

School Factors As Predictor Of Student's Academic Performance In Basic Science And Basic Technology In Junior Secondary Schools In Ekiti State, Nigeria

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Abstract—The study investigated School Factors as Predictor of Student's Academic Performance in basic science and basic technology in Junior Secondary Schools in Ikere Local Government Area, Ekiti State, Nigeria. The design used by the researchers in this study was the descriptive survey. The target population of the study comprised all principals and teachers of basic science and basic technology from junior secondary school in Ikere Local Government Area of Ekiti State. The sample size consisted of One hundred (100) principals and junior secondary school teachers, randomly selected for this study. Ten public junior secondary schools were selected in the local government through a simple random method. The researchers developed teachers" and principals" questionnaires respectively. These instruments were subjected to validity and reliability mechanism. These instruments were used to collect both qualitative and quantitative data as it had both open ended and closed ended questions. The questions in the instruments addressed each study objective in separate sections. A reliability of 0.83 and 0.87 was obtained with the teachers and Principals respectively. The data collected was analysed with statistical tools involving inferential statistic of Chi-square (χ^2) to test the generated research questions at 0.05 level of significance. Based on the findings, conclusion and appropriate recommendations were made.

Keywords—School factors, Predictor, academic performance, Basic Science, Basic technology.

Introduction

The Basic Science and Basic Technology Curriculum were revised in 2012 as the result of the restructuring and integration of our Primary and Junior Secondary Science Curricula. The subjects; basic science, basic technology, physical and health Education, computer studies, information communication technology were all integrated into one . This became necessary in order to reduce the

no of subjects and avoid repetition and duplication of concepts resulting to curriculum overload, to encourage innovative teaching and learning approaches and techniques that promote creativity and critical thinking in students, to promote holistic view of science at basic level for better understanding of a contemporary and changing world and infuse emergent issues that are of national and global concern, such as gender sensitivity, globalization and entrepreneurship into the curricula.

The objectives of the curriculum are to prepare the students to develop interest in Science and Technology, apply scientific and technological knowledge and skills to meet contemporary societal needs, take advantage of the numerous career opportunities provided by Science and Technology, become prepared for further studies in Science and Technology, avoid drug abuse and related vices, and also to be safety and security conscious. Hence major issues in influencing knowledge driven societies and shaping the contemporary growth and development of Nations such as; Environmental education, climate change, safety and security, drug abuse education, food and drug safety education, disaster risk reduction education, consumer education and entrepreneurship were identified and infused into the curriculum content for Basic schools.

The goals of the Curriculum place emphasis on ; guided inquiry, activity based teaching and learning using locally sourced material, contents that engenders the development of relevant attributes and survival strategies for living successfully in a contemporary and global world. To cover this curriculum, the recommended weekly time allocation is three periods of 40 minutes each. Students need to do regular revision at home in order to cope with the content and new terminology. The role and principal duty of a science and technology teacher is to prepare and present good lessons to his/her students.

Basic Technology is an integrated subject which comprises of Woodwork, Building technology, Auto mechanics, Electrical electronics and Technical drawing at their best level. It is a subject offered at

Junior Secondary School level. Technology is basically a systematic way of doing things or solving problems for the good of mankind. Technology is also a human activity directed at designing and making products like machine, computers, textiles, household devices and others, which make human living comfortable.

Basic Technology book series for Junior Secondary Schools is designed in accordance with the new Curriculum for Basic Technology developed by the Nigeria Education Research and Development Council for the nine year basic education program. The textbooks used in Basic Tech. courses in Nigeria Secondary Schools according to Adeoye & Olabiyi (2011) serve several important purposes; they define the boundaries of contents, the order in which specific topic are taught and their presentation. They are also sources for problem solving, explanation giving, and means of connecting students with emerging technologies.

