
**PATH ANALYSIS OF INNOVATIVE MANAGEMENT PRACTICES AND
SECONDARY SCHOOL SYSTEM EFFECTIVENESS IN CROSS RIVER STATE,
NIGERIA**

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ABSTRACT: *This study used a path analytic approach to examine the composite interaction of supervisory and records management with secondary school system effectiveness in terms of students' academic performance, teachers' job effectiveness and principals' administrative effectiveness. Two research questions were answered while one null hypothesis was tested. The study adopted a factorial research design. Convenience sampling technique was adopted by the researchers in selecting a sample of 1,200 respondents which comprised 271 principals and 929 teachers from a population of 271 principals, and 4,878 teachers. Principal Innovative Management Practices and Administrative Effectiveness Questionnaire (PIMPAEQ), Teachers work effectiveness questionnaire (TWEQ), and Students Mathematics Achievement Test (SMAT) were all used as instruments for data collection. Collected data were analyzed using descriptive statistics, the research questions and null hypothesis were answered and tested (at .05 level of significance) respectively using multiple regression and path analyses with the aid of SPSS v25 and Amos v22. Findings from the study established amongst others that; supervisory management and records management practices have a significant joint contribution to students' academic performance by 66.4%, teachers' job effectiveness by 71%, and principals' administrative effectiveness by 86.8%. Supervisory management and records management practices had a significant influence on students' academic performance ($F=1183.641$, $p<.05$), teachers' job effectiveness ($F=1465.615$, $p<.05$), and principals' administrative effectiveness ($F=3924.763$, $p<.05$). It was recommended amongst others that; secondary school principals should jointly use supervisory and records management practices as innovative techniques for improving students' academic performance, teachers' job effectiveness and their own administrative effectiveness.*

KEYWORDS: Path analysis, Innovative management, Supervisory management, Records management, School system, Administrative effectiveness

INTRODUCTION

Every nation of the world relies heavily on her education sector as a means to their societal transformation and sustenance. Education is the pivot around which all other sectors of a country revolves, and constitute a basis for national cohesion and integration. Arop, Owan, and Ekpong (2018) posit that education is the key to national development in every modern society and there is need to maintain every level of education especially the pre-primary stage because it is the bedrock upon which all other educational levels build. It follows, therefore, that educational provisions in any nation are very important and instrumental in changing the quality of citizens and for improving their livelihoods. Schools are the main drivers of education since they engage in teaching, learning, and behavior modification. Therefore, secondary schools (which serves as the second level of foundational training) must be run in a

manner that shows a high level of effectiveness so as to equip learners with the desired skills necessary to thrive in a dynamic society.

Secondary school system effectiveness implies an active process where activities within every school are tailored towards students' development, school growth, and goal attainment. Simply put, an effective secondary school is one that engages in activities according to prescribed patterns, standards, and expectation. A secondary school system can also be said to be effective if it is characterized by highly motivated teachers, good students' academic performance in standardized examinations, adequate leadership orientation, effective staff disposition, high school enrolment figures, good quality of leadership, high secondary school graduates' enrolment into tertiary institutions, low extent of truancy, low drop-out rates and low class-repeating figures, amongst others. Eduflow (2015) added that; instructional leadership, clear and focused mission, safe and orderly environment, a climate of high expectations, frequent monitoring of student progress, positive home-school relations, opportunity to learn and student time on task are correlates of effective schools (Eduflow, 2015). Lynch (2016) also added that effective schools are characterized by leadership, high expectations, ongoing evaluation, goals, and direction, as well as security and organization.

Going by these measures of school effectiveness, the motivation behind this study is based on the fact that, within the jurisdiction of Cross River State, many secondary schools appear to be ineffective. In truism, there is a high rate of poor students' academic performance in internal and external examinations. Some teachers do not seem to be effective in the discharge of their teaching duties as exemplified by their truant and inconsistent attitudes to work. School enrolment statistics have also been dwindling and unstable. The tertiary enrolment figures of most of these secondary schools are not even encouraging as only a few secondary school graduates are able to pass the Unified Tertiary Matriculation Examinations (UTME). This disparity that exists between the expectations of an effective school and the situation currently on the ground, is very glaring.

