

**DETERMINANTS OF EXAMINATION FRAUD AS PERCIEVED BY  
THE TEACHERS OF PUBLIC SECONDARY SCHOOLS IN  
DELTA STATE**

**OBE, Ogheneworo Charles**

**DELTA STATE UNIVERSITY, ABRAKA**

**JULY, 2015**

**DETERMINANTS OF EXAMINATION FRAUD AS PERCIEVED BY  
THE TEACHERS OF PUBLIC SECONDARY SCHOOLS IN  
DELTA STATE**

**OBE, Ogheneworo Charles  
MATRIC NO: PG/11/12/205557**

**A DISSERTATION WRITTEN IN THE DEPARTMENT OF  
EDUCATIONAL ADMINISTRATION AND POLICY STUDIES  
SUBMITTED TO THE FACULTY OF EDUCATION IN PARTIAL  
FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF  
MASTER DEGREE IN EDUCATIONAL ADMINISTRATION, DELTA  
STATE UNIVERSITY, ABRAKA, NIGERIA**

**JULY, 2015**

**CERTIFICATION**

I certify that this study was carried out by me, Obe Ogheneworo Charles,  
in the Department of Educational Administration and Policy Studies, Faculty of  
Education, Delta State University, Abraka, Delta State.

.....  
**OBE, Ogheneworo Charles**

.....  
Date

## **APPROVAL**

We certify that this study was carried out by Obe Ogheneworo Charles in the Department of Educational Administration and Policy Studies, Faculty of Education, Delta State University, Abraka, Delta State.

---

**Prof. P.O. Ikoya**  
(*Supervisor*)

---

Date

---

**Prof. E.D. Nakpodia**  
(Head of Department)

---

Date

## **DEDICATION**

This work is dedicated to all who genuinely fight the ‘war against examination fraud’.

## **ACKNOWLEDGEMENTS**

To God be the glory for giving the researcher the grace to carry out this study. The researcher sincerely appreciates his supervisor, Prof. P.O. Ikoya, for his fatherly concern, patience and kindness to him during the study. He acknowledges the Head of Department, Prof. E.D. Nakpodia for his kindness to him during this study.

His appreciation also goes to Prof. (Mrs.) E. Ekwunye for giving him her attention anytime he had academic difficulty. The researcher also appreciates Prof. N.E. Akpotu and Dr. (Mrs) N. Osakwe for taking time to make useful corrections in this study. All other Lecturers in the Department are worthy of the researcher's appreciation for all the lectures he received from them during the study.

He also appreciates the kindness of Dr. Osadebe and Mr. C. Enwefa for putting him through in the statistical work. All other lecturers from other departments are also worthy of the researcher's appreciation. The researcher acknowledges his beloved and caring wife, Rebecca Oluyemisi and his children, Ogheneruro, IruoOghenedomero, EwomaOghene and Oghenemarie for the supportive role they played during the study. His profound gratitude goes to the Rt. Revd. J.F.E. Edewor, JP(Rtd) and the Rt. Revd. J.U. Aruakpor, Bishop of the Anglican Diocese of Oleh, for giving him the permission to go for this study.

The researcher acknowledges Mr. Ochuko Oghenevwogaga Gashion for putting him through in some of the statistical work. Many thanks also to all the office staff for their friendliness during the period. Sincere appreciation to all staff and students of James Welch Grammar School, Emevor for their cooperation. Thanks to all others who helped the researcher in one way or the other during this study. God bless you.

