



PRINCIPALS' INTEGRATION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN MANAGEMENT OF SECONDARY SCHOOLS IN IKA SOUTH LOCAL GOVERNMENT AREA, DELTA STATE

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Abstract

The study investigated principals' integration of information and communication technology in management of secondary schools in Ika South Local Government Area, Delta State. Two research questions guided the study and two null hypotheses were tested at 0.05 alpha level. Descriptive survey research design was adopted for the study. The population of the study comprised all the principals in secondary schools in Ika South Local Government Area, Delta State. The sample for this study consisted of 252 respondents (8 principals and 244 teachers) drawn using proportionate stratified sampling technique. A researcher-developed questionnaire titled "Principals' Integration of Information and Communication Technology in School Management PIICTSMQ" was used for data collection. The instrument was validated by three experts, two from the Department of Educational Management and Policy, and one from the Department of Educational Foundations, Nnamdi Azikiwe University. Cronbach alpha was used for a test of internal consistency of the instrument which yielded coefficients of 0.82 and 0.79 for clusters I and II with an overall coefficient of 0.81. Mean and standard deviation were used to answer the research questions and t-test was used to test the hypotheses. The findings of the study revealed among others that principals integrate information and communication technology in students' personnel management in secondary schools in Ika South Local Government Area, Delta State. Further result showed that principals do not integrate information and communication technology in record management in secondary schools in Ika South Local Government Area, Delta State. Also, there is no significant difference in the mean ratings of principals and teachers on the principals' integration of information and communication technology in records management in secondary schools in Ika South Local Government Area, Delta State. Based on the findings, it was recommended among others that Delta State Post Primary Education Board should organize annual training programme on ICT for principals to upgrade their skills and knowledge on their integration to enhance the management of school records.

Key Words: Principals, Information, Communication, Technology, School Management, Records, Students' Personnel

Introduction

Education is an indispensable tool that equips individuals with knowledge and skills to help them become successful in

every aspect of life. It is also a means of inculcating the right values and attitudes that enable individuals to behave responsibly in the society. Nwogbo and



Ilavbare (2021) opined that education plays a vital role in liberation of the minds and imparting of essential body of knowledge and requisite skills in individuals which brings about positive change in their attitudes and behaviour in the society. The efforts and activities of members of staff are directed towards imparting knowledge to learners and attainment of educational goals through school management.

School management is the practices of planning, organizing and utilizing available resources to achieve predetermined goals and objectives. Agada and Eze (2023) defined school management as the way or a process through which administrators use both human and material resources available to achieve the goal of the educational organization. School management is the act of getting human, materials, financial and information resources together to achieve set educational goals. Bakare (2023) pointed out that the regular managerial routine of school principal includes; keeping up-to-date records of teachers and students, admission processes, information retrieval from ministry of education as well as information dissemination to stakeholders. The managerial activities of secondary school principals are become more complex due to the increase in the number of students' enrolment and regular changes in educational programmes. The managerial and leadership tasks of principals could be made easier through integration Information and Communication Technology (ICT) in school management.

Information and Communication Technology (ICT) is modern gadgets that could be applied in collecting, processing,

keeping, retrieving and dissemination of information. Osuji and Anele (2021) described that information and communication technology as electronic facilities, tools or resources that could be used to process, store, preserve, access, retrieve and disseminate information with ease. ICT is digital devices that support gathering, processing, storing, retrieval and presenting of information. Manafa, Ohamobi and Osegbue (2022) defined ICT as variety of modern technologies used for extracting, sharing, editing, collecting, communicating, retrieving and sending information in different ways. ICT facilities include laptops and desktops, internet, mouse, scanner, printers, phone, photocopying machines and projectors among others. Also, Fashina and Akindele (2023) noted that ICT encompasses the computer system, the internet, telephone system including the G.S.M Technology, software and hard ware applications system, multimedia system, Database technology, smart board video cameras among others. These ICT facilities could be integrated in management of school records and student personnel

