COMPARATIVE ANALYSIS OF STUDENTS PERFORMANCE IN MATHEMATICS AT CREDIT LEVEL BETWEEN PRIVATE AND PUBLIC SECONDARY SCHOOOLS IN KWARA STATE, ILORIN

(A CASE STUDY OF SOME SELECTED PUBLIC AND PRIVATE SCHOOLS)

BY

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DEDICATION

I dedicate this project to God almighty my creator, my strong pillar, my source of inspiration, wisdom, knowledge and understanding.

I also dedicate this project to my parent for their great support and encouraging me to work extra hard,

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I extend my deep sense of gratitude and sincere thanks to my supervisor MR.ABDULRAZAK OLORUNMAKO.

I extend my respect to our (HOD)Mrs Elepo . for his valuable support , guidance and patience, may Allah continue bless you

I express my sincere thanks to my parents Mr&Mrs MARTINS for their valuable suggestion and guidance for doing the summer project work. We are genuinely indebted to our parents, for their unquantifiable support.

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ABSTRACT

The write up attempt to investigate the comparative analysis of student performance in mathematics at credit o' level between selected public and private secondary schools in kwara state, ilorin.

In this view of this, the researcher went through ten (10) schools in Ilorin, to scollected data in some achievement test results of 2016 to 2025 academic sessions. The achievement test is the senior school certificate examination results. The ten (10) schools are of two types, that is, five (5) public and five (5) private secondary schools.

In the analysis, percentage and t- test method of statistics manipulation was used to analyze the result of the study evinced that; students in public and private secondary have the same performances.

In view of this, the following recommendations are made; that parents should send their children to any out public and private secondary schools because academic achievement of the student in secondary school is far better than pupils or students in secondary schools.

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CHAPTER ONE

1.0   BACKGROUND OF THE STUDY

The importance of secondary education cannot be over emphasized. However, secondary education is the second institution in our education system as the name implies that prepare pupils or learners for a higher level of education. A very sound and solid secondary education is highly needed, it is likened to a house built on a rock which nothing can shake or move it.

Secondary education should be designed for children between the ages of twelve and eighteen as to inculcate permanent literacy and innumeracy develop the needed abilities to communicate effectively and to lay a sound basic for scientific thinking.

The curriculum of education stated that secondary education is catering for children of twelve and above. This is in line with the national policy on education which stated that secondary school are to produce students for tertiary schools or vocational studies which in turn prepare children for life and reflect what their future will be. In view of this the standard of mathematics education inculcated the learners either in private secondary school or public school will determine their performance in mathematics at the end of their programs.

Although, people generally believe that, private secondary school students performed better than their counterparts in public secondary schools, 1972 without considering some particulars which make those achievements possible and feasible. All the same, there are some public secondary schools which performed better when compare with private secondary schools. But, this project is capable of satisfying our faith and answer to most of the question that can surface under this theme.

1.1 STATEMENT OF THE PROBLEM

The fact here is that, students are suppose to spend most of their reading time in solving mathematics and developed interest in the study of mathematics knowing full well that the subject is the bed rock of any endeavor in pure science. The researcher interest on this topic "A comparative analysis of student performance in mathematics at credit level in private and public secondary schools in kwara states, ilorin " was to know whether private secondary schools do perform better than public secondary schools in kwara state. And if they do, then what factors lead to their differences.

1.2 AIM AND OBJECTIVES OF STUDY

The following are the aim and objectives of this research work:

- To examine the mean difference in public and private secondary schools of student performance in mathematics.
- To determine the increase of potential of students on mathematics.

1.3 SIGNIFICANCE OF THE STUDY

The significance of this research as a tool of analysis lies in the application of real life situation using two variables to determine the mean difference that exist between public and private schools and of course, it is highly significant because the findings would revealed the conditions attached to the performance of both sectors which will help the parents or guidance to be prudent on where to enroll their children for better performance across all subjects.

1.4 RESEARCH HYPOTHESIS

The research hypotheses are as follows:

H_0: There is no mean difference in the mathematics performance of public and private schools.

H_1: There is mean difference in the mathematics performance of public and private schools.

1.5 SCOPE AND LIMITATION OF THE STUDY

This project focuses mainly on the students' performance in the mathematics both in public and private schools. Though, the study is a generalized issue which is thus expected to cover all private and public secondary schools in kwara state and Nigeria as a whole. But with the situation of things like scarcity of fuel, transportation problems, constant road accident, industrial strike action embarked upon by teacher instructors or educators the research is restricted to five different schools in each cases within a period of ten years.

1.6 HISTORICAL BACKGROUND OF THE STUDY

HISTORICAL BACKGROUND OF THE PUBLIC SCHOOLS

Al-Adabiyyatul Kamaliyya Senior Secondary School, Abayawo

Foundation/History: Grew from the "Adabiyya" movement pioneered by Sheikh Kamaliyya in Ilorin in the mid-20th century. Over time, the Kwara State Government integrated it into the public system as a recognized secondary school.