Researches have made attempts to resolve this menace of poor secondary school effectiveness. Research has found that the smaller the school, the better students perform, especially in the case of older students (Lynch, 2016). Various studies have identified several factors such as learning environment (Isaac, 2010), primary school effectiveness (Zembar, 2010), tertiary school preparation (Orr, 2011) and so on, have been identified by studies. Additional attributes that influence secondary school effectiveness include time to learn, teacher quality, and parental trust (Lynch, 2016). Research supports the view that the more time a student spends learning, and the more efficiently that time is used, the higher their achievement. Schools that find creative ways to extend learning time will likely be more effective. Furthermore, schools with high-quality teachers also tend to be more effective (Lynch, 2016).

Several recommendations have also been made to cushion this downtrend of secondary school ineffectiveness. Sadly, such recommendations are not followed appropriately and consequently, have not been able to address these issues. On this note, the researcher decided to investigate whether innovative practices in secondary schools have any relationship with their effectiveness levels. The researchers believe that with innovations in place, the task will be handled using new techniques leading to dynamics occurring in the schools.

Innovative management practice is the careful and systematic process of identifying and implementing activities that are unusual to the organization (including dynamics) and that can

stimulate the organization towards goal realization. It includes a set of tools that allow managers and engineers to cooperate with a common understanding of processes and goals. Innovation management allows the organization to respond to external or internal opportunities, and use its creativity to introduce new ideas, processes or products (Kelly & Kranzburg, 1978). In other words, innovative management practices are necessary for an organization to address issues and ensure its smooth running. Since the society change over time, such changes may affect the way individuals within organizations handle situations including their disposition.

Thus, a manager who uses old techniques to manage workers that are not in line with current practices may face difficulties in his administration. It could be that many secondary school principals are not using new approaches in their management, which may have contributed to the ineffectiveness of their schools. By utilizing innovation management tools, school leaders can trigger a change and deploy the creative capabilities of the workforce for the continuous development of a company (Clark, 1980). Common tools include brainstorming, prototyping, product lifecycle management, idea management, TRIZ, Phase-gate model, project management, product line planning, and portfolio management. The process can be viewed as an evolutionary integration of organization, technology, and market by iterating series of activities: search, select, implement and capture (Tidd & Bessant, 2009). The focus of this study is on two innovative management practices which include: supervisory management and records management practices.

Supervisory management practices enable the school manager to monitor and evaluate all the activities, plans, programmes, policies, projects and processes to ensure that they are carried out as planned by those saddled with the responsibility to do so. This variable was considered by the researchers because of the fact that; a school where managers demonstrate a high degree of supervisory management will have duties discharged accordingly. By so doing, the goals underlying such tasks may be attained. Usman (2015) examined the impact of instructional supervision on the academic performance of secondary school students in Nasarawa State with reference to Senior Secondary Certificate Examination (SSCE). The study showed that regular instructional supervision using robust supervision strategies like checking of students' notebooks, classroom visitation/inspection by school administrators, checking teachers' lesson plan/notes and inspection of teachers record keeping have a significant correlation with teachers' performance and academic achievement of students in Secondary Schools.

Ikegbusi and Eziamaka (2016) investigated the impact of supervision of instruction on teacher effectiveness in Enugu state. A sample of 905 teachers was selected through a proportionate stratified random sampling technique. The result of the study indicated that both internal and external supervision of instruction has a positive effect on teacher effectiveness in secondary schools. Similarly, Olawole (2009) investigated the perceived influence of supervision of instruction on teachers' classroom performance in Ijebu-North Education Zone. The sample was made up of 155 female teachers and 100 male teachers from 7 secondary schools drawn through stratified random sampling technique. The major findings showed that interaction between teachers and instructional supervisors influences to a great extent teachers' classroom performance.

