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A SWOT Analysis of Male and Female Students' Performance in Chemistry: A Comparative Study

Dr. Florence. O. EZEUDU[1] Dr. Gertrude –Theresa, Uzoamaka, CHIAHA[2]
Lynda Chioma, ANAZOR[3] Dr. Justina Uzoamaka EZE[4] Faith, Chinwe, OMEKE[5]
1.University of Nigeria, Nsukka, Nigeria,Department of Science Education
2.University of Nigeria, Nsukka, Nigeria,Department of Educational Foundations (Administration and Planning Unit)
3.University of Nigeria, Nsukka, Nigeria·Department of Science Education
4.University of Nigeria, Nsukka, Nigeria,Department of Educational Foundations (Guidance and Counseling Unit)
5. University of Nigeria, Nsukka, Nigeria,Centre for Entrepreneurship Development and Research (CDER)

Abstract
The purpose of this study was to do a SWOT analysis and compare performances of male and female students in chemistry. Four research questions and four null hypotheses guided the study. Two boys', two girls' and two co-educational schools involving 1319 males and 1831 females, were selected by a stratified, deliberate sampling technique. A descriptive survey research design, percentages and means were used for answering research questions. The z- and t- tests were used to test hypotheses at ($p<0.05$). The SWOT of male and female performances were identified. Strengths, Opportunities and Weaknesses to the performances of males were higher than that of females. Threats to female performances were higher than males'. There is a significant difference in male and female performances in Chemistry, in favour of boys, generally; in urban ; co-educational schools; Strengths; Opportunities and Weaknesses but in favour of females in single sex schools and in Threats to performances. It was concluded that males performed better than females. Recommendations include encouraging females to attend single –sex schools. Strengths and Opportunities to female performances in chemistry should be enhanced while their Weaknesses and Treats should be drastically reduced, as there can be no national or development without females.
Keywords: SWOT Analysis; Male; Female; Performance; Chemistry; Comparative study; West African Secondary School Certificate Examination (WASSCE).

1.0. INTRODUCTION

1.1. Background of The Study

Immense contributions of chemistry as a discipline in the fields of medicine, agriculture and the synthesis of a vast number of products including plastics as well as man-made fibers produced as a result of knowledge of chemistry is better be imagined than described. The contributions of chemistry to economic and industrial progress of the modern society cannot be over-emphasized. Unfortunately students' achievement in chemistry has been very low (Ekpo 2006; Ezeh 2013) and also on the decline. (Ejebe 2000; Ibeme 2002 & Head 1995). Apparently, students in the various secondary schools are no longer acquainted with adequate knowledge required in chemistry, and this had led to a strong belief among students, that the subject is abstract and difficult. Hence, the general low performance in chemistry on one hand and students drop out from the subject on the other.

Igwe (2000) and Heidy (2009) assert that although the status of chemistry is in jeopardy, male students perform better than their female counterparts. Ejebe (2001), in a comprehensive investigation of sex differences in problem solving discovered that males are more effective than females in problem solving. Also in a comparative study on the performance of both genders in various physical, mental activities, Clift (2000), reported that males surpassed females in subjects requiring reasoning and spatial attitude, whereas females surpassed males in subjects that required verbal attitudes/activities. This may not be unconnected with the reason Okeke and Umoh in Ezeudu and Obi (2013) report that, males are given more difficult tasks than the females. Traditionally, dominant roles have been played by males. The assumption is that rightly or wrongly males appear superior to females, especially in activities that require strength, courage, perseverance, skill and intelligence. Some researchers such as Erickson (2000) and Okeke (2008) assert that males are by nature aggressive, enterprising, resourceful and active while females are docile, submissive, accommodating and passive.

