THE ACADEMIC PERFORMANCE OF PUBLIC SECONDARY SCHOOL STUDENTS IN THE WEST AFRICAN SCHOOL CERTIFICATE MATHEMATICS EXAMINATION IN OSHIMILI SOUTH LOCAL GOVERNMENT AREA OF DELTA STATE.

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Abstract.

This study investigated the performance of secondary students in the West African School Certificate (WASC) Mathematics Examination in Oshimili South Local Government Area of Delta State. The casual-comparative design was adopted, and a random sampling technique was used to select 2245 students from seven public secondary schools. Data was obtained from past West African Examination Council results (2006-2010) and analyzed using Mean, Standard Deviation, and Students' t-test. A structured questionnaire was also administered to 35 Mathematics teachers and 35 senior secondary students to identify reasons for the trend of performance. The study found that the general performance of secondary school students in the WASC Mathematics Examination between 2006 and 2010 was poor (less than 50%). Both male and female students performed poorly in the examination. The study recommends that Mathematics Laboratories should be provided and properly equipped, and the use of Instructional Resources, including Information Technology gadgets, should be encouraged. Teachers should be trained, aided, and encouraged to use these resources to improve student performance in Mathematics. The findings of this study highlight the need for improved teaching methods and resources to enhance student performance in Mathematics. By implementing these recommendations, educators and policymakers can work together to improve student outcomes in Mathematics and ultimately, the overall academic performance of secondary school students in the region.

Keywords: *Academic Performance, WASC, WAEC, Public Secondary Schools, Students, Mathematics Examinations.*

Introduction

Mathematics is the science of Quantity, space and change. It is a systematized , organized.and exact branch of science, a creation of the human mind concerned primarily with ideas, processes

and reasoning. Therefore, Mathematics can be seen variously as a body of knowledge, a collection of techniques and methods, the product of human activity and even as the activity itself, namely, the solving of problems (Odili, 2006). Wittgenstein (1978) in odili (2006) called Mathematics a family of activities with a family of purposes. This according to Odili (2006) looks at Mathematics as consisting of a motley of human activities driven by a range of human goals, intentions and purposes. "This is a process view of Mathematics". This view he submitted, considers Mathematics as a science discipline although it may not be as experimental as other branches of science. Also Lakatos (1976, 1978) in odili (2006) asserted that mathematics is actually a conglomeration of several different but related subjects and not a single subject. "It is much more than Arithmetic, the science of numbers and computations; not enough with Algebra, the language of of symbols and relations; far more than Geometry, the study of shape, size and space; more than Numerical Trigonometry which measures distances to stars and analyzes oscillations; involves more than Statistics, the science of interpreting data and graphs; than Calculus, the study of change, infinity and limits". Mathematics according to Odili (2006) has continued to play a significant role in the national development of any country. He concieved development as the capacity of a nation to apply technology for the exploitation of the resources of nature. "Such exploitation will rely heavily on Mathematics for laying the foundation for political, governmental, military, civility, scientific and technological advancements, economic development, social-cultural environmental peace". Quoting Ihejieto (1989), Odili (2006) identified Mathematics as the ingredient for effective articulation of the abstract elements of science that gives impetus to the development of technologies. Jegede (1984,1989) and Ali (1994) in odili (2006) both stressed that Mathematics is indispensable because it has substantial use in all other human activities including school subjects. In agreement, Ezeilo (1975) in odili (2006) asserted that there can be no development technologically without a corresponding development in Mathematics both as conceived and practiced. In addition, odili (2006) opined that the importance accorded Mathematics in the school curriculum from the primary to the secondary levels reflects accurately the vital role played by the subject in contemporary society. Azuka (2001) as cited in Odili (2006) then emphasized that it is in realization of this that many countries resort to making special comprehensive and well programmed efforts towards the effective teaching and learning of science and Mathematics at all levels of the educational system through the development and implementation of innovative programmes and projects. Odili (2006) complimentarily added that in most schools in Nigeria for example, the study of Mathematics is made compulsory for all students. "And in order to secure admission for most courses at higher levels of education, a credit pass in Mathematics is a prerequisite".