The second sub-variable of this study was records management practices. Records management practice is defined as the allocation, classification, sorting, storage, and retrieval of information

pertaining to personnel of an organization. The rationale is to provide a database that can be used for decision-making when the need arises. Records management is important because it enables the school managers to keep track of all the events, activities, movement and occurrences in the school. This variable was considered by the researchers because when students and staff records are properly kept, it will enable the school to make decisions that will enable them to drive towards sustainability. Conversely, a school without well-kept records is bound to struggle and such will be difficult to refer to as an effective school.

From an empirical position, Owo (2014) carried out a study to establish record-keeping practices of secondary school principals in Enugu State Education Zone and problems associated with the keeping of records. The result among others showed that secondary school principals and teachers in Enugu State indicated that records presently kept in their schools include admission register, attendance register, weekly diaries of work, log book, visitor's book, staff record register, staff minutes book, school timetable, punishment book, school accounts books and education edict and regulation Manual.

Based on the literature reviewed, it was deduced that several studies have focused more on variables of school system effectiveness, such as teachers' performance, students' academic performance, and principals' job effectiveness. These studies were also predominantly conducted outside Cross River State. There seem to be limited or no study which has examined school system effectiveness from a broader perspective. This study, however, is different from all other existing studies. The reason is that none of these studies was conducted to specifically examine the joint influence of supervisory and records management practices on secondary school system effectiveness in terms using path analysis approach. This means that there are still gaps in the literature that this study will fill. It was based on this background that this study was undertaken to investigate innovative management practices and secondary school system effectiveness in Cross River State, Nigeria.

Statement of the problem

Under an ideal condition, secondary schools were expected to be managed in a manner that will ensure that the human resource performs their expected roles and discharge their duties following appropriate guidelines. This will have enabled the school as a system to raise the bar in terms of students' academic performance, teachers' job performance, human relations, cohesion, and improved motivation. With all these in place, secondary schools will have been driven towards effectiveness as everyone in the system will be active in role-playing.

This, however, does not seem to be the observed case in Cross River State where many secondary schools are characterized by gross misconduct of teachers, poor students' academic performance (in internal and external examinations), high rate of examination malpractice, and a high level of truancy by both staff and students. These poor attitudes displayed within secondary schools in Cross River State do not conform with acceptable standards, given that the graduates produced were supposed to be active and compete favorably with those of the rest of the world.

Improvements have been made in recent times in terms of plants and machinery provisions and in terms of staff payment. These measures do not also appear to have yielded any positive effect on the way many schools go about their routines, nor can it be said to have affected the students' academic performance. There is also a high rate of cultism in many secondary schools as engaged in by both staff and students. The effectiveness of secondary schools becomes

questionable consequently. On this note, the researcher wonders where the solution lies, since several attempts and efforts have failed and the situation remains unchanged. It was based on these issues that the researcher wonders whether innovative management practices have any contribution to the effectiveness of secondary schools. Thus, the major problem of this study is: how does innovative management practices relate to secondary school system effectiveness?

Research questions

The following research questions were posed:

- i. What is the joint contribution of supervisory management and records management practices on secondary school system effectiveness in terms of students' academic performance, teachers' job effectiveness and principals' administrative effectiveness?
- ii. What are the causal path relationships among innovative management (supervisory and records management) practices on school system effectiveness in terms of students' academic performance, teachers' job effectiveness and principals' administrative effectiveness?

Statement of hypotheses

The following null hypotheses were formulated and tested in the course of the study.

- i. There is no significant composite influence of supervisory management and records management practices on school system effectiveness in terms of students' academic performance, teachers' job effectiveness and principals' administrative effectiveness.

METHODS

This study adopted a factorial research design. This design is used in situations where the researcher is interested in examining the association between two or more independent variables with an (or several) dependent variable(s). This design was considered suited to this study based on the intention of the researcher to examine the composite influence of supervisory management and records management practices on school system effectiveness in terms of students' academic performance, teachers' job effectiveness and principals' administrative effectiveness.

The population of this study comprised all the public secondary school principals and teachers in Cross River State. There are 271 public secondary schools in the area with 271 principals and 4,878 teachers. Convenience sampling technique was adopted by the researchers in selecting a sample of 1200 respondents which comprised the entire 271 principals and 929 teachers. Convenience sampling technique is used based on the assumption that, with good judgment, a researcher can select into his sample, elements he considers appropriate for the study. Thus, the researchers adopted this technique for easy selection and administration of instruments. However, 1200 students were randomly selected to assess the effectiveness of their Mathematics teachers and to take the mathematics test.