Curriculum: Combines Islamic/Arabic subjects with WAEC/NECO syllabus. Offers Science, Arts, and Commercial subjects.

Community support: Supported strongly by religious leaders, alumni associations, and PTA who contribute to classroom rehabilitation and annual inter-house sports.

Extracurriculars: Qur'anic recitation competitions, Islamic quiz, debate, and drama.

Achievements: Alumni include respected clerics, civil servants, and professionals who often return to sponsor renovations or scholarships.

2. Government Day Secondary School (GDSS) Amule

Foundation/History: Part of Kwara State's educational expansion in the 1980s to ensure every ward had a day school.

Curriculum: Full JSS–SSS syllabus with strong emphasis on vocational electives like Catering Craft and Data Processing.

Community role: Regular host of NGO programs on health education, literacy campaigns, and youth empowerment.

Extracurriculars: Active football and athletics team, drama group, cultural day exhibitions.

Achievements: Notable winners of Ilorin East inter-school football competitions and spelling bees.

3. Dada Secondary School, Okelele

Foundation/History: Established to serve the historic Dada community, famous for pottery and crafts.

Curriculum: WAEC/NECO syllabus with strong orientation towards literacy, numeracy, and social sciences.

Community role: Provides opportunity for children from artisan and trader families to get formal education.

Extracurriculars: Pottery exhibition during cultural days, football, inter-house debates.

Achievements: Several graduates became artisans-turned-educators, some advanced to tertiary institutions and civil service.

4. Okelele Community Secondary School

Foundation/History: Founded to absorb overflow from Dada and Gambari schools in the 1990s.

Curriculum: Standard state syllabus with emphasis on Social Sciences and Arts.

Community role: A "community school" model; PTA contributions are vital for classroom desks, roofing, and textbooks.

Extracurriculars: Inter-house sports, environmental clubs, literacy day.

Achievements: Produced students who won state essay competitions.

5. Government Day Secondary School, Oke-Aluko

Foundation/History: Located in Oke-Aluko, Ilorin South. Established as part of rapid expansion of day schools in Kwara State.

Curriculum: Offers both science and commercial classes at senior level.

Community role: One of the most populated schools in its corridor, serving children of civil servants, artisans, and small traders.

Extracurriculars: Known for strong football teams, cultural dance troupes.

Achievements: Alumni now serve as local government officials, teachers, and entrepreneurs.

PRIVATE SECONDARY SCHOOLS IN ILORIN

1. Imam Hamzat College

Foundation/History: Started as a private initiative of Sheikh Imam Hamzat Yusuf Abdulraheem. Expanded into a College of Education approved by NCCE in 2018.

Curriculum: Blends WAEC/NECO syllabus with compulsory Arabic and Islamic studies.

Facilities: Well-planned classrooms, ICT centers, mosque, library.

Community role: Provides affordable but quality faith-based education for both boys and girls.

Achievements: High WAEC credit pass rates, excellent reputation for discipline and quality teaching.

2. Darul Istijaba College

Foundation/History: Established in Ilorin in the late 1990s/early 2000s by Islamic educators.

Curriculum: Full WAEC/NECO syllabus; Islamic and Qur'anic studies are compulsory.

Community role: Provides moral upbringing in addition to formal education.

Achievements: Noted for producing Qur'anic recitation competition winners; good WAEC performance.

3. Crescent Star Academy

Foundation/History: Founded in the 2000s in Harmony Estate/Akerebiata.

Curriculum: Nursery, primary, and secondary education with ICT-driven teaching.

Facilities: Small class sizes, buses for students, computer room.

Community role: Serves middle-class families around Harmony Estate and Gaa-Akanbi.

Achievements: Participated successfully in spelling bees and JETS club science fairs.

4. Okiki (Model/International) College

Foundation/History: Private secondary school on Sobi Road, Ilorin East.

Curriculum: Offers WAEC/NECO preparation, with emphasis on science and commercial streams.

Community role: Provides exam-focused education to students from surrounding areas like Gambari and Alagbado.

Achievements: Good track record in WAEC, sports competitions, and local debates.

5. Ayo College

Foundation/History: A modestly established private college in Ilorin, founded by a local proprietor.

Curriculum: WAEC/NECO syllabus with small teacher-student ratio.

Community role: Affordable private option for lower- and middle-income families.

Achievements: Alumni gain admission into Kwara State Polytechnic, University of Ilorin, and other local tertiary institutions.

1.7   DEFINITION OF TERM

PRIVATE   SCHOOLS: These are schools owned and controlled by individual or group of individual or organization who have direct power or authority to fire or sanction any staff who fails to abide by their rules and regulation.