In this Information age, Odili (2006) observed that technology is changing the work place, the home and daily life. "And as these changes occur, the importance of developing mathematical skills to be a productive member of this new society has come to the forefront. Despite the picture

of importance painted of Mathematics in the Nigerian educational system, the students' Performance continue to deteriorate year after year". He argued that no teacher in Nigeria concerned with the teaching of Mathematics at any stage from infants upwards and particularly at the secondary school level can honestly say to himself that all is well with the teaching of the subjec.. He posited that there are far too many students today who leave the secondary school with a dislike for Mathematics. "Those who teach Physics, Chemistry or other subjects requiring the application of Mathematics, complain of the odious task they face. The great anxiety has been expressed by Government, employers of labour, Parents and Teachers about the fact that large numbers of students, after a secondary school course, are unable to perform many of the simple arithmetical or mathematical operations needed in their everyday life and work". He noted that many researchers have adduced several reasons as being responsible for the terrible failure rate in Mathematics. For example Adeniyi (1988) in Odili (2006) stated that the cause of the widespread low-level Performance in Mathematics of secondary school students could be largely ascribed to mechanical and uninteresting teaching devoid of understanding of the real meaning of mathematical concepts. "In most cases, they (the students) are only clever in the art of manipulating complicated sets of symbols or they are dazed by the unpleasant situations into which the present mathematical requirements in schools tend to place them. They eventually develop a common attitude: get the examination over, after which, forget about Mathematics". Similarly, Kuku (1989) in Odili (2096) attributed the reasons to students' negative attitude towards Mathematics. Odili (2006) leaning on the suggestions of other researchers like Adeniyi (1988), Osiobodu (1988), Obodo (1990) and Agwagha (1993) that Mathematics teaching in Nigeria today still follow the traditional pattern, noted that this pattern is one in which answers to the previous day's homework are first given, then teacher-directed explanations are used to present materials for the new lesson. He posited that this traditional pattern of teaching Mathematics has been identified as being ineffective and as one major factor responsible for the poor Performance of students in Mathematics. Ogoamaka (1988) and Ali (1989) in Odili (2006) opined that teachers' incompetence in the new Curriculum which made them operate almost at the same level as their students is another contributing factor to the students' poor Performance in Mathematics". Alio (1997) also cited in Odili (2006) added that teachers' non-utilization of the necessary techniques in teaching mathematical Problem solving is another contributing factor. Odili (2006) however noted that there had lately been a certain feeling of discomfort among those concerned with the teaching of Mathematics. "The mumbling of discontent have been getting louder and louder yet they have remained only on newspaper pages without an coordinated plan of attack. Similarly, there are different viewpoints about the necessity of different types of reforms in its teaching but some people take delight only in criticism for the sake of citicism". He however noted that there is no denying the fact that the Nigerian students' low Performance in Mathematics at the secondary school certificate examinations is an indication of their low mastery of the

subject. "Although the past thirty years have witnessed attempts at how best to improve Mathematics, there still seems to be very little evidence of what produces efficient Mathematics teaching. It is the joint responsibility of those concerned, to bring necessary improvement and changes as the subject has to be popularized at all cost".

Literature Review

There are many approaches to the study of Mathematics which also has given rise to many schools of thought but this study was essentially hinged on the basic theories of the developmental and behavioural psychologists. However at the mention of the term: "Academic Performance or Achievement", people often think of a person's grade point average (GPA). Williams (2017) however asserted that while some may not graduate top of the class, they may hold leadership positions in several student Groups or score high on standardized tests such as the scholastic Assessment (SAT) or American College Testing (ACT). "People often consider grades first when evaluating academic achievement. This includes schools which rank students by their grade point average (GPA) awarding Special designations such as valedictorian and salutatorian for those who graduate first and second in their class scholarships. Organizations and Universities also start looking at grades as some employers especially technical professions such as Law, Medicine and Finance. Other industries place less importance on GPA particularly creative professions such as sales, where People's skills are more crucial than technical knowledge". Ward, Stoker & Murray-Ward (1996) in Wikipedia (2024) defined academic achievement or Academic Performance as: "the extent to which a student, teacher or Institution has attained their short or long-term educational goals". They noted that completion of educational benchmark such as secondary school diplomas and bachelor's degrees represents academic achievement. "Academic achievement is commonly measured through examinations or continuous Assessments but there is no general agreement on how it is best evaluated or which aspects are the most important procedural knowledge such as skills or declarative knowledge such as facts". Steinmayr, Meibner, Wedinger & Wirthwein (2014) posited that Academic Achievement represents outcomes that indicate that extent to which a person has accomplished specific goals that were the focus of activities in Instructional environments specifically in Schools, Colleges and Universities. "Academic achievement should be considered to be a multifaceted construct that comprise different domains of learning".