The Basic sciences are defined as scientific disciplines of mathematics, physics, chemistry and biology. They are called basic sciences because they provide a fundamental understanding of natural phenomena and the processes by which natural resources are transformed (Okoye, 2009). Basic science is taught to pupils and students at basic levels of education. It is the fundamentals of science subjects, and thus exposes students to the rudiments of science learning. Basic science provide the prerequisite scientific knowledge, attitudes and skills upon which subsequent scientific and technological advancement is based (FME, 2013).

School Factors plays an important role in teaching and learning process. It is a veritable tool in the process of passing instructions from the teachers to the students. The success of any educational system is a function of the effectiveness of classroom management. Classroom teachers are managers and so ought to be in control from the beginning of the lesson to the end so as to ensure that the students benefit from the interactive business that transpires in the classroom situation. This, to a greater extent would enhance smooth coordination and responses on the part of both the teacher and the learner.

School Factors has proved to be a plaguing aspect of the teaching and learning process over the recent past. This single skill has heavily contributed to the teacher stress and burnout, overall teacher's self-efficacy, student achievement and teacher performance in the classroom. (Edwards, et. al, 2016).

Teachers must "establish order, engage students, or elicit their cooperation" in order to create a classroom environment in which students learn, and which the teacher can manage. The importance of classroom management is widely documented, indicating that teachers' effective managing of students' behaviour and learning is critical to achieving positive educational outcomes (Evertson & Weinstein, 2016). Researchers in America reveal that

teachers' classroom management practices can have a significant effect on students' concentration and self-regulated learning, autonomy and responsibility, moral and social development as well as students' achievements (Lewis, Romi & Roache, 2012).

Classroom management has been highlighted across numerous research studies as a major variable that affects students' academic performance (Marzono, 2018). The most obvious reason for this assertion is that, effective classroom management sets the stage for teaching and learning. It sets a tone in the classroom that captures students' attention as a necessity for effective teaching and learning (Marzono, 2018). This statement is obvious in a classroom which is chaotic and disorganized as a result of poor classroom management and is highly unlikely to enhance expansive learning and students' academic performance. According to Walter (2016), classroom management differs from one teacher to another because of the teacher's personality, teaching style, preparedness, and number of students in the classroom.

According to Umoren (2010), the concept of classroom management is broader than the notion of student control and discipline, it includes all the things teachers must do in the classroom to foster students' academic involvement and cooperation in classroom activities to create conducive learning environment.

According to Bassey (2012), the wider view of classroom managements shows increased engagement, reduction in inappropriate and disruptive behaviours, promotion of student responsibility for academic work, and improved academic performance of students.

In effect, discipline, control and the consequences become authoritative or punitive approaches to classroom management. These have become much smaller part of the term classroom management. Thus, classroom management denotes much more than any of these words (Charlie, 2016). As put by Williams (2018), classroom management involves how the teacher works, how the class works, how the teacher and students work together and how teaching and learning takes place.

Poorly managed classrooms are usually characterized by disruptive behaviours such as sleeping, late coming, noisemaking, miscopying of notes, eating, calling of nicknames, verbal or physical threat to fellow students or the teacher (Ekere, 2001). These disruptive behaviours disorganize learning processes and hamper academic performance of students. Effiong (2017) suggests that teachers can deal with these disruptive behaviours in the classroom and reduce them to the minimum through effective classroom management so that effective learning can take place. Once teachers are able to effectively reduce or eliminate disruptive behaviours in the classroom, there would be increased academic attentiveness and engagements which would pave way for better academic performance by students.

Delegation of authority to learners is still another technique of effective classroom management where the teacher delegates his/her authority to deserving students and assign them duties such as cleaning chalkboard, timekeeping, controlling noisemakers, managing learning materials, collecting assignment from students, copying lesson notes on the chalkboard, class representatives on behalf of the class (Nima,2014). These contribute a great deal to making the classroom a conducive place if cooperation between students and teachers in the classroom is fostered.

Classroom management techniques are aimed at producing conducive learning environment where students can learn with ease and perform better academically. All of these techniques can be adopted in the classroom depending on the nature of the problem at hand.