## TABLE OF CONTENTS

TITLE PAGE.....	I
CERTIFICATION.....	III
APPROVAL.....	IV
DEDICATION.....	V
ACKNOWLEDGEMENTS.....	VI
LIST OF TABLES.....	XI
ABSTRACT.....	XII
CHAPTER ONE: INTRODUCTION	
Background to the study.....	1
Statement of the problem.....	6
Research questions.....	7
Hypotheses.....	8
Purpose of the study.....	9
Significance of the study.....	9
Scope and Delimitation of study.....	10
Operational definition of terms.....	10
CHAPTER TWO: REVIEW OF RELATED LITERATURE	
Theoretical Framework.....	11
Perceived forms of examination fraud.....	13
Study habits of secondary school students.....	28
Teachers' inability to complete syllabuses.....	20
Competency of School Administrators.....	22
Inadequate supply of educational facilities.....	23



Parental involvement in examination fraud.....	25
Review of Related Literature.....	27
CHAPTER THREE: RESEARCH METHOD AND PROCEDURE	
Research design.....	30
Population of the study.....	30
Sample and sampling technique.....	30
Research instrument.....	31
Validity of the instrument.....	32
Reliability of the instrument.....	32
Administration of research instrument.....	32
Method of data analysis.....	33
CHAPTER FOUR: PRESENTATION OF RESULTS AND DISCUSSION	
Research Question One.....	34
Research Question Two.....	35
Research Question Three.....	35
Research Question Four.....	36
Research Question Five.....	37
Research Question Six.....	38
Z-Test Analysis of teachers' response on perceived forms of Examination fraud.....	39
Z-Test Analysis of teachers' response on poor study habit of students In public secondary schools.....	40
Z-Test Analysis of teachers' inability to cover their required syllabuses.....	40
Z-Test Analysis of teachers' response on the incompetency of school	

Administrators.....	41
Z-Test Analysis of teachers’ response on inadequate supply of Educational facilities.....	42
Z-Test Analysis of teachers’ response on parents’ involvement in Examination fraud.....	43
Discussion of Results.....	44
<b>CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS</b>	
Summary of Research.....	48
Findings.....	49
Conclusion.....	50
Recommendations.....	51
Contribution to knowledge.....	51
Limitation of the study.....	52
Suggestions for further studies.....	52
References .....	53
Appendix.....	58

## LIST OF TABLES

Table 3.1	Teachers in Public Secondary Schools in Delta State.....	33
Table 3.2	Sample of teachers in Public Secondary schools in Delta State...	35
Table 4.1	Mean and Standard Deviation on perceived forms of Examination fraud.....	38
Table 4.2	Mean and Standard Deviation on poor study habits of students in public secondary schools.....	39
Table 4.3	Mean and Standard Deviation on teachers' inability to cover their syllabuses.....	40
Table 4.4	Mean and Standard Deviation on the incompetency of School Administrators.....	41
Table 4.5	Mean and Standard Deviation on inadequate supply of Educational facilities.....	42
Table 4.6	Mean and Standard Deviation on parents' involvement In examination fraud.....	42
Table 4.7	Z-test analysis on perceived forms of examination fraud.....	43
Table 4.8	Z-test analysis on poor study habit of students.....	44
Table 4.9	Z-test analysis on teachers' inability to cover their syllabuses....	45
Table 4.10	Z-test analysis on incompetence of school Administrators.....	46
Table 4.11	Z-test analysis on inadequate supply of educational facilities....	47
Table 4.12	Z-test analysis on parents' involvement in examination fraud...	48