On specific issues that directly boder on academic Performances or achievements in Mathematics, Yeh, Cheng, Chen, Lian & Chan (2019) in Kihwele & Mkomwa (2023) asserted that Mathematics is an abstract subject hence it causes many students to lose interest thus resulting in low achievement. Also Kihwele & Mkomwa (2023) leaning on findings from studies carried out by Mbugua, Kibet, Muthaa & Nkoke (2012), Sa'ad, Adamu & Sadiq (2014), Ndume, Songoro & Kisanga (2020) and Mazana, Montero & Casmir (2020) noted that results showed the trend of

poor Performance in Mathematics in many parts of the world. "This trend is associated with students low interest in studing Mathematics. For instance, in Nigeria Sa'ad et al (2014) stated that students performed poorly in Mathematics and attributed the cause to students negative attitudes and teachers' lack of innovative teaching methods. In Kenya, Mbugua et al (2012) reported similar factors for low achievement in Mathematics. Peteros, Gamboa, Etcuban, Dinauanao, Sitoy & Arcadio (2020) noted that the level of Performance of students in Mathematics was low in 2020 and as high as 53.01% of students in Philippines performed below the average mark. Khan, Gaha & Pal (2018) revealed that in spite of the general struggles of students with poor Mathematics Performance, female students have performed better than their Male counterparts in Pakistan. Ndume et al (2020) also stated that the state of Performance in Mathematics was low in Tanzania. The pass rate of Mathematics in form four national Examinations was 16%. Mazana et al (2020) further affirmed that the trend of failure in the subject is high as research indicated that in 2012 alone 69% of form four students failed in the subject". Adducing reasons for such Performances, Kihwele & Mkomwa (2023) quoting Shoaib & Saeed (2016) asserted that factors such as teachers lack of innovative pedagogy, the subject's broad content and students Inadequate practices amplify students low interest in learning Mathematics. Mazana, Montero & Casmir (2019) in Kihwele & Mkomwa (2023) explained that developing a positive attitude among students is when they enjoy the subject through various innovative and engaging methods. This positive attitude according to Kihwele & Mkomwa (2023) has a significant impact on improving achievement in the subject. They then outlined factors associated with low achievement in Mathematics and these include: students attitude towards Mathematics; the perception that the subject is complex; low level of self Confidence; bad grades attained in classroom tests discourage students; poor background; and irrelevance of the content to real life situations.

A number of reasons have been adduced for the woeful Performance of students (poor results/ near- mass failures recorded) in the annual school certificate Mathematics Examination conducted by the West African Examination council (WAEC) (and recently, the National Examination Council NECO). on the part of the students, these may range from lack of interest; laziness and un-willingness to work hard; distaste or dislike for calculations involved in the subject; fear or phobia for Mathematics; to the general negative attitude towards the learning of Mathematics. Unfortunately, over the years the problem of the lack or absence of a comprehensive empirical result report and statistical analysis of the Performance of Male and female students in each subject entered have persisted. And where these records exists or are available, the authorities or supervisory officials are not ready to release them. This has hindered enough research evidence that would have led to problem identification; situational analysis and solutions towards improving each gender's attitudes and general Performances. This therefore forms the basis on which this study titled: the academic Performance of secondary school students in the West

African School Certificate Mathematics Examination in Oshimili South Local Government Area Of Delta State, was undertaken. With the need to enhance the improvement of science and technology in Nigeria and with the fact that some secondary school students may wish to study or be offered Mathematics based or science-related courses in institutions of higher learning during their tertiary educational pursuit; the purpose and attendant specific objectives of this study were therefore to :

1. Examine the Performance of secondary school students in oshimili

south local government area in WASC Mathematics Examination.

2. Examine the level of Performance of Male secondary students in the WASC Mathematics Examination.

3. Examine the Performance of female secondary students in the

same WASC Mathematics Examination.

4. And possibly adduce reasons for the trend of Performances recorded.

The following questions were raised in Connection with the academic Performance of Secondary School Students in WASC Mathematics Examinations in Oshimili South Local Government Area of Delta State. And these questions were appropriately answered in the course of the study.

1. What is the general Performance of secondary School Students in Oshimili South Local Government Area in WASC Mathematics Examinations?

2. What is the Level of Performance of Male Secondary Students in the WASC Mathematics Examinations?

3. What is the Level of Perfo-rmance of Female Secondary Students in WASC Mathematics Examinations?

4. What possible Reasons could be adduced for the trend of Performance(s)?

Methodology

The Study adopted a Casual-Comparative research design otherwise known as ex-post facto research design. Four (4) research questions guided the study. The Population for the study comprised the entire graduating final year students from seven (7) Public Senior Secondary Schools in Asaba Metropolis. Simple Radom Sampling Technique was employed to select 2245

