



Influence of Gender and Study Habit among secondary school students and their Academic Performance in Chemistry in Abuja Municipal Area Council (AMAC), Nigeria

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Abstract

The study examined the relationship between study habits of male and female secondary school students' performance in Chemistry. A non-randomized pre-test-post-test control group quasi-experimental design was adopted in the study. 162 SSII Chemistry students' were selected using simple random sampling technique. The study made use of intact class of 87 male science students and 75 female science students from the four randomly selected secondary schools to form the experimental and control groups respectively. The experimental group was taught using guided study habit while the control group was taught using conventional method. The instrument for the study was a Chemistry Achievement Test (CAT) multiple choice items. Data gathered for the study were analysed at 0.05 level of significant using Pearson Product Moment Correlation analysis and t-test Statistical method for the hypotheses, with the value of 0.695 and ($t_{(160)}=0.5116$ at $p \leq .05$) respectively. Findings from the study showed that there is a positive correlation between student's study habits and their academic performance. It was also found that there is no gender related difference in students study habit and their academic performance in Chemistry. Therefore it was recommended among others, that students should be encouraged to cultivate good study habit in Chemistry and guidance, teachers and parents should discourage students from bad study habit.

Keywords: Gender, study habit, academic performance, Chemistry, attitude to study

Introduction

Education is an activity or process which modifies the behaviour of a person from instinctive to human behaviour (Taneja, 2003). This definition reveals the innate truth that education aims at discovering aptitudes as well as to progressively prepare man for social activity in line with performance, which is how well or badly something is done. Its relevance stand out because of the significance it holds to the society. In the educational parlance, performance manifests through academic. Factors that influence academic performance of students have attracted the interest of not only researchers but concern of teachers, counsellors, psychologists, and school administrators as well. This can be said to be directly proportional to students study habits. The academic effect of study habit as regards the performance of chemistry students is dwelling on the fact that the declination in academic achievement of the students is a product of lack of proper preparation and approach towards their subject of study (Kingsley, 2008).

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The second influence can be explained within the ambit of the study conducted by Obinna (2001), who stated that the notion of poor academic performance and study habit of chemistry students in Nigeria's institution of learning is an issue that has been encouraged by both the teachers, students as well as certain environmental factors, which can warrant them to have either positive or negative impression towards their study. Psychologically, an investigation exercise by Stephen (2004) recorded that abnormal behaviours of individuals towards their area of specialization can retard the expected input; which are supposed to be made in order to get the required output, thereby promoting their negative mind-set to work. Stenger, (2014) noted that study habits constitute a classical illustration of the formation of good habits.

Good habits are positive habits which may include; attending classes effectively, studying, listening and doing. Study habit is one of the greatest assets of students or learning factors that hugely influences students' academic achievements. If undermined by students at all levels, teachers, administrators, parents and guardians, school counselors and the government, then, the trend and menace of students' abysmal performance in both internal and external examinations would continue to boom and become more devastating and alarming. Mark and Howard (2009) are of the opinion that the most common challenge to the success of students in all ramifications is a lack of effective or positive (good) study habit. They further maintain that if students can develop a good study habit and with good discipline, they are bound to perform remarkably well in their academic pursuit. Husain (2000) stresses that lack of effective or positive (good) study habits is a critical study problem among students at all levels.

Grace (2013) also maintains that the process of learning is still a little mysterious but studies do show that the most effective process for studying involves highly active behavior over a period of time. In other words, to study effectively, one must read, draw, compare, memorize and test himself over time. The concept of study habit according to Husain (2000) is broad, as it combines nearly all other sub-concepts such as study attitude, study methods and study skills. Attitude is a mental and natural state of readiness, organized through experience, exerting a direct influence on the individual's response to all objects and situations with which is related. On the other hand, bad habits are negative habits like carelessness, and procrastination among others. This habit prohibits learning and causes the performance of students to be poor. Students who cannot develop good study habits may have study problems. Study method is the knowledge and application of effective study skills or techniques by students. The term study habit refers to the way in which students' study either systematically, efficiently or inefficiently. According to Bulletin (2011), the point of having good study habits is to be effective and efficient. Effective: retaining, understanding and having a good grasp of the subject matter.

Efficiency: Maximizing the time you study in order to spend as little of it as possible. Having good study habits helps greatly in achieving one's goals in school. Furthermore, there has been a renewed debate on the issue of gender differences and science performance. This debate focuses on why women are not seeking careers in pure science as compared to men. Many ideas have been put forward on why high achieving women may not be entering this field including discrimination, gender-typed socialization, ability of self-concept in these areas and the value and interest that women have in these fields (Eccles, 2001; Jacob, Lonaz, Osgood, Eccles & Wigfield, 2002).

