

Guidance and Counseling Services, Interest and Students' Performance in Physics in Gwagwalada Area Council of FCT, Abuja, Nigeria

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ABSTRACT

The influence of guidance and counseling services, interest and students' performance in physics in Gwagwalada area council of FCT, Abuja, Nigeria was investigated. It was guided by three hypotheses tested at a 0.05 level of significance. The study adopted an ex-post facto design. The population comprised all the Physics students in the 13 public secondary schools in Gwagwalada Area Council of FCT. A sample of 324 (174 Physics students who use counseling services and 150 Physics students who do not use counseling services) from four randomly selected public secondary schools in Gwagwalada Area Council of Abuja was used. The instrument for data collection was a proforma containing students visit to the counselors, Physics students' interest scale and Physics results that was validated by three experts in related area. The researchers visited the selected schools and extracted the data for 2023/2024 session used for the study. Data were analyzed using mean, standard deviation and t-test statistics. The results indicate 148 Physics students with positive interest and 152 Physics students with negative interest to Physics, using the Physics interest scale. The result also revealed a significant difference between the mean performance scores of Physics students who use counseling services and Physics students who do not use counseling services, Physics students' interest and their gender. Recommendations include that the school authorities in Abuja should encourage Physics students to visit the guidance counselor, counselors should counsel the Physics students to have more interest in the subject and female Physics students should pay more attention in the Physics class. The implications of the study for Guidance and Counseling are that its implementation in the schools improves performance in Physics examination.

Keywords: *Guidance and counseling, interest, students' performance*

INTRODUCTION

Guidance and counseling is the process of caring and educating students on personal, social and educational services by an expert call a school counselor. They are essential services in school administration and management. It assists the school to give useful guide to the students with a view of producing creating and promoting the students interest in school subjects and in this study Physics. With proper counseling, the students are well prepared for the demands of the respective school subjects. Such demands may include interest and need for effective performance. Guidance and counseling services are provided for in all the secondary schools in Nigeria and specifically in Abuja, the Federal Capital Territory of Nigeria. Most of the schools in Nigeria may not be able to operate without the services of the counsellors, as their services help in moderating students like or dislike of school subjects. The major aims of Guidance and Counseling Services in schools are to encourage students' academic interest, performance, social, emotional and personal development (Shi, 2018).

The duties of the Guidance Counsellors are:

- i. Guide the students to know and develop their academic interests for school subjects.
- ii. Help the students to understand their academic strengths and weaknesses.
- iii. Help the students in making realistic choices of school subjects and vocation and
- iv. Inform the students about their educational opportunities (Dabone *et al.*, 2015).

Using guidance and counseling are likely to enhance students' academic interest and performance practice if students are to remain relevant in the school and produce good academic results. Griffith *et al.* (2019) stress that teachers and school administration have the responsibility of ensuring that students are continuously counselled along their academic interest and performance. Students are very important assets and most essential element in education and national development. It is absolutely necessary to counsel students to exhibit acceptable academic interest, attitude and behavior within and outside the school and to also contribute to national development. The rapid expansion of student enrolment and growth in Abuja, since the return of democracy in 1999, coupled with inadequate resources to cope with the ever increasing demand for educational, had made school management a much more complex and difficult enterprise than before. The performance of students in Physics in Abuja from 2019 to 2023 has remained below 40% pass at credit level and above (Utibe & Onwiouokit, 2019 Utibe *et al.*, 2022 & Inyang *et al.*, 2023). This poor performance is suspected to be linked to the level of guidance and counseling services and Physics students' interest in schools. The interests of students are most directly related to the performance of students in schools. Quintana *et al* (2018) show a link of

interest with students' performance in English studies. The cases of poor performances are most likely to be linked to poor counseling services given to students in schools.

Interest according to Adeyemi and Adeyemi, (2014) is a motivational force that relates students' to the activities that provide the types of novelty, challenge, or aesthetic appeal that students desires. Adah and Anari (2019) described interest as an interactive relation between an individual and certain aspects of the environment (e.g. objects, events, ideas). It can be viewed both as a state and as an outlook of a student, and it has cognitive as well as affective components. The study consider interest to be a unique motivational variable, as well as psychological condition that occurs during interactions between students and their objects of interest, and is characterized by increased attention and concentration. Nelson *et al.* (2023) stated that interest is a feeling of likes and dislike towards any students' activity. According to Ganley and Lubienski (2016), interest is a subjective feeling of concentration or curiosity over something. The study also regarded interest as learning responses which provides sets of readiness for behaviour. Interest involves a combination of what the students' would like to achieve and how confident they are about to achieving it.