School records are document containing evidence of past programmes and activities in learning institution. Imasuen and Abinuomo (2022) described school records as information or data which are collected on various activities of a school and preserved for future use. Continuing, Imasuen and Abinuomo stressed that the information or data which are written manually or electronically are preserved in books, file diskettes, flash drives and other electronic materials. Records provide crucial information for



day-to-day operations of any secondary school. The school records include admission register, attendance register, copy of education law, logbook, cash book, scheme of work, school time-table, school diary and class register. Similarly, Nnamdi and Busa (2023) highlighted school records to include scheme of work, staff record register, log book, cash book, inventory book, admission register, continuous assessment records and dossier of the staff. The principals could keep tracking school records through the integration of ICT devices. Integration of ICT in school management could enhance collection, processing, storage and retrieval of data for planning and organizing activities in secondary schools. It could also provide quicker and easier access to information for carrying out administrative tasks in secondary schools.

Student personnel management is administrative supports, activities and services rendered to learners to enable them derive maximum benefits from school programmes. Akpan, Dung and Ibegbulam (2020) described student personnel management as all the activities that are carried out by the school administrator ensure that the students derive the best from the school's curricular and co-curricular activities. According to Omenyi and Bosco-Duru (2021), student personnel management involves assisting students to perform well through creation of good environment for learning, supportive aids like teaching facilities, good classroom, sport facilities and students clubs and unions. The student personnel services that could be managed through integration of ICT are admission, registration, class

placement, fee payment and processing of results among others. Osuji and Anele (2021) noted that integration of ICT in managing students' personnel management could make fees payment much easier, faster and attract more confidence.

Most administrative activities are done using print-based method of managing information in secondary schools in Ika South Local Government Area, Delta State. The paper based documentation which is still in existence could contribute to shortage of data for planning and making decisions in secondary schools. Some principals appear to still use manual method of processing students' admission, registration, collection of fees and keeping of vital information in secondary schools in Ika South Local Government Area, Delta State. It is worrisome that some secondary school principals seem to find it difficult to create web portal through which students could apply and get notice of admission status, access their results and other information in Ika South Local Government Area, Delta State. ThankGod and Vulasi (2020) pointed out that a great deal of routine administrative work in secondary schools in Nigeria is still done manually. They added that school officials still go through the analogue exercise of registering students, maintaining records of students' performance, keeping inventory list of supplies and paying bills among others. Ukaogba and Nwankwo (2020) asserted that in Delta State secondary schools, there is alarming rate of misplacement or loss of vital records and the slow speed at which needed information are retrieved from their storage. The researchers added that in most cases, secondary school students in Delta



State queue in administrative building for long period of time to submit their files in order to officially complete the registration process due to difficulty in locating their document by school principals. The deficiencies associated with creation, processing, preservation, maintenance and retrieval of large volumes of the information in paper form could make managerial processes to be very cumbersome for secondary school principals in Ika South Local Government Area, Delta State.

Purpose of the Study

The main purpose of the study was to investigate principals' integration of information and communication technology in management of secondary schools in Ika South Local Government Area, Delta State. Specifically, the study sought to:

1. Principals' integration of information and communication technology in records management in secondary schools in Ika South Local Government Area, Delta State.
2. Principals' integration of information and communication technology in students' personnel management in secondary schools in Ika South Local Government Area, Delta State.

Research Questions

The following research questions guided the study:

1. How do principals integrate information and communication technology in records management in secondary schools in Ika South Local Government Area, Delta State?
2. How do principals integrate information and communication technology in students' personnel management in

secondary schools in Ika South Local Government Area, Delta State?

Hypotheses

The following hypotheses were tested at 0.05 level of significance:

1. There is no significant difference in the mean ratings of principals and teachers on the principals' integration of information and communication technology in records management in secondary schools in Ika South Local Government Area, Delta State.
2. There is no significant difference in the mean ratings of principals and teachers on the principals' integration of information and communication technology in students' personnel management in secondary schools in Ika South Local Government Area, Delta State.