PUBLIC SCHOOLS: These are schools owned and controlled by government by providing or appointing principals to supervise the work of all the staffs. They make sure government rules and regulations are strictly followed for effective performance. That is, they are indirectly controlled and managed by government.

HEAP: A great number or large quantity of things.

SANCTION: A penalty, punishment, or some coercive measure, intended to ensure compliance; especially one adopted by several nations, or by an international body.

LAPSES: A decline or fall in standard.

WELL-VESTED: Fully and unconditionally guaranteed as a legal right, benefit, or privilege the vested benefits of the pension plan.

DEVOID: Empty; having none of; completely without.

INTIMIDATION: The act of making timid or fearful or of deterring by threats.

EMPHAZISED: To stress or extra weight something.

INCULCATE: The teaching of something by using frequent repetition.

INNUMERACY: An inability to manipulate numbers.

CURRICULUM: The set of courses and their content offered at a school.

SCALING: The process of adjusting raw measurement data to fit an expected distribution, such fitting examination results to a normal distribution.

CRUCIAL: Essential or decisive for determining the outcome or future of something; extremely important.

PERCEPTION: conscious understanding of something.

CHAPTER TWO

2.0   LITERATURE REVIEW

This chapter describes a detailed review of the various methods used for the establishing Student's t-test. The performance characteristics and usefulness of the various models are critically examined.

A t – test is any statistical hypothesis test in which the test statistic follows a student's t –distribution under the null hypothesis. It is most commonly applied when the test statistic would follow a normal distribution if the value of a scaling term in the test statistic were known. The t – test most common is to test whether the means of two populations are different.

T-TEST DEFINITION

The t-test is a test in statistics that is used for testing hypotheses regarding the mean of a small sample taken population when the standard deviation of the population is not known.

- The t-test is used to determine if there is a significant difference between the means of two groups.

- The t-test is used for hypothesis testing to determine whether a process has an effect on both samples or if the groups are different from each other.

- Basically, the t-test allows the comparison of the mean of two sets of data and the determination if the two sets are derived from the same population.

- After the null and alternative hypotheses are established, t-test formulas are used to calculate values that are then compared with standard values.

- Based on the comparison, the null hypothesis is either rejected or accepted.

- The T-test is similar to other tests like the z-test and f-test except that t-test is usually performed in cases where the sample size is small (n≤30).

T-TEST FORMULA

T-tests can be performed either manually by using a formula or through some software.

The formula for the manual calculation of t-value is given below:

$$t = \frac{\bar{x} + \mu}{\frac{\sigma 2}{\sqrt{n}}}$$

T-TEST FORMULA 1

Where x̄ is the mean of the sample, and μ is the assumed mean, σ is the standard deviation, and n is the number of observations.

T-TEST FOR THE DIFFERENCE IN MEAN:

T-TEST FORMULA 2

$$t = \frac{\bar{X}_1 - \bar{X}_2}{S_p \cdot \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

$$S_p = \sqrt{\frac{S_{X1}^2 + S_{X2}^2}{2}}$$

$$S_p = \sqrt{\frac{(n_1-1)s_{X1}^2 + (N_2-1)s_{X2}^2}{n_1+n_2-2}}$$

Where $\bar{x}_1$ and $\bar{x}_2$ are the mean of two samples and σ^1 and σ^2 is the standard deviation of two samples, and n_1 and n_2 are the numbers of observation of two samples.

ONE SAMPLE T-TEST (ONE-TAILED T-TEST)

- One sample t-test is a statistical test where the critical area of a distribution is one-sided so that the alternative hypothesis is accepted if the population parameter is either greater than or less than a certain value, but not both.

- In the case where the t-score of the sample being tested falls into the critical area of a one-sided test, the alternative hypothesis is to be accepted instead of the null hypothesis.

- A one-tailed test is used to determine if the population is either lower than or higher than some hypothesized value.

- A one-tailed test is appropriate if the estimated value might depart from the sample value in either of the directions, left or right, but not both.

- For this test, the null hypothesis states that there is no difference between the true mean and the assumed value whereas the alternative hypothesis states that either the assumed value is greater than or less than the true mean but not both.

- For instance, if our $H_0: \mu_0 = \mu$ and $Ha: \mu < \mu_0$, such a test would be a one-sided test or more precisely, a left-tailed test.

- Under such conditions, there is one rejection area only on the left tail of the distribution.

- If we consider $\mu = 100$ and if our sample mean deviates significantly from 100 towards the lower direction, H_0 or null hypothesis is rejected. Otherwise, H_0 is accepted at a given level of significance.

- Similarly, if in another case, $H_0: \mu = \mu_0$ and Ha: $\mu > \mu_0$, this is also a one-tailed test (right tail) and the rejection region is present on the right tail of the curve.

- In this case, when $\mu = 100$ and the sample mean deviates significantly from 100 in the upward direction, H_0 is rejected otherwise, it is to be accepted.