## **ABSTRACT**

This study investigated the determinants of examination fraud in public secondary schools in Delta State. The purpose of the study was to unveil factors that encourage or promote examination fraud in public secondary schools in the State. Six research questions were raised and six hypotheses were formulated to guide the study. The theoretical framework was based on Getzels and Guba (1957) Social System Theory. The research design used for this study is the ex-post facto design. The target population was 13047 teachers in 435 public secondary schools in the 25 Local Government Areas of the 3 Senatorial Districts in the State. The number of schools and Local Government Areas used were determined through simple random sampling following which the desired sample of 840 teachers was arrived at. The Cronbach Alpha was used to determine the reliability of the instrument. A questionnaire titled: “The determinants of examination fraud in public secondary schools in Delta State” was used to collect data. The statistical tool used to analyze the data collected was mean and the z-test at 0.05 level of significance. The findings were: The opinion of young teachers was not different from that of the old teachers in relation to the perceived forms of examination fraud in public secondary schools in Delta State. There was a difference in the views of male teachers and that of the female teachers on students’ poor study habit. There was no difference in the opinions of married teachers and the single teachers as to whether inability of teachers to cover their required syllabuses can encourage examination fraud in public secondary schools in Delta State. The opinion of old teachers was not different from that of young teachers concerning incompetency of school administrators as a determinant of examination fraud in public secondary schools in Delta State. There was also a difference in the opinion of married teachers and the single teachers in relation to parents’ involvement in examination fraud in public secondary schools in Delta State. It was therefore recommended that Secondary Schools and various arms government should create more awareness of the implications of examination fraud through seminars, workshop and public enlightenment campaign. It was concluded that to fight effectively against the problem of examination fraud in public secondary schools in Delta State, the larger society needs to be sanitized of dishonesty and other poor moral values.

## CHAPTER ONE

### INTRODUCTION

#### **Background to the Study**

Fraud is a universal phenomenon that has been in existence for so long and its magnitude may not be known because much of it is unidentified and in fact, not all that is identified that is often published. Literarily, fraud is a conscious and deliberate action by a person or group of persons with the intention of altering the truth or fact of something for selfish motives. One could say that no level of examination is immune to fraudsters – not even those who are put in place to check it. Fraud is not limited to examination. This is why it is often referred to it as a global issue. Tamer (2012) liken fraud to the ATM machine at the bank. As such machines are designed to withdraw money, so fraud is designed by the fraudsters to withdraw or get facts – though illegally.

Examination fraud is any activity that contravenes the regulations governing the conduct of examinations. The educational system from time to time prescribes for itself specific objectives which it expects students and all others in the system to attain thereby demonstrating that education has taken place. An examination affords the educational system the opportunity to inspect and evaluate the extent to which its objectives have been fulfilled. If such evaluation has to be true to its desire and therefore useful, regulations have to be in place to ensure that written responses and skill displayed by students are authentic reflections of the quality of the education. What examination fraud aims at is the defeat of this primary goal. In essence, examination fraud is an activity that aims at manipulating or preventing the educational

system from knowing or determining the true position, quality or ability of its products. This is often done through leakages or exposition of examination questions before the examination day, suspension or relaxation of examination rules by some supervisors, dictation or provision of answers for students, copying from relevant materials (when it is not an open-book examination), impersonation, talking during examination, spying et cetera. The process of examination fraud usually commences at the setting of the examination questions, right through to the writing of the examinations, their marking and grading, to the release of the results and the issuance of certificates.

Thus examination fraud could be seen as a deliberate wrong doing that is contrary to official examination rules and is purposed to place a candidate at an unfair advantage or disadvantage. Nwahunanya (2004) says examination fraud is the act of omission or commission intended to make a student pass examination without relying absolutely on his or her independent ability. It is an illegal or unacceptable behaviour by anybody against examination rules and regulations at the time his knowledge or ability is being tested. Hence, any improper action carried out before, during and after the examination with the intention of cheating or having advantage constitute examination fraud.

Historical records have revealed that the problem of examination malpractices in Nigeria is not new. The problem seems to be as old as the introduction of formal system of education itself. The Christian Missionaries were the first to introduce formal

education in Nigeria in 1842 and by 1881 there was developed intervention mechanism by the colonial government in education through various ordinances. Examination fraud is neither new nor peculiar to Nigeria. In Nigeria, it dates back to the pre-independence years. Examination fraud was first reported in Nigeria in 1914, when the question papers of the Senior Cambridge Local Examinations were reportedly seen by candidates before the scheduled date of the examination. Examination leakages have featured regularly since then in Nigeria. (Uzoigwe, Adeyegbe and Oke, 1994; and Maduemezia, 1998)

However, examination fraud which had existed at very low ebb with simplistic methods, became more pronounced from 1970 with the involvement of persons other than the candidates and its spread has been wild and fast since then with constant perfection of the methods adopted.

