AN INVESTIGATION INTO THE STUDY HABITS AND ACHIEVEMENT OF STUDENTS IN THE N.C.E. PROGRAMME

BY

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**A Thesis Submitted to the Faculty of Education,
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in Partial Fulfillment of the Requirements for the Award of the Degree of
Doctor of Philosophy in Educational Psychology**

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CERTIFICATION

The undersigned certify that they have read and recommended to the Faculty Board of Education for acceptance **"An Investigation into the Study Habits and Achievement of Students in the N.C.E. Programme"** submitted by Jummai Esther Alhamdu (2000) in partial fulfillment of the requirements for the degree of doctor of Philosophy.

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DECLARATION

I declare that this thesis is a record of my research work. It has not been presented partially or wholly anywhere in any previous application for a higher degree. All quotations and sources of information have been acknowledged by means of references.

.....

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DEDICATION

To

The Lord Almighty

Who alone made this possible.
All honour and glory be to Him and Him alone.

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OPERATIONAL DEFINITION OF TERMS

a. **Deep level learning approach:** Prevalent learning processing which involves intention to understand, master and integrate present learning with previous learning material.

b. **Gender:** Socially acquired ways of behaviour that are ascribed to males and females.

c. **Learning approach:** Prevalent learning processing which is either deep or surface level.

d. **N.C.E.** Nigerian Certificate in Education.

e. **N.C.E. level:** Academic position within the N.C.E. programme according to the 100, 200, 300 level duration.

f. **SQ3R:** A technique of study or reading made up of Survey, Question, Read, Recite, Review.

g. **Study habits:** Those behaviours of learners which pertain to the repeated pattern with which they address their academic activities like study type reading, study location, study schedule, note taking, teacher consultation, concentration, etc.

h. **Study technique:** A specific method of engaging in learning from books, journals and lecture notes.

i. **Surface level learning approach:** Prevalent learning processing which involves rote, and reproduction of factual material.

ABSTRACT

The goal of tertiary institution is to develop in students a lifetime of autonomous learning. An investigation was therefore conducted into the study habits and achievement of students ot Federal College of Education, Kano who are in the Nigeria Certificate of Education (N.C.E.) programme.

The objectives of this study include, finding out:

i. **if there are significant effect of gender, course level and their interactions on study habits with regards to (a) home-work and assignment; (b) time allocation; (c) reading and note-taking; (d) study period procedures; (e) concentration at study; (0 written work; (g) taking examination; and (h) teacher consultations,**
ii. **if there is significant relationship between study habits and achievement.**

Stratified random sampling method was applied to obtain 327 subjects for the study. These comprise of 204 males and 123 females.

Bakare's Study Habits Inventory (SHI) was applied to find out the study habits of the students according to their study levels and gender related differences. Also included were the achievement scores of the respondents in terms of their New Cumulative Grade Point Averages (NCGPA). The eight sub-sections of the Study Habits Inventory were considered. Nine hypotheses vvere tested. Means and standard deviations were obtained. The main statistical tool applied to analyze the data was the two-way Analysis of Variance. The results showed that:

i. **Home-work and Assignment: There was significant difference. The interaction effect showed that the females in level 300 were significantly better than their male counterparts,**

ii. **There was no significant difference between respondents on the allocation of time for study, course level, and gender,**

iii. **No significant difference was established between reading and note-taking, gender and course level.**

iv. **There was no significant difference between study period procedures, gender and academic level,**

v. **However, a significant difference was obtained between levels 100 and 200 students.**

vi. **Written Work: No significant difference was established with gender and academic level.**

vii. **Examination: No significant difference was established with gender and academic level.**

viii. **A significant difference was obtained between teacher consultations among 100 and 300 level students,**

ix. **A significant relationship was established between study habits and academic achievement.**

It was recommended that study skills training should be provided to all tresh students who come into the institution. Students should be made aware of the services of the counselling centre and encouraged to use it. Recommendations for further research were presented.

CHAPTER 1

INTRODUCTION

1.1 Background to the Study

Poor academic performance and examination malpractice are some of the main problems of Nigeria's educational system. In order for students to perform well academically they need to study privately on their own apart from receiving the classroom instruction given by their lecturers. They need to internalize, understand and recall what they have been taught as well as read up from other sources. This depends very much on their study habits. Meaningful learning takes place when a student consciously and explicitly links new knowledge with relevant concepts, ideas and propositions that have already been obtained. This should be reflected in the ability to apply the new knowledge to other situation. Fonlan (1978 in Nneji 1998:119) was quoted as saying:

> "Studies at the tertiary level when pursued correctly, diligently and thoroughly, provide the students in a specific field, not with a formless pile of knowledge but with a body of knowledge that is scientifically and philosophically built up into a coherent system."

Organized study methods are important for successful academic performance. Study is self-directed education. To study anything is a self-directed operation. As a matter of fact, all education, all learning, is to some degree self-directed from the nursery to the end of life. Thus lectures may be prepared and delivered effectively by the various lecturers but these do not guarantee that the students have learned what was delivered. Much more

depend on the students to organize and to absorb what was taught and to master it. No matter how logical and clear the teaching material at the higher level of education, the bulk of the work rests on the student. Most students at the tertiary level do not appreciate this fact. Ikegbunam (1998:130) asserted that many students in institutions of higher learning do not know why they are there. A large number of the few who know are plagued by other "problems, social activities and fun-loving pursuits" which hinder their academic performance.

Students tend to depend on rote learning and regurgitation of facts. They tend to depend solely on lecture notes and handouts (even where there is a well-stocked library). Nneji (1998) noted that most students are engaged in whole reading and were solely dependent on lecture notes and handouts. Their study activity was therefore examination driven rather than for intrinsic organization. This kind of reading does not allow for the interpretation of thought, clues, derivation of implication or drawing of generalizations. Also, once the examination is over, the material is easily forgotten.

Study involves the devotion of thought and time to getting knowledge from books and other sources of information. It requires giving time and attention to learning or discovering. Ability to study texts and other similar materials necessary for wide and in-depth readership becomes of immense value.

Sound education is the foundation for upward social mobility. The basis for a sound education is successful scholarship. Students who study effectively stand a better chance of receiving a sound education and this increases their chances of upward mobility.

Studies have shown that one of the persistent problems students have to grapple with is inefficient study method (Robinson, 1946; Morgan and Deese, 1969; Cohen and Poppuno, 1982; Alhamdu, 1993; Azikiwe, 1998; Nneji, 1998; Ikegbunam, 1998; Esiobu, 1998). Studying is a set of skills that must be developed and practiced for different educational levels and for different kinds of materials. There is an assumption that students by virtue of their nomenclature will 'naturally' study. However, educators concerned with study habits have found that majority of students do not have efficient study skills that are commensurate with academic demands. The problem of poor study habits is a recurrent concern of education, although it is a problem that has existed long before now. There is the tendency to take the matter of study skills for granted since students are expected to study anyway. In recent times, there is the much-talked about issue of the standard of education fallen or falling in our institutions at all levels. This issue can be assessed in terms of the quality of study and study habits of students. Many students have the mistaken notion that the means of achieving effective study is through more study or more determined concentration.

Robinson (1964) indicated that it is not the hours spent on study, or the amount of strength or energy expended that determine the achievement of success but the method of studying. He noted that good students study no more, (usually slightly less) than poor students, instead, they use their time more effectively. Timing, method and content were considered the main indicators of effective study by Nneji (1998).

Students seem to have misconceptions about what study is and what comprises it. Students do not understand that there are different types of

reading and different purposes for reading. Some students study texts in a casual way as if reading for leisure (Ozigi, 1981; Freeman, 1976). Some students consider study to be 'finishing' so many pages. Nneji (1998) found that 'whole reading' was popular among students. She stated that this is not favourable to the quality and quantity of work expectations of tertiary level education. It is not uncommon to find students either reading aloud or tracing the sentences with their fingers. Other students consider studying to be entire copying of everything from the textbook to their notebooks. If these students are asked to summarize what they studied orally, they may have to refer to the copied work all over again. Thus, students consider study to be reading and re-reading of the text several times over. Some students when studying analyze each work in isolation of the context. Others may be observed swinging the head from side to side while reading thus slowing down the rate of reading and making the activity tiresome. Other students could be seen pretending to read although in actual fact they are daydreaming while reading. Their minds have been wandering and they cannot readily remember what they have been reading all the while.

Several factors are involved in the activity of study. These include time, method of study, location of the study activity, physiological and psychological aspects of the student, among others. Time-management is of crucial value. A good student has time for almost all the things he wants to do. His assignments are submitted at the right time. He reads almost all the references given by the lecturers. He plays games and he has time for his hobby. In addition, while others get into examination fever just before examinations begin, he continues to take things easy and to crown it all, does

well. He is not a magician, he is one who budgets his time well and sticks to it as closely as possible. While some try to pass the semester examination in a couple of weeks, this good student passes it in bits from the beginning of the semester.

Content of the learning material in terms of quality and quantity is an important aspect of study. This has to do with the level of processing of the learning materials. There is, therefore, the deep and surface level of processing in terms of intentionality. The deep approach involves an intention to understand while a surface approach describes the intention to reproduce information in compliance with externally imposed task demands. These two fundamental approaches to studying appear regardless of the learning environment or type of student. This study seeks to find out the prevalence of either approach among the students in terms of their academic levels and gender orientations. The notion of study habits as comprised of organized study methods in contrast with the level of processing is to be examined for possible relationship. Entwistle and Waterston (1988:264) stated that:

> "The learning environment has profound effects on studying. Approaches to studying are a product of the interaction between the characteristics of individual students and their perception of courses, teaching and assessment procedures. Any attempt to modify students' strategies are only likely to be effective if the learning environment is also changed in parallel to ensure that the recommended ways of studying are also perceived by students to pay off within the reward structure of the courses."

The learning environment for the students in this study is the Federal College of Education, Kano. The investigation would consider the extent to which their prevalent approaches to study have been a function of their

learning environment. This would provide an insight into possible changes that may be required to modify the students' strategies.

1.2 Statement of the Problem

There are effective ways and ineffective ways of doing things, even studying. Most students know that they must study but do not know the effective ways of getting about it. They would want to know ways to improve their study habits and learning approaches. The idea is that the better they are able to study the more rewarding would be their academic experience. This is because effective study habits ensure that the student enjoys and benefits from studying. To attain these, adequate time should be allotted to the various subjects, courses and activities through the use of a study schedule. In essence, effective study indicators like method and content are appropriately applied.

Study becomes a rewarding exercise if it yields an improvement in grades. This in turn increases the motivation for further study. There are various indicators of poor study habits. These include inappropriate location like sitting under trees facing the main entrance, noisy environment and the like. It will be difficult to concentrate and absorb the learning material in these situations. Others are poorly organized or non-existent study schedules, ineffective study techniques like cramming at the expense of understanding. A major difference between secondary and tertiary education is that at secondary school, a student is expected to learn what he is taught. That is, there is close monitoring and supervision of his study activities. At the college or university level, however, a student is expected to learn

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independently. That means he has greater freedom about how he uses his time and resources. At tertiary level, although the amount of assistance given to students varies from one faculty to the other and between one department and another, the student is usually given the course outline through the handbook in general terms. The information contained in the handbook is supplemented by textbooks, lectures, tutorials, practical and other formal learning situations. In most cases, the student is left on his own to determine for himself what he should study at a particular time, how he should go about it, and whether he has done sufficient work. In addition, there is a great variety of activities (social, sporting, academic) at the tertiary level which the student is free to choose from. Herein lies the problem. The freedom to choose which activities and when to engage in them requires the ability to organize oneself effectively. The major problem of students is that they do not know how to make the best possible use of their time due to almost unlimited freedom. Since students do not have to conform to a rigorous timetable or schedule of activities, they tend to waste much of their time. It is a common sight to see students hanging around classrooms, under shades of trees, on verandahs, in-between lectures or when lecturers are absent or late for classes. Students usually hang around chatting until the lecturer is sighted before moving into the classrooms. It is apparent therefore that these students do not appreciate the fact that at the tertiary level, they are expected to study independently. Some students as Ikegbunam (1998) observed, do not know why they are in the institution. Some others are there mainly to obtain paper qualification and so not interested in the act of real study. Some others are fully engaged in some commercial activity or the other to the

detriment of their study. The concern of such students then is to pass examination so they cram lecture notes and handouts at the last minute, and engage in question spotting or cheating to succeed. These students lack the ability and motivation to read widely and consult other sources of information to complement their lecture notes.

Problems relating to study habits and learning approaches have to do with ignorance, misconceptions and inadequate orientation. The researcher is therefore interested in finding out categorically, the extent to which study habits pose a real problem to students. Gender factors account for certain differences in most human endeavours; it will be interesting to find out if gender differences exist in the study habits and achievement of students. In addition, it will be interesting to find out the distribution of students in terms of their academic levels, study habits and achievement.

1.3 Need for the Study

There is no doubt that many people who undertake courses of study, or who study in private, do not derive as much benefit as they might because they approach what they are doing in an inefficient or inappropriate way. Clark and Ramsay (1990) stated that female and older students exhibited higher academic performance in most institutions and most courses. They found out that approximately one third of all students entering university fail to graduate, the largest drop-out occurring by the end of the first year of university.

Academic failure makes up one of the major problems of the Nigerian educational system (Azikiwe, 1998). Chronic academic failure or under-

achievement leads to failure in other areas of life of the individual. Teachers, parents, counsellors and all well-meaning individuals are concerned about this malaise. It has been observed that tertiary institutions generally do not provide adequate counselling to students (Ikegbunam, 1998; Nneji, 1998). This hinders their academic progress. They also fail to consider the learning needs and styles of students. In this regard, Pask (1976:128) noted that usually, students receive subject matter presented in only one particular way, although they consistently prefer a particular type of learning strategy when given a choice. The student will learn more quickly and retain information longer if there is a match between the learning style and teaching style. However, if there is a mismatched condition, this will "lead to a grossly inferior performance and a pronounced failure to comprehend the principles underlying the subject matter".

A major cause of academic failure is the study approaches of the students. This refers to the levels of study processing. Two fundamental approaches to studying based on the deep/surface level dichotomy introduced by Marton and Saljo (1976) are readily identifiable regardless of the learning environment or type of student. An accurate analysis of the prevalent study approaches of the students will provide a correct diagnosis of the problems encountered in their study activities. It will also provide insight into some causes of academic failure with a view to providing remedial measures of intervention.

Efforts are being made from different angles to enhance effective study. Educational psychologists in recent times are seeking for ways in which students can experience fulfilling academic lives through efficient study

methods. Currently, school calendars are frequently disrupted because of student unrest, strikes, social and political unrest. As a result, orientation programmes for fresh students are either not conducted or done in a haphazard manner. Students are left to grapple with how to cope with the academic demands of the system. Thus, they address themselves to it on a trial and error way without any systematic technique.

Efficient work skills are necessary in the tertiary institution just like in any occupation so that students can make the most effective use of their time and be able to understand the more complex ideas in their lessons. This study can highlight how acute the problem is.

Akinboye *et al* (1979:65) stated that study is an integral part of the formal learning process. Study requires hard-work of which a majority of learners tend to be scared. Hence they do not study well and this adversely affects their academic performance. He further found out that in Nigeria in an interview of both lecturers and students, "I cannot study well" ranked highest in both the lecturers' and students' responses. Although the finding is rather simple, it highlights one of the important factors affecting learners in the formal education system in Nigeria. Study is thus an important factor in student learning such that efficiency in it often implies higher achievements in the learning process. Study is affected by a number of factors among which are cognitive, affective, nutritional, metabolic, attitudinal values and beliefs. It is, therefore, a complicated process which requires deeper and further exploration to understand why students do not want to study and find out how to help them.

1.4 Objectives

The objectives of this research are:

a. to find out if there are significant effect of gender, course level and their interaction on study habits with regards to:
    i. Home work/assignment.
    ii. Time allocation.
    iii. Reading and note-taking.
    iv. Study period procedures.
    v. Concentration at study.
    vi. Written work.
    vii. Taking examination.
    viii. Teacher consultation.
b. to find out if there is significant relationship between study habits and achievement.

1.5 Research Questions

The following guiding questions that will lead to the attainment of the stated objectives of the study:

i. Is there significant effect of gender, course level and their interaction on study habits with regards to:
    a. home work/assignment?
    b. time allocation?
    c. reading and note taking?
    d. study period procedures?
    e. concentration at study?

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f. written work?

g. taking examination?

h. teacher consultation?

ii. Is there any relationship between study habits and academic achievement?

1.6 Hypotheses

To achieve the objectives of this study, the following hypotheses were tested:

i. There is no significant effect of gender, course level and their interactions in study habits with regards to:

a. home work/assignment.

b. time allocation.

c. reading and note taking.

d. concentration at study.

e. written work.

f. taking examination.

g. teacher consultation.

ii. There is no significant relationship between study habits and academic achievement.

1.7 Significance of the Study

This study provides an insight into students study habits and learning approaches at the tertiary level of education. Investigation into learning approaches is a relatively new area of study. Also, thus far, most researches in

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this area have been conducted in western countries. Those conducted in Nigeria have been confined to study habits of students. Attention has not been focussed on the learning approaches of students at the tertiary level. The relevance of this study in the Nigeria context and contribution to the store of knowledge is therefore clearly apparent. Furthermore, the implications and recommendations provided are readily applicable for the improvement of the quality of learning of the students.

College administrators, lecturers, researchers and indeed students will obtain relevant sources of information from this study. In addition, valuable insights that are practicable and related to the immediate Nigerian context are obtainable from this piece of work.

1.8 Delimitation

This investigation was confined to the students in the N.C.E. programme and the focus is their study habits and achievement. No attempt was made in this study to address issues of personality differences, cognitive style dimension or the psychology of memory. This is to ensure that a clear picture emerges which is not confounded by extraneous factors.

1.9 Summary

This chapter presents an introduction of the research conducted on the study habits and learning approaches of students in the N.C.E. programme. Effective study habits are pre-requisites of successful and fulfilling student life. Indicators of poor study habits include incorrect study techniques, inappropriate study locations, non-existent or poorly organized schedules.