Most female students have the impression that chemistry and other major science subjects including chemistry are difficult and tasking subjects meant for males only. Hence, females seem to have less chances of making their life careers in this area. However, the age- long assertion of male superiority is currently being challenged. Some people believe that females can do what males do and even better. This rising concern that performances of male and female students in senior secondary schools in West African Senior Secondary Certificate Examination (WASSCE) might affect technological and economic development in Nigeria as science

without women according to may continue to remain a paradox as Ezeh (2013), feared. This therefore calls for a comparative study and SWOT analysis of male and female students' performances in chemistry.

SWOT analysis according to en.wikipedia.org (2014) is a structured method of planning used to assess the **strengths, weaknesses, opportunities, and threats (SWOT)** in a project or organization and can also be carried out for individuals. The main aim of SWOT analysis is to identify and link each significant factor, positive and negative, to each of the above four categories of SWOT (Barry 2014). It also analyses of expertise, benefits and qualities capabilities, human competence, products and services as well as commitment of those concerned, while Weaknesses involves minimization of performances (Onu, Chiaha and Ugwoke ,2013). In this study, SWOT analysis is the internal and external factors that respectively make for or mar students' performances in chemistry. The **Strengths** and **Weaknesses** of male and female students' performances in chemistry will be identified in terms of the **internal factors** while the **Opportunities and Threats** will be determined in terms of the **external factors** that influence students' performances in chemistry.

Strengths are therefore internal positive attributes, tangible and intangible factors within students' the control. It is concerned with what students can do well; what resources they have; what advantages or positive attributes that they posses, including their interests, backgrounds and skills that help to influence positively, their performance in chemistry.

Weaknesses are internal factors within students' control that detract them from performing well in Chemistry. It is concerned with lack of expertise, limited resources, lack of access to skills or technology, inadequate service delivery in Chemistry; poor school location and poor infrastructure or school plant. Such factors might need improvement for students to perform well enough for effective competition. Weaknesses are the negative aspects of the internal factors and may place one in a competitive disadvantage. Barry (2014:1) maintained that, "The more accurately you identify your weaknesses, the more valuable the SWOT will be".

Opportunities are external factors concerned with why students choose to read chemistry in the first instance and benefits that exist for high performers in chemistry such as careers in the field of chemistry, in other labour markets, in the community and for further studies. Opportunities imply students' lifestyle; public expectations; available mentorship; classified information; available net work and extra helping hand such as lesson teachers and internet availability that make students perform well in chemistry.

Threats are external factors beyond the control of students that could place students at risk of poor performance or outright failure. Barry (2014) observed that threats are challenges that should be properly handled. It includes intense competitions; large school population; limited accesses to higher education and job opportunities; stringent examination regulations that allows no examination malpractices, poverty.

This study will identify the internal factors in terms of the strengths and weaknesses and the external factors in terms of opportunities and threats so as to offer a better explanation of male and female students' performances in chemistry, in Nigerian secondary schools.

1.2. Purpose of The Study:

The dual purpose of this study is to compare male and female students' performance in chemistry within 2006 to 2010 and to assess the **Strengths** and **Weaknesses** of male and female students' performances in chemistry in terms of the internal factors and the **Opportunities and Threats,** in terms of the external factors that influence the students' performances in chemistry.

1.3. Research Questions:

The following research questions were posed to guide this study:

1. What the performances of male and female students in WASSCE chemistry during the period of study?
2. What are the male and female performances in Chemistry according to school location (rural & urban) and school type (both single-sex & co-educational)?
3. What are the **Strengths** and **Weaknesses** of male and female students' performances in terms of the internal factors that influence the students' performances in chemistry?
4. What are the **Opportunities** and **Threats,** in terms of the external factors that influence the students' performances in chemistry?

1.4. Hypothesis:

The following null hypotheses were formulated and tested at 0.05 probability level.

HO_1: There is no significant difference in the performances of male and female students in WASSCE chemistry.

HO_2: There is no significant difference in the performances of male and female students in terms of school location (rural & urban) and school type (both single-sex & co educational) .

HO_3: There is no significant difference between the Strengths and Weaknesses of male and female students' performances in chemistry.