Based on the above statements, the researchers deemed it necessary to investigate

School factors as predictor of Student's Academic Performance in Basic Science and Basic Technology in Junior Secondary Schools in Ikere Local Government Areas of Ekiti State, Nigeria.

Research Hypotheses

The study sought to answer the following null hypotheses:

1. There is no significant influence of classroom discipline management on students' academic achievement in basic science and basic technology.
2. There is no significant influence of instructional supervision on students' academic achievement in basic science and basic technology.
3. There is no significant influence of classroom instructional methodologies on students' academic achievement basic science and basic technology.
4. There is no significant influence of supportive feedback on students' academic achievement basic science and basic technology.

Review of Related Literature

Concept of Classroom Management

The classroom is an operational venue in schools which holds students together and offers them the opportunity of achieving the purpose of education (Hill & Hill, 2010). It is a room in a school where a group of students or children are taught lessons. Thus, the classroom should be well managed and maintained to bring about healthy learning environment, relatively free from behavioural problems which goal should be to maintain a positive productive learning environment and quality performance. The quality of the physical environment, according to Edwards (2016), affects the performance of teachers as well as that of students.

Classroom management could be seen as an integral part of effective teaching which deters behavioural problems through good planning, organizing and managing of classroom activities, good

presentation of instructional materials and good teacher-student interaction aiming at increasing students' involvement and co-operation in learning to ensure quality secondary education. Classroom management is an art and a science with many identifiable characteristics that result in smooth periods of learning, flexible enough to recognize what is needed and has the ability to keep control of the situation(s) that arise. Effective classroom management begins with mutual respect and interpersonal relationships and is vital to improve student achievement and teacher self-efficacy. It requires commitment to students and their learning, because a positive rapport with students is the foundation upon which classroom culture is built (Osakwe, 2014).

Influence of Classroom Discipline Management on Students' Academic Achievement

The term 'discipline' comes from the word "discipulus" in Latin which means teaching and learning. The term has the essence of control in it and means "to teach someone to obey rules and control their behaviour or to punish someone in order to keep order and control" (Longman Dictionary of Contemporary English, 2005); and thus it is mostly connoted with punishment in case of disobedience. Punitive methodologies such as detention are used in schools based on "the premise that isolation gives the perpetrator time to reflect on what happened, realize the error of his or her ways, and return to the same situation but with a change of behaviour and attitude" (Pane, 2010).

There has been strong indication from research that classroom environment play a facilitative role among students by providing conducive learning contexts (Suleiman, 2019). Numerous studies have shown that the quality, stability and efficacy of personal and social interactions among learners influence their academic and social development Baker (2015). Scholars have written more on indiscipline among learners and its effects on learning outcome and their progress in schools (Chen, 2018 and Schoonover, 2019). Jones (2016) and Hernandez & Seem (2014) argued that effective schools demonstrate sound inclusive practices which include emphasizing school discipline and collaborative leadership. The school discipline therefore prescribes the standard of behaviour expected of the teachers and the students.

Docking, (2010) argued that, a law abiding student is the one expected to arrive on time for lectures and wait for the teacher, while law abiding teacher is expected to respect all the time allocated to him or her on the timetable. Kelly (2014) argued that efficient use of time on the part of the students and teachers is directly associated with increased academic performance. (Brint et al,2018)also concur and further explain that extra time study has a strong influence on academic attainment. Eilam & Aharon, (2013) stressed that time management can be view as a way

of monitoring and regulating oneself with regards to the performance of multiple tasks within a certain time period. Therefore, to improve academic performance, both the student and staff self attitude and participation is required as a principle of time management practice.