TWO SAMPLE T-TEST (TWO-TAILED T-TEST)

- Two sample t-test is a test a method in which the critical area of a distribution is two-sided and the test is performed to determine whether the population parameter of the sample is greater than or less than a specific range of values.

- A two-tailed test rejects the null hypothesis in cases where the sample mean is significantly higher or lower than the assumed value of the mean of the population.

- This type of test is appropriate when the null hypothesis is some assumed value, and the alternative hypothesis is set as the value not equal to the specified value of the null hypothesis.

- The two-tailed test is appropriate when we have H0: μ = μ0 and Ha: μ ≠ μ0 which may mean μ > μ0 or μ < μ0.

- Therefore, in a two-tailed test, there are two rejection regions, one in either direction, left and right, towards each tail of the curve.

- Suppose, we take $\mu = 100$ and if our sample mean deviates significantly from 100 in either direction, the null hypothesis can be rejected. But if the sample mean does not deviate considerably from μ, the null hypothesis is accepted.

INDEPENDENT T-TEST

- An Independent t-test is a test used for judging the means of two independent groups to determine the statistical evidence to prove that the population means are significantly different.

- Subjects in each sample are also assumed to come from different populations, that is, subjects in "Sample A" are assumed to come from "Population A" and subjects in "Sample B" are assumed to come from "Population B."

- The populations are assumed to differ only in the level of the independent variable.

- Thus, any difference found between the sample means should also exist between population means, and any difference between the population means must be due to the difference in the levels of the independent variable.

- Based on this information, a curve can be plotted to determine the effect of an independent variable on the dependent variable and vice versa.

INDEPENDENT TWO-SAMPLE T-TEST

Equal sample sizes and variance

Given two groups (1, 2), this test is only applicable when:

- The two sample sizes are equal;

- It can be assumed that the two distributions have the same variance;

Violations of these assumptions are discussed below.

The t statistic to test whether the means are different can be calculated as follows:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{S_p\sqrt{\frac{2}{n}}}$$

Where:

$$S_p = \sqrt{\frac{S_{X1}^2 + S_{X2}^2}{2}}$$

Here sp is the pooled standard deviation for $n = n_1 = n_2$ and S_{X1}^2 and S_{X2}^2 are the unbiased estimators of the population variance. The denominator of t is the standard error of the difference between two means.

For significance testing, the degree of freedom for this test is 2n − 2 where n is sample size.

Equal or unequal sample sizes, similar variances

This test is used only when it can be assumed that the two distributions have the same variance. (When this assumption is violated, see below.) The previous formulae are a special

case of the formulae below, one recovers them when both samples are equal in size: $n = n_1 = n_2$.

The t statistic to test whether the means are different can be calculated as follows:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{S_p \cdot \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

Where

$$S_p = \sqrt{\frac{(n_1 - 1)s_{X1}^2 + (N_2 - 1)s_{X2}^2}{n_1 + n_2 - 2}}$$

is the pooled standard deviation of the two samples: it is defined in this way so that its square is an unbiased estimator of the common variance whether or not the population means are the same. In these formulae, $ni - 1$ is the number of degrees of freedom for each group, and the total sample size minus two (that is, $n_1 + n_2 - 2$) is the total number of degrees of freedom, which is used in significance testing.

Equal or unequal sample sizes, unequal variances ($s_{x1} > 2s_{x2}$ or $s_{x2} > 2s_{x1}$)

Main article: Welch's t-test

This test, also known as Welch's t-test, is used only when the two population variances are not assumed to be equal (the two sample sizes may or may not be equal) and hence must be estimated separately. The t statistic to test whether the population means are different is calculated as:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{S_{\overline{\Delta}}}$$

Where

$$.mS_{\overline{\Delta}} = \sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}$$

Here s_i^2 is the unbiased estimator of the variance of each of the two samples with $ni =$ number of participants in group i (i = 1 or 2). In this case ($^1S_{\overline{\Delta}}$) is not a pooled variance. For use in significance testing, the distribution of the test statistic is approximated as an ordinary Student's t-distribution with the degrees of freedom calculated using

$$d.f. = \frac{\left(\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}\right)^2}{\frac{\left(\frac{s_1^2}{n_1}\right)^2}{n_1 - 1} + \frac{\left(\frac{s_2^2}{n_2}\right)^2}{n_2 - 1}}$$

This is known as the Welch-Satterhwaite equation. The true distribution of the test statistic actually depends (slightly) on the two unknown population variances (see Behrens-Fisher problem).

2.1   PUBLIC SECONDARY SCHOOLS

A public school is a school that runs on public funds, usually government-imposed taxes. It's free for everyone to go to a primary or secondary public school.

2.1.2 PRIVATE SCONDARY SCHOOLS

A private school is a secondary school which is owned, managed or sponsored by the central or state government.