Methods

Descriptive survey research design was adopted for this study. This design is deemed appropriate for the study, since the researcher collected data which described the opinions of the given sample of the population on principals' integration of information and communication technology in management of secondary schools in Ika South Local Government Area, Delta State. The study was carried out in Ika South Local Government Area, Delta State. The choice of Ika South Local Government Area, Delta State as the area of the study is justified by the cases of manual method of managing records and students affairs in secondary schools in the area.

The population of the study comprised all the principals in secondary schools in Ika South Local Government Area, Delta State. The sample for this study



consisted of 252 respondents (8 principals and 244 teachers) using proportionate stratified sampling technique. A researcher-developed questionnaire titled “Principals’ Integration of Information and Communication Technology in School Management PIICTSMQ” was used for data collection. The researcher developed the instrument from insight gained in the review of related literature and consultation of experts in educational management. It has two versions. One version of the instrument was responded to by the principals, while the other was responded to by teachers. This was done to checkmate the principals’ responses. The instrument is divided into two clusters I and II. Cluster I has 11 items on integration of ICT in record management and cluster II has 10 items on integration of ICT in students’ personnel management. The instrument therefore contains a total of 21 items which are structured on a four point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) weighted at 4, 3, 2 and 1 respectively.

The instrument was validated by three experts, two from the Department of Educational Management and Policy, and one from the Department of Educational Foundations, Nnamdi Azikiwe University.

Results

Research Question 1: How do principals integrate information and communication technology in records management in secondary schools in Ika South Local Government Area, Delta State?

Cronbach alpha was used for a test of internal consistency of the instrument which yielded coefficients of 0.82 and 0.79 for clusters I and II with an overall coefficient of 0.81. The researcher and three research assistants who are secondary school teachers Ika South Local Government Area, Delta State administered copies of the questionnaire to the respondents. A total of 252 copies of the questionnaire were distributed, 8 copies for principals and 244 for teachers respectively, out of which 246 copies made of 8 copies from principals and 238 copies from teachers were properly filled and successfully retrieved indicating 98% percent return rate. Mean and standard deviation were used in answering the research questions and t-test statistic to test the null hypotheses. The decision criteria for the research questions is that any mean rating of 2.50 and above was considered as agreement and any mean rating of below 2.50 was considered as disagreement. The decision criteria for the null hypotheses is that if the p-value is equal to or less (\leq) than significant value of .05, the null hypothesis was rejected, but if the p-value is greater than ($>$), the significant value of .05 the null hypotheses was accepted.



Table 1: Mean and standard deviation ratings of Principals and Teachers on Integrate Information and Communication Technology in Records Management in Secondary Schools

S/ N	ITEMS As a Principal, I integrate ICT to;	PRINCIPALS (n = 8)			Teachers (n= 238)		
		Mean	SD	Remark	Mean	SD	Remark
1	Manage visitors book in the school using file protocol software	2.42	1.03	Disagree	2.38	1.10	Disagree
2	Keep accurate account of all punishment in the school using spreadsheet	2.53	1.00	Agree	2.55	0.91	Agree
3	Preserve valuable records in Google cloud	2.31	1.07	Disagree	2.27	1.05	Disagree
4	Create database for storage of records	2.45	1.11	Disagree	2.36	1.07	Disagree
5	Keeping account of extra-curricular activities in the school using file protocol software	2.43	1.04	Disagree	2.40	1.00	Disagree
6	Keep files in memory card devices	2.47	1.12	Disagree	2.41	1.02	Disagree
7	Manage the school log book using file protocol software	2.33	1.05	Disagree	2.39	1.10	Disagree
8	Keeping record of meeting proceedings using Microsoft word	2.59	0.92	Agree	2.57	1.06	Agree
9	Keep accurate account of facilities using Microsoft excel	2.43	1.10	Disagree	2.41	1.05	Disagree
10	Copy important files into CD plates	2.62	1.03	Agree	2.58	1.01	Agree
11	Keeping accurate account of school timetable using spreadsheet	2.54	1.09	Agree	2.47	1.08	Disagree
Mean of Means'		2.47	1.05	Disagree	2.44	1.04	Disagree

Result presented in table 1 showed that mean ratings of principals and teachers for in items 1, 3-7 and 9 are below 2.50 and thereby indicating disagreement with the statements. On the other hand, principals and teachers recorded mean scores of above 2.50 for items 2, 8 and 10 which revealed agreement with the statements. The mean scores of 2.54 recorded by principals for item 10 is above 2.50 showing with the statement, while teachers recorded mean score of 2.47 which is below 2.50 indicates disagreement with the item.



