

Influence of Extra Lesson on Students' academic achievement in Chemistry Senior Student Secondary School Ibadan, Oyo Sate, Nigeria

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ABSTRACT: The purpose of this study was to investigate the influence of extra lesson on student academic achievement in chemistry Secondary School, Ibadan, Oyo state, Nigeria. Different studies have established different reports in their findings that extra lessons enhance students' academic achievement. Extra lessons may be considered as one of the ways to cover syllabus and to make up for missing period of teaching. Students who always attend the extra lessons might have better grasp of the subject matter and likely have an edge over others. The research methods employed were correlational and descriptive survey. Questionnaire was used to collect data for the study. The data were analysis using multiple regressions. The population of all chemistry students that participated in the study was 535. Respondent sample questionnaire was purposively chosen because they are science students. Reliability index through pilot study of the instruments were 0.731, 0.885 and 0.730. The research findings indicated that the composite effects and relative contributions of perception of students to teaching in various forms of extra lesson and students' attendance on students' academic achievement in chemistry were significant. The researcher recommended the implementation of intensive extra lessons in chemistry senior secondary schools.

Keywords: Extra-lesson, attendance, perception, students, academic achievement

I. INTRODUCTION

Teacher evaluates students at the end of the lesson of a topic being taught in the class and the students are expected to give constructive responses to show that they really understand the

topic. When students are getting along with the teacher's lesson they are tends to responding positively during the lesson but if otherwise their responses will drop. For a teacher to have good students' performance at the end of the term, students' responses must be captivating from the onset. When the students' results are below average additional work can be introduced. The additional work in form of teaching such as extra lesson can be employed by the stake holders (parents, school, and government). A better way which might be of helping weak students is likely to introduce extra lessons.

Extra lessons come in different forms such as early morning lesson, after school hours' lesson private and weekend lesson. Teacher organises early morning lesson for students before normal school periods in the morning. Extra lessons is an additional lessons giving to learners outside normal school classroom activities [13]. After-school hours' classes are the lessons organized by public and privates authorities for students who are still in school, preparing for their final examination to assist students as well as instructors to cover the syllabus before examination commences [2]. [8] asserted that, after-school hours' classes were considered as an additional system of learning which help to complement the inadequacy of normal classroom activities. After-school hours are the periods that many learners are active and mostly participate in many school activities which might develop their psychomotor and social skills [35]. Extra lesson also include weekend classes. They are planned by schools mostly on Fridays, Saturdays some include Sundays.

When students' performance is low and not encouraging, the stakeholders might look for

alternative ways to help the students. One of the ways might come in form of introducing extra lesson such students. [11] asserted that extra lesson is an instruction giving to students outside the normal classroom setting which encompasses self-instruction naturalistic learning. In teaching and learning, continuous, repetitions, citations might create a long-lasting impression on the lesson. Extra lesson refers to a range of organized tutoring practices in academic subjects that occur outside regular school hours[28]. Extra lesson is more likely to be accessible for students from wealthy family because it involves payment of fees[12].[38] asserted that extra lesson is a form of lesson given to learner outside the walls of a classroom.

Extra lessons have learning transforming influence in the life of learners as long as they continue to attend. Some students find it more convenient to attend extra lessons than the normal school setting because they assimilate better and it boosts their confidence. With the introduction of extra lessons, both teachers and learners have discovered that many topics are covered in their studies. Meanwhile, stakeholders are likely to be aware that some learners performs wonderfully well with the introduction of extra lessons mainly because their morale and confidence might be enhanced. Some learners find solutions to problems they encountered during normal school hours in extra lesson classes. Many of such students in normal school setting attend their class with confidence and tend to be psychologically and emotionally stable.

Chemistry is a branch of science that studies matter in relation to its compositions, reactions, properties and uses. Chemistry has maintained a position in the curriculum of schools as an integral part of general education [29]. Chemistry is a valued science subject which is essential for academic and vocational training [31]. Chemistry enables learners to be aware and understand what happens in their environment. [19]asserted that knowledge of chemistry is employed in many areas of our daily activities. Nevertheless, chemistry is a science subject that reveals many chemical reactions taking place in our bodies and environment.