Students as Sample for the Study. The Instrument for data collection was first, the Five years results from the West African School Certificate (WASC) Mathematics Examination for Five (5) years (2010-2016).This was the Primary source of data. In addition, a mixed Method using questionaire and peronal interview sessions of teachers and senior Secondary Students was conducted and opinions sought for plausible casual factors/possible reasons for the trend of Performance. This was the secondary source of data. This was carried out using a self-Structured questionnaire containing twenty-Three items, Titled: Adduced Reasons For Students Poor Performance in Mathematics Examinations (ARSPPME). It had a 4-point rating Scale tagged: Strongly Agree (SA)4, Agree(A)3, Disagree(D)2, and Strongly Disagree (SD)1 respectively. It was divided into Two sections, A and B. Section A elicited responses on the personal data of the Respondents. While Section B provided statements designed to elicit responses from the Respondents on the issues raised on the research questions. This secondary Instrument was validated by Four experts, Two each in Measurement and Evaluation and Educational Psychology from the Department of Educational Foundations. In addition interview that sought for opinions of 35 mathematics teachers and 35 senior secondary school students, was directly conducted in the various schools visited.. Data collected were analyzed using mean Statistics, standard deviation and students t-test. Any mean that recorded the benchmark of 2.50 was accepted while mean rates below the benchmark of 2.50 were rejected.

Result.

SCORE RANGES: 90-99 (A1); 80-89 (B2); 70-79 (B3); 60 --- 69 (C4); 55-59 (C5); 50-54 (C6); 45-49 (D7); 40-44 (D8); 0-39 (F9).

Research Question-1: What is the general Performance of students in the WASC Mathematics Examination.

Table-1: The General Average Scores of Students in WASC Mathematics in each Secondary School.

Year	Pat	osad	AGGS	Brig	ICE	Nig	Asa	Gav
2006	38.9	27.4	--	22.9	46.3	24.3	--	32
2007	68.6	42.1	34.2	30.8	30.3	41.6	45.9	41.9
2008	63.5	44.5	46.7	47.3	38.3	48.9	51	48.6
2009	39.8	28.9	38.3	30.9	--	28.7	41.5	34.7
2010	48.5	37.4	35	50.7	30.7	34.4	51.5	41.2

From 2006- 2010, the average scores of the students in the individual schools range from 22.9 (F9) to 68 .6(C4) . While the general average of all the schools within that period range from 32 (F9) to 48 .6(D7). However the individual schools recorded impressive Performances and high average scores like St.patricks in 2007 and 2008; St.Brigids in 2010; and Asagba mixed in 2008 and 2010. The year 2008 had the most impressive general average of 48.6 (D7). The general average of all the schools in oshimili south local government area within this period indicated very poor Performances (less than 40%) to poor Performances (less than 50%) . The general Performance of students in WASC Mathematics Examination was therefore not impressive but poor.

Research Question-2: What is the Level of Performance of Male students in WASC Mathematics Examination.

Table-2: The Average Scores of Male Students in WASC Mathematics Examinations in each Secondary School.

Year	patrick	osadenis	ICE	Asagba	Niger	G.av
2006	38.9	27.4	48.1	--	25.3	34.9
2007	68.6	42.1	31.9	49.4	43.7	47.1
2008	63.5	44.5	39.1	52.5	49.7	49.9
2009	39.8	28.9	--	47.5	32.7	38.2
2010	48.5	37.4	29	34.5	52.9	40.1

The above are the average scores of Male students in WASC Mathematics Examinations in each of the secondary schools from 2006 to 2010. These included: St. Patrick's range from 38.9 (F9) to 68 .6 (C4); Osadenis' range from 27.4 (F9) to 44 .5 (E8); ICE's range from 29 (F9) to 48 .1 (D7); Asagba's range from 34.5 (F9) to 52.5 (C6); Niger's range from 25.3 (F9) to 52 .9 (C6). The Performance of male students was not impressive because the average result scores range from very poor result (less than 40%) to poor result (less than 50%) in each secondary school.

Research Question-1: What is the Level of Performance of Female Students in WASC Mathematics Examination.

Table-3: Average Scores of Female Students in WASC Mathematics Examinations in each Secondary School.

Year	Brigids	AGGS	ICE	Asagba	Niger	G.av.
2006	22.9	--	44.4	--	23.2	30.2
2007	30.8	34.2	28.6	42.4	39.5	35.1
2008	47.3	46.7	37.4	49.4	49.1	45.8
2009	30.9	38.3	--	35.4	24.7	32.3
2010	50.7	35	32.3	34.2	51	40.6

The above is the average scores of female students in WASC Mathematics Examinations in each of the secondary schools from 2006 to 2010. St. brigids range from 22 .9 (F9) to 50 .7 (C6); Asaba girls range from 34.2 (F9) to 46 .7 (D7); ICE range from 28.6 (F9) to 44 .4 (E8); Asagba mixed range from 34.2 (F9) to 49 .4 (D7); and Niger mixed range from 23.2 (F9) to 48 .1 (D7). The Performance of female students was not impressive because the average scores range from very poor results (less than 40%) to poor result (less than 50%) in each of the secondary schools.

4. Research Question -4: What possible Reasons could be adduced for the trend of Performance.

Table 4a. Teachers Responses to ARSPPME.

