Variation of Performance Between Male And Female Students of Chemistry in 2007/2008 Academic Session.
A Case Study of Gwale Local Government Area Kano State Nigeria.

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ABSTRACT
The studies cover the responses of students and teachers of some selected secondary schools about the students’ performance. Responses were obtained through questionnaires. Based on the data obtained comprehensive analysis has been carried out and results were reported. Suggestion and recommendations were also outline for effective performance of chemistry in the study area.

Keywords: academic achievement, chemistry, gender, intellectual abilities and performance

INTRODUCTION
Education is an instrument par excellence, that affects natural human development be it social, economic, cultural and political development. Education could thus be stated as a tool that is a part and parcel of human existence. It is the basis for the variable index that promotes the development of man and his community. It is among the great investments a society adopts to determine the type, image and nature of its future. It is therefore of paramount importance.

The introduction of science education in the post primary systems was aimed at equipping the society with scientific and technological aspect of knowledge to address societal and personal issues as well as for career development. This work intends to determine the differences in learning abilities among male and female science students, with addition of some guidelines to follow in order to fill the gap if any, between the performance level students.

BACKGROUND OF THE STUDY
Education is believed to be an instrument for the achievement of social justice and equity. Atoya and Bearce (1984), education also prepares an individual throughout his life, each experience being a preparation for
subsequent one. Likewise, education provides growth through new experience, and develops the whole individual, his moral and intellectual capacities.

Science education is very important to the development of any nation, and that is the reason every nation takes it very serious in all its institutions of learning. Science education comprises of three major subjects namely Biology, Chemistry and Physics among others. Many of the developed nations were able to achieve so much in science and technology because of science education, for instance, launching of Sputnik by the Russian government in October, 4 1957 would not have been possible if not for the position they placed physics in science education. Same thing applies to Agriculture and Biology, they are very important to any growing economy like Nigeria. Many graduates of biology education are self-employed and employers of labor, many owned schools for themselves where people work and earn living while some are into the fisheries.

Chemistry is a greatly interesting study ranging from the study of simple atom to more complex materials encompassing the entire earth’s surface at large. There is almost nothing in this life that is exempted of chemistry. As part of the importance of chemistry, many youths establish their own businesses as soon as they graduate. Many students learn the processes of manufacturing chalk, dyes, paint, soaps and detergent among many others. If supported with fund, many schools do not need to buy several materials outside anymore and they can equally produce for other schools.

For over Twelve decades, Science education has attained a high rank in the curriculum of schools all over the nation. Abdullahi (1982) stated that Science is the foundation upon which the bulk of the present scientific success is built. Through science or the application of scientific knowledge, man ensures the longevity of his existence. Interestingly, as important as the science courses are, students’ performance has not been encouraging and there seems to be a large gap between male and female students of science, and hence the need to investigate the causes of such gaps and the possible ways to follow in order to get those gaps filled.

OBJECTIVES OF THE STUDY
To study the intellectual differences of males and females of male and female students.
To study the variation of performance between male and female students in chemistry

Hypothesis
There is no significant difference of performance between male and female student in chemistry

METHODOLOGY
Research Design: A research design was formulated for carrying this study. A detailed questionnaire was prepared incorporating the objectives of the study. The study aimed at collecting essential information through questionnaires one for students and one for the teachers in the study area. The researcher developed
two questionnaires viz; one type for collecting information from teachers and the other from students. Initially the research constructed the sampling frame of the list of secondary schools in the study area and number of students studying in the schools. Based on the availability of the resources sample size was determined for the study

**Population of the Study:**

In order for the researchers to collect information they must specify the entire groups that could be the source of the information. The target population of this study comprised of all the secondary schools in Gwale Local Government Area. All teachers in these schools teaching sciences are involved, and in addition students were also involved in order to address those questions relating to their own contributing factors in teaching sciences at their levels. To ensure an easy and effective result, avoid delay and ensure maximum efficiency, the researchers decided to randomly sample five (4) secondary schools out of the twenty (15) in Gwale local Government area.

