensure that teachers are delivering high quality instruction that is aligned with the schools goals and objectives and that the students are adhering to instructions appropriately. This can be implemented by the school supervisor, school principal or teacher (Ali and Ntu, 2023). One of the major goals of instructional supervision is to support and enhance Teachers' development. By providing constructive feedback and guidance, instructional supervisors help teachers to reflect on their teaching practice and identify areas of improvement. According to Joel, Isabel and Braziel (2023), this support and professional development are essential for helping teachers to continue

growing and evolving in their roles. According to Herliana (2022), instructional supervision is an important aspect of educational system that ensures that teachers are effectively supporting students' learning and achievement. This according to Herlian (2022), can be realized through the utilization of technological gadgets.

Technological gadgets are divers devices designed to enhance functionality and convenience in daily lives. They can range from simple tools to complex electronic devices, often incorporating advanced technology to perform specific tasks or improve users' experiences. According to Malgorzata (2015), the gadgets are typically a small mechanical or electronic device with practical use and often performing novelty function. This broad definition encompasses a thousand of products including everything, from kitchen appliances to personal electronic.

Gadgets are characterized by their utility, compactness and innovative design. Yufi and Cahaya (2022) itemized some of the technological gadgets to include: smart phones, lap tops, tablets, smart watches, drones, fitness trackers and virtual reality headsets. In addition, Lamb (2022), gave more examples of popular gadgets to include: digital cameras, wireless earbuds, smart home devices, and gaming consoles. Technological gadgets usage has become an integral part of our daily lives. These devices are designed to make our lives easier, more efficient and more convenient. With the advancement of technology, there are a wide range of technological gadgets that enhance instructional supervision and provide more efficient ways of monitoring and supporting teachers improvement. Siti (2021) opines that one of the main technological gadgets that can be utilized in the instructional supervision is video cameras. These video cameras can be used to record classroom lessons and interactions, allowing supervisors to review teachers' performances and provide feedback on areas that may need improvement. Video recording can also be used for self-reflection by teachers, enabling them to access their own teaching practices and making adjustment as needed. According to Richard (2013), the ultimate goal of using video recording in instructional supervision is to provide feed-back that could be used to motivate teaching, in order to enhance students' academic performance.

Academic performance entails the level of success a student achieves in the academic pursuit. It is often measured by a combination of grades, test scores, attendance and participation in class. Academic performance is important for a variety of reasons including personal growth, future opportunities and overall success in life, after students' graduation from secondary school. Secondary school is the school that children attend after their primary school. It is an intermediary stage of schooling as it intervenes between the primary and tertiary school levels. Secondary schools play crucial roles in shaping the future of younger individuals. According to Asodike and Abraham (2019), these institutions typically cater for students ranging from ages 11 to 18 and serve as the bridge between primary education and higher education or the workforce. Iwuala (2020) maintains that secondary schools provides students with comprehensive and well rounded education. However, Okeke (2017) maintains that there is little distinguishable emphasis to be made about secondary schools, due to the fact that some are owned by private individuals and known as private secondary schools.

Private secondary schools which are equally known as independent schools are educational institutions that are not funded by government. They are often privately owned or operated by private individuals. According to Le (2022), these schools charge tuition fees to student in order to cover their operational costs and can vary in terms of size, curriculum and academic offerings. Francis, Samantha, Alice and Richard (2015) maintain that while public schools are more common in many countries, private secondary schools offer a number of unique advantages for students and families. Stephen and Nancy (2006) maintain that one of the major benefits of attending a private secondary school is the smaller class sizes and more individualized attention as well as innovative guidance which students receive. In addition, private secondary schools in most cases are with fewer students in each class as well as teachers being able to address each students' individual strength and weakness, providing more personalized instruction and offering additional support when needed. This according to the scholar, can lead to improved academic performance and a more engaging learning experience for students. Moreover, private schools often have more resources and facilities than public schools, allowing them to offer a wider range of extra-curricula activities, sports programmes and other essential practices. Students at private schools can have access to specialized equipment, technology and facilities that enhance their learning experience and broaden their horizon.