Others are factors related to psychological and physiological disposition of students. Effective study habits are particularly relevant at the tertiary level because there is certain amount of freedom with regards to time usage. There is also a greater requirement for independent study by students. Although all students are expected to study, not all students address the issue in an effective manner. Thus the need to find out how they are coping with this academic demand arises. This research was to identify if gender differences exist in study habits of students. Ignorance, misconceptions and inadequate orientation are issues that pertain to study habits that require empirical research to find means of correcting them.

CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction

Several studies have been conducted regarding the study habits of students. Some studies have focused on what can be described as the effective study habit. Other studies focus on ways of bringing about effective study habits. Still others focus on remedying the study habits that have been identified as not being effective. Some other studies have been conducted about gender differences in the study habits of students. The purpose of this chapter is to review related literature into some of the areas concerning study habits. To a large extent, this is a relatively new area and as such not much literature is available. However, various facets of the problem have been attempted at one time or the other by scholars. Thus, those aspects that specifically pertain to this study will be highlighted. They will be considered in order to provide the theoretical framework and empirical basis of some of the assumptions of this research. They will be considered to indicate the present state of knowledge regarding the topic under consideration. They will be considered to show how the studies are related to the one being investigated and assess their quality in relation to it. Finally, the review will aim at finding how this study will contribute to the existing literature.

2.2 Effective Study Habits

Habit has been defined as a behaviour pattern that is frequently and often excessively repeated. It is usually well established and often resistant to change and displays an almost involuntary regularity (Millman *et al*, 1981).

Study habits involve those behaviours of students that pertain to the repeated pattern with which students address their academic activities. Habit disorders can seriously affect the academic progress of students. This is because poor study habits, and disorganization can affect students adversely and create conflicts with parents and school authorities and possible reduction in self-concept and self-esteem.

Effective study habit comprises several factors. These include:

i. the location of study activity,

ii. study technique,

iii. time management,

iv. physiological factors,

v. psychological factors.

2.2:1 Location of Study Activity

The student needs to be settled in a convenient location in order to obtain the desired result. Morgan and Deese (1969) suggested good physical conditions that include sitting at a table or desk but not a bed. They explained that sitting upright and keeping the muscles reasonably tense may require more effort, it however keeps the student alert and in the mood to work. They suggested that the table or desk should be kept clean and clear of anything that is not connected to work. It should not have anything such as pictures, trophies or radios that may likely distract attention. The student

should rather sit facing the wall or away from other people. If the library is to be used, the seat should not be in a place where interruptions are likely to occur like doorways or windows. Another important condition is good lighting, which should flood the entire working area. Where the reader has to hunch or squint while studying, there is the tendency to tire easily and give up too soon.

Narramore (1961) also highlighted the need for a quiet environment for effective study. He noted that every outstanding student knows that his success depends in part, on finding the right place to study. It was further stated that the outstanding student knows that his study environment determines not only how fast, but also how well he learns as well as setting the climate for the quality of work to be achieved. The writer identified the issue of regular location for study stating that people are creatures of habit who respond to regular patterns. According to him, changing locations does not usually bring good results. He also mentioned the need for a clean desk, adequate lighting and alert posture.

While it is generally accepted that the library is the most suitable place to study, Freeman (1982) stressed the aspect of individual differences in relation to the location of the study activity. He noted that the library may not be the ideal place to study because there are many strange people to watch. In addition, constant movement, and surfaces like floors and desks which are of a noisy variety could distract attention. He suggested that studying be in a rarely used room or bedroom which contain few distractions. The room must be free of dynamic (noise, movement) or static (radio waiting to be turned on, newspaper lying around to be read) potential elements of

distraction. The library could be used, however, for individuals who have children that may interrupt the study. Essential features of the study location are functional surrounding and comfortable environment. The room should be of the right temperature neither too hot nor too cold and must be well ventilated. It is stated that an insufficiently ventilated environment could become stuffy and lead to drowsiness and the development of a headache. The room should be equipped with a suitable desk and chair and all study materials must be assembled together in a specific part of the room where the study takes place. This is to avoid the waste of time searching for pens, notepads, books, and so on. Other places of study could include dormitories, park benches or buses or trains depending on individual disposition and ability to study.

Consistent study location is here again stressed. This indicates that there are psychological advantages to be derived from a fixed place to study. The reader will come to associate the place with study so that merely entering the room or sitting at the desk will induce a favourable attitude to study.

Parsons (1976) stated that not all places are suitable for study. Such unsuitable places include coffee house, a bar or the students common room. He in agreement with other writers on this subject also, suggested that the same place should be used all the time for study. It will also enhance being in the right frame of mind for work when the student gets there. He stated that the ideal study place should be well lit, conducive temperature, adequate ventilation, as little noise as possible with minimum distraction. In addition, the study room should not be near the living room, kitchen or the front door.

2.2:2 Time Management/Study Schedule

Time management is an important factor in study. The issues of how long one should study, what time is most suitable and study schedule have been addressed by various writers (Freeman, 1982; Morgan and Deese, 1969; Narramore, 1961; Parsons, 1976; Robinson, 1946; Anderson *et al.*, 1969; Alhamdu, 1993; Gardener and Jeuler, 1985). Gardener and Jeuler (1985) stated that one of the most important decisions a student will make in college is how to organize and make the most out of his or her study time. This involves constructing a schedule and saying no to friends sometimes and sticking to the schedule as closely as possible. They indicated that time management schedule helps the student to develop a weekly routine that will allow for success in college work and leisure activities. The schedule has to be carefully planned to include activities during the week. Time should be allotted for review of notes before and after classes, and specific study activities in the evening.

2.2:3 Study Habits

It is important to develop good study habits that will ensure quality time spent rather than length of time spent. It ensures that study is spread throughout the period and not left till the last minute leading to cramming and anxiety. The student should develop the habit of having all necessary materials close at hand so that the study time is spent in studying not preparing to study. Individual differences should be taken into account while constructing and executing the schedule. For example, some students prefer to study while the music is on while others prefer a very quiet atmosphere.

Freeman (1982) stated that successful students invariably have well-designed plans and timetables. A plan is considered as an overall view of the course of study and which will usually cover a term or a year. A timetable on the other hand is a more detailed day to day division of time and covers not only study, but to some extent, the other activities necessary to life. Timetables are necessary for efficiency because they assist in analyzing how time is used. They also ensure that all the decisions are taken well in advance. He stated that without a timetable, the student is likely to make a hundred decisions each week as well as try to fit in everything at once. In addition, the act of making decisions tends to tax energy and leaves the student less ready for study. A timetable that runs through a week, month or a few days and which should be realistically planned is proposed. Study time is expected to be not less than one hour and not longer than three hours. The maximum amount of time for any effective study is three hours without break. He suggested that full time students should aim at around 35 to 45 hours study in a week, including lectures, laboratory work and the like. Part-time and home study students should expect about ten hours per week. It is further suggested that study should be spaced out evenly over five or six days a week. He asserted that more can be achieved working one hour a day six days a week than six hours one day for a week. This is because the regular study reinforces what was learnt the previous day before it is forgotten. Study should be spread through the year. This is because massive cramming sessions are not effective and long hours only lead to inefficiency. Study hours should be placed at the early part of the day when attention and concentration are at their peak. He indicated that the highest output is

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usually attained in the second hour study in the morning. The most difficult parts of the work should be reserved for the best study times. Each study session should begin with a revision of the previous day's study because it reinforces the work and acts as a warming up session. He stated that one's efficiency and concentration tend to flag after an hour's study but easily reviewed after a short break. In order to obtain maximum effect, the break should be very definite – going to a different room, taking a short walk or talking to someone. About 5 to 10 minutes is sufficient to restore the student to full efficiency.

The first step to successful study is the budgeting of time because it makes it appear as if the minutes have been increased due to its conservation (Narramore, 1961). In addition, the tendency to be undecided about what to do next and the time spent at it is saved. In agreement with other writers, study schedule is also advocated. A schedule ensures that the right thing is done at the right time and prevents the likelihood of getting ready to be ready to study. It provides an incentive to get the job done in the allotted time. It assigns time where time is due, and ensures that more time is not unnecessarily allotted to some subjects at the expense of others and each subject is given the amount of time it deserves. In this way, the study is done more quickly with enough time to spare for leisure and other activities. In constructing the schedule, certain things should be considered, specific subjects should be allotted to specific times not just captioned 'study'. Certain things should be studied at particular times and not at others. The schedule should be reviewed from time to time in the light of new developments and particular individual needs. The study time should be

fixed for the period when energy is at its peak. Difficult subjects should be addressed when the student is fresh and strong. The study period should be of moderate length such that a period of about one hour a rest period of 5 to 10 minutes is inserted. Recreation, exercise and social activities should feature on the schedule and should be carefully planned and accorded as much importance as the study periods.

Anderson *et al*, (1969) were in agreement with what most authors stated regarding time management. While pointing out the aspect of timetable schedule, they also advocated that study period before and after a lecture is ideal. Time in-between lectures must be effectively utilized and not wasted by non-study activity. It was suggested that time should be allowed at the end of each day for a review of the day's learning in each subject. The timetable schedule should be flexible and be amenable to reviews at the beginning of the school year, middle, and examination period. It was pointed out that at the beginning of the term, much of the study time should be spent on organizing oneself and being familiar with new words and concepts. The middle of the term should comprise of reviewing and organizing what was learnt and being learnt. The latter part should include consolidating, reviewing and preparing for examination.

Parsons (1976) also reiterated the need for a timetable schedule of study. In addition, he suggested that reading sessions should be placed before lectures in order to enable the student to read up in advance with a follow-up session after the lecture. One hour a day should be devoted to reading over the notes taken for that day to ensure understanding, over-learning and mastery. Two hours should be set aside for revision. The study

period should not be less than one hour and more than three hours at a stretch. In-between periods, a break of five minutes is suggested with longer break between longer sessions. There should be one free evening. The student is advised not to study when friends are likely to be free. Two hours should be reserved for emergencies.

2.2:4 Physiological Factors

Physiological factors have a great bearing on study type reading. Unoh (1969:11) stated that "the influence of physiological factors on reading ability can be examined in relation to the effect of the mental and physical conditions of the reader on his capacity for study type reading". It is stated that physiological state of the human organism is intimately related to mental life and activities such that effective reading or learning are practically dependent upon the proper functioning of the senses, and upon adequate physical condition of the reader. These include visual and auditory defects, fatigue, nervous break down and loss of sleep. Among the visual defects, Myopia, Hypermetropia and Astigmatism (cross-eyedness) could easily pass unrecognized by students for a long time. They can from time to time cause headaches, nausea, and a general disinclination to study. This may erroneously be attributed to laziness, or lack of intelligence. Depending on the course being undertaken by the student, level of maturation, intelligence or high aptitude, auditory defect could adversely affect study-type reading.

Fatigue refers to temporary decrease in mental functioning due to continuous and prolonged exercise. The effect of fatigue on the individual is a detrimental reaction that frequently shows itself in a pronounced temporary dislike for the activity that produced it. Thus, the mental effects of fatigue

include loss of interest, the prevalence of distraction, the slackening of mental process, the lessening of power of will and reduction of general efficiency (Unoh, 1969). It is stated that mental fatigue brings about a loss of control over the thought processes and increases the tendency for the mind to wander. Mental fatigue is attributable to boredom hence the need to take short breaks and change of activities. There is a familiar expression among students called "burning the mid-night oil". The understanding is that students keep awake late at night studying. Some students seem to think that staying up late at night or all through the night is indicative of serious study activity. However, fatigue is closely related to the question of the effect of loss of sleep upon study-type reading. This is aptly stated by Unoh (1969:4).

> "... the biological function of mental fatigue is to protect our brains from such activity as would injure them, either by too long sustained mental work or by not going to sleep at night, though this protective mechanism is somewhat over sensitive and may be set in motion by a merely monotonous task. However, the tendency of failure is to cause cessation of activity, and it is during such cessation that the organism recovers from physiological effects of activity. Experience has shown that such a state of rest is most effective if it is accompanied by a state of muscular relaxation, which usually comes through sleep particularly after a hard day's work".

Thus, the inability to sleep is one of the common causes of lowered mental efficiency. Loss of sleep lessens efficiency in much the same way as does fatigue, affecting especially the attention span, the interest and the initiative of the learner. Loss of sleep also tends to inhibit the recall of facts of information (Unoh, 1969).

The implications of physiological factors in effective study is that best learning is obtained when the student is free from organic defects of all kinds as well as from physical and mental illness, all forms of fatigue, and

unnecessary loss of sleep. This means that for instances of physical and mental illness if need be, medical assistance should be obtained. Concerning fatigue and loss of sleep, the learner can seek advice from Guidance Counsellors or Educational Psychologists. If the fatigue is attributable to boredom, a change of subject, reading or study technique, or place of study may be recommended. If the fatigue is due to unduly prolonged activity, the technique of 'spaced' or 'distributed' learning which allows for rest intervals should be proposed. Loss of sleep can be avoided through a carefully planned timetable which allows for adequate sleeping time, and also through the avoidance, particularly the night before an examination, of excessive late night activities (intellectual or other) which could cause residual tensions and thereby lead to sleepiness. Physical fitness, sleepiness, mental fatigue and interest must be addressed if effective study is to be achieved (Morgan and Deese, 1969). Meals should be taken regularly, reasonable amount of recreation and exercise must be undertaken too. Sleepiness and mental fatigue frequently get in the way of effective study therefore, the need for regular and sufficient sleep is not to be under estimated. This is moreso as study in itself is a quiet activity and on occasion boring which makes the condition conducive to sleep. Sleepiness may continue to disturb a student even after the usual six to eight hours sleep. Therefore, instead of succumbing and lagging behind in ones schedule, it is advisable to take 5-minutes break to snatch a nap. Sleepiness can be driven by pacing the floor, taking a brief walk or reciting a lesson aloud. It could be warded off by scheduling boring activities, recreation or something not requiring concentration at times when the student normally feels sleepy.

Mental fatigue is the feeling of being tired, which may not necessarily be physical fatigue. It is regarded as boredom and represents decreased motivation to study. The best remedy is to have a change of activity to something that interests the student. It is best to schedule first the subjects of least interest, leaving until later when fighting fatigue the subjects that are the most interesting.

Maintenance of interest is of paramount importance in achieving study. Therefore, individual differences should be taken into account, exploiting any instance that tends to increase or maintain it like arguing with what is being read, translating what the author writes into opposites and asking why certain things are not true, and so on and so forth. The important factor is to ensure that studying is an active process.

2.2:5 Psychological Factors

Concerning psychological factors, aspects which readily come to mind are intelligence, nature of the task, motivation, efficiency of the cognitive processes of thinking, reasoning, perceiving and attending and the impact of forgetting. Motivation refers to the inner urge or desire to do something. This inner urge or compelling desire however, may be a by-product of the intrinsically rewarding nature of the task itself. Morgan and Deese (1969) indicated that motivation is the most serious problem facing many students. It is considered that lack of motivation is a deadly handicap to effective study. Motivation is more relevant in higher institutions than secondary schools because at the lower level, there are various forms of external control that ensure compliance. In the higher institutions, however, individuals are left to themselves to get their work done. Motivation can be increased by

deciding on a clear idea of the aim or purpose of being in the institution and desiring to achieve them.

2.3 Study Techniques

It has been observed that a good student need not necessarily have high I.Q. than his counterpart who is below average in academic performance. The difference is usually good study habits (Narramore, 1974). Good study habits are efficient tools that enable more to be done in less time. There is sufficient evidence from researches in schools and universities to show that students who have been trained in how-to-study methods made an average, better grades than other students who spent more time in studying. Therefore, it is not how much studying done that matter, but how well it is conducted.

> "In one school, when students were divided into groups according to how much they studied, it turned out that those who studied a great deal actually made poorer grades than those who studied less. This wasn't necessarily because they had poor academic ability. Many of the students were relatively bright and studied day and night, yet for some reasons, they did not get top grades. The major factor was the **quality** rather than the **quantity** of study time." (Narramore, 1974:7).

Butterweck (1926:20) attempted to answer certain questions on study habits. He asked, "What should a pupil do in a study situation? or what does he do in that situation?" Butterweck's research was concerned primarily with determining which method of teaching study habit will most likely instill in a pupil the use of that study habit. The method of investigation was the controlled experiment. Three matched groups of high school pupils were used. All of them were subjected to the same kind of classroom activity

during the year and held the same standard of requirements. Two of the groups were exposed to experimental factors while the third continued in its regular course as the control group against which the effect of each experimental factor could be measured. The result of the study showed that in developing proper study habits among students, the technique used at one end of the intelligence scale must be different from that used for pupils at the other end of the intelligence scale. It was discovered that pupils of high intelligence can generally be depended upon to translate information into action if the activity is properly motivated and the pupils are held strictly accountable for a certain degree of mastery. Also, pupils of low intelligence need a great deal of practice material used in its proper setting and consisting of the elements of a given study situation arranged in the order in which they are to be used in their ordinary study. Further conclusions derived from the study indicate that both groups of pupils are materially helped by an analysis of a study situation into its elements and the presentation of these elements to the class.

The difference between the two groups arises in the method of presentation. The group of high intelligence needs a clear demonstration of the use of the elements of the study situation with only sufficient practice to check upon the clarity of the demonstration.

The group of low intelligence on the other hand, needs systematic practice in the use of the study situation. Such practice requires a motor response for each step, followed by a checking of the correctness of the motor response so arranged that both teacher and pupil get to know the progress made in the study situation.