Statement/Item	SA	A	D	SD	Max.Mn	Res.Mn.
1. Insufficient Maths Teachers.	21	12	02	--	2.5	4.06.
2. Inadequate use of Instructional Materials.	27	05	03	--	2.5	3.69.
3. Absence of computer Technology.	24	07	04	--	2.5	3.57.
4. Students Lack of Interest in Maths.	20	13	02	--	2.5	3.51.
5. Overcrowded Classrooms.	19	14	02	--	2.5	3.49.
6. Teachers Heavy Workloads.	16	17	02	--	2.5	3.40.
7. Students lack of attention during lessons.	17	13	02	03	2.5	3.26.
8. Students lazy attitudes in Maths.	15	12	08	--	2.5	3.20.

9. Fear or Phobia for Maths.	12	13	10	--	2.5	3.06.
10. Poor mathematical Foundations.	11	14	10	--	2.5	3.03.
11. Indequate Parental guidance.	10	15	10	--	2.5	3.00.
12. Teachers lack of commitment.	10	14	11	--	2.5	2.97.
13. Absenteeism/ poor class attendance.	10	10	09	06	2.5	2.69.

Table 4b: Students Responces to ARSPPME.

Statements/Items	SA	A	D	SD	MAX.Mn	Res.Mn
1. Students lazy attitudes in maths.	20	15	--	--	2.5	3.57.
2. Students fear/phobia for maths.	22	10	03	--	2.5	3.54.
3. Indequate use of Instructional Materials.	22	10	01	02	2.5	3.49.
4. Absence of Computer Technology.	19	13	03	--	2.5	3.46.
5. Students lack of interest in Maths.	21	09	05	--	2.5	3.40.
6. Insufficient maths Teachers.	13	22	--	--	2.5	3.37.
7. Absenteeism/poor class attendance.	15	17	03	--	2.5	3.34.
8. Overcrowded Classrooms.	20	09	03	03	2.5	3.31.
9. Poor mathematical Foundations.	17	13	03	02	2.5	3.29.
10. Teachers lack of commitment.	12	20	03	--	2.5	3.26.
11. Inadequate parental guidance.	14	14	05	02	2.5	3.14.
12. Students lack of attention during lessons.	13	15	02	05	2.5	3.09.
13. Teachers heavy Workloads.	13	13	05	04	2.5	3.00.

From Tables 4a and 4b based on the interview and questionnaires distributed/administered among Secondary School teachers and senior secondary students, several reasons were adduced for the general poor Performance of students in WASC Mathematics Examinations. But Thirteen of these reasons featured consistently and more prominently in top hierarchical order among both group

of respondents; and their response mean ranged from 2.69 to 4.06 for Teachers; and 3.00 to 3.57 for students. These means were all higher or greater than the benchmark and maximum mean of 2.50. Also among teachers, 20 to 33 Respondents which is 57.1% to 94.3% of the total 35 Respondents (Mathematics Teachers) either agreed or strongly agreed that these factors or reasons were responsible for the poor Performance of students in WASC Mathematics Examinations. Among Students, 26 to 35 or 74.3% to 100% of the total 35 Respondents either agreed or Strongly agreed that these reasons were responsible for the poor Performance of students in WASC Mathematics Examinations in the local Government Area. These reasons included: Lazy attitude of students and un-willingness to work hard in Mathematics; Students lack of interest in Mathematics; Phobia or fear for Mathematics as a very difficult and tough subject to handle; Students Absenteeism/poor attendance in class during Mathematics lessons; Students poor attention in class when present during lessons; inadequate number of qualified Mathematics teachers in schools; lack of commitment to the job among mathematics teachers; Poor foundational knowledge of Mathematics from early school years; Absence of proper parental guidance; Teachers heavy work Load; Overcrowded Classrooms; Absence of the use of Computers for teaching Mathematics; and Inadequate use of Instructional Materials to teach Mathematics.

Table 5: Differences in Ranking of Adduced Reasons between Teachers and Students.

Statements/Items	Teachers	Students	Rank Diff.
1. Insufficient Mathematics Teachers.	1	6	= 5
2. Inadequate use of Instructional Materials.	2	3	= 1
3. Absence of computer Technology use.	3	4	= 1
4. Students lack of interest in Mathematics.	4	5	= 1
5. Overcrowded Classrooms.	5	8	= 3
6. Teachers heavy work load.	6	13	= 7
7. Students lack of attention during lessons.	7	12	= 5
8. Students lazy attitudes in Mathematics.	8	1	= 7
9. Students fear/phobia for Mathematics.	9	2	= 7
10. Poor mathematical Foundations.	10	9	= 1

11. Insufficient Parental guidance.	11	11 =	--
12. Teachers lack of commitment.	12	10 =	2
13. Absenteeism/ poor class attendance.	13	7 =	6

There were some levels of agreement between teachers and students opinions in terms of rankings of the factors responsible for the poor Performance of public secondary school students in the WASC Mathematics Examinations. Seven (7) items were in the forefront of adduced reasons which rank differences in the opinions between teachers and students range from zero (0) to three (3).These included: Insufficient parental guidance; Insufficient number of Mathematics Teachers; inadequate use of instructional Materials; absence of Computer Technology use; students lack of interest in Mathematics; Teachers lack of commitment; and Overcrowded Classrooms.