Dillala & Mullineax (2018) in their study, found that there is a relationship between positive classroom climate and the social behaviour of learners, viz., reduced bullying and conflict, together with greater cooperation and achievement. At the same time, Bishop and Glynn (2013) have noted that teachers become more effective with a diverse range of students who differ in their ability, learning style and culture when classroom environment is positive. A study carried out among Hong Kong University students by Phan (2019) revealed that perceptions of an enjoyable classroom led to better mathematic achievement by students. The study also found that students engage in self reflective thinking and learning when their classroom environment was positive with no disruptions. Correlates of positive classroom climate revealed by other researchers include: Lower dropout rates, higher attendance records, increased engagement, deep rather than surface learning, improved grades and motivation to learn (Lau & Lee, 2018; Tapola & Niemvirta, 2018). Effective teaching research also shows that a sufficient degree of classroom discipline is needed to create an atmosphere conducive to student learning as students' misbehaviour distracts the process of learning and teaching and ruins the effectiveness of even the most carefully planned lessons.

Effective classroom management is obviously linked to teachers' ability to set an appropriate tone and gain learner respect and cooperation in class. As observable instructional behaviour of teachers in the classroom is indicative of their teaching effectiveness (Kyriakides, Creemers, & Antoniou, 2019), the way teachers discipline their classes has a profound impact on the way they project themselves as effective teachers. It is evident that more caring teachers choose relationship-based discipline methodologies (e.g., discussing with students about their misbehaviour) over coercive ones (e.g., aggression and punishment) in an attempt to prevent discipline problems (Noddings, 2017). More caring teachers and those who use relationship-based discipline methodologies are perceived to be more effective teachers by their students which improve classroom discipline and learners academic outcomes.

According to Kimeu (2010) the principal should visit the classroom frequently to encourage teachers. Kimeu (2010) asserted that overall high performance would be realized in schools if principals carry out their instructional supervision role. Among this should be included checking of learners' books to ascertain that lesson notes are taken and checking is done by subject teachers, assignment given are marked and corrected, and class attendance by the teacher is

evident. The principal should regularly and randomly interact with learners and call for their exercise books to ascertain that they are regularly given tasks by their subject teachers and their books are checked, marked and corrected.

Physical observation of lesson presentation is the only way a principal can gain an insight into the quality of teaching and learning in the school (Kitavi, 2015). Instructional supervisor can only be able to access the potential for excellent through watching the teacher present a lesson which he/she has prepared. Gachoya (2018) observed that through this visit the supervisor can have an insight into quality benchmarks and performance. Supervision of instruction through classroom visits includes walk-through and informal classrooms observations.

Influence of Classroom Instructional Methodologies on Students' Academic Achievement

Effective teaching and mentoring helps students to explore their world with a sense of trust and autonomy towards the ultimate goal of fully intrinsic self-regulation and improved academic achievement and success. Classroom management methodologies are a crucial part of teachers' success in creating a safe and effective learning environment for students' quality secondary education. Therefore, teachers should know how to use and apply methodologies that will allow and also help students to learn (Zuckerman, 2017). Best practice recommends differentiating instruction so learners can be reached through a variety of methods and activities. Effective teachers differentiate instruction according to student needs (Tomlinson, 2010). How best to differentiate and individualize for the range of student needs and abilities in a common classroom is an ongoing challenge (Stronge, 2012).

As defined by Tomlinson & Eidson (2013) differentiated instruction refers to a systematic approach to planning curriculum and instruction for academically diverse learners. It is a way of thinking about the classroom with the dual goals of honouring each student's learning needs and maximizing each students learning capacity. Differentiated instruction is a way of thinking about teaching and learning that values the individual and can be translated into classroom practice in many ways. At its most basic level, differentiation consists of the efforts of teachers to respond to variance among learners in the classroom. Whenever a teacher varies teaching in order to create the best learning experience possible, that teacher is differentiating instruction. According to Tomlinson (2010), teachers can typically differentiate four classroom elements based on student readiness, interest, or learning profile: (a) content--what the student needs to learn or how the student will get access to the information; (b) process--activities in which the student engages in order to make sense of or master the content; (c) products--culminating projects that ask the student to rehearse, apply, and

extend what he or she has learned in a unit; and (d) learning environment--the way the classroom works and feels.