Statement of the Problem

There are individual differences among the students while some are fast learners others are slow learners and also average learners. Some learners perform very while others perform at average and some very low. In a term or section, most teachers might not likely complete the

syllabus. Moreover, most of the holidays might likely prevent the teachers from completing the syllabus. All of these among others make the stakeholders to plan and bring about the idea of extra lessons. Students might likely need encouragement and motivation because sometimes they do not find teaching and learning in some ways interesting. Even though, there are many things distracting the students nowadays like use of phones and social media, all they could likely need to learn properly might be encouragement and motivation. Lack of supports, fund, self-efficacy and confidence among students may hamper their performance in chemistry and this has been a concern for stakeholders. The patterns of students' levels of attendance and perceptions in public secondary schools are likely not encouraging and these might be the reason students' interest in learning is declining. These might also be the reason the students' responses have not been so impressive.

Many researchers in their studies have carried out independently and collectively on the influence of extra lessons in senior secondary school. Nevertheless, not many studies have worked on the influence of attendance and perception in extra lessons on students' academic achievement. Therefore, the researcher investigated the influence of students' levels of attendance and perception in extra lessons on students' academic achievement in chemistry senior secondary schools in Ibadan metropolis.

Research Questions

The following research questions were raised to guide the study:

- 1) What is the composite contribution of students' levels of attendance and perception in extra lessons on students' academic achievements in chemistry?
- 2) What is the relative contribution of students' levels of attendance and perception in extra lessons to students' academic achievements in chemistry?

II. LITERATURE

Extra lesson involves the collaboration of the parents so as to make the students academically sound and prevent them from irrelevances [18]. [30] reported that serious and determined students need not to be given extra lessons. Studies from [27] and [39] reported that learners that attend extra lesson frequently attained some high levels of psychological and emotional academic understanding. Whereas, there are learners that

attend extra lessons and later develop tension and anxiety as a result of increased academic pressure, competition and doubt what the outcome of their studies would be [39]. [39] also asserted that some students are indifferent and did not show to be familiar with extramural program. According to [27] when parents and learners show more interest in extra lessons, they are likely not to be distracted by any activity outside the school setting. In the same study, [27] results showed that most of the learners participating in extra lessons are majorly after good grades and that they may not get involved in any malpractice due to the confidence and self-efficacy they acquired through extra lessons.

The learners that are not chanced to participating in extra lessons or that do not have financial capacity to attend extra lesson might feel dejected and not being carried along in the class with other learners that getting extra lessons, [39]. The rate at which stakeholders engage in extra lessons these days is quiet rampant [9]; [15]. In Asia part of the world, extra lesson is likely to assist students in cramming salient points of some topics and a means of repeating topics already thought in schools [9], [15]; [18]. In some ancient cities as well, larger number of students of about 64% in the major city was participating in extra lessons at the same time students of about 54% of the less city were also involve in privates lesson [22]. [5] in their work where they conducted a study on 214 university students and revealed that students' active academic involvement has a positive and significant effect on their academic performance.

[17]study indicates that many parents are not able to participate in extra lesson because of high costs of the lesson and financial incapacity. [25] argues that learners who do not have much to afford extra lessons are likely to suffer psychological disorders because they may look down on themselves.[27] finds out that extra lessons cause a lot of concerns for some parents because their children are not in the same pace with other children who are attending extra lessons. [27] argues that extra lessons cause somewhat

psychological effects on the part of the learners as they eager to have higher grade over their fellow learners offering the same studies.[23] carried a survey in apart of the eastern world which comprises of 934 students from grade 4 to 7 that were attending extra mural classes. The greater findings show that extra mural classes cause a lot of psychological effects on learners. Questionnaires were used in the study and were found that extra mural classes could bring about lack of interest among learners as result of stress, longer instructional time and lack of enough rest.

III. METHODOLOGY

This researcher adopted a correlational and descriptive survey research design. The data was collected through the use of extra lessons' involvement inventory and chemistry students' achievement test. Multiple regressions were statistically used to analyse the data collected. The target population for the study consist of all chemistry students in Senior Secondary School Three (SSS 3) in public secondary schools in Ibadan metropolis. The samples of 535 students were randomly selected from five local government areas and ten public schools. Five research assistants were used for the study to administer the instruments respectively in the public schools selected. Their competence at using the study instruments were however ascertained before the data collection exercises.

The instrument was developed by the researcher. The instruments consist of two sections A and B: Section A is on bio-data of the students: gender, age and class while B consists of items on students' opinion in extra lessons as well as in students' chemistry achievement test. The instrument was validated by a group of experts. It was trial tested on a small sample similar to, but not constituting the final sample participants.

IV. RESULTS

Research Question 1: What is the composite effect of students' levels of attendance and perception in extra lessons on students' chemistry achievement test?