Discussion of Findings

Apart from individual schools recording impressive performances and high average scores like Saint Patricks College in the years, 2007 and 2008; Saint Brigid's secondary school in year 2010; and Asagba Mixed secondary school in year 2008 and 2010; the schools in Oshimili south local Government Area within the period: 2006 - 2010 had a general average that indicated very poor Performances (less than 40%) to poor Performances (less than 50%). This result is in agreement with the observations made by Odili (2006) that despite the picture of importance painted of Mathematics in the Nigerian education System, the students Performances continue to deteriorate year after year. This also is in line with views expressed by Sa'ad et al (2014) in Kihwele & Mkomwa (2023) that in Nigeria, students performed poorly in Mathematics. The implications of this finding lies in the deep opinions expressed by Odili (2006) that in this Information age where Technology is changing the daily lives of People including homes and work places which calls for the need to develop personal mathematical skills, most of our present day Children may find it very difficult becoming productive members of this new society. And also, many of these younger generation may not secure admissions for courses which require Mathematics as a prerequisite. This is sequel to the views expressed by Osafehinti (1990) in Odili (2006) that the learning of Mathematics in schools represent first, a basic preparation for adult life and secondly, a gateway to a vast array of career choices.

Apart from Saint Patricks college's impressive average scores in year 2007 and 2008; Asagba mixed secondary school in 2008, also; and Niger mixed secondary school in 2010; the Performance of male students in each of the secondary schools in the local Government Area was not impressive and ranged from very poor Performances (less than 40%) to poor Performances (less than 50%). However Saint Patricks college recorded the highest average scores in year 2007

and Niger mixed secondary school, the lowest in year 2006. But the highest general average scores for male students was recorded in year 2008 while the lowest general average scores came in year 2006.

This finding is consistent with the submissions of Bah (2022) who opined that though the precise number is yet to be documented, Children have been woefully failing Mathematics causing fears and panics in the Population, more especially in the parents and Government authorities as the future of development is seemingly anchored on Science and its application. This result however disproves the belief by People that men are good at Math, Physics and similar Science subjects that require logical reasoning expressed by Xie & Liu (2023). Also Linberg, Hyde, Peterson & Linn (2010) quoting Fennema & Sherman (1977), Hyde, Nilsson, Alias & Ariyawansa (2014) and Nosek, Smyth, Sriram & Lindner (2009) stereotyped Mathematics and Science as male domains. Studies carried out by Kiefera & Sekaqyaptewa (2007), Nosek et al (2009) on college students and quoted by Linberg et al (2010) have demonstrated repeated implicit attitudes that link males and Mathematics. However, Steele (2003) in Linberg et al (2010) asserted that although children may view boys and girls as being equal in Mathematical ability, they nonetheless viewed adult men as being better at Mathematics than adult women. "Parents also believe that their sons mathematical abilities are higher than their daughters. And teachers also tend to stereotype Mathematics as Male domain". Bah (2022) however, also warned that the poor Performance in Mathematics among senior secondary school students is negatively impacting their access to tertiary institutions for higher Education in order to effectively take part in future national developments and worse of all pushing them to commit crimes as they cannot secure jobs in the highly competitive job market.

The schools individually recorded impressive average scores among female students like St. brigids an all-female school in 2010 and Niger mixed in 2010 also. The Performance of female students in each of the secondary schools range from very poor Performances (less than 40%) to poor Performances (less than 50%) with St. brigids girls recording the lowest average scores in 2009 and Niger mixed, the highest in 2010. The schools however recorded the most impressive general average scores in 2008. The Performance of female students were therefore not impressive but poor (less than 50%). This result finds relevance in the statement by Xie & Liu (2023) that it is often observed in daily life that women's Mathematics performance are not as good as that of men and that more men are engaged in Mathematics-related occupations. Ing (2014) in Xie & Liu (2023) however opined that the Performance of a middle school students in Mathematics is directly related to whether he or she will choose Science, Technology, Engineering, Mathematics (STEM)-related majors and employment in the future. "Women are often besieged by stereotypical remarks and views such as 'women are not good at math/science' throughout their years of education. People believe that women are good at linguistics, history

and similar art subjects that hinge on the capability of Language or memory. If a girl performed well in math in Elementary school, she is often told that girls will not be good at learning math when they enter middle school. If the girl continues to perform well in Mathematics in middle school, she is often told that women are not suitable for science studies". They therefore concluded that the major factors affecting females Mathematics learning are the stereotypical views of the relationship between gender and Mathematics held by female students and families rather than the tradition of favouring men over women.