The instruments used for data collection include Principal Innovative Management Practices and Administrative Effectiveness Questionnaire (PIMPAEQ), Teachers work effectiveness questionnaire (TWEQ), Students Mathematics Achievement Test (SMAT). These instruments were all designed by the researchers. The PIMPAEQ comprised 18 items and was designed to measure supervisory management practices, records management practices, and principals' administrative effectiveness. The TWEQ comprised six items that were designed to measure teachers' job effectiveness. All the items in every questionnaire used were organized on a four

Likert scale. The SMAT, on the other hand, comprised 12 objective tests items in mathematics and was used to measure students' academic performance.

Cronbach Alpha was the technique used to establish the reliability of the instruments and yielded reliability estimates of .89, .91, .85, .79, and .88 respectively for supervisory management, records management, students' academic performance, teachers job effectiveness, and principals' administrative effectiveness. With these values, the researchers considered the instruments as being internally consistent for measurement.

The questionnaires were administered to the sampled schools respectively on different days. The respondents were informed of the exercise and the importance of giving objective responses to the items. The researchers obtained data concerning supervisory management practices, records management practices and principals' administrative effectiveness from teachers. While students completed the teachers' work effectiveness questionnaire (TWEQ) and as well, wrote the mathematics achievement test.

The data obtained were coded accordingly on the person-by-item matrix using a computer spreadsheet program (Excel v2016). Each response was converted to its assigned numeric value. Coded data were analyzed using descriptive statistics, the research questions and null hypothesis were answered and tested (at .05 level of significance) respectively using multiple regression and path analyses with the aid of SPSS v25 and Amos v22. The results from the analysis of data are presented in the following section.

PRESENTATION OF RESULTS

The results from this study were presented based on the research question posed and the hypotheses that were formulated as shown below.

Research Question 1

What is the joint contribution of supervisory management and records management practices on secondary school system effectiveness in terms of students' academic performance, teachers' job effectiveness and principals' administrative effectiveness?

The results presented in Table 1 below shows that the independent sub-variables (supervisory and records management practices) had joint multiple correlations ($R = .815$) with students' academic performance; ($R = .843$) with teachers' job effectiveness; and ($R = .931$) with principals' administrative effectiveness. Supervisory and records management practices contributed jointly and could be held accountable for 66.4%, 71%, and 86.8% of the total variance of students' academic performance ($R^2 = .664$; $Adj R^2 = .664$), teachers' job effectiveness ($R^2 = .710$, $Adj R^2 = .710$) and principals' administrative effectiveness ($R^2 = .868$, $Adj R^2 = .867$). By implication, the remaining 33.6%, 29%, 13.2% of the variance of students' academic performance, teachers' job effectiveness and principals' administrative effectiveness were not accounted for and may be resulting from those variables not included in this study.