The pooled standard deviation scores which stood at 1.05 and 1.04 for principals and teachers respectively revealed that their responses are close to the mean indicating little variation in their responses. The cluster mean of 2.47 for principals and 2.44 for teachers are below 2.50 indicated that principals do not integrate information and communication technology in records management in secondary schools in Ika South Local Government Area, Delta State.

Research Question 2: How do principals integrate information and communication technology in students' personnel management in secondary schools in Ika South Local Government Area, Delta State?

Table 2: Mean and standard deviation ratings of Principals and Teachers on Integrate Information and Communication Technology in Students' Personnel Management in Secondary Schools

S/ N	ITEMS As a Principal, I integrate ICT to;	Principals (n = 8)			Teachers (n= 238)			Remark
		Mea n	SD	Remark	Mea n	SD		
12	Process students admission using spreadsheet software	2.66	1.1 1	Agree	2.60	1.0 7		Agree
13	Create web portal for students to check their admission status	2.78	1.0 1	Agree	2.69	1.0 4		Agree
14	Facilitate students registration process using the internet	2.57	1.0 5	Agree	2.58	1.0 8		Agree
15	Organize orientation programme for students utilizing projector	2.81	1.1 0	Agree	2.77	0.9 5		Agree
16	Process students results using spreadsheet software	2.60	1.0 0	Agree	2.64	1.0 4		Agree
17	Facilitate students payment of school fees using online payment modules	2.47	1.0 3	Disagree	2.43	1.0 9		Disagree
18	Managing students attendance using spreadsheet software	2.39	0.9 7	Disagree	2.41	1.1 3		Disagree
19	Handling inquiries from prospective students using the internet	2.55	1.0 8	Agree	2.51	1.0 6		Agree
20	Preparing students class schedules using MS word	2.72	1.1 1	Agree	2.74	1.0 4		Agree
21	Providing web-based access to information to students using the internet	2.52	1.0 5	Agree	2.50	1.1 0		Agree
Mean of Means'		2.61	1.0 5	Agree	2.59	1.0 6		Agree

Table 2 revealed that mean ratings of principals and teachers for all items are above 2.50 indicating agreement with the statements except for items 17 and 18 which rated below 2.50

indicating disagreement with the statements. The pooled standard deviation scores which stood at 1.06 and 1.07 for principals and teachers respectively showed that closer convergence of the mean ratings. The cluster mean of 2.57 for principals and 2.63 for teachers are above 2.50 indicated that principals integrate information and communication technology in students' personnel management in secondary schools in Ika South Local Government Area, Delta State.

H₀₁: There is no significant difference in the mean ratings of principals and teachers on the principals' integration of information and communication technology in records management in secondary schools in Ika South Local Government Area, Delta State.

Table 3: The Summary of t-test Analysis no Significant Difference in the Mean Ratings of Principals and Teachers on the Principals' Integration of Information and Communication Technology in Records Management in Secondary Schools

Group	N	Mean	SD	p-value	Df	Alpha	Remark
Principals	8	2.47	1.05	0.22	244	0.05	Not Significant
Teachers	244	2.44	1.04				

Table 3 revealed that the p-value of 0.23 is greater than 0.05 level of significance. Thus, the null hypothesis is accepted. Therefore, there is no significant difference in the mean ratings of principals and teachers on the principals' integration of information and communication technology in records management in secondary schools in Ika South Local Government Area, Delta State.