On the other hand, bad habits are negative habits like carelessness, and procrastination among others. This habit prohibits learning and causes the performance of students to be poor. Students who cannot develop good study habits may have study problems. Study method is the knowledge and application of effective study skills or techniques adopted by students. Study attitude, according to Kelli (2009) posits that for students to succeed in their studies, they must be able to appropriately assimilate course content, digest it, reflect on it and be able to articulate the information in written and/or oral form. What is fundamental is the ability of a student to acquire effective study habits. Ashish (2013) opines that if students must ensure academic success throughout the entire year, it is important to ditch bad study habits and establish good ones. He further maintains that no matter what age or academic level, employing effective study strategies can make all the difference between acing a class, barely passing or worse and failing miserably. She admits that many of today's most common study methods or habits can lead to utter disappointment despite best efforts and intentions.

There has been a renewed debate on the issue of gender differences and science performance. This debate focuses on why women are not seeking careers in pure science as compared to men. Many ideas have been put forward on why high achieving women may not be entering this field including discrimination, gender-typed socialization, ability of self-concept in these areas and the value and interest that women have in these fields (Eccles, 2001; Jacob, Lonaz, Osgood, Eccles & Wigfield, 2002). On the contrary, Jules and Kutnick, (2003) findings revealed that male and female students have equal opportunity to study sciences. In Nigeria, many factors have been highlighted to influence the ability of students to cultivate effective and efficient study habit which has resulted to poor academic performance in sciences, especially in Chemistry. Such factors include; inadequacy of learning, poor qualified science teachers, poor teaching methods, lack of instructional materials, lack of interest in students, high students-teacher ratio, poor teaching facilities, motivation, anxiety and state of mind, conducive and suitable environment for studying, availability of textbooks and well equipped libraries among other factors.

As a classroom teacher, experienced has shown over the years that students performed poorly or fail in examination not because they are not endowed with capacity to do well, but because they do not recognise or utilize the most effective study habits. Crede and Kuncel, (2008) said that for many years, students study habits have been investigated as an independent variable in the assessment of academic performance. Most of their works and investigations have proceeded on the assumption that good study habits and attitudes can boost the performance of most students if adopted. In trying to find a solution to poor academic performance, one feels the school, home, society and factors within the student themselves work in concert to negatively influence student's behaviour to studies. These factors determine to a large extent the study habit of the child. This study has its primary objective to assess the relationship between study habit and chemistry students' academic performance in AMAC.

Research Questions

The study is meant to answer the following research questions:

1. To what extent does student's study habit influence their academic performance in Chemistry?
2. How does the study habit affect the performance of male and female students in Chemistry?

Hypotheses

H₀₁: There is no significant relationship between student's study habit and their academic performance in Chemistry.

H₀₂: There is no significant difference in the academic performance of male and female students study habits in Chemistry.

Methodology

The study adopted a non-randomized pre-test post-test control group quasi-experimental design. In this study, there were two groups (one experimental and one control). According to White & Sabarwal (2014) quasi-experimental methods are designed to explore the causal effects of an intervention, treatment or stimulus on a unit of study. The units of analysis, who are members of the same class, were assigned to the various groups as follows:

Group I: Guided Study Habit Group (Treatment group)

Group II: Conventional Method Group (Control group)

All the 1,020 senior secondary (SSII) students offering Chemistry in AMAC constituted the target population of the study. The study made use of intact class which have different number of students, and from the total population one hundred and sixty-two students were randomly selected (162).

In order to administer the treatment, the experimental group was taught using the guided study habit, where the teacher structure their: study time, mode and interaction period for the group after each class and the control group was left alone after each class. The instrument used in the study was Chemistry Achievement Test (CAT) which was constructed by the researcher and was validated by two Chemistry teachers and a test and measurement lecturer. The test consisted of twenty (20) items mainly of objective type to test students' knowledge of the selected Chemistry concepts that were taught to both the control group and the guided study habit group. The items in the test covered all the areas that were taught in the subjects in the two groups. The students were expected to answer all the questions. The reliability of the instrument was calculated using Pearson's Product Moment Correlation to correlate the results. The modified questionnaire was field tested using sixty SSII students in Bwari Area Council. A correlation coefficient of 0.84 was obtained. Thus, data collected were analysed with simple statistical tools such as frequency and percentage. The hypotheses were tested using correlation coefficient and t-test. Statistical Package for the Social Sciences (SPSS) package was used to analyse the data.

Results and Discussion

The results of data analyzed are shown on the following tables

Table1: Sample distribution by schools and gender

	Variables	Frequency	Percentage
Names	School A	41	25.0
	School B	38	23.5
	School C	40	24.7
	School D	43	26.5
Gender	Male	87	53.7
	Female	75	46,3

Table 1 shows that subjects from both the school A, school B, school C and school D were differently distributed that is: 41, 38, 40 and 43 respectively. In term of gender a total of 87 representing 53.7% were male while 75 representing 46.3% were female.

Hypotheses Testing (H_0)

Hypothesis 1: H_{01} : There is no significant relationship between student's study habit and their academic performance in Chemistry.

Table 2: Pearson product Correlation analysis of influence of study habit and Academic Performance

Study habit		Study habit	Academic performance
	Pearson's Correlation	1	0.695
	Sig. (2 Tailed)		.000
	N	162	162
Academic Performance	Pearson Correlation	.695	
	Sig. (2-Tailed)	.000	
	N	162	162

Table 2 revealed that the correlation coefficient between study habits and academic performance is 0.695. That is, there is a positive correlation between student's study habits and their academic performance. It means that when there is an increase in the scores of study habits there will be also an increase in the academic performance of the students in Chemistry. Thus, this hypothesis is rejected.