TABLE 1

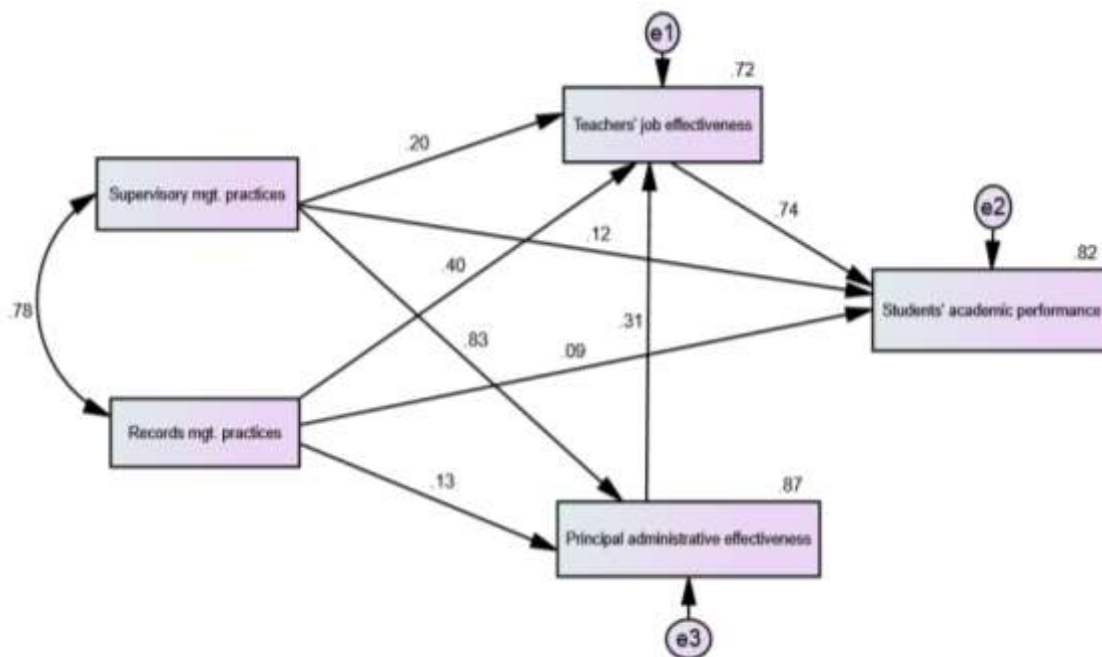
Multiple regression results showing the joint contribution of supervisory management and records management practices on secondary school system effectiveness in terms of students' academic performance, teachers' job effectiveness and principals' administrative effectiveness

Variable	R	R ²	Adj. R ²	Std. Error
Students' academic performance	.815 ^a	.664	.664	3.262
Teachers' job effectiveness	.843 ^a	.710	.710	3.041
Principals' administrative effectiveness	.931 ^a	.868	.867	2.034

a. Predictors: (Constant), Supervisory, Records management practices

Research Question Two

What are the causal path relationships among innovative management practices (supervisory and records management) practices on school system effectiveness in terms of students' academic performance, teachers' job effectiveness and principals' administrative effectiveness? The result of the causal paths of the relationships among innovative practices on school system effectiveness is presented in Figure 1 below.



Chi-square = 52.308

Degrees of freedom = 1

Probability level = .05

Source: Authors' computation

FIGURE ONE: Paths diagram showing the causal relationships among supervisory and records management practices with school system effectiveness in terms of students' academic performance, teachers' job effectiveness and principals' administrative effectiveness.

Fig. 1. Shows that; supervisory management practices have a direct relationship with teachers' job effectiveness, students' academic performance, and principals' administrative effectiveness. It was inferred also that records management practices have a direct relationship

with teachers' job effectiveness, students' academic performance, and principals' administrative effectiveness. Principals' administrative effectiveness had a direct relationship with teachers' job effectiveness. Teachers' job effectiveness, on the other hand, had a direct relationship with students' academic performance. Both supervisory management and records management practices have an indirect relationship with students' academic performance through teachers' job effectiveness, and with teachers' job effectiveness through principals' administrative effectiveness. All the paths were statistically significant at .05 level of significance. However, the results also showed that: the covariance between SMP and RMP is statistically significant (COV= 24.377, $p < .05$) at .05 alpha level. In understanding the cause-effect relationship between the various paths, the results presented in Table 2 below was used.

TABLE 2.

Standardized regression weights summary showing the significant paths of the model

	Paths		Estimate	S.E.	C.R.	P	Label
PAE	<---	SMP	.83	.017	48.880	***	par_4
PAE	<---	RMP	.13	.017	7.544	***	par_8
THE	<---	RMP	.40	.025	15.939	***	par_2
THE	<---	SMP	.20	.043	4.605	***	par_3
THE	<---	PAE	.31	.042	7.432	***	par_6
SAP	<---	TJE	.74	.023	32.701	***	par_5
SAP	<---	SMP	.12	.022	5.355	***	par_7
SAP	<---	RMP	.09	.022	3.866	***	par_9