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2.4 Measurement of Study Habits

Various scales have been constructed to measure aspects of study methods. Entwhistle *et al* (1971) for instance, tried to make correlation of the scales. Their study was based on the development of scales of motivation, study methods and examination technique. The study inferred validity from correlation with the Brown-Holtzman scales and with criterion of academic performance of selected university, College of Education, and Polytechnic students. There was an indication of improvements of A-level grades through the use of these scales together with measures of academic aptitude and personality when multiple correlation co-efficient was computed. Biggs (1976) also reviewed some scales of measuring study behaviour. In particular, a closer look was made of ATI (aptitude Treatment Interaction), and examined SBQ (Study Behaviour Questionnaire) for use with university students. ATI is based on the assumption that if two treatments (methods) are indeed different (such as in the processes of learning demanded of students), then the almost universal conclusion of no differences between treatment groups does not necessarily follow if no attempts have been made to find out whether specific sub-groups of students have indeed been differently affected. The point being made in the study is that each treatment will draw out different personological characteristics. This means that a single characteristic study method is not possible for all individuals for all types of academic requirements. Personological factors also play an important role in the adoption of whatever method a student uses to study. In addition, faculty membership in terms of whether Science oriented or Arts affects a student's habit.

Biggs (1976) concludes that faculty differences do affect study behaviour such that in Arts reproductive or transformational strategies are employed whereas in Science prior content mastery was more important.

A questionnaire was constructed by Bakare (1977) called the Study Habits Inventory (SHI) Forms for Secondary Schools. It contains a list of questions about the habits and method of study of students. It comprises of eight sections made up of forty-five questions. The areas covered include home-work and assignments, time allocation, reading and note-taking, study period procedures, concentration, written work, examination and teacher consultation. Students' responses are expressed on a five-point scale ranging from 'Almost never', 'Less than half of the time', 'About half of the time', 'More than half of the time' to 'Almost always'. The stanine scoring procedure is used to rate the responses.

In another study, Biggs (1978) attempted to explain the origin of differences that exist between individuals and groups in terms of study processes. It is asserted that much more is involved in assessing academic performance than study methods *per se*. Other intervening factors play important roles. These are personological dimensions which consist of personality factors, IQ and home background factors. In addition, there is the institutional dimension like subject area studied, teaching method and mode of evaluation. Performance is then presumed to be affected by personality and environmental factors through the study process complex.

The notion that all successful students will follow the same path to success was challenged. It was therefore considered false to assume that any specific study technique will result in successful academic performance. This

mode included study processes which comprise of complex of tactics, strategies and approaches which are in turn dictated by relevant values and attitudes which form a set of variables that mediate between determining factors and final performance.

Ozigi (1978) hypothesized that a powerful factor that accounts for the poor academic performance and failure at school of students is their application of wrong study habits. He defined study as 'the efforts to acquire skill and knowledge to memorize by rote, comprehend material and solve problems'. Study, he said, involves self-discipline, effort and concentration if success is to be achieved. Ozigi (1978) carried out his study on secondary school students in northern Nigeria. His findings indicated that most pupils did not know how to study effectively and did not receive any formal instruction in study techniques. Also, most pupils indicated dissatisfaction with their present method of study stating that their efforts were unrewarding. The study also showed that most of the pupils had no formal instruction on how to prepare for examinations when comparisons were made between low wastage and high wastage schools. It was found that pupils in low wastage schools had better work habit and more effective study methods. This study is relevant to the one conducted in terms of the environmental location of the samples. It differs in the education level though because it deals with secondary school students who are admitted into Nigerian Certificate in Education programme who are usually the secondary school products. If at the point of entry they are not equipped with the most effective method of study, it means then that they begin the programme with this deficit.

Otto and Smith (1980) explained the concept of study skills. They asserted that reading-study skills and habits require more than a simple way of study skills. Rather, they require carefully and fully developed habits as well. For this reason, skills focus on the specific behaviours required for study-type reading. Habits on the other hand, focus on the ability and inclination to apply the skills. A distinction is made between study habit and automacity in word attack while the latter implies automatic, unthinking application (which a mature reader does while reading), the former involves the conscious application of appropriate skills to given tasks.

Otto and Smith (1980) further stated that under achievers typically do not have an array of study skills sufficiently well developed to begin to develop effective study habits. This means that they need to learn what to do before they can develop the habits they need in order to study effectively. Two main categories of study skills were identified. One is the skill for locating and organizing information. The other is the specialized skill for dealing with information presented in graphs, maps and tables. Another category is termed personal reading habits. It was asserted that teaching the skills and encouraging the development of the habit is mainly a matter of focusing attention, offering explanations, and providing incentives when opportunities arise, dealing with day-to-day tasks and materials. It is expected that when a teacher is aware of particular habits and skills, there will be many opportunities for common sense teaching and development.

Concerning personal reading habits, Otto and Smith (1980) stated that some general techniques and procedures for approaching reading tasks be habituated. They recommended that specific skills be introduced and

reinforced to a point at which they can be applied effectively although personal reading habits are never mastered but continually expanded and refined throughout the readers' life. The habits which require the application of a wide range of reading skills set the tone for a reader's approach to all the reading tasks which confront the student. They, therefore, determine the learner's efficiency and effectiveness as a reader. Habits cannot be taught in the sense that skills can be taught. They can, however, be fostered by introducing techniques and procedures to be habituated, nurturing their development and encouraging their application. Ten personal reading habits which are essential to a student's independence and maturity as a reader are:

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i. Application of scanning technique when reading for detail.

ii. Application of skimming techniques when reading for central thought.

iii. Adjustment of reading rate depending on the purpose for reading the materials.

iv. Sorting out facts and opinions.

v. Sorting out elements of facts and fiction.

vi. Differentiating between correct and incorrect statements.

vii. Relating facts and concepts to new situations.

viii. Recognizing persuasive techniques.

ix. Making adjustments about the suitability and/or interest of material indicating whether or how to read it.

x. Attending to, and following directions as appropriate.

Ozigi (1981) in his research on the work habits and study methods of secondary school students found that a large majority of them were left to their own devices. These students received no formal or informal instruction as to how to conduct their academic work effectively. His study indicated that 62% of his sample had a definite study plan and timetable while the remaining 32% had no such plan. He remarked that lack of a definite study plan and timetable meant that the students would be unable to budget their allotted time properly in order to achieve the desired result. Another area investigated is the length of time students spend in studying and the time of day they engaged in the activity. He found that 57.7% of the sample studied between one to five hours daily. 42% of the students did their study in the day time and 40% at night time. 14.2% studied during preparation time and 3.3% during their free period. He remarked that many students including those in higher institutions of learning have the mistaken notion that the longer the hours of study, the more they learn. These students tend to forget that the quality of work, not quantity of time spent, matters most in effective study. He further pointed out that many students wasted their time during the day with the assumption that they would study at night. They are not aware that inadequate sleep is not conducive to effective learning. In addition, 60% of the sample indicated that they did not study consistently and seriously throughout the school term. These students tend to leave everything until towards the end of the term when examinations are approaching. Thus, 37.2% of the students did not do well in their tests and examinations even though they put in much effort in their study.

This study is relevant to the one conducted in that it deals with Nigerian samples. The study revealed some of the misconceptions held by students about work habits and study methods. It has indicated the trend in terms of secondary school learning and areas needing attention. It is noteworthy that the products of these secondary schools along with their defective study habits and misconceptions come into the tertiary institutions. Thus, a situation of a vicious cycle arises when those admitted into the college of education graduate and proceed to teach in secondary schools.

Parsons (1976) noted that there are many different kinds of publications like reference books, novels, periodicals, textbooks, newspapers, and so on. Since there are also a large number of each on the students' subjects there is bound to arise the problem of deciding which to read, and how to achieve it within the shortest possible time. He, therefore, suggested three skills necessary to be learnt when using printed material. These are, the ability to evaluate, skim and read quickly through. The student should be able to check quickly whether or not a publication is relevant and likely to be useful, and be able to find information in a book quickly and digest individual chapters or whole books.

Montgomery (1982) considers efficient reading as pre-requisite for effective study. This can be achieved through active reading. This is attainable through the use of the brain actively to concentrate on the sense of the text. It requires questioning while reading and anticipating what is to come. It also requires identifying the main points and perceiving the relationships within it. Active reading brings maximum comprehension speed and retention in memory. He identified active approach to study as a

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means of achieving effective study. He recommended scanning, and skimming in reading as a means of developing and maintaining interest and enhancing retention. He proposed that when a student is reading, he should recognize gaps in knowledge and be able to pick out those things which he does not understand. After that, then attempt should be made to overcome any difficulties and find answers to questions. This will ensure that there is concentration. This leads to paying close attention, and making the work challenging and interesting and ensure progress.

It was further suggested that the main points should be selected and memorized to avoid passive reading. The points should rather be listed on one side and each point recalled and written from memory. This is then checked and the exercise repeated at intervals until no mistake is made.

i. "Think as you listen or read.
ii. Make carefully selected brief notes.
iii. Think about what you have learnt and relate it to previous work.
iv. If necessary, add to or amend your class notes.
v. Think again as you express your thoughts in answering questions on each aspect of your work.
vi. Avoid fatigue by arranging your studies in sessions that are usually three hours or less."

In sum, active study involves asking questions, finding answers, reviewing and revising, applying and expressing and making notes. This is against long periods of just sitting, trying to remember class notes or parts of the textbook.

Fontana (1988) stated that as children grow older and come to take more responsibility for their own learning, some good habits which the students need to inculcate include setting realistic work targets which are carefully planned in detail. Rewards are important aspects of the study habit tc be inculcated. These can be built in, in small measures and denied if the target is not achieved. Punctuality is another aspect to be addressed just like whole part learning. Another aspect is organizing material into meaningful and coherent manner for easy storage and retrieval. It is also necessary to plan a system of revision that spans the entire duration of course rather than cramming everything at the end just before the examinations.

Private study is the second traditional method for student learning. This consists of reading. British research suggests that an average student works a 36 to 39 hour week, partly in class and partly in private study. In the Netherlands, a correlation of 0.35 to 0.66 between student achievement and the time spent in private study (Blight, Jacques and Piper, 1980). One of the most important characteristics of efficient methods appear to be the students' sense of responsibility. Successful students were less likely to neglect their weaker subjects, attended to urgent tasks, did more preliminary reading, did more preparation for lectures and tutorials, and had a better attendance record.

2.5 Study Habits and Gender Differences

Biggs (1976) observed that there are sex interactions with faculty membership. Females were found to be more likely to use a reproductive

approach in Arts and a transformational one in Science, but males use transformation optimally in Arts and reproduction in Science.

Maccoby and Jacklin (1974) spent three years reviewing over 2,000 books and articles on sex differences in motivation, social behaviour and intellectual ability. At the end of their exhaustive and exhausting research, they found that there are no sex differences in achievement motivation. They also found that neither sex is more susceptible to simple conditioning in which stimulus become connected with responses in what is assumed to be a rather automatic process. They stated that neither sex excels in rote – learning tasks such as learning to associate one word with another. These scholars discovered that the sexes do not differ on tests of cognitive style that measure ones ability to analyze. That is, the ability to respond to a particular aspect of a situation without being influenced by the context, or restructuring of the elements of a problem to achieve a solution.

There is a difference showing the superiority of boys over girls on problems that require visual discrimination or manipulation of objects set in a larger context which could be accounted for by spatial ability not general analytic superiority. There was scientific evidence to show that males are more aggressive than females. Females, on the other hand, are found to have greater verbal ability than males. It is indicated that females score higher on tasks that involve understanding and producing language and on high level verbal tasks like analogies, comprehension of difficult written material, creative writing, fluency and spelling. Regarding mathematical ability, boys' skills increase faster than girls do at the beginning of age 12 or 13. This is,

however, subject to further verification as magnitude of difference varies from one study to another.

These findings have implications for this study in view of the fact that study habits are closely related to factors like motivation, conditioning, rote-learning ability, cognitive style and verbal ability.

The relationship between the sex of Nigerian adolescent pupils and their study habit, study attitudes and academic performance was investigated by Akinboye (1981). The method used was Behaviour Modification Therapy with Lyle Tussing rules for efficient study and Robinson SQ3R study technique. The two by two factorial design consisting of four main treatment groups were used. The subjects were 176 5th form students (136 boys and 40 girls) selected from a pre-identified groups of subjects with study problems. These were selected from Ibadan City area of the then Western State (now Oyo State). The Premacks differential probability hypothesis was used in putting the experimental subjects under stimulus control and they operated under a fixed ratio schedule of reinforcement. It was predicted that there would be no sex differences on the cognitive, affective, cognitive variables of study attitudes and academic performance after therapy.

The result of a two-way fixed effects analysis of co-variance test essentially rejected the hypothesis in that the sexes vary significantly on these variables. This research is significant because it provides the much-needed data regarding Nigeria's unique situation. In addition, cross-cultural studies are essential for verification and supply of knowledge. However, the subjects in Akiboye's research are drawn from secondary school level of education. This research was undertaken at the tertiary level. Still it is relevant in that

some kind of idea can be traced or association made between the study habits of males versus females in the secondary school level and the tertiary level of education. Furthermore, Akinboye's study was conducted in the western part of Nigeria while this one was in Kano which is in the northern part. It will be interesting to see if there are similarities or differences in the findings.

2.6 Learning Approaches

Research in the field of cognitive psychology has provided a way of embedding study processes in theory. This involves the use of inventories of learning processes that were derived from the factor analysis of a pool of self report items written by specialists in the domain of human learning. Important learning processes are identified and converted into behavioural indicators that are related to the context of everyday studying.

The underlying framework was provided by the notion of levels of processing in memory. An alternative theoretical framework does not apply experimental work in cognitive psychology. Rather, it attempts to derive important descriptive concepts and categories from the qualitative analyses of students' reports of their own study process. This has led to the concept that describes approaches to learning. These approaches distinguish between deep and surface levels of processing in terms of intentionally. The deep approach involves an intention to understand while surface approach describes the intention to reproduce information in compliance with externally imposed task demands.

A third approach describes a strategic approach through which students seek to maximize their grades through strategic management of their time and intellectual resources in line with their perceived criteria for high grades.

A meaning-based, deep approach is likely to produce the most complex learning outcomes and is associated with both good academic performance and plans for furthering one's education as far as possible (Purdie & Hattie, 1995:232).

Pask conducted an investigation that focussed on complex human learning. It is considered that the fundamental unit for investigating this is conversation which involves communication between two participants in the learning process, who commonly occupy the roles of learner and teacher. Pask (1976) propounded conversational theory. This is an attempt to investigate the learning of realistically complex subject matter under controlled condition. This is concentrated on developing apparatus with which to trace how students work their way through academic topics. The theory describes the way in which Piagetian experiments can be developed with the help of the computer into a system within which the student talks himself (as an internal conversation and an interaction with the computer) through a network of concepts and relationships towards a practical demonstration of his understanding of an academic topic.

The stated advantages of this theory over others is its provision of important evidence about how students learn realistic bodies of subject matter over appreciable intervals. It also permits the investigation of other important but elusive aspects of human learning which have educational implications. These include the nature and control of understanding; the

nature and use of analogical concepts; learning style; innovation; and learning to learn. Also, it provides a way by which the learner examines his learning strategies objectively and in an overt manner rather than through introspection as in the case of Marton and Saljo's learning outcomes and processes.

Bouffard *et al* (1995) investigated whether a relationship exists between types of goal orientation, self-regulatory processes and school performance. They also examined how students' self-regulation and academic performance differ according to their profiles resulting from combining learning and performance goals orientation. They defined metacognition in terms of the explicit knowledge which individuals have about their cognitive resources.

It was stated that studies based on information processing approach on the development of models of metacognition have particularly focussed on the self-regulatory processes. These have identified important components of self-regulation permitting effective learning management. Cognitive strategies, metacognitive strategies and motivation were considered to be the important components of self-regulation. It was stated that those students who engage in self-regulated activity deliberately plan each step, select strategies and control and evaluate the effectiveness of these strategies. Through the evaluation, they are able to reach an appropriate decision about how to pursue their tasks. Then they are able to verify the results of their procedures in order to perform to the best of their abilities. Samples for the study were 702 French speaking college students from two colleges. These comprise of 463 female and 239 males between the ages of 17 and 19 years. A questionnaire was administered to the subjects. The results showed that

there are important relations between student orientation toward the development and acquisition of knowledge and skills, and the three components of self-regulation for females and males. The results also showed that there is a relationship between a performance orientation and self-regulation for males. It was found that learning orientation is a determinant factor in the amount of active control during the activity and effort expenditure.

Abdullahi (1996) made a comprehensive list of variables that affect the academic performance of students in the Junior Secondary School examination in the introductory aspect of the study. Among others, those listed include acquired defects, innate and congenital factors, psycholinguistic problems, physical and cultural factors, home and school environment, and culture of the school.

Emphasis was laid on the responsibility of students for their learning. Of particular note is the role of linguistic habits and techniques in the thinking and cognitive development of students. The deterrent effects of poor language proficiency on students' study habits in terms of fluency, abstract meanings, activities and the capacity to respond rapidly with names of things, shapes, concepts and other objects were highlighted. A high incidence of poor reading habits of the Nigerian school children was specially noted.

This study investigated students' responsibility in their poor academic performance in Kwara State secondary schools. Bakare's study habits inventory was administered to 198 secondary school male and female students.

The results of the study showed that a high percentage of the students have poor or negative pattern of study habits. The study also indicated that the independent variables of study habits can predict students' objective achievement in the dependent variable of English scores. The results also confirmed that the mind is active and not passive in the teaching and learning process and so students should be held responsible for their academic performance. Specific aspects noted in the study identified low level of concentration by students while studying. Also, there was non-existent teacher consultation by students.

Adeoye (1995) investigated the pattern of study habit of physics students of Federal College of Education, Kano. His finding indicated that all the students have problem in reading and note taking. He also found that there was no significant relationship between academic performance and study time, homework and assignment among the subjects that were studied.

Ikegbunam (1998) identified various reasons given by students that are responsible for their poor academic performance during the first year of their academic level. Among others, lack of motivation, improper study habits, poor accommodation and in-attention to school work were mentioned. In addition, other authors identified lack of intellectual potential, inadequate understanding of the amount of work necessary for success, too much involvement in outside activities, psychological problems, lack of personal discipline, difficulties with reading and poor study habits were listed. It was considered necessary that educators develop ways of minimizing these problems. Thus some suggestions proffered as cited in Ikegbunam (1998:131) include:

i. Knowledge of how to use tables of content, indexes and card catalogues in locating information.

ii. Acquiring proficiency in the use of general reference materials. This category includes activities from simple alphabetizing to use of dictionaries, encyclopaedias, and the like.

iii. Interpreting pictures, maps, graphs, and charts.

iv. Organizing materials, outlining; classifying materials under main headings and sub-headings; ordering selected materials in proper sequence and constructing time lines.