Research has shown that students are more successful when they are taught based on their own readiness levels, interests, and learning profiles (Tomlinson, 2010). Keller (2012) suggests that when students are disinterested in something this can often result in lower achievement over students with interest. Students with high interest often see their achievement levels improve. For teachers to be effective they must be aware of difference between children and must take a personal interest in each student (Marzano, 2013). Teachers must determine what students are ready for and to what degree. Learning activities that are too hard or too easy can hinder student learning. Those that are too hard require excessive time and do not increase achievement while those that are too easy are a waste of time (Stronge, 2012). Engaged students are clearly more likely to perform better academically than students who are not actively engaged. Therefore, teachers need a large inventory of instructional methodologies to engage a variety of students (Garcia-Reid et al., 2015).

Akbari (2017) observed that teaching methodologies employed by teachers in classrooms can have either positive or negative impacts on learners' academic achievement. According to Hattie, (2019) revealed that systematic, explicit phonics teaching approaches are significantly more effective than non-systematic approaches for children with and without reading difficulties. There is a very strong body of scientific evidence that children will be greatly assisted in learning to read if their reading tuition includes systematic, explicit direct instruction in how to read aloud a word that has never been seen before by using knowledge of the relationship between letters and sounds.

Influence of Supportive Feedback on Students' Academic Achievement

A growing body of research suggests that strong student-teacher relationship, characterized by caring and high expectations for students' success may be promote of universal benefits, such as academic achievement and progress in students (Weiss et al., 2015). Croninger & Lee (2011) reported that the degree of teacher caring and interaction with students reported by both parents and teachers has a significant impact on performance. Klem & Connel (2014) carried out a longitudinal study to investigate teacher support to students' engagement and achievement. Numerous studies have indicated that positive teacher student relationship lead to increased academic performance of the students, whereas negative teacher student relationship result in decreased motivation, self-regulation, and autonomy ultimately lower performance.

Burnett (2013) argued that effective feedback helps learners to know how to move forward with their

learning by focusing on what needs to be done to improve and specific details about how to improve. Effective teachers tells students what they are doing right and why and what needs improvement and how to improve. Brookhart (2018) explained that effective feedback is a double barrelled approach" as it addresses both motivational and cognitive factors. The cognitive benefit is the information students need to understand the level of their learning and what to do to increase that learning. The motivation comes from developing the feeling that they have control over their own learning.

Teacher evaluation process should incorporate constructive feedback to the person being observed. Marzano, et al (2014) suggested creating a system that provides feedback as the core of the responsibility for monitoring and evaluating. A discussion should also occur between evaluator and evaluate about what was witnessed in regards to the schools expectation (Zimmerman & Deckert-Pelton, 2013). Subjective evaluations by trained professionals and objective performance data have been identified by Rockoff & Speroni (2010) to play an important role when designing evaluation systems for teachers.

Black & William (2019) observed that research classroom assessments that provide accurate, descriptive feedback to learners and involve them in the assessment process can improve learning. Classroom assessment that involves learners in the process and focuses on increasing learning can motivate rather than merely measure learners' performance. At the same time, both the teacher and pupil use classroom assessment information to modify teaching and learning activities. Lee (2016) suggested there are three criteria the learner must know for feedback to be effective: (a) the learning objectives and success criteria for the task; (b) the extent to which they have achieved the learning objectives/success criteria; and (c) how to move closer to achieving the learning objectives or how to close the gap between what they have done and what they could do. Immediate student awareness of progress usually serves as an incentive for increased effort. Schweinle, Meyer & Turner (2016) revealed that providing substantive feedback about competence and goal progress increases self-efficacy, enhances interest and persistence, and increases intrinsic motivation". Conversely, non-constructive performance feedback can decrease motivation. Students who receive positive feedback are more likely to engage in learning activities and initiate positive with the teacher interactions than those who receive negative feedback.