2.2 SIGNIFICANCE OF MATHEMATICS IN SECONDARY SCHOOL EDUCATION

Mathematics is a fundamental part of human thought and logic, and integral to attempts at understanding the world and ourselves. Mathematics provides an effective way of building mental discipline and encourages logical reasoning and mental rigor. In addition, mathematical knowledge plays a crucial role in understanding the contents of other school subjects such as science, social studies, and even music and art.

Mathematics has a transversal nature. If we reflect on the history of curriculum in general were two of the seven liberal arts in Greek as well as in medieval times. This historical role supports the notion that mathematics has provided the mental discipline required for other discipline. Mathematics literacy is taken to include basic computational skills, quantitative reasoning, spatial ability etc.

Mathematical concepts and procedures are used to solve problems in science, engineering and economics. Mathematics is a part of our human cultural heritage, and we have a responsibility to develop that heritage.

2.3 STUDENTS AS FACTORS AFFECTING THEIR PERFORMANCES IN MATHEMATICS

The factors affecting student performance in mathematics are student related factors such as interest and study habits. The students' attitude is seen to affect their performance in

mathematics in different studies. In a comparative studies have found that there is a direct link between students' attitude towards mathematics and student outcomes. In the study of elementary school pupils, there was a positive correlation between the student attitude and student performance. Students have been found to approach mathematics as procedural and rule-oriented. This is said to prevent them from experiencing the richness of mathematics.

2.3.2   LACK OF INTEREST IN MATHEMATICS

One of the main reasons for student's reluctancy toward mathematics is their lack of understanding and self-perception. Students stated that their negative perception was not new, but instead something they knew since elementary.

2.3.3   LACK OF STUDY MATERIAL

The lack of resources in classroom can cause extreme distress on the student and teachers. Not only are the student and teachers in distress, but they are unable to learn their fullest potential because they are not being given the proper resources.

2.3.4   TEACHERS AS FACTORS AFFECTING THE PERFORMANCE OF STUDENT IN MATHEMATICS

Positive teacher attitude towards mathematics was significantly related to high achievement in pupils. Also studies that specially focused on teachers' attitude and students' achievement in mathematics found out that teachers' attitude contributed to students' academic performance and behavior. Teachers' beliefs about mathematics such as the usefulness of

mathematics, the way mathematics should be learned, the difficulty or ease of mathematics, as well as gender ability and beliefs also affect their towards the subject and impact on students' performance.

2.3.5 TEACHERS QUALIFICATION

The results revealed that students taught by teachers with higher qualifications performed better than those taught by teachers with lower qualifications. It was also showed that students performed better in mathematics when taught by professional teachers.

2.3.6 TEACHERS TRUANCY

To ensure education quality and student learning, addressing teacher absenteeism must be top priority in each education system. Education is the process which society consciously transmits its knowledge, skills and values from one generation to another. The school as one of the agents of socialization was established to mould, build and shape the youths to become useful to themselves and the society. Such conscious and international efforts usually focus in part on character development, behavior modification and values, orientation, especially among youths of the nation. School as centre of knowledge and it possess the power to mould and shape character of individuals in the society. However, distortion and aberrations in the character of students are being reflected in the pattern of students' classroom behavior. If not checked such behavior may constitute impediments to meaningful classroom learning, school growth and development. Prominent among such undesirable behavior is truancy among students.

2.3.7 PARENTS AS FACTORS AFFECTING STUDENT PERFORMANCES IN MATHEMATICSs

Parents serve as a role model and a guide in encouraging their children to pursue high educational goals and desires by establishing the educational resources on hand in the home and holding particular attitudes and values towards their children learning. Parental influence of child performance in mathematics is paramount. Parents can exert a positive influence on their children's mathematical performance.

2.3.8 ENVIRONMENT AS FACTGORS AFFECTING STUDENT PERFORMANCES IN MATHEMATICS

However, there are some environmental factors which have contributed to the poor performance of student which are home background, inadequate school facilities, misuse of technology such internet and school climate, such as student teacher relationship, classrooms, libraries, technical workshop, laboratories etc.

2.3.9 ACADEMIC ENVIRONMENT

Several factors can affect learning ability, including seating, light, noise, and even colour.

Students who study in a positive learning environment have been shown to be more motivated, engaged, and have a higher overall learning ability.

CHAPTER THREE

3.0   RESEARCH METHODOLOGY

In this chapter the various ways in which data of information can be collected will be considered. This is a very important aspect of the research because the whole project will be based on the data or information collected and kept by the study area. It is secondary data collected from selected public and private schools. The analysis technique used and data presentation is given below;

3.1   METHOD OF DATA COLLECTION

Data collection refers to the method of obtaining relevant quantitative information regarding the major ideas of hypothesis of the study for the process of demonstrating whether or not they are timely for the research.