Furthermore, students should be made to identify their study problems and determine to tackle them. They should use group study to develop confidence in their ability to study and recall. They should avoid procrastination, use study timetable and adopt the study strategy. It is expected that once students have developed in these areas, the role of their lecturers would be supportive and their academic difficulties would be minimized.

Ikegbunam (1998) noted that students in Nigeria's tertiary institutions have not learned the skills of critical and independent thinking. They lack the skills of accurate judgement and correct choice of words and are unable to distinguish between the subjective from the objective. Because of these deficiencies, they are not able to make the proper adjustment required of tertiary level of life. This life tends to be difficult and painful, and so students are readily swayed by peer group. They engage in constant travels,

secret cult activities, riots and other vices as a result of these. Thus it is advocated that institutions should not assume that all students can study without any motivation. A deliberate attempt to guide the students in the strategies of studying and acquiring knowledge in the various subject areas was advocated. The PR4 study formula was proposed. This stands for Preview, Read, Review and Recall. This formula like others encourages the reader to think constructively in line with the authors' plan and thinking. It also helps to overcome mental, inattentiveness.

The 'when', 'where' and 'how' study tips was exhaustively discussed by Azikiwe (1998) in agreement with other scholars; it was stated that poor performance of students and examination malpractice rank one of the highest among the major problems affecting Nigeria's education system. It was noted that students needed to study privately on their own after the teachers' classroom instruction to make them internalize, understand and recall what they have been taught. It was, therefore, advocated that effective study habit pattern be inculcated by learners. This will not only enhance the learner's performance in examination but will address the problem of examination anxiety. The 2SRPECR study approach was proposed. This stands for Survey, Study, Read over and over, Practice, Evaluate, Correct and Revise. The heightened performance of learners to study habits such that 30 to 40 per cent improvement is recorded is attributed to this formula. Components of good scholarship include effective use of the library, habits of use of private timetable, regular periods and place, comfortable study place, adequate rest, relaxation and sleep as well as attentiveness in class. Others are formation of personal notes, revising notes on the same day, group studying, prompt

assignment submission and active participation in classroom activities. The teaching of study approaches as a course in its own right in the General Studies Division was advocated for among others.

A study conducted by Nneji (1998:115) in the University of Lagos gave revealing insights into undergraduate study habits of its Faculty of Education students. A 15-point questionnaire which elicited students' study habits using 'timing', 'method' and 'content' as main indicators was applied. The respondents comprised of 120 regular and distance learning first and final year, male and female students. Through the use of descriptive analysis, data revealed that although on average, students put reasonable length of time in reading, most of them prefer to read for examination only. They depended solely on their lecture handouts and to a small extent on their lecture notes. They read mainly to absorb information given by the lecturer not to search for new information or increase their insights. The conclusion drawn is that students in the tertiary institutions are plagued with the reading for examination syndrome; do not make for intrinsic organization; studies are not correctly and thoroughly pursued although there is evidence of diligence.

The recommendation was made that teachers should realize that all students need help. The call was made that orientation and counselling should be supported by expository and informational materials to students.

Esiobu (1998) investigated the effects of concept and vee mappings heuristics under cooperative and whole-class inter-personal competitive learning mode on Biology under graduates' performance in Genetics. One of the purposes for this investigation was to highlight effective teaching for enhancing effective study habit. Esiobu (1998) noted that rote memorization

rather than meaningful learning have continued to characterize students' learning. In addition, in lecture rooms, pure lecture methods are predominant. This has lent credence to the allegation of fallen standards of the Nigerian system of education. It was asserted that those students who know how to monitor and regulate their learning are far more effective in cognitive functioning than those who do not. It is a considered view that learning is a responsibility that must be consciously and rigorously pursued by the learner with the teacher merely providing the right environment and setting for meaningful learning to take place. It was stated that meaningful learning takes place when persons consciously and explicitly links new knowledge with relevant concepts and propositions they already posses. This in turn is reflected in the ability to apply the new knowledge to other situations. On the other hand, rote memorization takes place when new learning is arbitrarily incorporated into the cognitive structure. Ineffective instructional strategies have been found to lower achievement and raise anxiety levels among students. Thus, one of the greatest challenges for educators at the tertiary level is to prepare students for a life time of autonomous learning. A way of achieving this is through the application of concept vee mapping strategies under cooperative learning conditions to assist students to improve study habits in learning difficult concepts. The teacher was advised not to resort to lecture or demonstration method only on the pretext that materials are not enough. The use of small cooperative learning groups can adequately take care of this problem. The use of concept and vee mapping strategies will improve the level of understanding of students and discourage rote memorization.

2.6.1 Gender and Learning Approaches

Bouffard *et al* (1995) found that there are important relations between student orientation toward the development and acquisition of knowledge and skills, and the three components of self-regulation for males and females. In addition, there is a relation between a performance orientation and self-regulation for males. Girls were also found to be more oriented toward learning and to a lesser extent toward performance than were boys. In addition, girls reported more frequent use of cognitive and metacognitive strategies, higher motivation and achieved higher academic performance than did boys.

Regarding sex roles, Elegbeye (1996) found that sex and educational level were the major influencing factors that were likely to affect the attitude of late adolescents and youths toward oriented cultural roles. There was non significant difference in both the attitude of male and female undergraduates to sex oriented cultural roles on one hand and educational level has failed to influence respondent's attitude to the independent variable (sex oriented cultural roles) on the other hand. This serves to confirm that sex and educational level have failed to influence, in any significant way, the outlook and belief of the Nigerian undergraduate youths and late adolescents on the roles which cultural tradition had assigned to both sexes. Gender typing still controls the behaviour of both male and female Nigerian undergraduates to a significant degree.

2.6:2 Measurement Scales of Student Learning

Various scholars have constructed and used various scales to measure student learning. Achievement results and assessment of actual performance

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have often been used to assess student learning (Ikegbunam, 1997; Abdullahi, 1996; Entwistle & Entwistle, 1970). Other studies have focussed on the study process itself. Because as stated by Marton and Saljo (1976:115):

"... while studies involving only subject reports have mostly yielded fairly clear-cut results, indicating that the type of test expected affects the kind of processing that subjects engage in, those involving an assessment of actual differences in performances have produced a more diffuse picture."

It is, therefore, asserted that qualitative differences in outcome is more important in assessing study processes since it takes account of variations in a qualitative rather than quantitative dimension. Trigwell and Prosser (1991:265) also noted the equivocal non-correlation between approach and quantitative measures of learning outcome at the course level. They stated that such studies tended to confirm the negative association between surface approaches to study and quantitative differences in learning. However, no positive association exist between deep approaches and quantitative differences. They attributed these findings to the fact that an increasing amount of research indicates that measures of quantitative differences in which the scores provide no indication of differences in quality do not necessarily relate to measures of qualitative differences in which the categories or scores do provide indications of differences in quality. In addition they found that students can be successful on many examinations in higher education by depending on their memory and recalling large amounts of information rather than exhibiting an understanding of the material being tested.

Three studies were conducted by Christensen *et al.* (1991) to assess the scales for measuring student learning of various scholars. One of these studies examined Biggs (1987a) Study Process Questionnaire (SPQ). SPQ was designed to measure tertiary students' learning approaches. Christensen *et al* (1991) examined its robustness and attended to any anomalous features that might arise. The result questioned the conceptual purity of the scales. The validity of the SPQ as a measure of students' learning approaches was thus contested. In addition, there was a lack of consistency between students' strategy scores on the SPQ and the cognitive strategies they utilize when engaged in a particular learning task.

The second study by Christensen *et al* (1991) explored the relationship of students' performance on the Weinstein and Mayer (1986) strategies with their performance on the strategy measures of the SPQ. The result showed a substantial similarity in the definitions of Biggs surface and Weinstein and Mayers' rehearsal strategies, and between deep, organizational and elaboration strategies. However, there was no corresponding relationship between SPQ scores and strategy use. Thus there was no consistency between the mean SPQ scores for students utilizing different strategies and the underlying assumptions of the scale.

Adeoye (1995) applied Bakare's Study Habit Inventory (SHI) to investigate the patterns of study habits of the physics students of Federal College of Education, Kano. He found that all the students have problem in reading and note taking. He also found no significant relationship between academic performance and study time, homework and assignment, among the subjects that were studied.

Bakare's Study Habit Inventory (SHI) has been widely used by various Nigerian scholars. Uwakwe (1993) has recommended its use for intervention and support of chronically under-achieving students. Other scholars who have used the scale for measuring students' habits include Abdullahi (1996); Oladunjoye (1991); and Akinboye (1989).

Nneji (1998) investigated the study habits of students of the Faculty of Education in the University of Lagos. A 15-point questionnaire was constructed to elicit students' study habits. The main indicators identified were 'timing', 'method', and 'content'. The researcher applied descriptive analysis to show that although on average students spent a reasonable length of time in reading, they preferred to read for examination only. Also, they depended solely on their lecture notes or handouts. The sole purpose for reading was to absorb information presented by lecturers and not for searching for new information or to increase their insights.

An instrument was developed by Kolo (1997) called Personal Study Survey Inventory (PSSI). It was used in investigating study approaches among secondary school girls in Zaria and Kaduna. The findings indicate that secondary school students used both passive and active approach. No difference was found about the prevalence of one over the other.

2.7 Summary

Effective study is an indispensable pre-requisite of successful and stress-free scholarly life. Various studies have been conducted on the most effective method of study, location and appropriate time, among others. It is evident from the sources consulted that students of all cadres of educational level

need to be put through on how to study effectively. Perhaps the most appropriate starting point is at the cadre of teacher trainers. When this group of students (would-be teachers) are fully equipped, then they in turn would be able to effectively pass it on to their students.

Regarding study habits and gender, most scholars indicated no significant differences. It was noted that study habits are closely related to motivation, conditioning, rote-learning ability, cognitive style and verbal ability.

Learning approaches have to do with the levels of study processing which could be surface or deep according to Marton and Saljo's dichotomy. The most appropriate for tertiary level learning is the deep approach. It was generally observed that all students require deliberate attention about acquiring the appropriate approach if they are to enjoy studying.

Most scholars in Nigeria have attributed the poor standard of education in Nigeria to inappropriate study approaches. Other vices like examination malpractice, occultic activities, among others, are in one way or the other linked to inappropriate study approaches.

Various study techniques which include 2SRPECR, PR4, SQ3R were outlined.

With respect to gender and learning approaches, most sources consulted indicated no significant differences. Various scales used for measuring student learning were reviewed. These include Bakare's Study Habit Inventory (SHI), Qualitative measures of Marton & Saljo, Biggs' Study Process Questionnaire (SPQ), Nneji 15-point questionnaire, and Kolo's Personal Study Survey Inventory (PSSI).

It was noted that several scholars in Nigeria have applied Bakare's Study Habits Inventory at one time or the other.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes and discusses the design and procedure for this study. The population, sample and sampling procedure, and research instruments are described. Also described are the administration and scoring of the instruments and statistical techniques used in analyzing the data. The report of the pilot study conducted was also presented.

3.2 Population

The population of this study was made up of students of Federal College of Education, Kano aspiring to obtain Nigerian Certificate in Education (N.C.E.). The population figures for the 1996/97 session was as follows:

100 Level = 864
200 " = 1026
300 " = 894

This brings it to a total of 2,784. These students are undergoing courses leading to the award of Nigerian Certificate in Education (N.C.E.). This level of education is considered a tertiary institution since the minimum entry qualification are 4 credits at the Senior Secondary School Certificate Examination.

3.3 Sample and Sampling Procedure

A typical student in the N.C.E. programme may undertake as many as 12 or more credit units per semester. Considerable responsibility for academic work is placed on the student.

The stratified random sampling method was applied to select the subjects for this study. This method was applied to find out the study habits of students in terms of their levels and gender. Conway (1967:129) stated that "Lists of university students are generally stratified by faculty. Stratified samples have smaller sampling errors than simple random samples of the same size. Also, the fact that each strata is adequately represented in the sample facilitates the analysis. The units being sampled may vary considerably and their size distributions are often highly skew". Thus in order to ensure that there is a representative sample with reference to course level, and subject combination, these two factors were taken into consideration to reach the decision.

Ball and Gall (1984) suggested that for a population of 1,000 or more, a sample of 10% may be drawn. In this study, a sample of 20% of the population of 2784 students (558) was projected to be used with the hope of getting the target sample of 10% or higher. As anticipated, data collected for this study were from 327 respondents. This number is approximately 12% of the parent population. Table 3.1 was the distribution of the respondents according to their levels.

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Table 3.1 Distribution of the population and samples per level.

NCE Level	Population	Projected	Actual Sample
100	864	173	116
200	1026	206	125
300	894	179	86
Total	2,784	558	327

3.4 Research Instrument

The instrument used in the study is Bakare's (1978) Study Habits Inventory (SHI). The instrument was designed to identify defective or poor study habits of students. Uwakwe (1993:2) has this to say about this instrument:

> "The first step in supporting the chronically failing client in improving his study skills is extensive assessment. In doing this, we are trying to identify the areas of weakness and strength of the client in terms of his study skills. This can be done by using any well-developed psychological test of study habit and skills. In the Nigerian educational system, the most comprehensive and culture fair study habit assessment tool was developed by Bakare (1978)".

The aim is that once the defective study practices are identified, the appropriate steps for correcting them can be organized. Study Habit Inventory (SHI) is a self report inventory which assists the individual student to describe the situations, habits and conditions which affect his use of study time and examinations. The inventory is made up of 45 items that are in the form of direct questions. The student is required to respond to answers on a five-point scale on how frequently he behaves in that way. The inventory is divided into 8 sections thus:

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Section A: Homework and Assignments

Section B: Time allocation

Section C: Reading and note taking

Section D: Study period procedures

Section E: Concentration

Section F: Written work

Section G: Examination

Section H: Teacher consultation

Study Habits Inventory (SHI) is designed to be used as a survey or screening instrument, diagnostic instrument, teaching aid or research tool.

3.4:1 Validity of SHI

The items were developed through a rigorous process to ensure that it is relevant to Nigerian conditions and maximum effectiveness to the subjects for which it is intended. Five psychologists classified the items into the eight sections. There was perfect agreement among them in terms of the classification. To establish the construct validity of the inventory, and to find out if it discriminated between a group of "passing" students and a group of "failing" students, the t-value for four studies were calculated. The result was that the SHI discriminated between them. The validity of the instrument is further confirmed since it correlated in the expected direction with the other variables indicated there. Thus, the SHI correlates negatively with general anxiety, test anxiety and personal problem but positively with academic self-concept, and academic performance.

3.4:2 Reliability of SHI

The test-retest reliability of SHI was established by administering it to a group of students with a time interval of three weeks. The test-retest reliability was 0.83 $P<0.05$. In another study, the SHI was administered twice to a fresh group of students with a time interval of six weeks. The test re-test reliability was 0.64 $P<0.05$. Thus the SHI could be considered to be both valid and reliable as a measuring instrument. It is noteworthy that Cladunjoye (1991) applied this instrument in the "Study of study habit problems among the students of Demonstration Secondary School, Ahmadu Bello University, Zaria."

3.4:3 Administration of SHI

Each student is to be presented with a copy of SHI to fill in the appropriate response. The physical and emotional conditions which would ensure the full cooperation and appropriate response include comfortable seating, ventilated and well lighted rooms. In addition, the students were to be assured that the purpose of the exercise was to find out how they conducted their study activities. Students would be required to respond to the items independently and to express their response individually without reference to the views or pressures of their friends or neighbours. In order to understand fully the statements presented, the researcher should read out the statements aloud for all to hear. Emphasis is laid on the fact that the responses should not be considered along the lines of right, wrong or expected correct answers, but on the description of the way in which the student behaves. No time limit is to be set.

3.4:4 Scoring of SHI

The scoring is based on the fact that for each question, there are answers that reflect desirable or effective study practices on the one hand, and undesirable or ineffective study practices on the other. Desirable practices should attract high scores while undesirable ones attract low scores. The scoring could be by the comprehensive or short form. In the comprehensive form, the alternative answers are scored on a 5-point scale depending on whether it is a positive or a negative, for example, "Do you complete and submit your assignment on time?"

(Positive/Desirable Practice)

Cross in Column	Score	
	Comprehensive	Short
Almost never	1	0
Less than half the time	2	
About half the time	3	
More than half the time	4	
Almost always	5	1

"Do you find it hard to pick out the important points of a reading assignment?"

(Negative/Undesirable Practice)

Cross in Column	Score	
	Comprehensive	Short
Almost never	5	1
Less than half the time	4	
About half the time	3	
More than half the time	2	
Almost always	1	0

Since the comprehensive method involves much computation, it is preferably used for research purposes. The actual scoring of SHI could be by using the key or by stencil scoring. While using the former by applying the key provided, the corresponding score to the mark made by the student for each item is recorded at the right hand corner of each question under the space marked "score". This is totalled and recorded in the box labelled "Total score" for the section. This is done for all the sections A – H. The total score for all the sections is transferred to the right hand box at the end of the back page. In order to know the preference of each section, the stanine equivalent has to be obtained. This is provided in the table of stanine norms for the SHI in the manual. The stanine equivalent for the total score on the inventory is also provided as the SHI total. In using the table of norms, the table is entered with the raw score for each section and the equivalent stanine is read off from the extreme left-hand column of the table. The stanine equivalent of each section's raw score is then entered in the space provided in

the right-hand box on the back page. See Appendix 1 for a sample of the inventory.