HO_4: There is no significant difference between the Opportunities and Threats of male and female students'

performances in chemistry.

2.0. METHOD:

2.1. Research Design:

Descriptive survey research design was adopted for this study carried out in Nsukka Local Government Area of Enugu State in both urban and rural areas and in single-sex and co-educational schools.

2.2. Population, Sample and Sampling Technique:

The target population comprises of all the 40,354 secondary school students' that offered chemistry in their WASSCE within 2006-2010, in the 61 secondary schools in Nsukka Local Government Area, Nigeria.

Stratified sampling technique was used to select six schools, two boys' schools, two girls' schools and two co-educational schools made up of 1319 male students and 1831 female students, giving total of 3150 students. The samplings were based on school location, school type and gender.

2.3. Instruments for Data Collection:

Two instruments were used – (i) Record verification involving 2006 to 2010 WASSCE results, which were already classified and standardized, obtained from the West African Examination Council (WAEC). The scores were graded as follows; distinction (A), credit (C), and fail (F) with names, gender, and schools indicated.

(ii) The other instrument was the SWOT-Analysis Students' Perf Questionnaire (SWOTASPQ). It is a 34- item researchers' designed and structured questionnaire, made up of sections 1 and 2. Section 1 gathered the demographic data of the respondents. Section 2 has four clusters with respective 8, 10, 9, and 7 items each that collected data on the SWOT of the students' performances in chemistry. It was structured on a four-point rating scale of Strongly Agree (SA); Agree (A); Disagree (D) and Strongly Disagree (SA) and weighted, 4; 3; 2 and 1 respectively.

2.4. Validation and Reliability of the Instruments:

The WASSCE results were already standardized so there was no need for validation and reliability testing. The SWOTASPQ was subjected to face validation. Three experts, each in Strategic Management; Chemistry; and Measurement and Evaluation all from the University of Nigeria, Nsukka made necessary corrections on the instrument in terms of clarity, simplicity, vocabulary grammar and relevance of items in line with the study.

In order to ascertain the reliability of the instrument, a trial testing was done on 16 secondary school students (8 boys and 8 girls) in Enugu Zone of Enugu State outside the area of study. The data was analyzed using the Cronbach Alpha Method and it yielded a reliability co efficient (r) of 0.77; 0.79; 0.81; and 0.78 for clusters 1, 2, 3, and 4 respectively and 0.81 for the overall instrument. This was considered reliable enough for the study.

2.5. Method of Data Collection:

Data collection was documentary, based on the raw scores of WASSCE chemistry results of the six sampled schools from 2006-2010, collected by the researchers from the school six sampled schools. The SWOTASPQ was administered with the help of six well instructed research assistants on method of data collection. The instruments were on the different groups of students in their various schools during their Send Forth party in their various schools. The instruments were completed and returned on the spot. This lasted for four days and yielded a 62% return rate. This is because not all the students attended the party which was organized by the schools, weeks after the WASSCE examination.

2.6. Method of Data Analysis:

Data collected were analyzed using means, standard deviations and z-test. Usually, after standardization of the raw scores the WASSCE chemistry results were produced in a 9-point grading system of A1, B2, B3, C4, C5, C6, D7, E8 and F9. For every transformation, scores of 1, 2, 3, 4, 5, 6, 7, 8, and 9 were assigned to the grades respectively. This implies that the highest grade a student could make was A1 or 1, while the least grade was F9 or 9. Any student who made 'A1' to 'B3' in the subject i.e. transformed scores of 1-3 is considered as distinction. Any student with a grade of C4- C6 that is transformed scores of 4-6 is considered as having made a Credit pass. Any student with grades of 'D7', 'E8' or 'F9" which were transformed to 7, 8 and 9 in any subject, was considered as having failed the subject. This was because such grades were not used for any academic purpose such as admission into higher institutions in Nigeria. Based on the analysis data was computed.