In Nigeria, Oliver (2016) observed that when students are motivated to learn by their teachers, it may increase their anxiety, as they want to satisfy the person motivating them, they tend to have high expectation in the test; they concentrate on thinking about the consequences of not meeting the expectation. It amounts to disappointing the person motivating them, the thought of consequence of failure

may increase test anxiety and fear of negative evaluation among school children. Wafula, Wakhungu & Kafu (2011) in their study, presupposed that reinforcement in the secondary school classroom in Nigeria aims at encouraging students' positive academic achievement, teacher efficacy and in a nutshell effective teaching and learning. The findings revealed that positive reinforcement was more elaborate and often used by the teachers in the classroom management. Another study by Dhillion & Wanjiru (2013) investigated the reinforcement methodologies for teachers and learners of English in an urban secondary school in Nigeria. The findings indicated that positive reinforcement was more impactful and elaborate often used by the teachers in the classroom management.

Akpakwu (2013) defined classroom management as the orderly control of the learners, teaching materials and teaching aids in order to obtain the desired learning objectives. Classroom management considering the above mentioned views, could be conceptualized as the planning, management and execution of the school programmes as it affect teaching and learning in the classroom. The teacher manages the physical as well as the psychological environment to create an atmosphere that is conducive for learning.

According to Grayson (2011) students' academic achievement is simply what you get out of an activity for what you put in. Science and Mathematics Students' Academic achievement also takes into cognizance both quality and quantity of the results achieved. For student to be performing academically well, implies that it is not just number of graduates of the system that matters, but how relevant and competent the graduates are in meeting the societal aspiration (Fadipe, 2010).

The prerequisite of effective classroom management does not depend only on classroom motivation, leadership, and organization and so on, by teachers. Chukwelu (2018) posited that apart from this variable in the classroom, classroom discipline is equally important. Classroom discipline shares respect for each other but also are given appropriate responsibilities.

Mallum & Haggai (2010) opined that motivation has greater influence on students' academic achievement in the classroom. They maintained that the work of the teacher is made easier when his students are motivated. Students are eager to learn willing to undertake learning activities and attend classroom regularly and punctually. A classroom teacher will be challenged to plan adequate learning activities to maintain the zeal of the class. They further stressed that in the classroom students are aroused either by inner interest and needs or external stimulus. There are for instance students who undertake learning task on their own and resist disturbance or interruption by other around them. There are those whose interests are aroused only by rewards and

incentive and there are those who are spurred by showing of objectives, demonstration stories or the presence of a particular teacher or subject.

Ekundayo & Kolawole (2013) carried out a study on Time Management Skills and Administrative Effectiveness of Principals in Nigerian Secondary Schools. The study examined time management skills and administrative effectiveness of principals in Nigerian secondary schools. The study revealed that the time management skills as well as the level of administrative effectiveness of the principals were encouraging. However, the study revealed the factors that constitute impediments to the time management skills of the principals. These include the need to respond to emergency cases in the school, the need to respond to urgent calls from the ministry of education among others. The study further revealed the strategies that can be put in place by the principals for better time management. These include the need for the principals to identify their most consuming tasks and determine whether or not they have invested their time in the most important activities, and keeping a readily accessible record of their appointment and tasks among others.

Research Methodology

Research Design

The study investigated School Factors as Predictor of Student's Academic Performance in basic science and basic technology in Junior Secondary Schools in Ikere Local Government Area, Ekiti State, Nigeria. The design used by the researchers in this study was the descriptive survey.

The target population of the study comprised all principals and teachers of basic science and basic technology from junior secondary school in Ikere Local Government Area of Ekiti State.

The sample size consisted of One hundred (100) principals and junior secondary school teachers, randomly selected for this study. Ten public junior secondary schools were selected in the local government through a simple random method.