3.5 Procedure for Data Collection

3.5:1 Administration

The study Habits Inventory (SHI) was administered to a sample of N.C.E. students in levels 100, 200, and 300. It was aimed at obtaining differences, if any, in the study habits among the three levels. In addition, it was aimed at finding out if there were gender differences in their study habits. The questionnaire was administered in the first semester during the language and communication skill courses for levels 100 and 200 while an Education course period was used to meet with the 300 level students. Notices were fixed at strategic locations indicating the numbers of the students, venue and time for meeting with them. Each student was presented with a copy of the SHI to respond to. Instructions were given about how to enter the responses. Special care was taken to assure them that the purpose of the exercise was to obtain an accurate description of how they performed their study activities. In each interaction with the levels, there were two research assistants in addition to the researcher. These were to help the students who had difficulty in understanding any aspect of the questionnaire or the procedure for responding. They were also warned against copying from others or allowing the views of those near them to influence the description of their study behaviours. An average of 45 minutes to one hour was spent by each group in filling and returning the questionnaire.

3.5:2 Scoring

The SHI scoring manual was applied to score the questionnaire. The respondents' achievement scores (New Cumulative Grade Point Average [NCGPA] was obtained from the academic office).

3.6 Statistical Tools Used for Data Analysis

This study made use of a number of statistical techniques to assist in the organization, analysis and interpretation of data. These are:

i. *Frequency tabulation:* This was used to arrange the data in terms of serial numbering, college number, level, gender, SHI scores and NCGPA (Achievement scores).

ii. *Scores for the 8 Sub-Sections of the Inventory:* The score for each sub-section of the inventory was obtained and recorded.

iii. *2-Way Analysis of Variance:* This was used to test the hypotheses earlier stated.

3.7 Summary

The research methodology adopted for this study was discussed in this chapter. The population comprised of 2,784 N.C.E. students of Federal College of Education, Kano. The sample, which comprised of 327, was drawn through stratified random sampling method. The research instrument was the Study Habit Inventory (SHI). The procedure for data collection was conducted such that Bakare's Study Habits Inventory was administered. The statistical tools applied for analyzing the data and testing the hypotheses included frequency tabulation, scores of the SHI, achievement scores and 2-way ANOVA.

CHAPTER 4

DATA ANALYSES

4.1 Introduction

This chapter deals with the presentation, organization and analysis of data. This is to obtain answers to research questions and test research hypotheses. Kerlinger (1964:134) stated that "A primary purpose of statistics is to manipulate and summarize numerical data and to compare the obtained results with chance expectation". Thus analysis refers to the techniques of extracting from the data information that was not obvious previously. Analysis will make it possible to summarize the description of the phenomenon studied (Nwana, 1981). Discussions of the findings were discussed. For this reason, the presentation, organization and analysis of the data of this study is intended to show:

a. that there is no significant effect of gender, course level and their interactions on study habits with regards to:
    i. home-work and assignment;
    ii. students' allocation of time for study;
    iii. reading and note-taking;
    iv. students' study period procedures;
    v. students' concentration;
    vi. students' written work;
    vii. students taking examination; and
    viii. students-teacher consultation.

b. that there is no significant relationship between study habits and academic achievement.

To achieve these objectives, therefore, a graph and tables were used to organize data regarding N.C.E. levels, gender, specific study habit component, and academic achievement. See Appendices 2 and 3 for frequency distribution and descriptive statistics by levels.

4.2 Tests of Hypotheses

Relevant data were generated from data obtained that served as the basis for testing the hypotheses. Nine hypotheses stated in Chapters One and Three were tested.

4.2:1 Effect of Gender, Course Level and their Interaction on Study Habits with Regards to:

i. Home work/Assingment

The 2-way Analysis of Variance (ANOVA) was applied to test this hypothesis. The F-value obtained were 1.744, 3.633, and 3.084 for gender, level, gender and level respectively. This indicates significant relationship (see Table 4.1). Therefore, the hypothesis was rejected. Interaction effects of 3.084 showed that females in level 300 performed significantly better than males.

Table 4.1: Two-Way Analysis of Variance Gender by Level: Home work/Assignments

	DF	Sum of Squares	Mean Square	F-Value
Gender	1	39.006	39.006	1.744
Level	2	162.540	81.270	3.633*
Gender* level	2	137.989	68.995	3.084*
Residual	321	7180.857	22.370	

$P < 0.05$

ii. *Students' allocation to time for study*

ANOVA indicated F-values of 0.134, 2.590 and 0.095 for gender, level, gender and level respectively. The hypothesis is upheld because it failed to reach the level of significance. This means that no significant difference exists between the variables indicated (see Table 4.2).

Table 4.2 Two-Way Analysis of Variance Gender by Level: Time Allocation

	DF	Sum of Squares	Mean Square	F-Value
Gender	1	2.685	2.685	.134
Level	2	103.424	51.712	2.590
Gender* level	2	3.803	1.901	.9092
Residual	321	6409.138	19.966	

$P < 0.05$

iii. Reading and Note Taking

When Analysis of Variance (ANOVA) was applied to test this hypothesis, the F-value obtained were 0.557, 0.611 and 0.801 respectively for gender, level, gender and level. This has failed to reach the level of significance, therefore the hypothesis was retained. This means that there is no difference in the variables indicated with respect to this aspect of study behaviour (see Table 4.3).

Table 4.3 Two-Way Analysis of Variance Gender by Level: Reading and Note Taking

	DF	Sum of Squares	Mean Square	F-Value
Gender	1	20.006	20.006	.557
Level	2	43.926	21.963	.611
Gender* level	2	57.577	28.788	.801
Residual	321	11531.136	35.923	

$P < 0.05$

iv. Students' Study Period Procedures

Analysis of Variance (ANOVA) indicated F-value of 1.812, 1.279, and 1.550 for gender, level, gender and level respectively. This also has failed to reach the level of significance. Thus indicating that no difference exists in the variables stated. The hypothesis was therefore upheld (see Table 4.4).

Table 4.4 Two-Way Analysis of Variance Gender by Level: Study Period Procedures

	DF	Sum of Squares	Mean Square	F-Value
Gender	1	51.448	51.448	.1792
Level	2	72.598	36.299	.2798
Gender* level	2	88.010	44.005	.2138
Residual	321	9113.283	28.390	

$P < 0.05$

v. Students' Concentration

Analysis of Variance (ANOVA) indicated F-value of 0.413, 6.280 and 2.267 respectively for gender, level, gender and academic level. The value obtained has reached the level of significance, therefore the hypothesis was rejected. It means that there is significant difference between respondents' concentration at study, gender and academic level. Table 4.5 below depicts this.

Table 4.5 Two-Way Analysis of Variance Gender by Level: Concentration

	DF	Sum of Squares	Mean Square	F-Value
Gender	1	3.996	3.996	.413
Level	2	121.572	60.786	6.280
Gender* level	2	43.894	21.947	2.267
Residual	321	3107.280	9.680	

$P < 0.05$

When the main effects were calculated, the difference was observed between 100 versus 200 levels, at 0.0021 level.

vi. Students' Written Work

The F-values obtained when the ANOVA was calculated were .160, .698 and 1.274 respectively for gender, level, gender and level. This has failed to reach the level of significance, therefore the hypothesis was retained. Table 4.6 depicts this.

Table 4.6 Two-Way Analysis of Variance Gender by Level: Written Work

	DF	Sum of Squares	Mean Square	F-Value
Gender	1	1.909	1.909	.160
Level	2	16.675	8.338	.698
Gender* level	2	30.425	15.213	1.274
Residual	321	3831.884	11.937	

$P < 0.05$

vii. Students Taking Examination

Analysis of Variance (ANOVA) indicated F-value of 1.670, .368 and .117 respectively for gender, level, gender and level. This has failed to reach the level of significance, therefore the hypothesis was upheld. It means that there is no significant difference in the variables indicated. Table 4.7 below depicts this.

Table 4.7 Two-Way Analysis of Variance Gender by Level: Examination

	DF	Sum of Squares	Mean Square	F-Value
Gender	1	42.175	42.175	1.670
Level	2	18.587	9.294	.368
Gender* level	2	5.893	2.946	.117
Residual	321	8106.998	25.255	

$P < 0.05$

See Appendix 4 for scattergram of examination and academic achievement.

viii. *Students-Teacher Consultation*

Analysis of Variance (ANOVA) when applied indicated F-values of 1.674, 5.577 and 1.912 respectively for gender, level, gender and level respectively. This has reached the level of significance, therefore the hypothesis was rejected. It means that there is a significant difference between teacher consultations and the variables indicated. This is clearly more strongly related between level 100 versus 300 at 0.0042 level. This is depicted in Table 4.8 below.

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Table 4.8 Two-Way Analysis of Variance Gender by Level: Teacher Consultation

	DF	Sum of Squares	Mean Square	F-Value
Gender	1	4.865	4.865	1.674
Level	2	32.417	16.208	5.577
Gender* level	2	11.115	5.557	1.912
Residual	321	932.968	2.906	

$P < 0.05$

4.2:2 Relationship between study habits and academic achievement.

The critical value for testing this hypothesis is 0.164. The obtained value is 0.170. This shows a significant relationship between study habits and academic achievement. The hypothesis is therefore rejected. This is reflected on Table 4.9 below. High correlation were obtained also between academic achievement and reading (0.173) and examination (0.199). Low correlation were obtained between academic achievement and home-work (0.061); time (0.062); study (0.080); concentration (0.053); written work (0.067); and teacher consultation (0.035).

Table 4.9 Correlation matrix of study habits with academic achievement.

	Home-work	Time	Reading	Study	Concen-tration	Written	Exam	Teacher	Academic Achieve-ment	Study Habit
Home-work	1.000	.072	.180*	.128	.058	.180	.107	.054	.061	.448*
Time	.072	1.000	.185*	.268*	.071	.054	.107	.126	.062	.460*
Reading	.180*	.185*	1.000	.294*	.177*	.220*	.421*	.129	.173*	.697*
Study	.128	.268*	294*	1.000	.227*	.161	.279*	.140	.080	.640*
Concentration	.058	.071	.177*	.227*	1.000	.312*	.118	.082	-.053	.423*
Written	.180*	.054	.220*	.161	.312*	1.000	.267*	.136	.067	.502*
Examination	.107	.107	.421*	.279*	.118	.267*	1.000	.147	.199*	.624*
Teacher	.054	.126	.129	.140	.082	.136	.147*	1.000	.035	.299*
Academic Achievement	.061	.062	.173*	.080	-.053	.067	.199*	.035	1.000	.170*
Study habit	.448*	.460*	.697*	.640*	.423*	.502*	.624*	.299*	.170*	1.000

N = 327.
Critical Value: 0.164
Real: 0.170
*Significant

4.3 Discussion

4.3:1 Effect of Gender, Course Level, and their Interactions on Study Habits with Regards to Home-work/Assignment

The finding in this study shows that there is a significant effect. Interaction effects indicated that females in level 300 performed significantly better than their male counterparts. Home-work and assignment are important aspects of tertiary level course work. The marks obtained count a great deal in the final assessment of the student in the course. This is because it is felt that marks obtained by periodic assessment on individual and independent work would provide a clearer picture of the students' ability and a more objective assessment than a sit in examination. Ozigi (1981:82) identified nine (9) purposes served by assignments. Some of these are: to

enable the teacher to obtain some idea of the students' ability in that particular subject or course; to find out the extent to which the student had understood the subject taught or the work that was done; to reinforce the students' learning; to enable the students to read widely and develop their power of thinking and originality; and to improve their ability to express their ideas. Assignments may be in the form of essays, projects or activities to be reported which were engaged in with little or no direct supervision by the lecturer.

During the first two levels of the N.C.E. course, no difference was observed either by course level or gender in terms of this requirement of academic endeavour. In the third level, however, more females dominated than males. This could be explained by the fact that females by their natural tendency were apt to comply and give themselves to their studies than their male counterparts. Males, in these hard times of economic recession were often engaged in non-academic economic ventures that would sustain them. Thus, they may not apply themselves diligently to doing their home-work and assignment. In the Federal College of Education (F.C.E), it is not infrequent to find students doing assignments for and submitting on behalf of others. Females may not be that much under such economic pressure because the social context makes provision for them through parents, husbands or relations. The male on the other hand, is expected to learn as early as possible to fend for himself.

Adeoye (1995:55) in his study of physics students of Federal College of Education with regards to their study habits found no significant relationship between academic performance and home-work and assignment. The

difference in the result of this and the current study may be as Adeoye (1995:55) stated "might be due to insufficient worked examples, problems not arranged from simple to complex and the belief by students that physics is meant for special talents." This is supported by Christensen *et al* (1991:294) that the specific behaviours adapted by an individual involving the strategies may change according to the task that is being performed. They further contested the claim of or assumptions of stability and task generality of the constructs that are being measured.

Bouffard *et al* (1995:324) found important relations existing between student orientation toward the development and acquisition of knowledge and skills, and the three components of self-regulation for females and males. They asserted that this type of orientation was clearly related to academic performance for females, but to a lesser extent for males. They noted the important role of self-regulation on performance in various school subjects.

Effective study habits with respect to home work and assignment require that if the student misses classes or is absent for one reason or the other, he or she should make up missed lessons and notes immediately. Even when the assignment is dull or boring, the student should stick to it until it is completed. Written assignments should not be put off till the last minute. Assignments should be completed and submitted on time. Students should endeavour to begin assignments as soon as the teacher gives them.

4.3:2 Effect of Gender, Course Level and their Interactions on Study Habits with Regards to Allocation of Time

The finding in this study showed no significant difference in the variables indicated. Very often, students are heard complaining of lack of

time. They complain that they have too many things to do. For instance, they have to attend classes and lectures, read so many books, take part in a number of extra curricular activities and attend to their personal problems and private affairs. Effective and successful students are able to work out study schedules which help them to allocate time to their various activities appropriately. Other students on the other hand seem to think that there is time for everything and procrastinate on their work and assignments to the detriment of their academic success. Eight suggestions were presented by Anderson *et al* (1969:4) about effective use of time in college. These include:

i. the student should allocate time to each subject according to individual need;
ii. concentrate on subjects evenly without giving more time to much preferred subjects at the expense of others;
iii. study periods should be interspersed with recreation;
iv. the student should allow time to test learning in between frequent intervals;
v. organize study periods for a subject as close as possible to lectures in that subject;
vi. organize something worthwhile in between lectures;
vii. the student should plan to review the day's learning in each subject; and
viii. allot time for difficult subjects when the student is strong and alert.

The fact that no difference was observed in the respondents with respect to this aspect indicates that whether by level or gender, they are

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conscious of these factors. Basic to the use of time is the importance of motivation. Students who are highly motivated will endeavour to organize their time well and address their studies with the seriousness required. Brackney *et al* (1995:457) stated that metacognition, and effort regulation consistently emerges as predictors of academic performance. They reported that both effort regulation, a form of self-control that students use as they attempt difficult or boring academic tasks and students' management of their time and study environment has correlated positively with grades in undergraduate classes. They further noted that "in addition to its direct relationship to performance, studies also suggest hat self efficacy may affect performance indirectly through its influence on self-regulation."

Brackney *et al* (1995:457) agreed with other scholars that more efficacious students were more likely to monitor and regulate their learning, persist in the face of difficult or boring tasks and manage their time and study environment more effectively than students who are low in efficacy. On the other hand, students who doubt their efficacy give up. This means that expectancy seems to be a critical determinant of academic performance.

Time allocation may be a problem for the student who has misplaced priorities, thereby wasting time on irrelevant issues and allocating little time for the study (Uwakwe, 1993:3). Morgan and Deese (1969:13) stated that majority of students have at least one, if not more, of the following study problems with regards to time:

a. Students do not get as much studying as they should. The reason is not because they do not try or do not go through the motions of studying, but were somehow or the other not

able to manage to accomplish as much as they know they should.

b. Students waste time going from one thing to another. They try to do many things on the same day, evening or hour. Because they are so disorganized, they do not stay long enough on any particular thing to get something substantial accomplished.

c. They have difficulty settling down to work. Students are always getting ready to be ready to study. But somehow a lot of time is wasted before the job is eventually tackled. Study schedule is therefore recommended to solve these problems.

Adeoye (1995:55) found no significant relationship between academic performance and study time allocation among Physics students of Federal College of Education, Kano. This is in agreement with this study. Effective use of time requires that a student will not spend too much time talking or listening to the radio at the expense of his or her studies. Many other things apart from the school work should not engage or occupy most of the students time to his or her academic detriment. The student should study for at least three hours each day after class. The time should be so evenly distributed that no subject is given more prominence or attention at the expense of others. The reading of novels or fiction, going out to parties, political activities or such should not take up much of a student's time.

4.3:3 Effect of Gender, Course Level, and their Interactions on Study Habits with Regards to Reading and Note-taking

The finding indicated that there was no significant difference established. Therefore, whether by gender or academic level, the reading and note-taking habits of the students were the same. At the tertiary level of education, the student is required to study and acquire knowledge from books and journals. This requires well-developed and improved reading techniques. Efficiency in reading is dependent on both speed of reading and comprehension. Anderson *et al* (1969) identified six steps to efficient reading. These include:

a. deciding the purpose for the reading;
b. evaluating the material
c. deciding the techniques to be used to achieve the objective;
d. varying the reading rate to suit the purpose;
e. improving vocabulary; and
f. broaden reading experience.

Ozigi (1981:32) noted that students have difficulties in their reading activities because of the use of English, which is alien to them. This affects comprehension of reading passages. It is important for students to realize the different purposes and kinds of reading. However, many students fail to realize this. While some would rather 'read' from cover to cover without assessing what was 'read' others would attempt to memorize entire passages without giving attention to the meaning and organization of the content. Note-taking skills are equally important in effective study. This is because few people can listen to a full hour's lecture and remember every detail presented.

Until recently, most lecturers prepare handouts and sell to students. This makes it easier for the students in terms of following what is being discussed. However, this hampers the ability of the student to make personal notes from the lectures delivered. It also encourages cramming and regurgitation of facts.

Significant correlation was established between reading all but one aspect of study habits (teacher consultation 0.126). This shows how important reading is in study. The practice of giving handouts, which was prevalent at the time of the study. Effective reading and note-taking requires that the student does not write down things that later turn out to be unimportant. It demands that after reading several pages of an assignment, the student should be able to remember what had just been read. The student should find it easy to pick out the important points of a reading assignment. He or she does not need to re-read a material several times because the words are not clear and have not much meaning when it was first read.