The first step in every statistical investigation is the collection of data which forms the foundation of statistical analysis. There are two sources of data namely, primary and secondary sources. It is a primary source when the data are originally collected by the investigator, while it is a secondary source when data are obtained from published and unpublished record. Therefore, in this research secondary method of data collection was adopted. In order to retrieve the necessary data needed for the research work, the researcher paid personal visit to selected public and private schools.

3.2   STATISTICAL TECHNIQUE

This is the systematic procedure for carrying out research; whereby, a research is the systematic collection, analysis and interpretation of data to answer some certain questions or solve some problem(s).

3.3 STUDENT T- TEST

A t – test is any statistical hypothesis test in which the test statistic follows a student's t – distribution under the null hypothesis. It is most commonly applied when the test statistic would follow a normal distribution if the value of a scaling term in the test statistic were known. The t – test most common is to test whether the means of two populations are different.

INDEPENDENT TWO-SAMPLE T-TEST

The independent sample t-test compare the means of two independent groups

In order to determine whether there is statistical evidence population means are significantly different, in testing the significance or liability of a μ value, a sample size is less than 30, n-k as degree of freedom where k is the number of parameter and n is the number of sample size or number of observations. The calculated is compared with the theoretical value of 2 obtained from t distribution table as a given level of significance, then 5% level of significance denoted as α.

TEST STATISTICS

Equal sample sizes and variance

Given two groups (1, 2), this test is only applicable when:

- The two sample sizes are equal;
- It can be assumed that the two distributions have the same variance;

Violations of these assumptions are discussed below.

The t statistic to test whether the means are different can be calculated as follows:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{S_p \sqrt{\frac{2}{n}}}$$

Where:

$$S_p = \sqrt{\frac{S_{X1}^2 + S_{X2}^2}{2}}$$

Here sp is the pooled standard deviation for $n = n1 = n2$ and S_{X1}^2 and S_{X2}^2 are the unbiased estimators of the population variance. The denominator of t is the standard error of the difference between two means.

For significance testing, the degree of freedom for this test is 2n − 2 where n is sample size.

$$d.f. = \frac{\left(\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}\right)^2}{\frac{\left(\frac{s_1^2}{n_1}\right)^2}{n_1 - 1} + \frac{\left(\frac{s_2^2}{n_2}\right)^2}{n_2 - 1}}$$

HYPOTHESIS

$H_0: \mu_1 = \mu_2$ or $H_1: \mu_1 \neq \mu_2$

Critical region; says reject H_0 if p- value less than 0.05 level of significance otherwise,

3.4   DATA PRESENTATION

These tables below show the average proportion of mathematics per credit o' level of selected public and private secondary schools in Iseyin from 2021to 2025.

EVALUATION OF MATHEMATICAL PERFORMANCE IN Dada Secondary School, Okelele (DGS)

GRADES	YEARS									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
A_1	-	-	-	-	8	-	2	30	10	1
B_2	-	1	-	-	10	-	6	40	11	1
B_3	1	52	-	-	14	7	8	34	20	2
C_4	-	25	-	-	14	17	7	23	49	41
C_5	1	26	-	-	20	25	14	50	40	39
C_6	17	21	12	12	20	78	7	48	42	45
D_7 & E_8	46	4	73	91	1	27	21	3	1	12
F_9	16	5	65	86	-	2	-	-	1	34
TOTAL	81	134	140	189	87	160	65	228	174	275

EVALUATION OF MATHEMATICAL PERFORMANE IN AMULE COMMUNITY GRAMMAR SCHOOL (AGS).

	YEARS

GRADES	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
A_1	-	-	-	-	-	-	-	-	-	-
B_2	-	-	-	-	-	39	-	5	-	-
B_3	-	-	5	-	3	18	1	78	-	4
C_4	-	-	3	-	6	2	9	17	-	53
C_5	-	-	47	-	16	-	16	13	2	65
C_6	-	-	38	-	38	-	34	4	56	40
D_7 & E_8	2	26	3	3	7	1	18	1	91	-
F_9	28	84	1	103	26	1	-	-	10	1
TOTAL	30	110	97	106	96	72	78	118	159	163

EVALUATION OF MATHEMATICAL PERFORMANE IN   Government Day Secondary School, Oke-Aluko .