Thirteen (13) Factors featured prominently and in top hierarchical order among the reasons adduced for the trend of poor Performances of students in WASC Mathematics Examinations. These reasons or factors as the case may be, recorded a high level of agreement and response means higher than the maximum mean among the Respondents that included both Mathematics Teachers and Senior Secondary School Students. However among the thirteen (13) prominently adduced reasons, Seven (7) of them recorded a very high level of aggrement between Mathematics Teachers and their Senior secondary School students. And these included: Inadequate use of Instructional Materials; Teachers lack of commitment; Poor Mathematical Foundations; Insufficient Parental Guidance; Absence of the use of Computer Technology; Overcrowded Classrooms; and Students' lack of interest in Mathematics.

The First three reasons: Inadequate use of instructional Materials, lack of commitment and poor mathematical Foundations, could be attributed directly to the actions or activities of teachers. And these reasons are consistent with the submissions of Odili (2006) who from researchers evidence, asserted that Mathematics teaching in Nigeria today still follow the traditional pattern. "And this pattern of teaching Mathematics has been Identified as being ineffective and as one major factor responsible for the poor Performance of students in Mathematics". Further, Ogoamaka (1988) and Ali (1989) in Odili (2006) opined that teachers incompetence in the new Curriculum which made them operate almost at the same level as their students is another contributing factor to the students' poor Performance in Mathematics.. Also Alio (1997) in Odili (2006) observed that teachers non-utilization of the necessary techniques in teaching mathematical Problem Solving is another contributing factor. The implication according to Kihwele & Mkomwa (2023) is that many teachers fail to make the Mathematics learning process enjoyable for student. "There is therefore the need for teachers to be innovative and approach the teaching of Mathematics with several different pedagogical Strategies towards getting the best out of their students". However, Maass, Cobb, Krainer & Potari (2019) in Kihwele & Mkomwa (2023) warn that implementing innovation in the classroom is a challenging and demanding activity that requires teachers committment and motivation. In the same line of thought, Wang, Utemov, Krivonozhkina, Liu & Galushkin (2018) in Kihwele & Mkomwa (2023) opined that the ability of teachers to apply pedagogical innovations in classroom setting depends on the methodological resources they have

at their disposal. They asserted that the resources are necessary to support and ensure the effectiveness of innovative pedagogies used in teaching and learning. But truth be told, teachers have been doing their best, innovating and experimenting with diverse pedagogical Strategies towards improving academic Performance in Mathematics. Examples include the Kings and Queens of Mathematics (Kihwele & Mkomwa, 2023); Mobile Learning in Mathematics (Ndume et al, 2020); Mathematics Island (Yeh, Cheg, Chen, Liao & Chan, 2019) and Task design (Coles & Brown, 2016).

The next factor which is insufficient Parental guidance is firmly rooted to the foundations of the home and the family structures and critically calls and beckons on the attention of the parents to do more than just paying school fees for their wards. Parents must create more time to guide and encourage their children and wards in all their academic pursuits. This report is closely related to the result of the study carried out by Hussain (2017) that revealed that socioeconomic status (SES) and parents education have a significant effect on students' overall academic achievement as well as achievement in the subject of Mathematics and Science. He posited that the high and average SE. levels affects the Performance more than the lower level. "Parents' education means more than their occupation in relation to their children's academic achievement at school". Also closely linked to this result is the report of Hussein & Abdirahman (2024) whose research identifies multiple contributing factors categorized into student-related, teacher-related and family-related factors which significantly affect students' academic Performance. Among the family-related factors are issues such as Parents' educational levels, financial problems and lack of parental involvement. "The study underscores the need for comprehensive interventions addressing these multifaceted issues to enhance academic Performance".

The System, Government and supervisory authorities must be held responsible for the absence of the use and Application of computer Technology in schools and the issue of Overcrowded Classrooms..