A major determinant of student's academic interest is of course, the academic performance. Rodríguez *et al.* (2020) also stated that many studies have found that the energizing function of interest include fostering, remembering and understanding materials, and stimulate students' positive attitudes towards a subject.

This view is supported by Owan *et al.* (2020) who argued that interest has a profound effect on students' recollection and retrieval processes, their acquisition of knowledge, and their effort expenditure. In addition, an interested individual is more likely to develop high competency and to receive positive feedback from others. Being interested may also serve as protection against the negative effects of failure (Robert and Owan, 2019).

The Physics students visit the school counsellor on all issues and specifically of academic issues relating to their subjects. During the visits, the school counsellor keeps records of students such as: Name of student, class, gender, age, complaint, the guidance given to the students (Cooper *et al.*, 2018). This guidance and counseling records are kept by every school counsellor in Abuja and every counsellor in all the secondary schools in Nigeria.

When the Physics students visit the school counsellor, they are given the following guidance:

- i. Prepares students for career and personal challenges through career and personal development.
- ii. It makes them competent for future success.
- iii. Equips them with all the latest career trends.

- iv. Improves personal development.
- v. Shapes the students for decision making and interest
- vi. Facilitates with better communication skills and enhances their abilities for better academic activities (Mehmood *et al.*, 2011 & Utibe *et al.*, 2017).

Nigerian students' has been faced poor performance in Physics for more than five years (Inyang *et al.*, 2023). It is hopeful that with proper guidance and counseling services aimed at promoting students interest in Physics which is the main objective of this study, the challenges of repeated poor performances in Physics in our public examinations would be brought under control.

Olah & Utibe (2023) carry out a study to investigate the influence of guidance and counseling services, national security concerns and students' performance in Physics in Gwagwalada area council of FCT, Abuja, Nigeria. The study was guided by three research questions and two hypotheses and tested at a 0.05 level of significance. The study adopted an ex-post facto design. The population of the study comprised of all the Physics students in the 13 public secondary schools in Gwagwalada area council of FCT. A sample of 454 (154 Physics students who use counseling services and 300 Physics students who do not use counseling services) was used. Personal and academic data of Physics students from four randomly selected public secondary schools was used for the study. The instrument for data collection was a proforma and was validated by experts. The researchers visited the selected schools and extracted the data for 2022/2023 session used for the study. It was analyzed using mean, standard deviation and t-test statistics. The result revealed that there was a significant difference between the mean performance scores of Physics students who use counseling services and Physics students who do not use counseling services and their gender.

Inyang *et al.* (2023) examine the effect of demonstration, guided-discovery and expository instructional methods on senior secondary students achievement in Physics in Ikot Abasi Local Government of Akwa Ibom State, Nigeria. Three hypotheses guide their study. They adopt quasi-experimental using pretest and posttest non-randomized groups design. The population comprised all the Senior Secondary two physics students of the 2021/2022 session in the public secondary schools in Ikot Abasi Local Government Area. A total of 172 students (60 in the first, 58 in the second and 54 in the third experimental groups) constitute the sample selected from 12838 students (male 5614, and female 7224). Physics Achievement Test on Waves (PATW) with a reliability index of 0.87 is used for data collection. Three different teaching packages are prepared and used in the teaching of Waves. The instrument is validated by experts consisting of Physics lecturers from Akwa Ibom State University, Research, Measurement, and Evaluation lecturers from the University of Nigeria, Nsukka, and Physics teachers within the selected schools for the study. The data are analyzed using

descriptive statistics, while research hypotheses are tested at a 0.05 level of significance using Analysis of Covariance (ANCOVA). There is a significant difference among the mean achievement scores of Physics students when taught waves using Demonstration, Guided-discovery, and Expository instructional methods. Male students significantly achieved more than their female counterparts.

Bahago *et al.* (2021) carry a study to investigate the impact of guidance and counseling services on the academic performance of science students in public secondary schools in Bwari area council of Federal Capital Territory, Abuja. Quantitative descriptive research was conducted to determine if counseling services have any impact on science student's academic performance. The research questions was tested using mean and standard deviation a mean criterion of 2.50 and above was accepted while a mean below 2.50 criteria was rejected. Data collection was done through the completion of questionnaires titled, Academic Performance and Counseling Services (APCS), the questionnaire consists of two sections, one section is on the availability of counseling services in the area studied and the second section is on counseling services and academic performance.