Morgan and Deese (1969:29) while talking to hundreds of students who have done badly on their examinations, found that one of the most frequent and obvious deficiencies in their study methods had to do with their note taking or lack of it. They indicated that while a schedule of work, proceeding according to a plan of study, reading with a purpose and reading rapidly are all important assets, taking, keeping and using good notes both on assigned reading on lectures are equally important.

Reading as an essential aspect of studying was considered as valuable in the process of learning. This has to do with cognitive dimension of studying.

Marton and Saljo (1976:7) in their studies of university students found marked inter-individual differences in the types of learning process that students engaged in when confronted with learning materials. They found basically two different levels of processing. They named these levels, deep and surface-level processing. These corresponded to the different aspects of the learning material on which the student focussed. The student, in the case of surface-level processing directs his or her attention towards the text itself. He tends to have a reproductive conception of learning, which means that he is more or less forced to keep to a rote-learning strategy. On the other hand, the deep level processing is adopted by the student who is directed towards the intentional content of the learning material. He or she is directed towards comprehending what the author wants to say.

A similar finding was observed by Adeoye (1995:56). He established that the major problem of all the N.C.E. students was reading and note taking. This is with particular reference to Physics students who were the subjects of his study. His explanation for the finding was the scarcity and high cost of books in Nigeria which made it difficult to read. He complained that students rarely used the library but rather depended on the lecturers' notes. He identified lack of information skills connected with the selection of relevant reading materials as responsible for this. He noted that a good student should possess sufficient and efficient reading skills to enable him or her 'to concentrate on the text, question it, identify main points and see the relationship'.

4.3:4 Effect of Gender, Course Level, and their Interaction on Study Habits with Regards to Study Period procedures

The finding indicated no difference between the variables indicated. Studying is a complex business although some students do not appreciate this fact. They think that studying consists of simply reading a book or notes over and over again. Studying a book involves the deliberate application of certain techniques for the skill to be developed (Ozigi, 1981:42). This was reiterated by Narramore (1974) who noted that good students need not necessarily have high I.Q. than their counterparts who are below average in academic performance. The difference between them is usually good study habits. With good study habits, students have the tools to do more in less time. He asserted that students who have been trained in how-to-study methods made on average, better grades than other students who spent more time in studying. This shows that it is not how much studying that was done that matters, but how well it was conducted.

Entwistle and Hounsell (1979) stated that study is an activity that does not assume a stability and consistency of behaviour. It is rather an activity which is a function of the combined interaction of the task given, condition and instruction accompanying the task, subject matter, the lecturer, and the social environment within which learning takes place. Therefore, study activity is a combination of many factors working together like time schedule, study technique, personality and motivation. Biggs (1978:266) preferred to name it 'study processes' so as to indicate that it includes 'a complex of tactics, strategies and approaches that are in turn dictated by relevant values and attitudes'. These are conceived as a set of variables that mediate between

determining factors and final academic performance. Thus determinants of the study behaviour are considered as independent variables.

In spite of the fact that most students' response places them above the mean score, the fact still remains that students consider the issue of study to be a pressing problem (Robinson, 1946; Morgan and Deese, 1969; Alhamdu, 1993). Robinson (1946) stated that both good and poor students have bad habits of study and are on the whole relatively inefficient in their study methods. Morgan and Deese (1969) stated that when a survey of students' problems was conducted, inefficient study ranked as the biggest and most persistent problems they have. Students expressed the concern that each time they engaged in study activity, they immediately felt bored, tired and sleepy.

Nneji (1998:119) noted that students are not thorough in their pursuit of learning. She advised that educationists at the tertiary level should realize that all students need help. Ikegbunam (1998:130) asserted that many students in institutions of higher learning do not know why they are there. She stated that students need to realize that they are responsible for their success and the role of lecturers is to support the students. In an earlier study, Kolo (1997) advocated for counsellors to teach students the most appropriate approach to study. He stated that this should be provided to all students, not only to those identified as those having deficiencies or performing poorly. Those who are doing well also should be included in the training to make them perform better.

Study period procedures that are effective require that the student keeps all notes for each subject together and carefully arrange them for

studying. The student does not need a long time to be warmed up before getting started with the activity. The student does not get restless or unable to sit for long. He or she does not find himself or herself too tired, bored or sleepy thereby being unable to study well. The student can get much done within the time allocated for the activity. The student plans the work so well that the most use of the time is made for the study. The student is not besieged by too many health problems.

4.3:5 Effect of Gender, Course Level and their Interactions on Study Habits with Regards to Concentration

The finding of this study indicated that there is a significant difference between the variables cited. This shows that in study activity students in level 100 have better concentration than 200 level. No such was observed for level 300 however. Ozigi (1981) stated that a definite handicap in settling down to study is the power of concentration. He cited some people who are unable to concentrate on one thing or one activity at a time. These people easily get distracted by minor events or happenings in their surroundings. They lack the will power and persistence to concentrate on an activity for an appreciable length of time.

The problem of concentration occurs when as the student begins to read or review his or her work, the attention is divided because many thoughts keep cropping up in the mind. Thoughts of one's boy/girl friend, financial situation, family, next meal, trip to town, weekend entertainment, campus politics and a host of others. The student may find himself day-dreaming. Other sources of distractions include noise from people, the radio, television, musical instruments and many others.

Settling down to engage in the study can affect concentration. This can happen when there is lack or shortage of study materials, unsuitable place to study and not being in the right mood.

Students in 200 level used to go on Teaching Practice for three months. This may account for their inability to concentrate on their studies. They have to make decisions about the location of the school where the teaching practice will take place. They also have to consider aspects like accommodation, feeding, teaching practice materials and supervising teachers.

Campus politics is usually more interesting to students at the 200 level course. At this time, they are fully adjusted to college life and eager to prove their leadership qualities and abilities. This level is usually saddled with the leadership of other extra-curricular activities like clubs, associations and sporting activities. These acting singly or in combination may affect their concentration levels at their study activities.

Robinson (1946:64) identified three ways by which study conditions affect the ability to get down to work and to concentrate. These are:

a. Distractions tend to draw the student's attention away from his work.
b. Poor lighting, inadequate ventilation and noise tend to be fatiguing.
c. Study materials not readily available cause the discontinuity of work to be broken in order to hunt for them.

Abdullahi (1996) reported the highest coefficients of student concentration, suggesting that students spent much time on study period procedure.

Again, Adeoye (1995) observed a contrary finding in his study of F.C.E. students with reference to concentration. He found that concentration seems to be the least problem area of their study habits. The difference in these findings may be due to the number of respondents. Whereas thirty-five students served as the sample for Adeoye's (1995) sample, a higher number (327) was applied in this study. The subject of specialization may also be a contributory factor. Physics like Adeoye (1995) noted, is abstract in nature. Study of such a subject will require maximum concentration. Since all the respondents were Physics students, the result obtained is to be expected.

Effective concentration therefore requires that the student should not engage in day dreaming which may distract attention. The student should not find it difficult to fix the mind on what is being studied for any length of time. Again, outside interruption (physical, psychological, social, etc.) should not disturb the student while studying.

4.3:6 Effect of Gender, Course Level and their Interactions on Study Habits with Regards to Written Work

There is no difference established between respondents in written work, gender and academic level. Written work is so important for the student in that to a large extent, the ability to express oneself clearly and precisely will determine the success or failure in one's studies. Although there is the need to be able to speak with clarity and precision in tutorial groups, discussions and oral examinations, most of what the student learns will be tested in writing, in written assignments and formal examinations. At the tertiary level, assignments are longer and higher quality is expected. Effective writing, like efficient reading, listening or note taking, requires

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certain skills. The essential skill is organization. Poor expression usually indicates unclear thinking. Students must follow clearly defined steps to organize their thinking when submitting written assignments.

The mean score on written work is low. This means that students do have difficulties with their written work. This is not unconnected with their levels of processing the knowledge from books, journals and lectures. It is also directly related to their proficiency in the use of English.

Study as indicated by written work is affected by factors like cognitive, affective, motivational, metabolic, attitudinal values and beliefs. Ogunlade (1979:58) found a statistically significant difference between boys and girls. This was attributed to cultural norm, societal expectation and socialization factors. A study by Herstein *et al* (1986:1285) indicated that sex seemed to have no measurable relation to ability levels or benefits from the course. Itsuokor (1990) found no significant sex difference in the performances of male and female subjects in scholastic aptitude test. However, males performed significantly better than the females at 0.05 level in the Verbal Test in English.

The deep approach to study or meaning orientation is associated with relating ideas and use of evidence. This is congruent with the traditional goals of tertiary level study. This raises the issue of intrinsic motivation whereby students who are interested in the subject for its own sake are likely to search for the real meaning and relate ideas to existing ones. This implies that it is not possible to employ a deep approach unless one is capable of utilizing a comprehension learning style. Harper and Kember (1989:73) noted that students inevitably tend to confine themselves to atomistic

learning when they do not look for the gist or overall meaning structure of the material.

The surface approach, on the other hand, is associated with rote learning and other undesirable learning traits and pathologies that lead to atomistic learning.

Proficiency in language use is essential in utilizing comprehension learning style which reflects in written work. It is a well-known fact that a large number of students are deficient in the use of English. This hampers their ability to comprehend materials and ideas relevant to tertiary level tasks. This deficiency applies to both males and females. The result is surface level processing which leads to surface approach to study. It is expected that a good reader should be an active creative thinker who can critically assess the author's idea. This ability is lacking in most students whether male or female. This is compounded by the deterrent and interference effect of English as the official language.

There was no difference established between the variables indicated and achievement. This is supported by the work of Trigwell and Prosser (1991:274). They asserted that assessment results were often used as a measure of the quantitative differences in learning outcome, although mounting evidence points to the contrary. They stated that assessment results based upon their study appeared not to be a good measure of the quality of learning. Moreover, deep learning approaches did not reflect higher assessment results.

Effective study habits with reference to written work will reflect on the student who corrects the errors on the papers which his/her teachers have

marked and returned to him or her. The student should not have problems with saying what is intended to be said on tests, essays and other written work. Teachers should not complain about the students' work criticizing it for being poorly planned or hurriedly written. The student usually gives special attention to neatness on essays, reports and other written work.

4.3:7 Effect of Gender, Course Level and their Interaction on Study Habits with Regards to Examination

Written examinations have become the accepted means of measuring the students' learning in a particular field of study. As part of study therefore, students have to be able to convey their knowledge to the examiner to the best advantage. Performance in an examination can be affected by personal factors like motivation, preparation and effort; efforts and skills of the teachers, external factors like state of personal health, examiners' disposition, among others.

This study showed that there was no significant difference in the variables of examination, academic level and gender and achievement. The responses of the students on SHI on this aspect places them well above the mean. It implies that these students consider the aspect of examination very seriously. Their level of processing with regards to this is however deficient. Marton and Saljo (1976) stated that the type of test expected had a considerable impact on performance. While a recall set, particularly the anticipation of an essay test led to a higher performance, recognition type tests led to lower performance. Furthermore, texts that were interspersed with questions led the students to focus on answering the questions rather than gaining deep understanding of the texts. "When demands as defined by

questions given after studying short texts became evident, students adopted their level of processing to the type of questions expected" (Marton and Saljo, 1976:11[b]).

In recent times, there has been an increase in student enrolment in the Colleges of Education that is not commensurate with staff ratio. In addition, the practice of continuous assessment requires tests to be given to students in addition to the semester examination. In order to cope with these demands, lecturers depend heavily on short tests mostly of the recall type. This encourages surface learning approaches.

Bouffard *et al* (1995) identified self-regulated activities as comprising planning, supervision, and requesting for help when necessary. It was noted that students' belief regarding the utility of applying and regulating strategies as a means to process information more deeply was strongly related to the pre-occupation with learning new skills and knowledge. It was, however, weakly related to the pre-occupation with performance. There seems to be more students with tendency towards self-regulated activities. Current trends indicate that more students are inclined towards performance at the expense of deep understanding of the subject matter. Bouffard *et al* (1995:318) stated that:

> "... a person who wishes to acquire knowledge and new skills will be most likely to recognize the value of learning processes and will acknowledge the positive role of effort expenditure as a means to develop and master newly acquired knowledge and skills. Errors will be viewed as being a normal part of the learning process. By comparison, the person preoccupied with performance tends to think that performance directly reflects their capacities. A high performance achieved with little effort will make them feel and appear to others more competent, yet they will feel less competent when performance is achieved with a great deal of effort."

This partially explains why there is increase in examination malpractice and rote learning. In addition, where the lecturers lay a lot of emphasis on dictation, handouts and questions which tap only the first three levels of Blooms Taxonomy, surface approach is likely to result. Harper and Kember (1989:72-73) asserted that students that are interested in the subject matter for its own sake are likely to search for the real meaning of an article. They are also likely to relate ideas to concepts with which they are already familiar or to seek evidence to justify the conceptions they already possess. This implies that intrinsic motivation is closely linked to a student's inclination towards deep approaches.

This was vividly illustrated by an incident in a lecture session in the Federal College of Education, Kano recently. The lecturer in one of the inaugural sessions casually inquired of the students how many of them would become teachers at the end of the N.C.E. programme. This was an education course. The interesting response was that less than 10 per cent of the students who enrolled indicated intention to teach after the programme. Since this motivation is lacking, it comes as no surprise that their intention is to obtain the paper qualification as a stepping stone for greener pastures elsewhere. The tendency for surface approach is the most likely inclination for these students.

A means of ensuring deep level processing and approach is to heed the call by Esiobu (1998) to de-emphasize whole class lecture methods in tertiary institutions. Rather, small cooperative learning groups and individual methods should be applied as teaching methods. This encourages meaningful and functional understanding. This will enhance improved

academic performance and ensure high quality of the schools' products. It will help students to become more responsible for their learning.

Adeoye (1995:55) found a significant relationship between study period procedure and examination skills of N.C.E. students. He, therefore, recommended that all fresh students in the college should be made to take a course on study-skills. He advised that each student should be attached to a staff in the department to advice on academic matters. He urged students to make use of the counselling centre of the college. Students were to be encouraged to use all the services offered by the college library.

Effective study habit with reference to examination requires the student to find it easy to think clearly and plan the work within a short period of time. The student should not get nervous and confused when taking a test leading to failure to answer questions well. Students should be able to organize facts to be learned in some planned order. Tests should be finished within stipulated time.

4.3:8 Effect of Gender, Course Level and their Interactions on Study Habits with Regards to Teacher Consultation

This study showed a significant difference in the variables indicated. This is observed between level 300 versus 100. Students who have one difficulty or the other are expected to visit their lecturers and consult with them. Through this, a closer interaction is established between the student and the teacher. Some students shy away from this and suffer in silence. It is interesting that students who require more teacher consultations are the ones least inclined to do so. Usually bright and outgoing students who have more confidence tend to go more often to consult with their teachers.

Consultations between students and staff of opposite sexes are delicate. Especially when calls are made about sexual harassment. Whether the calls are founded or not, some females express reservation about approaching male lecturers concerning their academic work. They feel that the gestures may be misinterpreted for other reasons. Male students on the other hand express no reservation about approaching female lecturers with their academic problems. A lot depends on the personality of the female lecturer. Those who are harsh and aggressive are not easily interacted with. The opposite is the case with those who are quiet and readily accessible.

More students in the lower levels tend to apply teacher consultations than at the higher levels. At the higher levels, even though these students are much more familiar with the lecturers, they often consult among themselves, or use books and other sources than meet with the lecturers. This is the case for both male and female students.

Abdullahi (1996) found in his study of Junior Secondary School that they did not have the services of their teachers in terms of consultations. He observed that students need high level of teacher consultation. This is in the area of explanation of principles involved in the subject matter and generally in the methods involved in teaching and learning process. This will definitely enhance academic performance.

Students are required to engage in consultations with their teachers when they are having problems with a particular subject. They should not hesitate to ask the teacher for further explanation on any point that is not clear to them.

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4.3:9 Relationship Between Study Habits and Academic Achievement

A significant relationship was obtained between these variables. Ukegbunam (1997) reviewed several studies on the relationship between study skills and academic performance. A positive correlation was found in all the cases reviewed. Ikegbunam's (1997) study indicated that the quality of the students' study behaviour could be used to predict his performance in achievement tests. Consistent but rather low correlation were obtained between study methods scales and academic achievement in a review of some studies by Entwistle and Hounsell (1979). The greatest weakness noted in the scales was the over-simple description of study methods, which failed to take account of the existence of very different approaches to studying applied by students. These scholars identified a classification of students according to their disposition towards expectations of academic tasks. They classified the students in terms of 'syllabus bound and syllabus free' dispositions. Both sets are predicted to do equally well in examination, although the syllabus-free category is most at risk.

With respect to gender and study approaches, Rossum and Schenk (1984) found that the sex of the subject related strongly with the text approach. Male students more than female students more often used the deep approach.

There was no correlation established between academic achievement and home work/assignment. This is also the finding of Adeoye (1995) in his study of physics students of Federal College of Education, Kano. This may be explained by the fact that the conditions for the two variables are different. The prevalent practice for home work/assignment is to allow students to carry

out the tasks in the library or anywhere outside the direct supervision of the lecture. This enables the student to consult books and other materials that will enhance the quality of the work. Very often too, students write and produce take-home assignments on behalf of each other. Others do not take care to produce quality work due to distractions and other extra curricular activities.

Brackney and Karabenick (1995:457) stated that among the motivational and strategic dimensions, expectancy of success, metacognition and effort regulation consistently came up as predictors of academic performance. They stated that:

> "Both effort regulation, a form of self-control that students use as they attempt difficult or boring academic tasks ..., and students management of their time and study environment have correlated positively with grades in undergraduate classes. In addition to its direct relationship to performance, studies also suggest that self-efficacy may affect performance indirectly through its influence on self-regulation."

This finding, in agreement with other researches, (Kolo, 1997; Morgan and Deese, 1969; Robinson, 1946) has clearly established that there is a close association between effective study habits and academic achievement. There are many causes of academic failure. Amongst these are: boredom and loss of interest in school work, social distractions, family problems, social class differences, medical problems and so on. Study skill training is an aspect that the psychologist can readily assist the student to overcome. Students will not on their own automatically learn effective study skills. Both good and poor students alike need help in improving their study practices.