For the SWOTASPQ, decision was arrived at based on 2.50 criterion mean. This implies that any item with a mean of 2.50 and above will be accepted as SWOT students' performance and any item with a mean below 2.50 will not be accepted as same. In testing the null hypotheses, when the calculated t-value is below the table or critical value the hypotheses of no significant difference will be accepted and if above it will not be accepted. This enabled the researcher to establish whether any significant differences exist.

3.0. RESULTS:

Table 1:

Percentage performances of Male and Female Students in Chem. according to location, and school type

Variables	Males			Females			
	No.	% Passes	% Failure	No.	% Passes	% Failures	% Differentia.
General	1931	87	13	1931			
Urban	997	62	38	836	79	21	7 IFM
Rural	655	75	25	569	56	44	6 IFM
Single-sex	546	80	20	930	72	28	03 IFM
sch.	576	78	22	379	92	08	12 IFF
Co-Ed.					57	43	21 IFM

Key-

IFM =In Favour of Males

IFF = In Favour of Females

Table 1 indicates that Males performed better than females in general, urban , rural and co-educational schools with a percentage differentia of 7%, 6%, 3% and 21% respectively in favour of boys, while females performed better than males in the single –sex schools with a differentia of 12% in favour of females. To know whether the differences were real, by chance or error the corresponding hypothesis was tested.

Key : S= Significant.

NA= Hypothesis Not Accepted.

Table 2:

Two tailed z-test analysis of the difference between male and female students' performance of students in chemistry.

Year	No. Males	No. Females	Mean scores (x) Males	Females	z-Cal	z-Critical	Decision
2006	106	487	7.8	7.1	5.00	1.96	S- NA
2007	281	300	5.8	7.2	8.08	1.96	S-NA
2008	299	383	6.3	6.5	1.40	1.96	NS-A
2009	316	305	6.6	6.8	1.40	1.96	NS-A
2010	317	356	4.9	5.5	4.20	1.96	S-NA

Key: S=Significant; NS= Not Significant; NA=Not Accepted.

Table 2 shows that in 2006, 2007 and 2010 the z-calculated were higher than the z-critical hence the difference was found Significant.. On the other hand, in 2008 and 2009 the z-calculated were higher than the z-critical hence the difference was Not Significant and the hypotheses accepted. Summarily since the hypothesis of three out of five were not Accepted, it was decided that the null hypothesis that there is no significant difference between the performances of male and female students in chemistry be Rejected. This implies that there is a significant difference in the mean performances of male and female students in WASSCE chemistry between 2006 and 2010. The differences were therefore real and by chance or error. From table 1 it could be found that the difference was in favour of males and so there was no need for another test.

Table 3:

Two tailed z-test analysis of the significant of difference between the performances of Male and Female students in urban and rural areas.

Year	Number Urban M	F	Rural M	F	Mean Scores (x) Urban M	F	Rural M	F	z-Cal	z-Critical	Decision
2006	450	250	240	200	7.7	6.4	8.4	7.8	9.71	1.96 (S)	Not ACC
2007	365	256	243	231	5.7	5.4	7.4	6.6	16.60	”	” ”
2008	350	274	221	201	5.8	5.1	7.2	6.5	7.00	”	” ”
2009	319	221	205	109	6.0	5.3	7.7	6.2	8.60	”	” ”
2010	349	215	217	189	4.4	3.9	6.3	5.8	9.10	”	” ”

Table 3 shows that between 2006 and 2010, the z-calculated were higher than the z-critical hence the differences were found Significant. Summarily it was decided that the null hypothesis, that there is no significant difference between the performances of urban and rural male and female students in chemistry were Not Accepted. **This implies that there is a significant difference in the mean performances of male and**

female students in rural and urban areas in WASSCE chemistry between 2006 and 2010. The differences were therefore real and not by chance or error. From table 1 it could be found that the differences were in favour of males and so there was no need for another test.

TABLE 4:

Two tailed z-test of significant difference between the performance of male and female students in single-sex and co-educational schools.