However, it is unfortunate that all these lofty features of the private secondary schools do not seem to yield positive result on their students academic performance. The observable academic performance of these students does not seem to meet the expected standard.. For example, "WAEC records mass failure of some private secondary school candidates only 31% obtained five credits including English and Mathematics" (Daily Sun Newspapers, 12/08/2014) is a clear indication of the serious poor performance of students in external examinations It is speculated that this abysmally poor level of academic performance of the private privatesecondary school students can be improved through the application or use of technological gadgets in their instructional supervision, which is a novel idea based on the current digital evolutions and trend. There is need to ascertain the relationship between the use of technological gadgets and the students' academic performance. To this end, the researchers soughtto investigate the relationship between the use of technological gadgets in instructional supervision and the academic performance of the students in private secondary schools. The aspects of the use of technological gadgets in instructional supervisionemphasized in this context include:the principal implemented use of technological gadgets in instructional supervision and the supervisors implemented use of technological gadgets in instructional supervision.(that is the ones conducted by the principals and the ones conducted by the supervisors.

Principal implemented use of technological gadgets in instructional supervision is the process whereby the principal is the one handling the use of technological gadgets in instructional supervision in the school. On the other hand, supervisor implemented use of technological gadgets in instructional supervision is a process in which the supervisors are the ones using technological gadgets in instructional supervision through video recording. The attendant very poor academic performance of students in the contemporary time warrants an urgent and revolutionary strategy to tackle it. The process through which the teaching and learning are going on in the private secondary schools need to be checkmated. The teachers as well as the students need to be monitored to ascertain how committed teachers are in their teaching as well as checkmate the students to ensure that they are active in the class works, test participation, etc, in order to guarantee the provision of an effective and efficient teaching and learning process in the private secondary schools. This idea therefore motivated the researchers to embark on this study in order to investigate the relationship between technological gadgets in instructional supervision and academic performance among private secondary schools in Owerri Education Zone I of Imo State, Nigeria.

The theory that guides this study is Technology Acceptance Model (TAM), propounded by Fred Davis (1986). The Technology Acceptance Model posits that perceived ease of use and perceived usefulness significantly influence users' decisions to accept and use of technology. In the context of instructional supervision, this model can help assess how teachers' acceptance of technological gadgets impacts their supervisory practices and, subsequently, student academic performance. This theory is relevant to this study in the sense that it is the level of acceptability of technology that will encourage the decision of the private schools to use technological gadgets for the supervision of their teachers.

Empirically, Ruli, Sutiah, Hidayatulloh, and Nur (2024 in their study, found that digital supervisors can facilitate supervisory implementation and effectively improve teacher competence. Muhammad, Muhammad, Ghazanfar, Sumaira, Liaqut and Chuadhry (2022) found that the use of gadgets has positive effect on their learning capacities and ultimately contributing to their academic performance. Berry, R. A. (2024) conducted a study on Use of Technology in the Delivery of Instruction in Public Schools. The findings indicate that teachers predominantly utilize smart TVs, laptops, and desktops for instruction, citing benefits such as increased student engagement, heightened excitement in teaching and learning, and fostering student proactivity and creativity. In addition, Siahaan, J. A., Siregar, S. S.and Pane, R. J. (2024). Investigated the multifaceted role of technology in education. Findings showed that technology gadgets can to improve teaching and learning outcomes. In the same vein, Andriyanova, Kaskova, Амосова, Yatsenko, Morgun, Vashchenko and Артемьев (2024) investigated the Use of modern technical learning devices by students during the educational process.It was found that absolutely all students (100% of respondents) use gadgets and the Internet. In addition, Edward, Moses, William and Lawrence (2017) found that a positive and statistically significant relationship exists between expenditures on some selected ICT tools and applications for learning and academic performance.