Source: Authors' computation

Note: PAE = Principals' administrative effectiveness, SMP= Supervisory management practices, RMP=Records management practices, TJE= Teachers' job effectiveness, SAP = Students' academic performance

From Table 2, the results presented showed that all the paths were statistically significant (***) in causing effects among exogenous and endogenous variables of this study since their respective p-values were less than .05 level of significance. The results further disclosed that; when SMP increases by 1 standard deviation, PAE will increase by 0.83 standard deviations, TJE will increase by 0.20 standard deviation, and SAP will increase by 0.12 standard deviation. When RMP increases by 1 standard deviation, PAE, TJE, and SAP will increase by 0.13, 0.40, 0.09 standard deviation respectively. When PAE increases by 1 standard deviation, teachers' job effectiveness will increase by 0.31 standard deviation. Lastly, when TJE increases by 1 standard deviation, students' academic performance will increase by 0.74 standard deviations.

Hypothesis One

There is no significant composite influence of supervisory management and records management practices on school system effectiveness in terms of students' academic performance, teachers' job effectiveness and principals' administrative effectiveness. The results presented in Table 3 below shows that Supervisory management and records management practices have a significant influence on students' academic performance ($F= 1183.641$, $p < .05$), teachers' job effectiveness ($F= 1465.615$, $p < .05$), and principals' administrative effectiveness ($F=3924.763$, $p < .05$). With these results, the null hypothesis was rejected, while the alternate hypothesis was upheld. This implies that there is a significant composite influence of supervisory management and records management practices on school

system effectiveness in terms of students' academic performance, teachers' job effectiveness and principals' administrative effectiveness.

TABLE 3

Analysis of Variance showing the influence of supervisory management and records management practices on school system effectiveness in terms of students' academic performance, teachers' job effectiveness and principals' administrative effectiveness.

Models	SS	Df	MS	F	Sig.
Regression	25192.461	2	12596.231	1183.641	.000 ^b
Residual	12738.398	1197	10.642		
Total	37930.859	1199			

a. Dependent Variable: Students' academic performance

Regression	27105.434	2	13552.717	1465.615	.000 ^b
Residual	11068.802	1197	9.247		
Total	38174.237	1199			

a. Dependent Variable: Teachers' job effectiveness

Regression	32475.850	2	16237.925	3924.763	.000 ^b
Residual	4952.349	1197	4.137		
Total	37428.199	1199			

a. Dependent Variable: Principal administrative effectiveness

b. Predictors: (Constant), Supervisory management practices, Records management practices

DISCUSSION OF FINDINGS

Supervisory management and records management practices have direct relationships with teachers' job effectiveness, students' academic performance, and principals' administrative effectiveness respectively. Both supervisory management and records management practices have an indirect relationship with students' academic performance through teachers' job effectiveness, and with teachers' job effectiveness through principals' administrative effectiveness. This finding agrees with the findings of Usman (2015) which showed that regular instructional supervision using robust supervision strategies like checking of students' notebooks, classroom visitation/inspection by school administrators, checking teachers' lesson plan/notes and inspection of teachers record keeping have significant correlation with teachers' performance and academic achievement of students in Secondary Schools.

By implication, the finding of this present study means that; school system effectiveness will be highly predicted in secondary schools where supervision and records are effectively managed than in schools where they are not. Principals who monitor teachers' notes and records, as well as their teachings, will develop in the teachers, the consciousness to sit up and improve their duties. Teachers who also supervise students' curricular and co-curricular activities will promote better academic and psychomotor levels in the learners, and when this happens, everyone within the school system (including non-teaching staff) should be effective. Another major finding of this study revealed that supervisory management and records management practices have a significant joint contribution to students' academic performance by 66.4%, teachers' job effectiveness by 71%, and principals' administrative effectiveness by

86.8%. It was also established that; supervisory management and records management practices have a significant influence on students' academic performance ($F= 1183.641, p<.05$), teachers' job effectiveness ($F= 1465.615, p<.05$), and principals' administrative effectiveness ($F=3924.763, p<.05$). This finding corroborates the finding of Ikegbusi and Eziamaka (2016), which amongst others, indicated that both internal and external supervision of instruction has a positive effect on teacher effectiveness in secondary schools. The results of this study may have been because, in an effective school, accounts of all activities, information, and relevant data may be made accessible when needed. Thus, proper planning, forecast, and provisions may be made on the basis of such records. The same may not be said of an ineffective school, where records may not be properly kept. This finding implies that supervisory and records management practices will cause secondary school system effectiveness to increase by various standard deviations which have been presented earlier.