YEAR	Number				Mean Sores (x)				z-Cal	z-Critical	Decision
	Single-sex		Co-Edu		Single-Sex		Co-Edu				
			M	F	M	F	M	F			
2006	513	216	225	245	7.6	7.2	8.6	5.3	4.6	1.96	HO NA
2007	335	237	271	232	5.0	4.8	7.6	5.4	12.2	”	” ”
2008	318	278	331	321	5.7	6.6	7.6	5.9	9.1	”	” ”
2009	281	286	294	279	5.9	7.4	7.6	6.2	8.2	”	” ”
2010	311	276	271	259	3.7	5.5	6.8	5.5	16.8	”	” ”

Table 4 shows that between 2006 and 2010, the z-calculated were higher than the z-critical hence the differences were found Significant. Summarily it was decided that the null hypothesis, that there is no significant difference between the performances of urban and rural male and female students in chemistry were Not Accepted. **This implies that there is a significant difference in the mean performances of male and female students in rural and urban areas in WASSCE chemistry between 2006 and 2010.** The differences were therefore real and not by chance or error. From table 1 it could be found that the difference was in favour of females in single- sex schools and so there was no need for another test.

Table 5:

Mean x scores of Strengths, Weaknesses, Opportunities and Threats of Male and Female Performances in Chemistry

S/N	**CLUSTER: I Strengths Of Students Performance**	M	M	F	F	MFDec
	The following aid my performance in chemistry	**X**	**SD**	**X**	**SD**	X
1.	I have interest in discovering things	3.37	.48	1.49	.79	2.28R
2.	Most members of my family are scientists	3.07	.25	3.09	.29	3.12A
3	I am naturally very intelligent	3.00	.28	1.48	500	2.12R
4	I am good in Mathematics	3.37	.48	2.11	.50	2.64A
5	I want a career that is Chemistry- oriented	3.37	.48	2.09	.53	2.62A
6	My chemistry teacher is very good and I want to be my him	3.10	.30	2.11	.50	2.52A
7	I have all the necessary books and other materials	3.30	.46	3.36	.48	3.33A
		3.30	.46	1.80	49	2.01R
8	No matter how tough it is, I will not drop chemistry		.			
	CLUSTER MEAN	**3.11**	**.22**	**2.19**	**.92D**	**IFM**
	CLUSTER 2: Opportunities To Stu Performance In Chemistry					
	The following give me encouragement to try header in chemistry					
9	The course I hope to read for further studies requires that I pass chemistry very well	3.20	.441	1.15	.36	2.01R
10	I want to be seen as an intelligent student, so I try very much to do well in chemistry	3.37	.48	2.06	.59	2.61A
11	My mates/friends are all reading chemistry	2.30	.46	1.40	.55	1.77R
12	To be rich in this country, you need to perform well in chemistry	1.20	.40	1.20	.40	1.20R
13	People respect those that do well in chemistry	2.21	.41	1.21	.41	2.21R
14	If I perform well in chemistry, I will get a scholarship for my further studies	1.20	.40	1.20	.40	1.20R
15	The Nigerian Government likes and helps those who do well in chemistry	2.54	.50	2.59	.52	2.57A
16	I have a lesson teacher at home who teaches me chemistry	2.48	.54	2.55	.51	2.52A
17	I make use of interest teaching facilities and this makes me perform well	1.20	.40	1.20	.40	1.20R