Statement of the Problem

The researchersare worried about the dwindling quality of education in Nigeria, manifested through the very poor students' academic performances at the private secondary schools. Apart from that, there had been the belief that a major causal factor of students' poor academic performance is the overpopulation and teacher laxity observed at public secondary schools. For this reason, it was believed that the private secondary schools could provide better opportunities for students to excel in their academics. Unfortunately, irrespective of the high expectations placed on the private secondary schools due to their perceived uniqueness and intensive delivery of instructions, the causal factors of even the observed poor academic performance of their students remains elusive. Different attributions have been made regarding the actual cause of this. The most resounding however, is the mode of instructional supervision used at such schools.To this end, the use of technological gadgets in instructional supervision, which is a novel idea in accordance with the current digital trends, was suggested. The question therefore is, what is the relationship between the use of technological gadgets in instructional supervision and academic performance of students at private secondary schools? To provide an answer to this, the researchers embarked on this study in order to ascertain the relationship between the use of technological gadgets in instructional supervision and academic performance of students among the private secondary schools in Owerri Education Zone I of Imo State, Nigeria.

Purpose of the Study

The general purpose of this study is to investigate relationship between use of technological gadgets in instructional supervision and academic performance of students among the private secondary schools in Owerri Education Zone I of Imo State, Nigeria.

Specifically, the study will investigate the following:

1. Relationship between principal implemented use of technological gadgets in instructional supervision and students' academic performance.
2. Relationship between supervisor implemented use of technological gadgets in instructional supervision and students' academic performance.

Research Questions

The following research questions were posed to guide the study:

1. What is the relationship between principal implemented use of technological gadgets in instructional supervision and students' academic performance?
2. What is the relationship between supervisor implemented use of technological gadgets in instructional supervision and students' academic performance?

Method

The correlational research design wasused in this study. The population of the study is 6,904,comprising of 6,798 SS2 students and 106 teachers of the private secondary schools in the private secondary schools of Imo State. A Sample size of 690, representing 10% of the population and comprising of 644 students and 46 teachers, was used. The sampling techniques employed was multi-stage: purposive, simple random and clustered sampling techniques. The researchers purposely sampled only SS2 students and teachers of the selected private secondary schools. The SS2 students werepurposively sampled because they were older in the school and so were able to understand the use of technological gadgets on instructional supervision in the schools.They were randomly selected from their classes which were clustered in the schools of the selected LGAs of Educational Zones in Imo State.

The researchers adopted the use of rating scales and academic profomas for the instruments for data collection in this study. The instrument was developed by the researchers after a thorough review of literature while the academic profoma was used to collect the students'promotion examinations results. Two instruments wereused in this study, one addressing issues pertaining to the use of technological gadgets in instructional supervision while the other was used to collect the academic performance of the students. The instruments were in two parts A and B respectively. The rating scale was a four point rating scale ranging from Strongly Agree (SA) – 4 points, Agree (A) – 3 points, Disagree (D) – 2 points and Strongly Disagree (SD) – 1 point.The instrument was validated by five specialists, three from Department Social Sciences (Educational Management and Planning) and

two from Measurement and Evaluation Department, all from Imo State University. The reliability of the instrument was tested through a test re-test method and a reliability co-efficient of 0.74 was realized showing that the instrument was reliable for the study. In order to analyze the data that was collected after the administration, the researchers computed the raw scores, by using Pearson "r" statistics to answer the research questions while the hypotheses were tested using t-test significance of correlation coefficient statistics so as to establish the significance of relationships between the variables under study. The $p<0.05$ level of significance for all of the hypotheses was used, while the acceptance or rejection of null hypotheses was based on the calculated value of the test analysis. Decision was therefore taken that if the p-value would be less than 0.05 (p-value<0.05), the null hypotheses would be rejected.

Results

Research Question One

1. What is the relationship between principal-implemented instructional supervision and the academic performance of students?