The researchers developed teachers' and principals' questionnaires respectively. These instruments were subjected to validity and reliability mechanism. These instruments were used to collect both qualitative and quantitative data as it had both open ended and closed ended questions. The questions in the instruments addressed each study objective in separate sections. A reliability of 0.83 and 0.87 was obtained with the teachers and Principals respectively.

The data collected was analysed with statistical tools involving inferential statistic of Chi-square (χ^2) to test the generated research questions at 0.05 level of significance.

Results and Discussion

Research Question 1

There is no significant influence of classroom discipline management on students' academic achievement in basic science and basic technology.

Table 1: Chi-Square Analysis of data on the influence of classroom discipline management on students' academic achievement.

S/N	ITEMS	χ^2 -Cal	χ^2 -tab	df	Remark
1	Canning of learners greatly improves their commitment in class which improves their academic achievement.	15.88	7.82	3	*
2	Suspending deviant learners improves learner's academic achievement by eliminating sources of lesson distraction for other learners.				
3	Removing learners who interrupt lesson and making them stand outside the class improves silence and learning which translates into better academic achievement.				
4	Ensuring that deviant learners do not sit in the same place in class eliminates avenues interruption, improving their concentration and participation during lessons hence improving their achievement				
5	Using different instructional methods during lessons assists in enhancing learning and academic achievement of learners				
6	Appointing a prefect helps in controlling deviant behaviors in teacher's absence increasing notes revision among learners which eventually improves their academic achievement				

$P < 0.05$, * = Significant

The result of the analysis in table 1 above shows the difference in the responses of the teachers and the principal on the influence of classroom discipline management on students' academic achievement. The Chi-square test revealed that calculated χ^2 (15.88) was greater than the critical χ^2 value (7.82) at the 0.05 level of significance. This means that there is significant influence of classroom discipline management on students' academic achievement.

Hence, the null hypothesis is rejected. This result agreed with the findings of Dillala & Mullineax (2018) in their study, found that there is a relationship between positive classroom climate and the social behaviour of learners, viz., reduced bullying and conflict, together with greater cooperation and achievement.

Research Question 2

There is no significant influence of instructional supervision on students' academic achievement in basic science and basic technology.

Table 2: Chi-Square Analysis of data on the influence of instructional supervision on students' academic achievement.

S/N	ITEMS	χ^2 -Cal	χ^2 -tab	df	Remark
1	Walk in during lessons by the principals ensures that teachers are always present in classes during lessons which improve learner's achievement in exams	23.76	7.82	3	*
2	Reviewing teachers working schemes by principals ensures that they cover entire syllabus hence learners are able to gain all the needed information, hence pass their exams				
3	Reviewing teachers working schemes by principals ensures that they cover entire syllabus hence learners are able to gain all the needed information, hence pass their exams				
4	Reviewing teacher/learner class attendance register enables the principal to ensure all teachers and learners are present in class during lessons which improves learning and academic achievement among learners				
5	Reviewing teachers and learners school attendance allows the principals to curtail absenteeism, hence ensuring that everyone is always in school and ready to teach and learn which improves learner's academic achievement				
6	Watching the teacher during lessons encourages teachers to use the most effective instructional methodologies which improves learning and academic achievement				

$P < 0.05$, * = Significant

The result of the analysis in table 2 above shows the difference in the responses of the teachers and the principal on the influence of instructional supervision on students' academic achievement. The Chi-square test revealed that calculated χ^2 (23.76) was greater than the critical χ^2 value (7.82) at the 0.05 level of significance. This means that there is significant influence of instructional supervision on students' academic achievement. Hence,

the null hypothesis is rejected. The result agreed with the findings of Kimeu (2010) asserted that overall high performance would be realized in schools if principals carry out their instructional supervision role.

Research Question 3

There is no significant influence of classroom instructional methodologies on students' academic achievement basic science and basic technology.

Table 3: Chi-Square Analysis of data on the influence of classroom Instructional methodologies on students' academic achievement.