CONCLUSION

It was concluded that innovative management practices can be used to predict the effectiveness of secondary schools in terms of students' academic performance, teachers' job effectiveness and principals' administrative effectiveness. Schools with a high demonstration of innovative management practices in terms of supervision and records management will witness improvement in the performance of their students; teachers' effectiveness will improve, and the principals will become more effective. Conversely, schools with little or no demonstration of innovative management practices in terms of supervision, and records management, will experience a decline in school system effectiveness.

Recommendations

Based on the findings of this study, it was recommended that:

- i. Secondary school principals should ensure that staff and students are frequently and thoroughly supervised through regular class visits and through regular checks of teachers' notes and other records.
- ii. Statutory and non-statutory records of both staff and students should be carefully kept and managed against theft and damages. These records should be kept manually and using computerized data management programs (which must also be protected against viruses).
- iii. Personnel in the school such as teachers, students, and non-teaching staff should be given an enabling environment by the principal to learn and practice effectively.
- iv. Secondary school principals should jointly use supervisory and records management practices as an innovative technique for improving students' academic performance, teachers' job effectiveness and their own administrative effectiveness.

References

- Arop, F.O., Owan V.J. & Ekpang M.A. (2018). A qualitative analysis of Universal Basic Education policy implementation strategies in Nigeria: Effective management for goals realization. *International Journal of Research and Innovation in Social Science (IJRISS)*, 2(9), 48 – 54.
- Clark, C. H. (1980). *Idea management: How to motivate creativity and innovation*. New York: AMACOM.

- Eduflow (2015). School effectiveness: Lezotte's 7 correlates. Retrieved on the 27th Jan 2019 from <https://edufLOW.wordpress.com/tag/lezottes-7-correlates/>
- Ikegbusi, N. G. & Eziamaka, C. N. (2016). The impact of supervision of instruction on teacher effectiveness in secondary schools in Nigeria. *International Journal of Advanced Research in Education & Technology (IJARET)*, 3(3), 12-16
- Isaac, H. (2010). Learning environment and secondary school effectiveness in Nigeria. *Dissertation Abstracts International*, 67(9), 4239-A.
- Kelly, P., & Kranzburg M. (1978). *Technological innovation: A critical review of current knowledge*. San Francisco: San Francisco Press.
- Lynch, M. (2016). The five attributes of successful schools. Retrieved online from <https://mobile.edweek.org/c.jsp?cid=25920011&item=http%3A%2F%2Fapi.edweek.org%2Fv1%2Fblogs%2F155%2F%3Fuuid%3D58935>
- Olawole, O. O. (2009). Perceived influence of supervision of instruction on teachers' classroom performance in Ijebu-North education zone of Ogun state. An M.Ed thesis submitted to the University of Nigeria, Nsukka.
- Orr, D. L. (2011). How graduate-level preparation influences the effectiveness of school leaders: A comparison of the outcomes of exemplary and conventional leadership preparation programs for principals. *Dissertation Abstracts International*, 67(3), 1234-A.
- Owo, J. N. (2014). Record keeping practices of secondary school principals: an Enugu state education zone study. *International Journal of Education and Research*, 2(10), 384-392
- Tidd, J. & Bessant, J. (2009). *Managing innovation: Integrating technological, market and organizational change (4th ed.)*. Chichester: Wiley.
- Usman, Y. D. (2015). The impact of instructional supervision on the academic performance of secondary school students in Nasarawa state, Nigeria. *Journal of Education and Practice*, 6(10), 160-167
- Zemat, D. (2010). The relationship between the effectiveness of preschools and leadership styles of school managers. *Procedia - Social and Behavioral Sciences*, 2(2), 2269 - 2276.