Hypothesis 2: H₀₂: There is no significant difference in the academic performance of male and female students study habits in chemistry.

Table 3: T-test Value on Mean Performance Scores of Male and Female Students on Study Habits

Gender	N	Mean	Std. Error	N	T-value	Sig. 2 Tailed
Male	87	9.30				
			1.0423	160	1.04	0.5116
Female	75	7.30				

*Significant at $P \leq .05$

The results on table 3 above shows that, there was no significant difference in the academic performance of male and female students study habits in chemistry with the value of ($t_{(160)} = 0.5116$ at $p \leq .05$). This hypothesis was therefore accepted. It means that gender of a student has no significant influence on the study habit and the academic performance.

Discussion and Implication of the Study

The findings of this study showed that there is significant relationship between study habits and academic performance of senior secondary school students in chemistry. Thus, it is clear that study habit has an impact on the academic performance of Chemistry students in secondary schools. This

corroborates the findings of Kingsley, (2008) whose study discovered that study habit affects performance in Chemistry, also Obinna, (2001) discovered that poor academic performance in Chemistry rests on the students study habit. This implied that study habit has a major role to play in students' academic performance in Chemistry.

The findings also revealed that there is no significant difference in the academic performance of male and female students based on their study habits in Chemistry, this result is in conflict with those of Eccles, (2001); Jacob, Lonaz, Osgood, Eccles & Wigfield, (2002). However, this study supports the findings of Jules and Kutnick, (2003) whose findings revealed that male and female students have equal opportunity to study sciences. The study also agreed with the assertion that gender difference may exist, but a good study habit should be capable of neutralising the differences Bulletin, (2011). This implied that if male and female students have good study habit they can do well in terms of their performance in any area of Chemistry. Thus, study habit in school is an outcome of good guidance and advocating by teachers and parents. Students who are well guided and counselled are result oriented, in all tests and examinations. Therefore, the formation of operational study habit will create the awareness for regular and steady learning among students now and later.

Conclusion

This study found that study habits affect students' academic performance in Chemistry, and that there was no significant difference in the academic performance of male and female students based on their study habits in Chemistry. This study therefore concluded that good study habit will further help the students' perform better in chemistry.

Recommendations

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

1. Students should be encouraged to cultivate good study habit in chemistry.
2. Gender should not hold back any student from performing in chemistry, thus equal opportunity should be given to all students.
3. Guidance, teachers and parents should discourage students from bad study habit.
4. Governments and all educational bodies should organise commercial/advert on good study habits.

References

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- Ashish, R. (2013). Study Habits for Students: Bad Ones to Avoid, Good Ones to Achieve Success. www.education.wisc.edu/education/soe/newsevents. 5/7/2018.
- Bulletin, F. (2011). Meta-Analysis of Research on Performance. San Francisco Education Leadership.
- Crede, G. and Kuncel, M. (2008). Effect of Study Habit on Academic Performance of Students. www.academia.edu/16252608.
- Eccles, F.A. (2001). Achievement in J. Worell (Ed.) Encyclopedia of women and gender: set similarities and differences and the impact of society on gender. San Diego, Academic Press.
- Grace, F. (2013). Would Group Study Improve Your Grades? Retrieved from www.about.com. 5/7/2018.
- Husain, A. (2000). Developing Study Habits. Wikipedia, the free encyclopedia.
- Jacob, J.E.; Lanza, S.; Osgood, D.W.; Eccles, J.S. & Wigfield, A. (2002), Chance in Children's Self-competence and Value; Gender and Domain differences across Grades one through Twelve. *Child Development* 77 (2), 509-527.
- Jules, V. & Kutnik, A. (2003). Determinants of Academic Success within Classroom in Trinidad and Tobago: Some Personal and Systematic Variables. *Educational Studies*, 16 (3), 217-235.
- Kabacoff, Y. (2000). Problem of Teaching Science and Mathematics in Nigeria. A Paper Presented at the Train-the-Trainers Workshop for Science and Mathematics Teachers in Colleges of Education in the Six Geo-political Zone of Nigeria.
- Kelli, K. (2009). Developing Good Study Habits. Retrieved from monster.com. 5/7/2018.
- Kingsley, U. (2008). Behavioural characteristics of West African Students, Akwa Ibom State.....
- Obinna, O. (2001). Institutional Effect on Academic Performance of Nigeria Students, Umuahia, Abia State.
- Stephen, H. (2004). Class-size education, Teachers Quality and Academic Performance in Chemistry, California: PPIC Press.
- Stenger, S. (2014). The Classroom Environment and Its Effect on the Practice of Teacher, *Journal of Environmental Psychology*; 2(3): 45-58
- Tanejam, D. (2003). Career in the Classroom when Teaching in the Larger Class. New York: Teacher College Press.
- White, H and Sabarwal, S (2014) in Quasi-experimental Design and Methods, Methodological Briefs: Impact Evaluation 8. UNICEF Office of Research, Florence.