The last but not the least is the issue of Students' lack of interest in Mathematics. And this is directly linked to the attitudes of students themselves; and indirectly to the teachers. This finding is related to statement credited to Kihwele & Mkomwa (2023) that the trend of poor performance in Mathematics in many parts of the world is associated with students' low interest in studying Mathematics. Sa'ad et al (2014) in Kihwele & Mkomwa (2023) cited students negative attitudes and lack of innovative teaching methods as the cause of Nigerian students poor Performances in Mathematics. However, Shoaib & Saeed (2016) in Kihwele & Mkomwa (2023) asserted that factors such as teachers lack of innovative pedagogies, the subjects broad content and students Inadequate practices, amplify students low interest in learning Mathematics. In the same vein, Mazana, Montero & Cadmir (2019) in Kihwele & Mkomwa (2023) also listed factors associated with low achievement in Mathematics to include: students attitude towards Mathematics; the

perception that the subject is complex; low level of self Confidence; bad grades attained in classroom tests that discourage students; poor background; and irrelevance of the content to real life situations. However in their research, Wong & Wong (2019) in Kihwele & Mkomwa (2023) found no significant correlation between students interest in Mathematics and their Performances. Contradictingly, Kihwele & Mkomwa (2023) quoting Frenzel, Goetz, Pekrun & Watt (2010) found that promoting students' interest in learning Mathematics was more beneficial to low achievers as they improve Performances over time. They however gave the factors concerned with the insignificance of interest and achievement.

Conclusion.

Based on the data analysis the following conclusions were arrived at:

The Performance of secondary school students in oshimili south local government area from 2006-2010 in WASC Mathematics Examinations was poor.

The Performance of Male students in each of the secondary schools within this period were not impressive.

The Performance of Female students in the individual secondary schools within this period were also not impressive.

Thirteen (13) prominent reasons were adduced as being responsible for the trend of Performance.

Recommendations

Based on the findings and conclusions arrived at in the study, the following recommendations were made:

More qualified and professionally competent Mathematics Teachers should be employed. The issue of Nepotism and God-Fatherism in employment of Teachers; and Favouritism in postings must be done away with towards maintaining Academic Standards and quality of Teaching.

Educational Authorities in charge of the ministries and its agencies should organize more training programmes, Seminars, Conferences and Workshops to aid teachers to sharpen their skills; adopt better Teaching methods; to adapt to new scientific and advanced Information Technology means of Solving Mathematics problems. This will be geared towards making Mathematics simplier and easier to follow and comprehend.

Government should provide more incentives to motivate and encourage Teachers committment to the job.

More Mathematics Laboratories should be established and properly equipped as obtained in other Science subjects.

The use of Instructional Resources Information Technology gadgets like the Computer in the teaching of Mathematics should be employed. And Teachers trained, aided and encouraged to to use them.

References

Bay, Y. M. (2022). Poor performance in mathematics among senior secondary school students: Lessons for education planners. *International Journal of advance research in education and literature, 7(11), 9–11. https://doi.org/10.53555/nnel.v7i11.968*

Hussain, M. A. (2017). Rural and urban differential in students' academic performance among schools. Retrieved from https://www.academia.edu/31927246

Hussein, M. J., & Abdirahman, A. A. (2024). Factors contributing to poor academic performance among undergraduates at Gollis University, Hargeisa, Somaliland. *International Journal of Innovative Science and Research Technology. https://doi.org/10.38124/IJISRT/IJISRT24SE042*

Kihwele, J. E., & Mkomwa, J. (2023). Promoting students' interest and achievement in mathematics through "King and Queen of Mathematics Initiative." *Journal of Research in Innovative Teaching and Learning, 16(1), 115–133. https://doi.org/10.1108/JRIT-12-2021-0083*

Lindberg, S. M., Hyde, J. S., Peterson, J. L., & Linn, M. C. (2010). New trends in gender and mathematics performance: A meta-analysis. *Psychological Bulletin, 136(6), 1123–1135. https://doi.org/10.1037/a0021270*

Maduabum, M. A., & Odili, G. A. (2006). Analysis of students' performance in mathematics from 1991–2002. *Journal of Research in Curriculum and Teaching, 1(1).*

Odili, G. A. (2006). Mathematics in Nigerian secondary schools. Rex Charles & Patrick Ltd.

Sevryuk, M. B. (2006). The mathematical questions. Demerun Publishers. Steinmayr, R., Meibner, A., Weidinger, A. F., & Wirthwein, L. (2014). Academic achievement. Oxford Bibliographies. Retrieved from https://www.oxfordbibliographies.com

University of Missouri. (2021). Ten (10) ways to improve academic performance. Retrieved from https://case.missouri.edu/10ways

Wikipedia. (2024a). Mathematics education. In Wikipedia. Retrieved from https://en.m.wikipedia.org/wiki/Mathematics_education

Wikipedia. (2024b). Academic achievement. In Wikipedia. Retrieved from https://en.m.wikipedia.org/wiki/Academic_achievement

Williams, E. (2017). What is the meaning of academic performance? Work.Chron.com. Retrieved from https://work.chron.com

Xie, G., & Liu, X. (2023). Gender in mathematics: How gender role perception influences mathematical capability in junior high school. *Journal of Chinese Sociology, 10(1). https://doi.org/10.1186/s40711-023-00188-3*