In Delta State, the issue of examination fraud is not strange. This is why Ikede (2012) once made a speech during the 2012 Senior School Certificate Examination (SSCE) briefing session for monitors and marshals held in Asaba, Delta State that the call had become necessary in view of the high prevalence of examination fraud. She urged Chief Inspectors of Education and other relevant authorities to be meticulous in the selection of examination supervisors and Invigilators to ensure a successful conduct of examination in the state. She also enjoined examination marshals and monitors not to compromise

excellence and standard as well as the genuine intention of Delta State government in the discharge of her duties, adding that examination fraud has contributed negatively to the quality of graduates being churned out into the labour market. In addition, the past Delta State Commissioner for Basic and Secondary Education, then said that the conduct of examinations that would be free from all forms of irregularities in the School system has been the dream of Delta State Government. He then enjoined Chief Inspectors of Education in the state to ensure effective monitoring of teaching in schools, even as he warned that monitors or marshals who failed to report cases of examination fraud would be treated as accomplices (The Pointer, 2012).

Today, irrespective of all the measures put in place to check this monster, it still rears its ugly head in the society particularly in secondary schools. As old methods of examination fraud are being handled by the examination bodies, new methods of cheating are being invented by the examination fraudsters. This is why (Ugwu, 2008) reiterated that in the past, measures have been taken to determine the causes of examination fraud and some strategies have been developed in a bid to curb the problem, but new examination malpractices and fraud continue to surface. Change, in fact, is not easy, particularly changing one's behaviour.

The advent of handsets seems to have given freedom to 'handset wizards' who defraud with them during examinations. Due to much love of money, some



examination officers who are supposed to oversee the credibility of examinations, at times trade away their integrity by collecting money from examination candidates to remain mute to any act of examination fraud. This phenomenon has resulted into rot in the educational system and the society in general. Many have come to the conclusion that examination fraud has eaten too deep into the Nigerian education system right from secondary school to the university level. It is therefore suggested that due to the high level of this fraud in the country, Nigerian certificates are no longer regarded by most Western countries like the way it was before. It is also obvious that one cannot give what one does not have. Consequently, we now have many 'educated or graduate illiterates' as well as 'unqualified professionals'. For instance, an unqualified surgeon will one day do surgical operation in the field. The question is: Who might be the first victim of such a 'fatal practical'? Since it is possible that some persons in educational positions defrauded to make it during their time, it might no more be news for them to see others do same to make it academically. The consequence of this rot will definitely affect everybody in the society negatively.

### **Statement of the Problem**

In the education sector, not too many problems are discussed as that of examination fraud which has eaten deep into the system. The extent and manner in which it takes place nowadays is very alarming. It has moved from simple giraffe to organized syndicated form of crime. Even, parents and guardians who once taught their

wards to work hard to pass their examination now aid examination fraud by procuring certificates for their wards. To make things worse, some teachers, due to love of money and lack of confidence in their students, collect money from the students to allow them cheat during examinations. All these coupled with unconducive learning environments such as leaking roofs, inadequate chairs and desks for students, poorly equipped laboratories and libraries have made the issue of examination fraud in public secondary schools in Delta State a concern. It is a fact that much effort has been put up to eradicate examination fraud through cancellation of suspected results, safe keeping of examination questions before the examination day, et cetera, yet it resurfaces in new dimensions. Hence this research tends to look into the factors that promote and encourage examination fraud in public secondary schools in Delta State with a view to proffering effective methods for curbing the menace. The problem of the study therefore is: What are the determinants of examination fraud as perceived by teachers of public secondary schools in Delta State?