Consistent academic failures or under-achievement generate negative reactions that lead to failure in other aspects of the individual's life. An important factor in the life of the student for a successful academic endeavour

is effective study habit. Bouffard *et al* (1995) examined the impact of goal orientation on self-regulation and performance among college students. They found that there were important relations between student orientation toward the development and acquisition of knowledge and skills, and the three components of self-regulation for females and males. Thus, a student's learning orientation is a determinant factor in the amount of active control during activities and expenditure of effort.

4.4. Summary

Data obtained to find out the study habits, academic level, gender and achievement of respondents was organized, analyzed and presented. Means, standard deviation and Analysis of Variance applied.

Over all, the findings showed that there are significant main/interaction effects. Main effects were observed in concentration and teacher consultations. Whereas there was difference in terms of concentration for levels 100 versus 200; there was difference in terms of teacher consultations for 100 versus 300. Interaction effects were observed for home-work whereby 300 level females performed significantly better than males. The academic achievement scores showed a difference whereby 100 females performed significantly better than males.

A significant relationship was obtained between academic achievement and study habits.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary and conclusion of this study. Furthermore, recommendations and suggestions for further research are presented.

5.2 Summary

This study set out to investigate the patterns of student learning in Federal College of Education, Kano. This level of education being tertiary has as one of its aims the preparation of students for a lifetime of autonomous learning. The quality and level of student learning is a significant indicator of the extent to which this aim is being realized. This study is relevant because it highlights one of the chronic problems affecting the educational system in Nigeria. This has to do with the efficiency of students in addressing the main purpose of being in the institution, which is to study. It also highlights the issue of the quality of the levels of processing learning material by the students. Inefficiency in study habits and inappropriate level of processing learning material, inevitably leads to academic failures. This in turn affects other aspects of an individual's whole life. Other problems associated with student learning include examination malpractice whereby students who feel threatened or who are desperate to obtain academic qualifications seek for inappropriate ways of achieving their objectives. This is at the expense of thorough mastery and competence. Student learning is a

neglected area of study because it is assumed that students by virtue of their nomenclature would study anyway. This is definitely erroneous. The need to find out the patterns of their study behaviour; the problems faced, and how to assist students to have a more rewarding and fulfilling student life informs the need for this investigation.

To achieve this purpose, therefore, 327 samples were stratified and randomly selected from a population of 2,784. The factors considered for the stratification included the students' N.C.E. levels and subject combination. A pilot study was initially conducted of which participants in this phase were not included in the main research.

The main instrument of investigation was Bakare's (1977) Study Habits Inventory. This was to obtain information about the prevalent study habits of the students in terms of their N.C.E. levels and gender. Eight components of study habits were investigated. These components comprised the sub-sections of the inventory. They are:

A. Home-work and Assignments
B. Time allocation
C. Reading and note taking
D. Study period procedures
E. Concentration
F. Written work
G. Examinations
H. Teacher consultations

The achievement scores of the respondents were obtained in the form of their New Grade Point Average for that session. The data obtained was analyzed thus:

i. Students' responses on Bakare's Study Habits Inventory were obtained. The mean, standard deviations were calculated.

ii. The scores obtained for each of the sub-sections of the inventory was analyzed in relationship with course level, gender and achievement score. Thus the Two-Way Analysis of Variance (ANOVA) was calculated to test the hypotheses.

5.3 Conclusion

The following findings were made based on the data that was analyzed:

a. There was significant difference between respondents' home-work and assignment, with gender such that females in 300 level performed better than their male counterparts.

b. There was no significant difference between respondents' allocation of time for study, course level, gender.

c. There was no significant difference that was established between respondents' reading, note taking, course level, gender and course level.

d. There was no significant difference that was established between respondents' study period procedures, academic level and gender.

e. There was significant difference between respondents concentration at study, gender and academic level. The main effects indicated the difference to be between levels 100 versus 200.

f. There was no significant difference that was established between respondents in written work, gender, and academic level.

g. There was a significant difference between teacher consultations, academic level and gender. The difference was indicated between levels 100 versus 300.

The following conclusions were made from the findings of the study above:

5.3:1 Home Work and Assignment

The F-values obtained were 1.744, 3.633 and 3.084 for gender, level, level and gender respectively. A significant difference was thus established. The interaction effects showed that females in level 300 performed significantly higher than males. This finding indicates that at the 300 level, female students gave higher diligence to the performance of the home-work and assignment than their male counterparts. This was not established for the lower levels however. This could be explained in terms of the economic realities of the day and the social upbringing between males and females. These days, students engage in various economic activities to support themselves. Males are expected to cater for themselves while females receive support from their spouses, members of the extended family and others.

5.3:2 Allocation of Time for Study

Analysis of Variance (ANOVA) indicated the F-values of 0.134, 2.590, and 0.095 for gender, level, gender and level respectively. Therefore, no significant difference was established. Students take this factor in study behaviour into account when study schedules are drawn and followed as closely as possible. Usually, timetable for various subjects are provided for students in their different levels. These stretch from 8.00 a.m. to 7.00 p.m. In-between, there may be free periods for them. This applies to all levels and all gender. This could account for non-significance in the difference with the variables indicated. The semester system requires students to write assignments and sit for tests to provide scores for their continuous assessments. This tends to make all the students to be fully engaged throughout the semester.

5.3:3 Reading and Note Taking

The F-values obtained when the Two-Way Analysis of Variance (ANOVA) was computed indicated 0.557, 0.611, and 0.801 respectively for gender, level, gender and level. There was no significant difference that was established. At the time of the investigation, there was the rampant use of handouts given by lecturers. This meant that lectures supplied prepared notes to the students. This may account for the fact that notes were not necessary when lectures were presented. This applies to all course levels and gender.

5.3:4 Study Period Procedures

The F-values obtained when ANOVA was computed was 1.812, 1.279 and 1.550 respectively for gender, level, gender and level. No significant

difference was established for the variables indicated. Most students have often responded to questions about their study habits that they felt inadequate and would want help in this area. In most cases, school authorities do not set out to deliberately provide assistance to students about how to study effectively. It is important to note that since this is a pressing problem to students, counselling, study habits training, and assistance on how to study effectively should be provided to all students. This is irrespective of gender, course level or academic performance.

5.3:5 Students' Concentration

Analysis of Variance (ANOVA) indicated F-values of 0.413, 6.280, and 2.267 respectively for gender, level, gender and level. A significant difference was established. The main effects were observed in the difference between 100 versus 200 level students. Study requires full attention to the activity. Where there are distractions or issues that border on the emotional, physical or psychological disposition of the students, their concentration would be affected. The average student in addition to the academic demands has to contend with financial issues, accommodation and relationship issues. For the female, if she is married, domestic issues and relationship with spouses have to be attended to. If not married, the problems of keeping a balance in heterosexual relationships and studies are factors that compete for attention. The 200 level students who at the time of the study had to go on Teaching Practice for three months have to make decisions about choice of practicing school, accommodation and feeding, transportation and working materials, among others.

5.3:6 Written Work

The F-values obtained when ANOVA was computed were 0.160, 0.698, and 1.274 respectively for gender, level, gender and level. No significant level of difference was established for these variables. Students have to write assignments and write examinations. This places importance on the quality of the written work. The more proficient they are in the use of English, the higher will be the quality of the written presentation. Most students have difficulty in the use of English because it is a second language. In addition, written work requires the ability to express thoughts and ideas clearly, and organize them in coherent and articulate ways. Students have deficiencies in these at all levels and for all genders. One factor that may account for this is the poor or low reading culture among the youths.

5.3:7 Examination

Analysis of Variance (ANOVA) indicated F-values of 1.670, 0.368, and 0.117 respectively for gender, level, gender and level. There was no significant difference established for the variables indicated. The educational system places a high value on examination. This affects all levels of education and all genders. This may account for the high performance of the respondents on this factor. Students could still improve on this if they consistently and diligently engaged in appropriate study from the beginning of the semester. Very often students begin earnest study for examination a week or two before its unset. They read well into the night and engage in all manners of 'crash' programmes to prepare for the examination. Effective study habits require the students to begin to prepare for the examination from the very first day of the semester. If schedules are drawn and closely

followed, if factors of emotional, psychological and social aspects are attended to, and if diligence is given to constant and consistent reviews spread throughout the semester, then examinations may not raise undue anxieties for students.

5.3:8 Teacher Consultation

Analysis of Variance (ANOVA) indicated F-values of 1.674, 5.577 and 1.912 respectively for gender, level, gender and level respectively. A significant difference was established between 100 versus 300 level students. Whereas students at the lower level interacted more closely with their lecturers, the opposite is the case for the higher levels. This is to be expected since the higher levels have fully adjusted to the school setting. They have also interacted with previous students who may have graduated to obtain the assistance they need. Teacher consultation with respect to students depends on the personality of the student and the teacher, the genders of both of them. It is also noteworthy that students who need help the most in terms of teacher consultation have difficulty in using the opportunity. Some are shy, others are non-challant while yet others are not aware that it is an opportunity that is available.

5.3:9 Study Habits and Academic Achievement

A significant correlation was obtained between study habit scores and academic achievement scores. The correlation matrix showed that for the critical value of 0.164, the obtained value was 0.170; N = 327. A significant relationship was obtained between academic achievement and reading (0.173) and examination (0.199) respectively. This means that an effective study habit is closely related to academic achievement. The aspects that relate very

closely are reading and examination. On the other hand, home work/assignment, time, study period procedures, concentration, written work and teacher consultations do not have a close relationship with academic achievement. The implication of this finding is that the issue of study skills should not be taken for granted. In addition, the components of the study activity must be considered in training packages for students. Individual differences must also be taken into account.

5.4 Recommendations

On the basis of these discussions, these recommendations are presented:

i. *Teaching and Learning in Tertiary Institution.*

The notion that students will naturally study effectively should be eliminated because it is erroneous. Principles of learning and teaching must be applied in the tertiary institutions and as in any other levels of education. Efforts must be put to decongest classrooms and so reduce the teacher/students ratio of 1:25 as stipulated in the minimum standards by the National Commission for Colleges of Education (NCCE). It is necessary while attempting to improve students' learning approaches to help them focus on what the course is about as it is being taught. This will influence the approach they adopt. If students do not see the components of the course to have been related at the end of the courses, they are unlikely to have seen those relations

during the course. The call is therefore made to teachers to explicitly help students to focus on the structures of the course as a whole while it is being taught. Students should be encouraged to use other sources of information other than teachers' handouts and lecture notes. The use of the library and other resource centres should be incorporated into the students' study programmes. Assignments which require consulting various sources of information should be regularly given to students to broaden their outlook and introduce them to various styles of writing and methods of seeking for information.

ii. *Assessing the quality of learning*

There is a tendency to assess the quality of learning through assessment results. There is ample evidence to show that assessment results are inappropriate for measuring qualitative differences in learning outcome. This means that achievement scores should not be used as indication of the quality of learning. Phenomenographical methods could be used to assess qualitative differences in learning outcome.

iii. *Assessment methods and procedures*

It is important to recognize that there is a necessary link between the level of processing adopted by students and the level of understanding obtained. Students adopt an approach determined by their expectations of what is required of them. Many students are capable of using deep

and surface strategies. The current demands of the examination system at school level are interpreted by them as requiring mainly recall or factual information to the detriment of a deeper level of understanding. Assessment methods should foster deep learning approaches. Less emphasis should be laid on assessment which encourages rote learning or surface approaches.

iv. *Training in effective study methods*

Effective study method is a potent measure for curbing examination malpractice. It is a well-known fact that examination malpractice is a current nationwide educational malaise. There is need for a rigorous training and attention to effective study to address the problem. If students are well equipped in the skills and habits of study, they would be more confident in their academic endeavours. Students have often complained of debilitating anxiety with regards to examinations. This can be reduced or eliminated with effective study habits. The tendency to cheat or resort to other examination malpractice could also be reduced with adequate training in how to study effectively. Students at one time or the other require assistance on how to study effectively. The institution has the responsibility of meeting this need in the life of every student. Fresh students should undergo training in effective study during orientation programmes. This is usually organized, but in a haphazard

and shoddy manner. It is recommended that at the orientation lectures which are intensive and extensive, handouts and notes should be provided to serve as reminders. The ideal student should be capable of a versatile approach, employing comprehension or operation learning as appropriate. Study approaches should be mounted as a course in the General Studies Department. Periodic workshops and seminars on effective study should be conducted to all students. Current developments and individual and general trends regarding student learning should feature at the workshops and seminars.

v. *Counselling services*

The role of the counselling centre in addressing the learning problems of students can never be over-emphasized. The students should be made aware of the services offered with particular reference to their learning. Posters, handbills and notices should be distributed to raise the awareness of the students and remind them of the facilities and services available. It should be noted that more motivated and engaged students are more likely to seek help when necessary than students with higher levels of psychopathology that could adversely affect the latter's academic performance. It is, therefore, suggested that counselling services should increase their outreach efforts especially to students who might benefit the most but not inclined towards help seeking.

This could be through brief in-class study skills training sessions in entry level courses. Also by training faculty to provide study skills instruction specific to their classes. Efforts should be made on increasing students' self-efficacy and thus their motivation and study skills training. Intervention programmes should be organized for students who are identified to have severe problems. Behaviour modification techniques, self-monitoring and other self-management techniques should be applied to help such students.

vi. It is strongly recommended that as a matter of routine and standing practice, study habits of all students be assessed upon entry into the college to adequately provide for intervention programme for students who require such.

5.5 Recommendations for Further Research

i. More systematic observation of learning-to-learn activities, for example, of conceptions of aspects of learning which are apparent during course or workshop sessions, could provide an additional and probably equally rich source of evidence about how students perceive and approach their work. This is because the phenomenon of learning is not accessible to direct examination. It can only be studied obliquely through inferred or reported behaviour, or through

observation in experimental situation which however realistic, are an uncompleted mirror of reality.

ii. There is greater need for more research and analysis of teaching and learning processes in tertiary institutions. There is, therefore, a need to assess the result of different teaching styles versus learning styles of teachers and students respectively. The same teaching method is effective for some students and dysfunctional for others. Probably this could be addressed through exposing students to various teaching and exposition strategies and methodologies. For instance, the effect of the use of, or inter-mixing of tutorials, seminars, symposium, project work, group work and lectures, among others, on particular students could be assessed in developing effective study habits and deep level learning approach.

iii. The dimension of motivation and its role in student learning needs to be further investigated so as to counsel students effectively.

iv. It is worth finding out the effects of some intervention measures to determine their efficacy.

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v. Further research could be conducted on the relationship between study habits and the subject combination of the students. Individual differences exist in the way endeavours are addressed. Areas of specialization also affect a person's cognitive and social behaviours. Further research into the

effect of subject specialization on an individual's study behaviour will undoubtedly yield interesting result. For instance, would a science-oriented student address his/her studies in the same way as liberal arts oriented student?

vi. This research was confined to the N.C.E. programme for logistic and other reasons. Within the college there exists several other academic programmes like remedial, pre-N.C.E. and degree studies. Further research could be conducted into the study behaviours of students of different academic programmes. This will provide a composite picture of the study behaviours of the students of the entire institution.

vii. National research on the study and learning behaviours of students from other colleges of education is worth embarking upon. This is necessary because products of colleges of education are the teachers of the immediate future in the nation. An insight into how the student teachers address their studies would reveal the kind of pupils and students that would be raised in the future.

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APPENDIX I



Study Habits Inventory

by CHRISTOPHER G. M. BAKARE, Ph.D.

FORM S (SECONDARY SCHOOL FORM)

Name _____ Date _____

Class, Year or Course _____ Age _____ (In years) Sex: M. F. (Circle One)

School _____

DIRECTIONS

The following is a list of questions concerning students' habits and methods of study. Read each statement carefully and answer it as accurately and as truthfully as possible. Put an X in the circle within the column that best describes your habit. For example, the first question is:

	Almost Never	Less than Half of the Time	About Half of the Time	More than Half of the Time	Almost Always
1. When your assigned homework is too long or unusually hard, do you either stop or study only the easier parts of the lesson?	O	⊗	O	O	O

If, in your case, this happens to be true less than half of the time i.e., sometimes, place an X as shown in the example.

Psychoeducational Research Productions

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Almost Never	Less than Half of the Time	About Half of the Time	More than Half of the Time	Almost Always

SECTION A: *Homework and Assignments*

		Score
1.	When your assigned homework is too long or unusually hard, do you either stop or study only the easier parts of the lesson?	
2.	If you have to be absent from class, do you make up missed lessons and notes immediately?	
3.	Even though an assignment is dull and boring do you stick to it until it is completed?	
4.	Do you put off doing written assignments until the last minute?	
5.	Do you complete and submit your assignments on time?	
6.	Do you begin your assignments as soon as the teacher gives them to you and not allow them to pile up?	

TOTAL SCORE SECTION A

SECTION B: *Time Allocation*

7.	Do you waste too much time talking or listening to the radio for the good of your studies?	
8.	Do you find that having many other things to do causes you to get behind in your school work?	
9.	Do problems outside of the classroom—with other students or at home—cause you to neglect your school work?	
10.	Do you study for at least three hours each day after classes?	
11.	Is your time unevenly distributed; do you spend too much time on some subjects and not enough on others?	
12.	Do you spend too much time reading fiction (novels), going out etc., for the good of your school work?	

TOTAL SCORE SECTION B

SECTION C: *Reading and Note Taking*

13.	In taking notes, do you tend to write down things which later turn out to be unimportant?	
14.	After reading several pages of an assignment, do you find yourself unable to remember what you have just read?	
15.	Do you find it hard to pick out the important points of a reading assignment?	
16.	When reading a long assignment do you stop now and then to try to remember what you have read?	
17.	Do you have to re-read material several times because the words don't have much meaning the first time you go over them?	

Almost Never	Less than Half of the Time	About Half of the Time	More than Half of the Time	Almost Always

Score

18. Do you have trouble picking out the important points in the material read or studied?
19. Do you go back and recite to yourself the material you have studied, rechecking any points you find doubtful?
20. Do you miss important points in the lecture while copying down notes on something which has gone before?
21. Do you pronounce words to yourself as you read?