Table 1: Multiple Regression Analysis showing the composite contribution of students'levels of attendance and perception in extra lessons on students' chemistry achievement test

Sources of Variance	Sum of Squares	Df	Mean Square	F	Significant
Regression	43.847	2	21.924	0.528	0.590 ^b
Residual	22095.098	532	41.532		
Total	22138.946	534			
R = 0.045 ^a					

R Square = 0.002
Adjusted R Square = -0.002
Std. Error of the Estimate = 6.44454

Significant $p < 0.05$, not Significant $p > 0.05$

Table 1 showed that the composite contribution of students' levels of attendance and perception in extra lessons on students' chemistry achievement test was highly significant ($F_2; 532 = 0.528$; Adj $R^2 = -0.002$; $p < 0.05$). It can be expressed that when variables of students' levels of attendance and perception in extra lessons were taken altogether, they jointly predict chemistry academic achievement. Table 1 showed a multiple regression coefficient ($R = 0.045^a$). This implies that student' levels of attendance and perception in extra lessons altogether have a high significant relationship with chemistry academic achievement. Similarly table 1 further shows a multiple

regression adjusted ($R^2 = -0.002$). This indicates that 0.2% variation in chemistry academic achievement is accounted for by the joint contribution of the students' levels of attendance and perception in extra lessons, while the remaining 99.8% may be due to other factors and residuals which are not under investigation of this study.

Research Question 2: What is the relative contribution of students' levels of attendance and perception in extra lessons to students' chemistry academic achievement?

Table 2: Multiple Regression Analysis showing relative contribution of students' levels of attendance and perception in extra lessons variables to students' chemistry academic achievement.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	36.810	1.862		19.767	0.000
Attendance	-0.154	0.176	-0.038	-0.875	0.382
Commitments	0.061	0.101	0.026	0.607	0.544

Significant $p < 0.05$, not Significant $p > 0.05$

Table 2 indicated that the relative contribution of students' levels of attendance ($\beta = -0.018$; $t = -0.431$; $p > 0.05$) in extra lessons to students' academic achievement in chemistry was not significant and did not predict students' academic achievement in chemistry meanwhile, levels of perception ($\beta = -0.196$; $t = -4.571$; $p < 0.05$) of extra lessons to students' academic achievement in chemistry was significant and predict students' academic achievement in chemistry.

V. DISCUSSION

Composite contribution of students' levels of attendance and perception of extra lessons on the prediction of secondary school students' academic achievement in chemistry was not significant. This means that when the effects of students' levels of attendance and perception of extra lessons were taken together on students' academic achievement in chemistry, they did not jointly exert any effects on the chemistry academic achievement. From the results presented in the table 1, even though not

many public schools and their teachers introduce extra lessons for their students majorly for the low achievers, the students still have the ability and belief in them to perform well in their academic tasks. Extra lessons might help students to gain more knowledge of some concepts in a topic and eventually acquire mastery on the topic. When mastery learning has been attained by a student on a particular topic, they are likely to approach their study without any fear of failure.

This present work is not supported by the findings of [39] where it was recorded that extra lesson contributed positively to students' academic achievement. The results indicated that when the course started, students were not confident in their ability to apply chemistry theory to a variety of tasks. When these mester ended, they found that students' performance increased overall. [34] study agreed with the current work that extra lessons did not predict students' academic performance.

The results of the present study are in the support of findings by [6] where they conducted a

quantitative study using survey data on students to find the relationship between students' attendance and academic performance. Their results revealed that attendance positively influenced students' academic performance. Similarly, [4] conducted a correlation study to ascertain how attendance contributed to performance. They concluded that attending extra lessons relatively influenced students' performance.

This present study is not in support of the results analysis even though in Mathematics by [37] findings where it shows that there are relatively contributions of class work and home assignment on students' academic performance. The conclusions of this study are at odds with those of [33], who found that assigning homework, positively predicted and boosted students' performance. This present study is in agreement with the findings of [32], where they found that no discernible difference in the performance of the high achievers in the three groups of their study before and after assigning homework in Mathematics,