Sample size and sampling method for the study

The sample size is as follows

Number of secondary schools ……………………………..4
Number of teachers ……………………………………….10
Number of students………………………………………….76

The researcher adopted simple random sampling method in selecting the sample and same are noted below

4 secondary schools were selected randomly from the sample size of twenty (20) secondary schools in Gwale Local Government area.

From 3 selected schools, the researcher selected 3 teachers each and 1 teacher from one school were randomly and number of teachers selected for the study was 10

From each selected school we have selected 19 students randomly and the number of student selected for the study was 76.

**RESULTS AND DISCUSSIONS**

<table>
<thead>
<tr>
<th>School</th>
<th>Samples</th>
<th>Responses to Questionnaire</th>
<th>Grade (A-E)</th>
<th>Failures (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>38</td>
<td>38</td>
<td>34</td>
<td>4</td>
</tr>
<tr>
<td>Girls</td>
<td>38</td>
<td>38</td>
<td>26</td>
<td>12</td>
</tr>
</tbody>
</table>

From the above table, it shows clearly that male students perform far better than their corresponding Female students due to two main factors in essence-Nature and Interest. Naturally, it is believed that men are more intelligent than women. According to Professor Susan Greenfield, an avowed feminist and well-known
neuroscientist, on a Radio interview, Jeremy Paxman asked her ‘‘you claim, don’t you, that the more emotion you have, the less mind you have?’’ ‘‘That’s right,’’ she answered. Now, of the two genders, the female gender experiences more emotion and hence less brilliant. Also, in a study accepted by the British Journal of Psychology, Dr. Paul Irwing (Manchester Business School, Senior Lecturer in Organizational Psychology) and Professor Richard Lynn (University of Ulster, Professor Emeritus) conclude that men are on average five points ahead of women in IQ tests. The study also found that men outnumbered women in increasing numbers as intelligence levels rise. There were twice as many with IQ scores of 125, a level typical for people with first-class degrees. When scores rose to 155, a level associated with genius; there were 5.5 men for every woman. In Nigerian context, several research studies show that observed differences had not always favored one gender.

**Hypothesis:** There is No Significant Difference of Performance Between Male And Female Student In Chemistry

<table>
<thead>
<tr>
<th>STUDENT</th>
<th>RESPONSES</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>MALE</td>
<td>27</td>
<td>11</td>
</tr>
<tr>
<td>FEMALE</td>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td>TOTAL</td>
<td>37</td>
<td>39</td>
</tr>
</tbody>
</table>

By using chi-square (x^2) method we computed

Chi square observed (X_o^2) =15.20

Chi square expected (X_e^2) = 7.81

Since chi square observed is greater than chi square expected we infer that there is significant difference of performance between male and female students of in chemistry.

Considerable efforts have been expended in trying to see how gender effects could be implicated in the seemingly poor performance of girls in integrated science, (Ukwaghu, 2002). The present study tries to take a holistic view of gender effects on performance by looking at its effects in relation to other variables like socio-economic status and so on.

**Suggestions**

More researches should be carried out my researchers the causes of variation between male and female students in science subjects.

There curriculum of science subjects have to advance beyond thematic structures to which provides a real context for the study of science.

The study of science should always have willingness; science should not be made as a compulsory on the students either by their parents or their teachers.

**Recommendations**
Teachers should try and relate the teaching and learning of science to the real life context by using enquiry method, project method, learning and field trip approach. Proper and modern laboratories should be provided by the government and the stakeholders. More qualified and experience teachers should be employ and should be encourage to attend seminars in other to be familiar with the new teaching methods. Assistance should be given to Nigerian authors and publishers so as to enable them produce science textbooks that are suitable for the secondary schools. Business organizations and philanthropists should assist in building and equipped science laboratories for effective teaching and learning of science subjects in the secondary schools.

CONCLUSION
It has been observed that performance is affected by several factors most importantly natural or psychological and manmade. It is very clear that proper teaching and learning process bide the gaps between students’ performance.

REFERENCES