Four schools that offers science subjects was selected for the study with a population of 1,800 science students. Two groups participated in the study: the first group consisted of 20 qualified science teachers (five from each school) and the second group was composed of 200 secondary school science students (fifty from each school) selected at random. The study revealed that, counseling services helps to boost academic performance, among science students in the area studied and the study also revealed that counseling services is not readily available in most schools in Bwari area. The study recommends that teachers should be encouraged to refer students to the School counselor and schools without functional counseling units, should establish one. Principals should also be encouraged to involve all stakeholders in ensuring that there are functional counseling units and services in the school. Parents must make sure that the school counselors have access to their wards in the case of follow up. This study relates to the present study in that another area of Abuja is selected for this study.

Dabone *et al.* (2015) carried out a study in order to ascertain the impact of guidance and counseling on academic performance. The study area was the Dormaa Senior High School in the Dormaa Central Municipality of the Brong-Ahafo Region of Ghana. Pre-test and post-test control group design was applied for the study. An experimental design was used as the research frame for the study. 40 students were selected; 20 for experimental group and 20 for control group for the study. Two hypotheses were formulated to keep the study in focus. Data from respondents were gathered by the use of interviews. The results of the findings revealed that there is no significant difference of pre-test scores of experimental and control groups. However,

significant difference was realized between post-test scores of experimental and control group with regards to academic performance. It was recommended that full time counsellors be appointed in each school to address the existing and teething problems of students. It was again recommended that guidance programmes should be seriously included in the curriculum of our pre-tertiary institutions. The present study differs from the review study in area of location, design and sample size. It is similar to the present study in the area of the respondents.

The review reveals that the performance of students in Physics in Abuja over the years under review is very poor. These poor results are suspected to be influenced by the level of guidance and counseling received by the Physics students and the interest of students for Physics as a school subject. It is also observed that students who visit counsellors for counseling services and have interest for Physics are likely to have benefited from the services of the counsellor and show higher performance in academic work. These two distinct constructs affecting Physics students in the schools motivates the researchers to carry out this research in Abuja, Nigeria to provide statistical evidence on guidance and counseling services, interest and students' performance in physics.

Research Objectives

The objective of this study was to investigate the influence of guidance and counseling services, interest and students' performance in Physics in Gwagwalada area council of FCT, Abuja, Nigeria. Specifically, the study seeks to:

1. Compare the mean performance scores of Physics students who use counseling services and Physics students who do not use counseling services.
2. Compare the mean performance scores of Physics students with positive and negative interest on Physics due to counseling services.
3. Compare the mean performance scores of male and female students in Physics.

In order to guide the researchers in the study, the following research questions were posed:

1. What differences exist in the mean performance scores of Physics students who use counseling services and Physics students who do not use counseling services?
2. What differences exist in the mean performance scores of Physics students with positive and negative interest on Physics due to counseling services?
3. What differences exist in the mean performance scores of male and female students in Physics?

To guide the researchers in the conduct of the study, the following null hypotheses were tested at a 0.05 level of significance:

1. There is no significant difference between the mean performance scores of Physics students who use counseling services and Physics students who do not use counseling services.
2. There is no significant difference between the mean performance scores of Physics students with positive and negative interest on Physics due to counseling services.
3. There is no significant difference between the mean performance scores of male and female students in Physics.

METHOD

This study employs an ex-post facto design. Ex-post facto research design is one in which the researcher has no control over the variables of interest and hence, does not manipulate the independent variable, which has already occurred in the natural course of events. The reason for the choice of this design is that the variables (guidance and counseling services, interest and students' performance in Physics) are such that the researchers cannot have control over, thus the choice of the design. The area of this study is public secondary schools in Gwagwalada area council of FCT, Abuja, Nigeria. Gwagwalada is a local government area in the Federal Capital Territory in Nigeria. Gwagwalada has an area of 1,043 km² and a population of 158,618 at the 2006 Census. Its Coordinates are 8.939167°N 7.075833°E. As an integral part of the FCT Abuja, the town is bounded by Kuje Area Council in the North, Abaji Area Council in the South, Suleja Local Government of Niger State from the East and Kwali Area Council in the West (Federal Capital Territory Administration Achieved, 2024). The Area is chosen for the study because from the researchers' knowledge and from the literature reviewed study on guidance and counseling services, interest on students' performance in Physics has not been carried out in the study area and the sample needed for the study is present in the area too.