18	My parents give me a lot of encouragement and promises if I do well in chemistry	3.30	.46	2.37	.48	2.76A
	CLUSTER MEAN	**2.30**	**.21**	**1.79**	**.19**	**2.00R**
	CLUSTER 3: Weakness That Prevent My Good Performance In Chemistry					
19	My parents are poor and cannot provide me with the necessary books and materials in chemistry	3.37	.48	3.55	.50	3.47A
20	It does not matter to my family if I fail chemistry	3.68	.47	2.82	.39	3.18.A
21	I do not need chemistry for my future career	3.68	.47	2.82	1.39	3.18A
22	Scientists are poor I want to read a course that will make me rich- not chemistry	2.10	.30	2.38	.49	2.26R
23	Our chemistry teacher does not teach well	3.68	.47	2.82	.39	3.18A
24	We do not have a chemistry laboratory in our school and that has made me not to perform well in chemistry	3.7	.48	3.54	.50	3.47.A
25	I am not very intelligent, as such I cannot perform well in chemistry	3.35	.48	3.51	.50	3.44A
26	None of my relations studied chemistry and so I have no one to help me at home in the subject	1.20	.42	1.20	.40	1.20R
27	I do not like chemistry subject.	3.69	.46	3.28	.45	3.45A
	CLUSTER MEAN	**3.13**	**.28**	**2.88**	**.23**	**3.00A**
	CLUSTER 4: Threats That reduce my Performance In Chemistry					
28	Chemistry is gender-oriented, because of my gender I do not want to do chemistry	3.68	.47	2.82	.39	3.18A
29	Chemistry is for anti-social students	1.20	.40	3.54	.50	2.56A
30	Chemistry makes one mad (mentally) sick	1.20	.40	1.20	.40	1.20R
31	I am not a 'book worm' chemistry demands studying very hard which I cannot do.	3.00	.00	2.69	.46	2.82A
32	Those who read chemistry do not find jobs easily	1.20	.40	3.54	.50	2.56A
33	Chemistry is for old-fashioned people, which I am not and don't want to be	2.10	.30	2.37	.48	2.26A
34	Chemistry is difficult, only very few students pass the subject	3.37	.48	3.51	.49	3.45A
	CLUSTER MEAN	**2.25**	**.21**	**2.81**	**24**	**2.58A**

Key: A= Accept: R= Reject

According to table 5 the opportunities to the students performance in chemistry are items 15,16,18 with includes; being seen as an intelligent student makes students to try very much to do well in chemistry; The Nigerian government likes and helps those who do well in chemistry; Having a lesson teacher at home who teaches the student chemistry; Parents giving their wards a lot of encouragement and promises if they do well in chemistry. The above four also constitute opportunities for male but for the females the opportunities are items15 and 16 only. That is; The Nigerian government likes and helps those who do well in chemistry ; Having a lesson teacher at home who teaches the student chemistry. Summarily, the cluster means show that males have greater opportunities (x=2.30) than girls (x=1.79)

Furthermore, the table shows that the weaknesses to both males and females performance in chemistry are the same involving items, 19,20,21,23,24,25, 27 with means above 2.50 involving; Parents being poor and cannot provide to their wards the necessary books and materials in chemistry ; It does not matter to my family if I fail chemistry; Not needing chemistry for my future career; Chemistry teacher not teaching well; Not having a chemistry laboratory in the schools; Not being very intelligent, as such he/she cannot perform well in chemistry and that has made me not to perform well in chemistry; Not liking the chemistry subject respectively. However the cluster means (male x= 3.12 and female x= 2.88) show a slight difference,with a standard deviation of 0.28.

Table 5 shows that the Strengths to students involved five items, 2, 4, 5, 6, and 7; which are - Most members of my family being scientists (3.12); being good in Mathematics (2,64; wanting a career that is Chemistry- oriented (2.62); chemistry teacher being very good and students wanting to be like him/ her (2.52) and students having all the necessary books and other materials(3.33). the Strengths for males include all the eight items of; having interest in discovering things; Most members of my family being scientists; have all the necessary books and other materials; being good in Mathematics ; wanting a career that is Chemistry- oriented ; chemistry teacher being very good and students; wanting to be like him/ her; having all the necessary books and other materials and being naturally very intelligent. For the females their Strengths were only items 2 and 7,

that is - Most members of my family are scientists and having all the necessary books and other materials, Summarily, the cluster mean that males have greater Strengths (x=3.11) for performance in chemistry than females (x=2.19). are The cluster mean shows that males have more strength (2.30) than girls (1.40).