GRADES	YEARS									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
A_1	-	-	7	2	-	1	-	4	9	-
B_2	-	12	-	6	-	14	-	14	15	-
B_3	-	-	21	15	2	27	-	34	20	66
C_4	-	10	-	6	14	1	-	10	25	34
C_5	-	11	10	5	21	-	-	15	16	18
C_6	-	-	15	18	-	-	-	14	19	8
D_7 & E_8	30	15	10	9	2	-	3	12	5	-
F_9	88	20	5	15	-	-	38	37	-	-
TOTAL	118	68	65	76	39	43	41	131	109	126

EVALUATION OF MATHEMATICAL PERFORMANE IN Al-Adabiyyatul Kamaliyya Senior Secondary School, Abayawo

SECONDARY SCHOOL

GRADES	YEARS									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
A_1	-	-	-	9	5	2	4	-	-	11
B_2	-	-	-	-	11	-	17	13	-	-
B_3	-	-	10	13	17	22	11	13	28	34
C_4	-	-	-	20	9	44	10	15	9	12
C_5	-	-	15	20	21	26	18	7	26	14
C_6	-	6	25	22	31	-	14	6	20	-
D_7& E_8	11	35	15	5	-	-	-	7	2	-
F_9	43	52	15	-	-	-	20	8	-	-
TOTAL	54	93	80	89	94	94	94	69	85	71

EVALUATION OF MATHEMATICAL PERFORMANE IN Okelele Community

Secondary School

GRADES	YEARS									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
A_1	-	-	-	1	-	64	-	52	21	44
B_2	-	-	-	-	34	20	-	75	49	96
B_3	-	-	-	23	114	31	-	88	35	72
C_4	-	-	25	11	25	19	2	1	27	2
C_5	-	15	25	9	12	24	34	2	17	1
C_6	-	2	19	37	65	23	40	2	20	2

D_7& E_8	6	9	25	22	12	17	11	-	-	-
F_9	38	-	-	-	-	-	-	-	-	-
TOTAL	44	52	94	103	173	215	87	220	169	219

PRIVATE SCHOOL

EVALUATION OF MATHEMATICAL PERFORMANCES IN IMAM HAMZAT MODEL COLLEGE

GRADES	YEARS									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
A_1	5	2	1	-	7	6	15	9	10	18
B_2	13	5	4	15	9	14	22	24	23	19
B_3	3	14	10	9	-	8	8	17	10	25
C_4	3	6	17	11	-	-	7	7	10	-
C_5	3	13	-	9	25	-	13	5	16	-
C_6	3	5	-	4	10	26	12	3	2	-
D_7& E_8	1	10	24	12	10	12	-	6	6	-
F_9	-	6	4	8	4	8	-	2	-	-
TOTAL	31	61	60	68	65	74	77	73	77	62

EVALUATION OF MATHEMATICAL PERFORMANCES IN DARUL-ISTIJABA MODEL COLLEGE

GRADES	YEARS									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
A_1	-	-	-	1	-	2	-	-	-	-
B_2	-	-	-	1	-	15	-	-	-	-

B_3	-	-	2	2	-	18	-	5	-	2
C_4	-	-	10	10	-	-	-	2	-	2
C_5	-	-	9	5	3	-	1	-	1	2
C_6	-	1	11	6	1	-	2	6	6	20
D_7 & E_8	5	7	-	-	10	-	15	14	14	9
F_9	15	13	-	4	11	-	15	20	10	-
TOTAL	20	21	32	29	25	35	33	47	31	35

EVALUATION OF MATHEMATICAL PERFORMANCES IN CRESCENT STAR ACADEMY SCHOOL

	YEARS									
GRADES	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025
A_1	-	-	-	-	-	8	-	1	-	1
B_2	-	6	-	-	-	24	-	3	-	
B_3	1	19	20	27	5	8	12	31	21	29
C_4	7	2	3	11	8	1	5	7	20	10
C_5	9	1	6	4	16	-	7	11	17	7
C_6	9	-	1	-	3	-	26	4	20	3
D_7 & E_8	-	-	-	-	-	-	9	2	2	-
F_9		-	-	-	-	-	2	-	-	-
TOTAL	26	28	30	42	32	41	61	59	80	50

EVALUATION OF MATHEMATICAL PERFORMANCES IN OKIKI MODEL COLLEGE

	YEARS

GRADES	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
A_1	-	-	-	-	-	2	-	-	-	2
B_2	-	3	-	-	-	9	-	8	-	23
B_3	-	33	27	-	8	49	-	41	4	23
C_4	-	-	12	5	2	5	-	4	3	1
C_5	-	-	9	11	6	-	2	1	19	-
C_6	-	-	6	37	4	-	14	2	27	-
D_7 & E_8	26	-	1	4	-	-	51	1	6	-
F_9	-	-	-	-	-	-	8	-	-	-
TOTAL	26	36	55	57	20	65	75	57	59	49

EVALUATION OF MATHEMATICAL PERFORMANCES IN AYO COLLEGE

GRADES	YEARS									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
A_1	-	-	-	2	10	1	5	-	9	25
B_2	-	-	-	9	7	5	23	-	22	27
B_3	-	-	-	-	28	9	-	13	9	17
C_4	-	-	-	18	-	16	11	19	16	12
C_5	-	-	16	10	-	25	39	-	22	12
C_6	-	6	-	-	7	21	10	-	31	10
D_7 & E_8	20	30	9	16	33	20	12	35	-	25
F_9	30	37	21	5	4	-	-	30	-	-
TOTAL	50	73	46	60	89	97	100	97	109	128