The population consisted of all 13 public secondary schools' students in Gwagwalada Area Council of FCT-Abuja (Federal Capital Territory Secondary Education Board, Area 3, Garki, Abuja). The sample for this study consisted of 324 (174 Physics students who use counseling services and 150 Physics students who do not use counseling services, 148 Physics students with positive interest and 152 Physics students with negative interest to Physics, using the Physics interest scale developed by the researchers and 194 male and 130 female) personal and academic data of Physics students from four randomly selected public secondary schools in Gwagwalada Area Council of Abuja.

The instrument for data collection for this study was a proforma that contains the students' data on their visit to the guidance counsellor for services, students interest for Physics scale and students' results matched and selected using the students' personal continuous assessment records. The instrument was validated by three experts, one each from Guidance and Counseling unit, an expert from Test and Measurement, both from the Institute of Education University of Abuja, Abuja and a Physics teacher in one of the schools used for the study. Their comments were used in the final drafting of the instrument and proforma (Nworgu, 2015).

The researchers personally visited the four selected secondary schools and extracted the data, completed the proforma used for the study. The data extracted from the guidance counsellor register, Physics interest scale and Physics students' continuous assessment booklets for 2023/2024 session were analyzed using the statistical package for social sciences (SPSS) version 20.0 software program for mean, standard deviation and t-test statistics at a 0.05 level of significant.

RESULTS AND DISCUSSION

Table 1: Mean performance scores of Physics students who use counseling services and Physics students who do not use counseling services

Category of students	N	\bar{x}	SD	Mean Dif.
Physics students who use counseling services	174	74.04	9.40	7.26
Physics students who do not use counseling services	150	66.78	10.05	

The result presented in Table 1 shows the mean performance scores of Physics students who use counseling services and Physics students who do not use counseling services. From the result, the Physics students who use counseling services had a mean score of $\bar{x} = 74.04$, (SD = 9.40) while the Physics students who do not use counseling services had a mean score of $\bar{x} = 66.78$, (SD = 10.05). The mean difference score is 7.26. This result shows that the Physics students who use counseling services has a higher mean performance scores than the Physics students who do not use counseling services.

Table 2: Mean performance scores of Physics students with positive and negative interest on Physics due to counseling services

Category of students	N	\bar{x}	SD	Mean Dif.
Physics students with	148	66.92	10.71	6.20

positive interest			
Physics students with	152	60.72	9.92
negative interest			

The result presented in Table 2 shows the mean performance scores of Physics students with positive interest and Physics students with negative interest. From the result, the Physics students with positive interest had a mean score of $\bar{x} = 66.92$, (SD = 10.71) while the Physics students with negative interest had a mean score of $\bar{x} = 60.72$, (SD = 9.92). The mean difference score is 6.20. This result shows that the Physics students with positive interest have a higher mean performance scores than the Physics students with negative interest.

Table 3: Mean performance scores of male and female students in Physics

Gender of students	N	\bar{x}	SD	Mean Dif.
Male	194	68.92	6.80	10.20
Female	130	58.72	11.55	

The result presented in Table 3 shows the mean performance scores of male Physics students and female Physics students. From the result, the male Physics students had a mean performance score of $\bar{x} = 68.92$, (SD = 6.80) while the female Physics students had a mean performance score of $\bar{x} = 58.72$, (SD = 11.55). The mean difference score is 10.20. This result shows that the male Physics students have a higher mean performance scores than the female Physics students.

Table 4: t-test analysis of the mean performance scores of Physics students who use counseling services and Physics students who do not use counseling services

Groups	N	Mean	SD	Df	t	Sig	Decision
Physics students who use counseling services	174	74.04	9.40	322	12.51	.00	SF
Physics students who do not use counseling services	150	66.78	10.05				

As shown in Table 4, the calculated t-value of 12.51 with associated probability value of 0.00 as against 0.05 probability level set by the researchers. The associated probability value was lower than 0.05 level of significance set by the researchers; therefore, the null hypothesis that there is no significant difference between the mean performance scores of Physics students who use counseling services and Physics students who do not use counseling services was rejected. This implies that there is a significant difference between the mean performance scores of Physics students who

use counseling services and Physics students who do not use counseling services in favour of Physics students who use counseling services.

Table 5: t-test analysis of the mean performance scores of Physics students with positive and negative interest on Physics due to counseling services

Groups	N	Mean	SD	Df	t	Sig	Decision
Physics students with positive interest	148	66.92	10.71	322	7.11	.01	SF
Physics students with negative interest	152	60.72	9.92				

As shown in Table 5, the calculated t-value of 7.11 with associated probability value of .01 as against 0.05 probability level set by the researchers. The associated probability value was lower than 0.05 level of significance set by the researchers; therefore, the null hypothesis that there is no significant difference between the mean performance scores of Physics students with positive and negative interest on Physics due to counseling services was rejected. This implies that there is a significant difference between the mean performance scores of Physics students with positive and negative interest in favour of Physics students with positive.