H₀₂: There is no significant difference in the mean ratings of principals and teachers on the principals' integration of information and communication technology in students' personnel management in secondary schools in Ika South Local Government Area, Delta State.

Table 4: The Summary of t-test Analysis no Significant Difference in the Mean Ratings of Principals and Teachers on the Principals' Integration of Information and Communication Technology in Students' Personnel Management in Secondary Schools

Group	N	Mean	SD	p-value	Df	Alpha	Remark
Principals	8	2.61	1.05	0.31	244	0.05	Not Significant
Teachers	244	2.59	1.06				



As shown in table 4, the p-value of 0.31 is greater than 0.05 level of significance. Thus, the null hypothesis is accepted. Therefore, there is no significant difference in the mean ratings of principals and teachers on the principals' integration of information and communication technology in students' personnel management in secondary schools in Ika South Local Government Area, Delta State.

Discussion

The result of the study revealed that principals do not integrate information and communication technology in records management in secondary schools in Ika South Local Government Area, Delta State. This agreed with the finding of Imasuen and Abinuomo (2022) which indicated that the level of ICT application in school record keeping in secondary schools was to a low degree. This also supported the finding of Masegenya and Mwila (2023) reported that there was inadequate application of ICT in record keeping in public secondary schools. This disagreed with the result of Nnamdi and Busa (2023) which showed that principals apply ICT in keeping the records in secondary schools. Principals do not integrate information and communication technology in records management in secondary schools in Ika South Local Government Area, Delta State through managing visitors book in the school using file protocol software, preserving valuable records in Google cloud, creation of database for storage of records, to keep files in memory card devices, managing the school log book using file protocol software and keeping accurate account of facilities using Microsoft excel. The possible explanation to the finding is probably that principals are not provided adequate ICT facilities and also have insufficient skills to utilize the available ones in record management. Further result showed that there is no significant difference in the mean ratings of principals and teachers on the principals'

integration of information and communication technology in records management in secondary schools in Ika South Local Government Area, Delta State. This is in line with the finding of Makewa, Meremo, Role and Role (2013) which showed that there was no significant difference in mean scores of teachers and administrators on the extent of administrators' use of ICT in secondary school administration.

The finding of the study showed that principals integrate information and communication technology in students' personnel management in secondary schools in Ika South Local Government Area, Delta State. This is contrary to the finding of Osuji and Anele (2021) which revealed that information and communication technology was utilized in student personnel administration in tertiary institutions. This also refuted the finding of Nnamdi and Busa (2023) who reported that secondary school principals apply ICT to facilitate the management of students personnel. The difference in geographical location could account for the agreement with the findings. Principals integrate information and communication technology in students' personnel management in secondary schools in Ika South Local Government Area, Delta State through processing students admission using spreadsheet software, creating web portal for students to check their admission status, facilitating students registration process using the internet, organize orientation programme for students utilizing projector



and processing students results using spreadsheet software. The principals' integration of information and communication technology in students' personnel management could be explained by increasing number of students' enrolment, programmes and services in secondary schools. Principals probably integrate information and communication technology in students' personnel management to make it easier for them to control the activities and programmes of learners in public secondary schools. The integration of ICT in students' personnel management is part of the reason that students could apply for admission online, check of their admission status via internet and print the termly results online. It was also found that there is no significant difference in the mean ratings of principals and teachers on the principals' integration of information and communication technology in students' personnel management in secondary schools in Ika South Local Government Area, Delta State. This agreed with the finding of Nkemjika and Raji (2020) which indicated that there is no significant difference in the mean ratings of teachers and school administrators on the influence of application of information and communication technology in students' personnel management in secondary schools.

Conclusion

Based on the findings, it was concluded that principals partially integrate information and communication technology in management of secondary schools in Ika South Local Government Area, Delta State. Principals integrate ICT in students' personnel management but fail to do that in the aspect of record management. The storage and retrieval of records are

predominantly manually done in secondary schools in Ika South Local Government Area, Delta State.