TOTAL SCORE SECTION C

SECTION D: *Study Period Procedures*

22. Do you keep all your notes for each subject together and carefully arranged for studying?
23. Do you need a long time to get warmed up when you want to start studying?
24. Are you unable to study well because you get restless and unable to sit for long?
25. When you sit down to study, do you find yourself too tired, bored or sleepy to study well?
26. Do you prefer to study your lessons alone rather than with others?
27. Do you seem to get very little done for the amount of time you spend studying?
28. At the beginning of a study period, do you plan your work so that you will make the best use of your time?
29. Do you find yourself beset by too many health problems to study efficiently?

TOTAL SCORE SECTION D

SECTION E: *Concentration*

30. Do you find that day dreaming distracts your attention from your lessons while studying?
31. Do you find it hard to keep your mind on what you are studying for any length of time?
32. Do outside interruptions disturb you while studying?

TOTAL SCORE SECTION E

SECTION F: *Written Work*

33. Do you correct errors on the papers which your teachers have marked and returned to you?
34. Do you have trouble saying what you want to say on tests, essays and other written work?
35. Do your teachers criticize your written work for being poorly planned or hurriedly written?
36. Do you give special attention to neatness on essays, reports and other written work?

TOTAL SCORE SECTION F

	Almost Never	Less than Half of the Time	About Half of the Time	More than Half of the Time	Almost Always
SECTION G: *Examinations*					SCORE
37. Do you do poorly on tests because you find it hard to think clearly and plan your work within a short period of time?	O	O	O	O	O
38. Do you get nervous and confused when taking a test and therefore fail to answer questions as well as you otherwise could?	O	O	O	O	O
39. When getting ready for a test, do you arrange facts to be learned in some planned order?	O	O	O	O	O
40. Are you careless about spelling, punctuation and grammar when answering test questions?	O	O	O	O	O
41. Are you unable to finish tests within the time allowed although you work until the very last minute?	O	O	O	O	O
42. When tests are returned, do you find that your mark has been lowered by careless mistakes?	O	O	O	O	O
43. Do you finish your examination papers and turn them in before time on the examination?	O	O	O	O	O

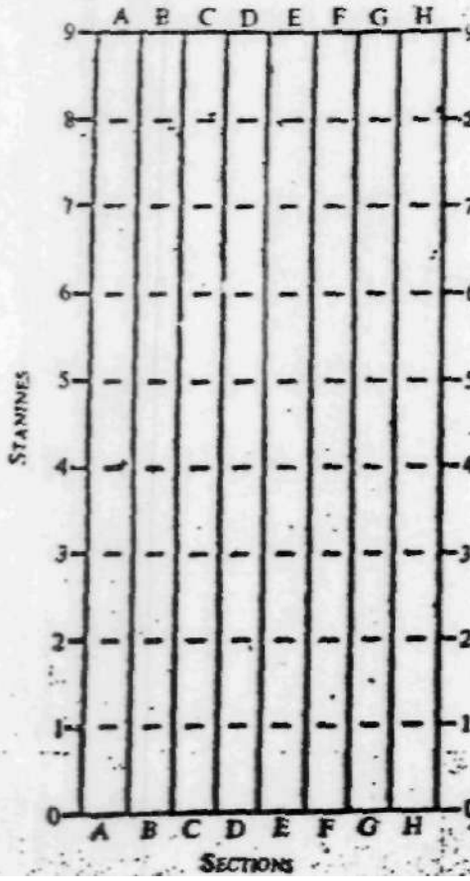
TOTAL SCORE SECTION G

SECTION H: *Teacher Consultation*					
44. When you are having trouble with a particular subject, do you try to talk it over with the teacher?	O	O	O	O	O
45. Do you hesitate to ask a teacher for further explanation on a point that is not clear to you?	O	O	O	O	O

TOTAL SCORE SECTION H

Do not write below this line

DIAGNOSTIC PROFILE



SECTION	SCORE	STANINE
A		
B		
C		
D		
E		
F		
G		
H		

TOTAL

473903

APPENDIX II

Frequency Distribution for Gender

	Count
male	204
female	123
Total	326

Frequency Distribution for level

	Count
one	116
two	125
three	86
Total	327

Frequency Distribution for NCGPA

From (≥)	To (<)	Count
.160	1.457	28
1.457	2.754	196
2.754	4.051	98
4.051	5.348	4
5.348	6.645	0
6.645	7.942	0
7.942	9.239	0
9.239	10.536	0
10.536	11.833	0
11.833	13.130	1
	Total	327

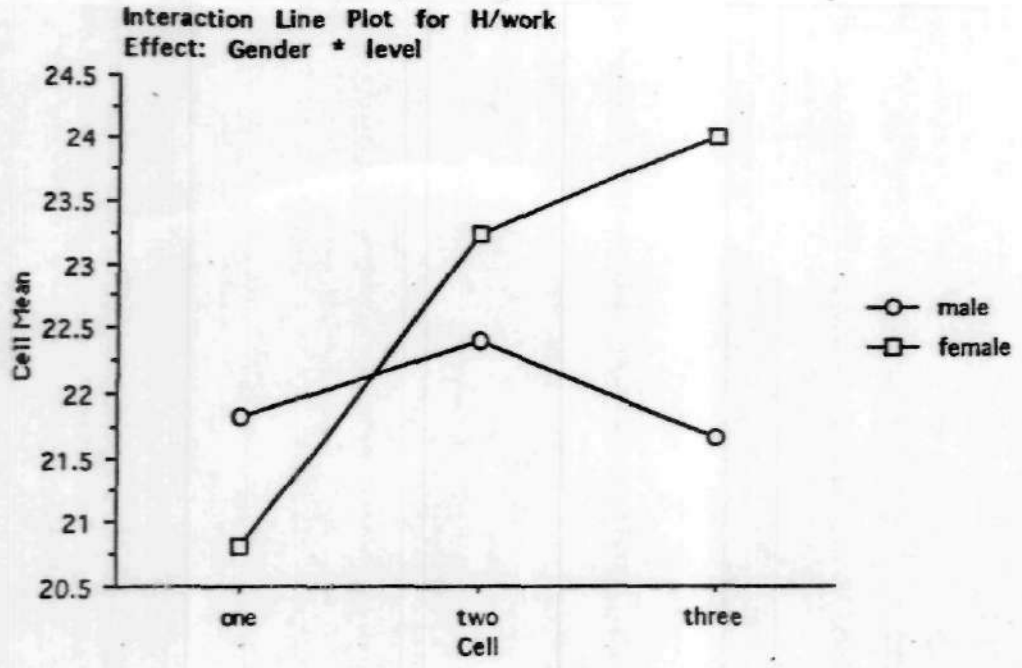
Frequency Distribution for Study habit

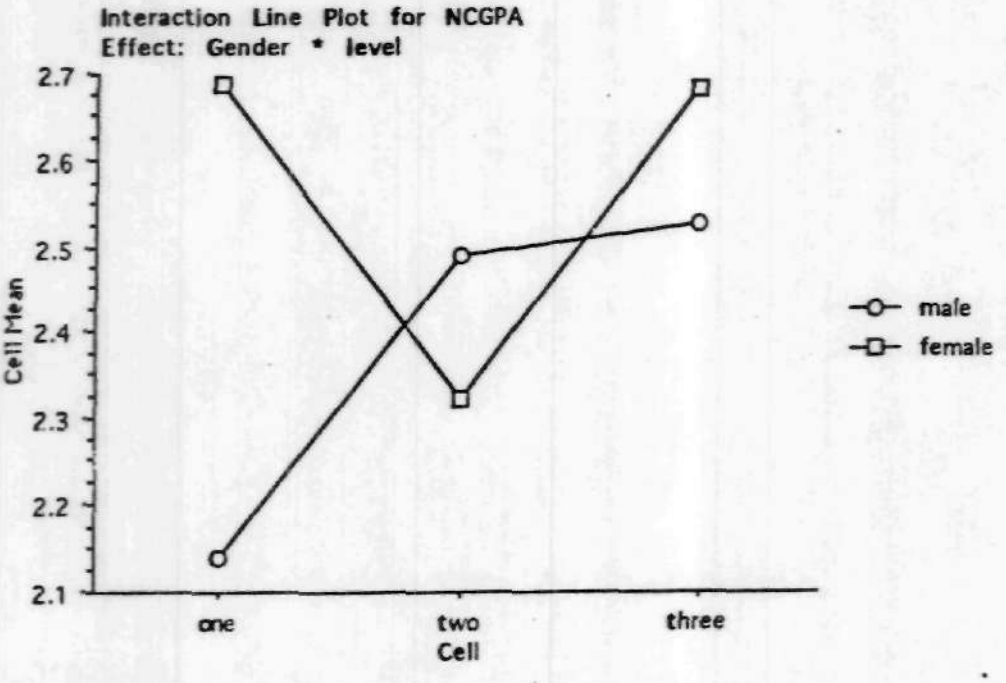
From (≥)	To (<)	Count
99.000	110.200	3
110.200	121.400	7
121.400	132.600	18
132.600	143.800	48
143.800	155.000	61
155.000	166.200	72
166.200	177.400	67
177.400	188.600	40
188.600	199.800	8
199.800	211.000	3
	Total	327

APPENDIX III

Descriptive Statistics
Split By: level

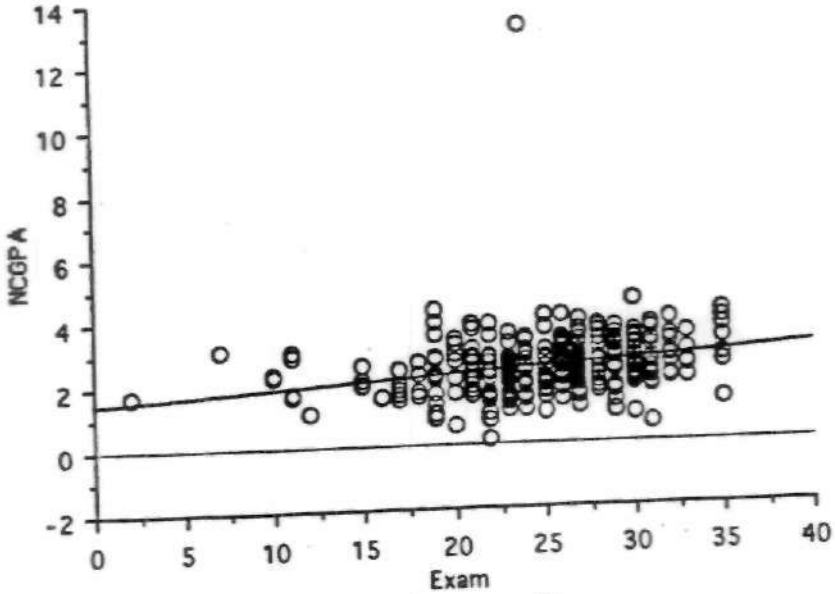
	Mean	Std. Dev.	Std. Error	Count	Minimum	Maximum	# Missing
H/work, Total	22.202	4.783	.264	327	1.000	30.000	0
H/work, one	21.405	4.856	.451	116	1.000	30.000	0
H/work, two	22.680	5.147	.460	125	4.000	30.000	0
H/work, three	22.581	3.978	.429	86	13.000	30.000	0
Time, Total	20.358	4.477	.248	327	4.000	30.000	0
Time, one	21.147	4.318	.401	116	10.000	29.000	0
Time, two	20.064	4.785	.428	125	4.000	30.000	0
Time, three	19.721	4.104	.442	86	11.000	29.000	0
Reading, Total	30.719	5.989	.331	327	7.000	45.000	0
Reading, one	30.405	5.742	.533	116	10.000	43.000	0
Reading, two	30.464	6.380	.571	125	7.000	44.000	0
Reading, three	31.512	5.720	.617	86	18.000	45.000	0
Study, Total	28.590	5.374	.297	327	3.000	40.000	0
Study, one	29.259	4.396	.408	116	15.000	40.000	0
Study, two	27.752	5.760	.515	125	4.000	40.000	0
Study, three	28.907	5.870	.633	86	3.000	40.000	0
Concent., Total	9.841	3.160	.175	327	0	18.000	0
Concent., one	10.595	3.059	.284	116	3.000	18.000	0
Concent., two	9.368	3.028	.271	125	0	15.000	0
Concent., three	9.512	3.325	.358	86	0	15.000	0
Written, Total	14.930	3.451	.191	327	0	31.000	0
Written, one	15.207	3.237	.301	116	7.000	20.000	0
Written, two	14.848	3.846	.344	125	0	31.000	0
Written, three	14.674	3.119	.336	86	6.000	20.000	0
Exam, Total	25.294	5.012	.277	327	2.000	35.000	0
Exam, one	25.509	4.910	.456	116	7.000	35.000	0
Exam, two	24.928	4.973	.445	125	2.000	35.000	0
Exam, three	25.535	5.226	.564	86	10.000	35.000	0
Teacher, Total	6.104	1.732	.096	327	0	10.000	0
Teacher, one	6.388	1.773	.165	116	2.000	10.000	0
Teacher, two	6.152	1.641	.147	125	2.000	10.000	0
Teacher, three	5.651	1.734	.187	86	0	10.000	0
NCGPA, Total	2.453	.948	.052	327	.160	13.130	0
NCGPA, one	2.372	1.351	.125	116	.160	13.130	0
NCGPA, two	2.436	.698	.062	125	.900	4.470	0
NCGPA, three	2.588	.493	.053	86	1.410	3.900	0
Study habit, Total	158.037	18.531	1.025	327	99.000	211.000	0
Study habit, one	159.914	16.799	1.560	116	108.000	199.000	0
Study habit, two	156.256	19.466	1.741	125	99.000	211.000	0
Study habit, three	158.093	19.313	2.083	86	104.000	201.000	0


Interaction Line Plot for H/work
Effect: Gender * level
24.5
24
23.5
23
22.5
22
21.5
21
20.5
Cell Mean
one
two
three
Cell
male
female


Interaction Line Plot for NCGPA
Effect: Gender * level
2.7
2.6
2.5
2.4
2.3
2.2
2.1
Cell Mean
one
two
three
Cell
male
female

APPENDIX V

Scattergram



NCGPA = 1.502 + .038 * Exam; R^2 = .04

APPENDIX VI

Pilot Study

A pilot study was conducted to try out the questionnaire (SHI) in terms of administration and scoring. Stratified random sampling was used to select 121 students. This group of students was not included in the main study. The students comprised of 41 males and 80 females. The factors of N.C.E. level, gender and subject specialization were considered in the selection. Each level was interacted with on a separate day during the Language and Communication Skills lessons for 100 and 200 levels. The 300 level students were interacted with during an Education course lecture.

Bakare's Study Habits Inventory (SHI) was distributed; the purpose for the exercise was clearly explained and assurance was given in order to obtain maximum cooperation. One research assistant and the researcher were at hand on all three occasions to help explain or assist the students. The exercise lasted between 45 minutes and one hour in all the instances. The students filled the questionnaire to indicate their study habits.

i. Scoring

The questionnaires were strictly scored according to the guidelines contained in the manual of the Study Habits Inventory. That is, each of the sections was scored and a stanine position obtained. The total score for each student's response was fitted within the table of the stanine scores.

ii. Result

The frequency distribution of the students with respect to the stanine scores were obtained. Table VI(i) below shows the frequency distribution. The highest frequencies are on the 4th, 5th, 6th and 7th stanines.

Table VI(i)

Frequency distribution on SHI stanine scores

N.C.E. Level	STANINE SCORES									Total
	1	2	3	4	5	6	7	8	9	
100	0	3	6	7	10	16	8	5	2	57
200	0	1	3	8	6	5	5	0	1	29
300	0	1	2	2	6	9	11	4	0	35
Total	0	5	11	17	20	30	24	9	2	121
Percentage	0	4.1	9.0	14.0	18.2	24.7	19.8	7.4	2.5	100

A fewer number of frequencies were found on the stanine scores of 1, 2, 3, 8, and 9. The highest frequency can be observed on the 6th stanine (24.7%) followed by the 7th stanine (19.8%) and 5th stanine (18.2%).

With regards to the N.C.E. level variable, the SHI was able to discriminate between the responses of the students. The highest frequency was observed on the 4th stanine for 200 level students (27.6%), and the 7th stanine for 300 level students (31.4%). Thus the questionnaire was able to distinguish between the three levels in terms of their study habit scores (see Table VI(ii) below).

Table VI(ii)

Frequency distribution by N.C.E. levels

N.C.E. Level	STANINE SCORES								
	1	2	3	4	5	6	7	8	9
100	0%	0.52%	10.3%	12.3%	17.5%	28.0%	14.0%	8.8%	3.5
200	0%	3.4%	10.3%	27.6%	20.7%	17.2%	17.2%	0%	3.4
300	0%	2.9%	5.7%	5.7%	17.1%	25.7%	31.4%	11.4%	0%

When the gender factor was considered, the result showed that the highest frequency of males dominate on the 7th stanine scores while the females dominate on the 6th stanine score (see Table VI(iii) below).

Table VI(iii)

Frequency distribution of study habit by gender

Level	STANINE SCORES																	
	1		2		3		4		5		6		7		8		9	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Level	0	0	1	2	5	1	4	3	1	9	5	11	4	4	0	5	1	1
	0	0	0	1	0	3	0	8	2	4	2	3	2	3	0	0	1	0
	0	0	1	0	1	1	1	1	3	3	0	9	4	7	3	1	0	0
Total	0	0	2	3	6	5	5	12	6	16	7	23	10	14	3	6	2	1
%	0	0	4.9	3.8	14.6	6.5	12.1	15	14.6	20	17.1	28.8	24.3	17.3	7.3	7.5	4.9	1.3

KEY
M – Male
F - Female

The pilot study has shown that there is difference in the study habits of the students. It is such that the 300 level students were predominantly on the 7th stanine score, followed by the 100 level students who are on the 6th stanine score; lastly, the 200 level student who are on the 4th stanine score. This means that the study habits of the students generally could be described as being on the whole average.