Table 6: Summary of t-test analysis of the mean performance scores of male and female students in Physics

Groups	N	Mean	SD	Df	t	Sig	Decision
Male	194	68.92	6.80	322	8.63	.00	SF
Female	130	58.72	11.55				

As shown in Table 6, the calculated t-value of 8.63 with associated probability value of .00 as against 0.05 probability level set by the researchers. The associated probability value was lower than 0.05 level of significance set by the researchers; therefore, the null hypothesis that there is no significant difference between the mean performance scores of male and female students in Physics was rejected. This implies that there is a significant difference between the mean performance scores of male Physics students and female Physics students in favour of male Physics students.

The finding of this study reveal a significant difference between the mean performance scores of Physics students who use counseling services and Physics students who do not use counseling services. This result agrees with the works of Olah & Utibe (2022) that carried out a study in order to ascertain the impact of guidance and

counseling on academic performance of students with counseling background. The reason for the difference is due to the useful guide the students received from the guidance counsellor in the course of the services they received from the counsellors. The finding also collaborate the work of Bahago *et al.* (2021) who carry out a study to investigate the impact of guidance and counseling services on the academic performance of science students in public secondary schools. In their study, students that use counseling services were better performers than students who did not use the counselors services. Failure to visit and take advices from the counsellor has a negative academic impact on the students' performance.

The finding of this study reveal a significant difference between the mean performance scores of Physics students with positive and negative interest in favour of Physics students with positive. This result agrees with the works of Bahago *et al.* (2021) who carry a study to investigate the impact of guidance and counseling services on the academic performance of science students in public secondary schools in Bwari area council of Federal Capital Territory, Abuja. Although the work was on guidance, interest is also a component of guidance and counseling. The reason for the difference is due to the useful encouragement the students received from the guidance counsellor in the course of the services they received from the counsellors.

The finding of this study reveals a significant difference between the mean performance scores of male and female Physics students in favour of male Physics students. This result is in line with the work of Inyang *et al.* (2023) in a study to examine the effect of demonstration, guided-discovery and expository instructional methods on senior secondary students achievement in Physics in Ikot Abasi Local Government of Akwa Ibom State, Nigeria. The reason for the difference is due to the fact that male students put more effort and pay attention to the teacher in the Physics class than female students.

CONCLUSION AND RECOMMENDATIONS

The study was conducted to investigate the influence of guidance and counseling services, interest and students' performance in physics in Gwagwalada area council of FCT Abuja, Nigeria. The study was guided by three research questions and three hypotheses and tested at a 0.05 level of significance. The study adopted an ex-post facto design. The population of the study comprised of all the Physics students in the 13 public secondary schools in Gwagwalada area council of FCT. A sample of 324 (174 Physics students who use counseling services and 150 Physics students who do not use counseling services, 148 Physics students with positive interest and 152 Physics students with negative interest to Physics, using the Physics interest scale developed by

the researchers and 194 male and 130 female) personal and academic data of Physics students from four randomly selected public secondary schools in Gwagwalada Area Council of Abuja.

Personal information of students who visit the counselors, Physics students' interest scale and academic results of Physics students from four randomly selected public secondary schools was used as data for the study. The instrument for data collection was a proforma containing students visit to the counselors, Physics students' interest scale and Physics results and was validated by three experts in related area. The researchers visited the selected schools and extracted the data for 2023/2024 session used for the study. It was analyzed using mean, standard deviation and t-test statistics. The result revealed that there was a significant difference between the mean performance scores of Physics students who use counseling services and Physics students who do not use counseling services, Physics students' interest and their gender. Recommendations are that the school authorities in Abuja should encourage Physics students to visit the guidance counselor, counselors should counsel the Physics students to have more interest in the subject and female Physics students should pay more attention in the Physics class. The implications of the study for Guidance and Counseling are that its implementation in the schools improves performance in Physics examination.

Based on the findings of this study, the following recommendations were made:

- i. The school authorities in Abuja should encourage Physics students to visit the guidance counsellor and use their services.
- ii. The school authorities in Abuja should encourage guidance counsellor to encourage the Physics students to develop and sustain their interest in Physics.
- iii. The school authorities in Abuja should encourage the female students put more effort and pay attention to the Physics teacher in the class as this would improve on their performance.

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