Recommendations

Based on the findings, it was recommended among others that

1. Delta State Post Primary Education Board should organize annual training programme on ICT for principals to upgrade their skills and knowledge on their integration to enhance the management of school records.
2. Delta State Post Primary Education Board should recruit and post ICT professionals to secondary schools to guide principals on the integration of ICT in record management.
3. Delta State Government should procure and deploy ICT facilities to improve the use of ICT in students' personnel management.
4. Delta State Post Primary Education Board should develop handbook that will guide principals on how to effectively integrate ICT in students' personnel management.

References

- Agada, C.F. & Eze, T.A. (2023). Information and communication technology as a tool for effective school record management. *ESUT Journal of Education*, 6(2), 228-236.
- Akpan, I.U., Dung, U.B. and Ibegbulam, C.A. (2020). Impact of information and communications technology on school administration in Nigeria secondary education. *International Research Journal of Applied Sciences, Engineering and Technology*, 6(11), 28-46.
- Bakare, O.O. (2023). Principals' information and communication technology literacy and digital tracking of secondary



- school activities in Osun State. *Journal of Science, Technology and Mathematics Pedagogy*, 1(2), 202-216.
- Fashina, A.Y. & Akindele, O.A. (2023). Assessment on the level of awareness of information communication technology among secondary school teachers: Implication for counselling. *Journal of Curriculum and Instruction*, 14(1), 109-114.
- Imasuen, K. & Abinuomo, P.M. (2022). Analysis of the application of information and communication technology (ICT) on school record-keeping, in secondary schools in Benin City, Nigeria. *British Journal of Computer, Networking and Information Technology*, 5(1), 1-10.
- Makewa, L., Meremo, J., Role, E. and Role, J. (2013). ICT in secondary school administration in rural southern Kenya: An educator's eye on its importance and use. *International Journal of Education and Development using Information and Communication Technology*, 9(2), 48-63.
- Manafa, F.F., Ohamobi, I.N. and Osegbue, G.C. (2022). Utilization of ICT resources in the management of UBE in secondary schools in Anambra State. *African Journal of Educational Management, Teaching and Entrepreneurship Studies*, 7(1), 119-128.
- Masegenya, S. & Mwila, P.M. (2023). Information and communication technology usage in record keeping in public secondary schools in Ilemela Municipality, Tanzania. *International Journal of Information Systems and Informatics*, 4(1), 1-17.
- Nkemjika, C. & Raji, W. (2020). Influence of information and communication technology in secondary school administration in Abia State. *GSC Advanced Research and Reviews*, 3(1), 26-35.
- Nnamdi, S.E. and Busa, A.I. (2023). Information communication technology (ICT) and secondary school administrative effectiveness in Jos north local government area of State, Nigeria. *Sapientia Foundation Journal of Education, Sciences and Gender Studies*, 5(1), 89-98.
- Nwogbo, V.N. & Ilavbare, L.J. (2021). Comparision of principals' time management practices for improving students' academic achievement in public and private secondary schools in South-South, Nigeria. *International Journal of All Research Education and Scientific Methods*, 9(12), 2082- 2090.
- Omenyi, A.S. and Bosco-Duru, C.C. (2021). Teachers' perception of principals' effective students' personnel administration as correlate of their job involvement in public secondary schools in Imo State. *African Journal of Educational Management, Teaching and Entrepreneurship Studies*, 4(1), 158-166.
- Osuji, C.U. & Anele, G. (2021). Utilization of Information and Communication Technology in student personnel Administration in Tertiary Institutions in Rivers State. *International Journal of Contemporary Academic Research*, 2(3), 79-90.
- ThankGod, J.N., & Vulasi, B.K. (2020). Utilization of ICT in the administration of public senior secondary schools in Rivers State. *International Journal of Institutional Leadership, Policy and Management*, 2(2), 401-413.
- Ukaogba, J., & Nwankwo, I.N. (2020). Record management practices of principals for effective administration of secondary schools in Delta State. *International Journal of Innovative Science and*



Research Technology, 5(6), 499-505.

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