S/N	ITEMS	χ^2 -Cal	χ^2 -tab	df	Remark
1	Traditional instructional methods greatly improve learner's academic achievement in this school	17.99	7.82	3	*
2	Lecture instructional methods greatly improve learner's academic achievement in this school				
3	Discussion instructional methods greatly improve learner's academic achievement in this school				
4	Differentiated instructional methods greatly improve learner's academic achievement in this school				
5	Cooperative instructional methods greatly improve learner's academic achievement in this school				
6	Structured instructional methods greatly improve learner's academic achievement in this school				

$P < 0.05$, * = Significant

The result of the analysis in table 3 above shows the difference in the responses of the teachers and the principal on the influence of classroom instructional methodologies on students' academic achievement. The Chi-square test revealed that calculated χ^2 (17.99) was greater than the critical χ^2 value (7.82) at the 0.05 level of significance. This means that there is significant influence of classroom instructional methodologies on students' academic achievement. Hence, the null hypothesis is rejected. The result agreed with the findings of Akbari (2017) that teaching methodologies employed by teachers in classrooms can have either positive or negative impacts on learners' academic achievement.

Research Question 4

There is no significant influence of supportive feedback on students' academic achievement basic science and basic technology.

Table 4: Chi-Square Analysis of data on the influence of supportive feedback on students' academic achievement.

S/N	ITEMS	χ^2 -Cal	χ^2 -tab	df	Remark
1	Rewarding good behaviors in class greatly improve learner's achievement in this school	26.86	7.82	3	*
2	Caring for learners by teachers improves learner's achievement in this school				
3	Positive interaction between teachers and learners improve learner's achievement in this school				
4	Constructive evaluation improves learner's achievement in this school				
5	Accurate assessment improves learner's achievement in this school				
6	Praising learners for good performance improves learner's achievement in this school				

$P < 0.05$, * = Significant

The result of the analysis in table 4 above shows the difference in the responses of the teachers and the principal on the influence of supportive feedback on students' academic achievement. The Chi-square test revealed that calculated χ^2 (26.86) was greater than the critical χ^2 value (7.82) at the 0.05 level of significance. This means that there is significant influence of supportive feedback on students' academic achievement. Hence, the null hypothesis is rejected. The result agreed with the findings of Brookhart (2018) that effective feedback is a double barrelled approach" as it addresses both motivational

and cognitive factors. The cognitive benefit is the information students need to understand the level of their learning and what to do to increase that learning.

Conclusions

This study aimed at investigating the School Factors as Predictor of Student's

Academic Performance in Basic Science and Basic Technology in Junior Secondary Schools in Ikere Local Government Area, Ekiti State, Nigeria. Findings from the study revealed that: there is significant

influence of classroom discipline management on students' academic achievement, there is significant influence of instructional supervision on students' academic achievement, there is significant influence of classroom instructional methodologies on students' academic achievement and also, there is significant influence of supportive feedback on students' academic achievement.

Recommendations

The following recommendations originate from the findings of this study:

i. In order to ensure classroom management is at par with other counties, similar studies should be done so as to ascertain whether the same management techniques has a positive or negative impact towards learners' academic achievement. All stakeholders should be involved in revising the policies that govern the discipline management of the students in secondary schools. The school administration should also try to interpret rules and regulations to students so that they may understand their implications.

ii. Head teachers should go beyond just the normal checking of schemes, attendance register and do impromptu visits in classes to ensure that what are the schemes is being followed to the letter. The ministry of education should ensure that the principals as well as deputy principals should undertake professional development and capacity building courses on instructional supervision.

iii. Nigeria institute of curriculum development and other educational stakeholders should revise the current teaching methodologies and come up with workable and up to date teaching methods which are in tandem with current educations trends. Teachers should also undertake in-service training to ensure that they are well equipped with the required pedagogical skills.

iv. Supportive feedback should be encouraged as this plays a crucial role in encouraging learner's academic achievement.

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