PERFORMANCE (%) $= \dfrac{NUMBER\ OF\ CREDIT\ LEVEL}{TOTAL\ POPULATION} \times 100$

PERFORMANCE PERCENTAGE OF PUBLIC AND PRIVATE SCHOOLS ISEYIN

YEARS	PUBLIC SECONDARY SCHOOLS (%)					PRIVATE SECONDARY SCHOOLS (%)				
	DGS	AGS	AKSS	GDSS	OCSS	IHMC	DIMC	CSAS	OMC	AC
2012	22.2	0	0	0	0	96.8	0	100	0	0
2013	92.5	0	48.5	6.5	32.7	73.8	0	10	100	8.2
2014	8.6	95.9	81.5	62.5	73.4	53.3	100	100	98.2	34.8
2015	6.3	65.6	68.4	94.4	78.6	70.6	86.2	100	93.0	65
2016	98.9	97.2	94.9	100	93.1	78.5	16	100	100	58.4
2017	79.4	0	100	100	92.1	73.0	100	100	100	85.6
2018	67.7	76.9	0	78.7	87.4	100	9.1	82.0	21.3	88
2019	98.7	99.2	69.5	78.3	100	89.0	27.6	96.6	98.2	33
2020	98.9	36.5	95.4	97.6	100	92.2	22.5	97.5	89.8	100
2021	46.9	99.4	100	100	100	100	77.1	100	100	80.5
TOTAL	620.1	570.7	658.2	718.0	757.3	827.9	438.5	886.1	800.5	553.5

CHAPTER FOUR

4.0   DATA ANALYSIS

This chapter is basically about analysis of data and the interpretation in other to draw valid conclusions. Independent Samples T- test is used as statistical tool for the analysis on the data presented in previous chapter and this was carried out using statistical package for social science (SPSS) as seen in below outputs:

HYPOTHESIS

H_0:   There is no mean difference in the mathematics performance of public and private schools.

H_1:   There is mean difference in the mathematics performance of public and private schools.

Using 5% level of significant

Critical region: reject H_0 if p-value is less than 0.05 level otherwise accept the null hypothesis

Test Statistic:

$$t_{cal} = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

4.1   INDEPENDENT SAMPLES T- TEST OUTPUT

Table 1

Group Statistics

	Case Study Schools	N	Mean	Std. Deviation	Std. Error Mean
average performance	Private School	10	70.116	19.1512	6.0562
	Public School	10	66.486	28.2766	8.9419

Table 2

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	T	df	Sig. 2-tailed	Mean Difference	Std. Error Difference	Lower	Upper
average performance	Equal variances assumed	.740	.401	.336	18	.741	3.630	10.80	-19.059	26.319
	Equal variances not assumed			.336	15.82	.741	3.630	10.80	-19.285	26.545

4.2 INTERPRETATION OF THE RESULT OUTPUTS

The output above gives the t-test statistics value for two cases that is, unknown equal population variances and unknown unequal population variances. The analysis presented in

Table 1 reveals the t –test group statistics where the mean, standard deviation and standard error mean of both schools are calculated.

Table 2 gives the p-value to be **0.401,** indicating that the assumption of equality of variances seems reasonable. Also, the output on the same table 2 shows the value of the corresponding t-test statistic as **0.336** with degree of freedom = **18** and p-value = **0.741,** leading us not to reject null hypothesis that the population means performance in Mathematics are the same in selected public and private secondary schools.

CHAPTER FIVE

5.0   SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1   SUMMARY

This research work is being carried out to find out the comparative analysis of student's performance in mathematics at credit o'level in the selected public and private schools. In other to satisfactorily carry out the research, we employed the use of Independent Samples T- Test and Descriptive statistics in order to arrive at an acceptable conclusion.

The result of the analysis has showed no significant different in mathematics performance, where the p- values are greater than the 5% level of significance which indicates that, there is no significant difference in mathematics performance on selected public and private secondary schools in Iseyin area.

5.2   CONCLUSION

Having analyzed the data collected based on the performance of students in mathematics and the tested Null hypotheses. It was observed that the findings of this study did not contradicts the existing hypotheses theory since the p- value is greater than the level of significance prior to the research work we accept the null hypotheses (H_0) and conclude that there is no significant difference in mathematics performance on selected public and private schools, when compared with empirical studies done previously by other researchers.

5.3   RECOMMENDATIONS

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

- Public and private secondary school teachers should be given recognition and special incentives by the government as applicable to their counterparts in sciences and other fields of specializations.

- Government should organize periodic seminars, conferences and workshops for public and private teachers in order to enhance their performance while teaching

- Public and private teachers and school should employ appropriate teaching methods in teaching mathematics

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