A study by [20] on primary school learners revealed that there are emotional and physical negative influences on the development of the learners who are undertaking long hours of extra lessons. The current work is in agreement with the study by [10], where their results revealed that private lessons did not contribute to learners' performance majorly because of their indifferent and negative influences posed by the practice. The study is not in consonant with the work by [19], where they found out that extra lesson contributed to learners' performance and that parents strongly embrace the practice of extra lessons in order to enhance their children's performance. Furthermore, the current study is not in agreement with work of [27] where the study showed that extra lessons contributed positively to learners' performance in examination. The present work is in agreement with [39] where it was established that extra-mural classes predict positively on the boys academic achievement. However, from the study 25% of the learners exhibited negative behavior and showed poor academic performance which is in support of the current study. A study by [24] which is not in agreement with the present work, established that extramural tutoring had a positive predictive effects on learners performance. Majority of the students used in the research work that was carried out in the United Kingdom extra class tutoring show much interest and more perceptions, thereby contributed to their academic performance in Mathematics and English. The present study is in

line with findings by [9]; [17]; [24] where it was reported that extra lessons and academic achievement had no significant relationship. Their studies have found out that in some schools, learners sleep throughout lessons because most of the learners did not had enough sleep in the night before rushing out to school early in the morning and they are tired after excessive play and external study before having after school hours lesson. It was further corroborated that much work for the children makes them to get tired and do not benefit from the extra lessons. The current study is in agreement with the findings by [17] where it was found that there was no prediction of students' perception in extra lessons on students' performance. [23] results findings was not in support of the present study where it establishes that there exists no significant relationship between students' perception in extra lessons and achievement.

Relative effects of students' levels of attendance and commitments in extra lessons on students' academic achievement in chemistry

The findings of the current study are in line with the work by [14] where it was asserted that extra lessons have no significant effects on achievement. [14] further established that participating in supplementary classes led to loss of energy which leads to weakness among learners because after attending normal school education, learners migrate to supplementary tutoring centers of some distance away from the school. Moreover, [14] in his study of extra lessons put forward that extra lessons deprive the learners of rest and recreation. In support of the present findings, the [26] argued that extra lessons have no significant effects on students' academic achievement. In addition to the findings, it was asserted that the very hardworking learners might suffer from psychological and emotional health conditions. The present study is not in support of the studies by [41], [40] and [36] where they found positive results in the relationship between extra lesson and students' performance. This is as a result of socio-economic ability of some parents to get rid of some difficulties experiencing by some learners like emotional disorders as a result of their inability to cope with their studies. However, this current study is not in support of [20], [10] works, their findings showed that long period of additional classes posed a lot of adverse effects on students' performance.

From the work of [25] which is not in agreement with the current study, it was found that pervasive private tutoring created an inefficient as

well as inequitable educational system among the students. This present study was not in agreement with [1] whose observations showed that some of the free education programmes have turned out to generate more problems they seem to solve. Similarly, [21] study was in agreement with the present study, while exploring the predictive level of student attendance and engagement in extra lesson; it was revealed that there was positive influence between the variables and learning outcomes. In agreement with the results of the present study, findings by [18] established a negative impact of private tutoring and that no significant impact of the extra lessons on the performance.

Similarly, the current work is also in line with the findings by [9] who established that extra lessons are not always effective and poses negative on the students' performance.

The current study is in agreement with [3] findings which reveal that students at high grade level demonstrated good approach towards chemistry course and accumulated high learning outcomes. Similarly, in contrast to the current work [3] findings further show that there is significant correlation between students' learning outcomes and extramural classes. The work at hand is in agreement with the findings of [7] in which the results give indication of insignificant relationship between students' performance and extra lesson.

VI. CONCLUSION

Extra lessons have been of major concern to the various stakeholders. From the findings of this study, even though public schools were used, extra lessons showed to have contributed meaningfully to improve learners' learning outcomes. There are different reasons for introducing extra lessons in schools such as to make up for lessons which are not taught, to cover syllabus and to help low achieving students.

VII. RECOMMENDATION

All learners are not the same. There are individual differences. Extra lessons might only be introduced to learners to cover syllabus, to make up for lost periods as a result of holidays, to help low achieving learners. Extra lessons should not be seen as an avenue to enrich ones' pocket but as means to help learners with challenges on a one-on-one basis or as a group. Moreover, extra lessons can as well be considered as a way of remediation for learners who fail to grasp concepts during the normal and formal school hour.

Extra lessons came in as a form of remediation for learners who failed to grasp concepts during the formal learning school hours. The lessons also enhanced slow learners achievement and sustained gifted learners' academic levels through extension work. They helped learners in getting admission into institutions of higher learning. Due to the positive academic role of the extra lessons, it was recommended that there is need to take extra lessons seriously.

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