Table 5: Summary of Analysis on Relationship BetweenPrincipal implemented instructional supervision and the academic performance of students.

	n	r	MR	DR	REMARK
X	690	0.80	VeryHighPositive	Very High positive	
Y	690			Relationship	

Table 1 shows the result on the summary of analysis on the relationship between principal-implemented instructional supervision and academic performance of students in private secondary schools, in Imo State. With the sample size of 690 and a correlation result of 0.80, it indicates that there is a very high positive relationship between principal-implemented instructional supervision and students' academic performance in private private secondary schools, in Imo State.

Research Question Two

1. What is the relationship between supervisor-implemented instructional supervision and students' academic performance in private secondary schools, in Imo State?

Table 2: Summary of Analysis on the Relationship Between supervisor-implemented instructional supervision and students academic performance in private secondary schools, in Imo State

	n	r	MR	DR	REMARK
X	690	0.60	moderate Positive	moderate Positive	
Y	690			Relationship	

Table 2 shows the result on the summary of analysis on the relationship between supervisor-implemented instructional supervision and students academic performance in private secondary schools, in Imo State. With the sample size of 690 and a correlation result of 0.60, it indicates that there is a moderate positive relationship between supervisor-implemented instructional supervision in private secondary schools, in Imo State.

Discussion of Findings

Relationship between Principal-implemented instructional supervision onstudents' academic performance in private secondary schools

The finding of this study, on the relationship between principal-implemented instructional supervision and students academic performance in private secondary schools in Imo State, reveals that there is a very high positive relationship between principal-impemented instructional supervisionand students' academic performance in private secondary schools in Imo State. This means that the instructional supervision of the principalsin the schools is greatly affecting the academic performance of the students. Muhammad, Muhammad, Ghazanfar, Sumairah, Liaqut and Chaulry (2022) found that the use of gadgets on students' academic performance at the private secondary school level in Islamad has positive effect on their learning capabilities and altimately contributing to their academic performance. In addition, Siahaan, Siregar, and Pane (2024) investigated the multifaceted role of

technology in education. Findings showed that technology gadgets can improve teaching and learning outcomes. In the same vein, Berry, R. A. (2024) conducted a study on Use of Technology in the Delivery of Instruction in Public Schools. The findings indicate that teachers predominantly utilize smart TVs, laptops, and desktops for instruction, citing benefits such as increased student engagement, heightened excitement in teaching and learning, and fostering student proactivity and creativity. This has proven that use of technological gadgets for instructional supervision is really improving the academic performance of students. This has equally cleared issues on the actual impact of the use of principal-implemented instructional supervision on the students' academic performance. However, based on the finding of this work, it can be concluded that principal-implemented instructional supervision is effective in improving students' academic performance.

Relationship between supervisor-implemented instructional supervision and academic performance of students in Private secondary schools in Imo State

The finding on relationship between supervisor-implemented instructional supervision and academic performance of students in private secondary schools in Imo State reveals that there is a moderate positive relationship between the two variables. This equally means that supervisor-implemented instructional supervision is effective in improving students' academic performance. This finding corroborates with that of Edward, Moses, William and Lawrence (2017) which proved that positive and statistically significant relationship exists between expenditures on some selected ICT tools and applications for learning and academic performance. This finding has equally confirmed the effectiveness of supervisor-implemented instructional supervision in private secondary schools. It means that the efforts made by supervisors in using the technological gadgets to supervise instructions at the private secondary schools is actually effective. Moreover, Andriyanova, Kaskova, Амосова, Yatsenko, Morgun, Vashchenko and Артемьев (2024) investigated the Use of modern technical learning devices by students during the educational process. It was found that absolutely all students (100% of respondents) use gadgets and the Internet. It has equally cleared every doubt on the effectiveness of this instructional supervision. However, based on the finding of this study, it can be concluded that supervisor-implemented technological gadget driven supervision improves students academic performance.

Conclusion

Based on the findings of this study, it is hereby concluded that principal-implemented instructional supervision and supervisor-implemented instructional supervision are effective in improving students' academic performance in private secondary schools.

Recommendation.

Based on the findings of the study among others, it is recommended that both the public and private schools should implement the use of technological gadgets in instructional supervision in their schools to achieve the schools' goals and objectives.

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