According to table, opportunities to the students performance in chemistry are items 15,16,18 with means above 2.50. They are ___ , ____ ,and _____ Respectively for boys the opportunities are 15 and 18 and __ , respectively while for girls the opportunities are items 15 & 16 ___ and ___ respectively. The cluster means show a boy have greater opportunities (2.30) than girls (1.79)

Furthermore, the table shows that the weaknesses to the students performance in chemistry are items, 19,20,21,22,23,24,25 and 27 with means above 2.50. that is ____ , ____ , _____ , ____, _____ , _____, and _____ , respectively.

The weaknesses for boys and girls are the same with means of standard deviation. Boy 3.12 and girls 2.88 means .score and standard deviation .28 for boys and .23 for girls.

The threats to chemistry performance for the students are items 28,29,31,32 and 33, ___, ____, ___, ____, &_____ respectively. For boys the threats are items 28, 31, and 34 ____, ____, & ____ while to girls the threats are 29, 31, 32, & 34 ____, ____, ____, ____ & ____ respectively. The cluster mean show that there are threats to boys more than girls with a mean of 2.81 and 2.25 for girls & boys respectively.

Discussion:

A close look at the Swot Analysis of students performance in chemistry agree with the analysis of results and shows that boys have advantages over girls with more strength, greater opportunities, same are similar weaknesses with and more threats than girls have. This seams to examine while male perform better than female in chemistry.

Table ------- indicate that there is a significant different between the strengths, opportunities and threats to students performance in chemistry are significant with the strength.

Strength – Greater To Boys S
Weakness – Greater To Boys S
Opportunity – Greater To Boys S
Thedi _ Greater To Girls S

Conclusion

The study concluded that boys perform better than girls in chemistry but urban rural and coeducational schools and also that the boys have greater strength, opportunities and weaknesses than girls -: there performance while these are more threats to girls than boys in their performance in chemistry. The above swot analysis examine why boys perform better than girls in chemistry.

Recommendation

There is need to inceare the strength & opportunities while reading the threats to girl's performance in chemistry.

I have interest in discovering things ; Most members of my family are scientists; I am naturally very intelligent; I am good in Mathematics; I want a career that is Chemistry- oriented; My chemistry teacher is very good & I want to be like him/ her and I have all the necessary books and other materials; I have all the necessary books and other materials respectively are Strengths to the boys.

According to the table. The **:** Opportunities to the students' performance in Chemistry are items 15; 16 and 18 with means above 2.50. They are ; To be rich in this country, you need to perform well in chemistry; If I perform well in chemistry, I will get a scholarship for my further; The Nigerian Government likes and helps those who do well in chemistry; The Nigerian Government likes and helps those who do well in chemistry;

The Nigerian Government likes and helps those who do well in chemistry I have a lesson teacher at home who teaches me chemistry

I have a lesson teacher at home who teaches me chemistry

I make use of interest teaching facilities and this makes me perform well

My parents give me a lot of encouragement and promises if I do well in chemistry

t-test Analysis of the Significant difference in the SWOT Analysis of Male and Female Students
Test of Equality of Means

SN		t-table	t- cal	DF	Sig (2 -tailed)	Mean Difference	Decision
HO1	Equal Variances Assumed	76.58	1.96	3148	.000	1.87	Significant
	Equal Variances Not Assumed	82.44	1.96	3076	.000		
HO2	Equal Variances Assumed	76.58	1.96	3148	.000	1.87	Significant
	Equal Variances Not Assumed	82.44	1.96	3076	.000		
HO3	Equal Variances Assumed	76.58	1.96	3148	.000	1.87	Significant
	Equal Variances Not Assumed	82.44	1.96	3076	.000		
HO4	Equal Variances Assumed	76.58	1.96	3148	.000	1.87	Significant
	Equal Variances Not Assumed	82.44	1.96	3076	.000		

The table shows that there is a significant difference between the

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