### **Research Questions**

The following research questions were raised to guide the study:

1. What are the forms of examination fraud as perceived by young and older teachers of public secondary schools in Delta State?

2. To what extent does poor study habit of students contribute to examination fraud in public secondary schools in Delta State?
3. How does teachers' inability to cover required syllabuses promote examination fraud in public secondary schools in Delta State?
4. How does incompetency of school administrators enhance examination fraud in public secondary schools in Delta State?
5. What role does inadequate supply of educational facilities play in relation to examination fraud in public secondary schools in Delta State?
6. To what extent does parental involvement contribute to examination fraud in public secondary schools in Delta State?

### **Hypotheses**

1. There is no significant difference between the perceptions of young and older teachers on the forms of examination fraud in public secondary schools in Delta State.
2. There is no significant difference between the perceived opinions of male and female teachers on poor study habit of students as a determinant of examination fraud in public secondary schools in Delta State.

3. There is no significant difference between the responses of married and single teachers on teachers' inability to cover their required syllabuses as perceived determinant of examination fraud in public secondary schools in Delta State.
4. There is no significant difference between the perceptions of young and older teachers on the incompetence of School Administrators as a determinant of examination fraud in public secondary schools in Delta State.
5. There is no significant difference between the opinions of male and female teachers on inadequate supply of educational facilities as a determinant of examination fraud in public secondary schools in Delta State.
6. There is no significant difference between the views of married and single teachers on parents' involvement as determinant of examination fraud in public secondary schools in Delta State.

### **Purpose of the Study**

The general objective of this study was to look into the factors that promote and encourage examination fraud in Public Secondary schools in Delta State.

Specifically, the study investigated the followings:

- Determine the perceived forms of examination fraud in Delta State secondary schools.
- Find out how poor-study-habit among students promote examination fraud.

- Investigate how teachers' inability to complete their syllabuses can promote examination fraud.
- Find how the incompetency of school Administrators can enhance examination fraud.
- Investigate the role of inadequate supply of educational facilities in relation to examination fraud.
- Consider parental involvement in examination as determinant of examination fraud.

### **Significance of the Study**

This study is very relevant in this era of prevalent examination fraud. Findings would not only bring to light the things that encourage examination fraud in public secondary schools in Delta State but also suggest some remedies to this academic dishonesty.

This study would help school administrators, teachers and guidance counselors to control examination fraud in Delta State secondary schools. This study would also help examination bodies to improve on their strategies for monitoring examinations in public secondary schools in Delta State. This study should assist the government and the people in the larger society to desist from dishonest practices. The study should encourage teachers on the need to

complete their required syllabuses and students too are to be serious with their academic work.

### **Scope and Delimitation of Study**

This study focused on forms of examination fraud, poor study habit of students, inability of teachers to complete their required syllabuses, incompetency of school administrators, inadequate supply of educational facilities and parental involvement as determinants of examination fraud in public secondary schools in Delta state as perceived by teachers. The study covers the three Senatorial Districts of Delta State.

### **Operational Definition of Terms**

These terms were operationally used in this work:

#### **Determinant**

In this study, determinant is used to refer to all agents that encourage examination fraud in Delta State Secondary Schools.

**Examination**

This refers to external examinations such as Senior School Certificate Examination (SSCE) and Basic Education Certificate Examination (BECE).

**Fraud**

This means examination malpractice in Delta State.

**CHAPTER TWO****REVIEW OF RELATED LITERATURE**

This chapter examined related literature reviewed and is organized under the following sub-headings:

- Theoretical Framework
- Perceived Forms and devices of Examination Fraud
- Study Habit of public secondary school students
- Teachers inability to complete syllabuses
- Competency of School Administrators
- Availability of Educational Facilities
- Parental involvement in Examination Fraud
- Appraisal of reviewed related literature

**Theoretical Framework**

This work is anchored on Getzels and Guba (1957) Social System Theory. This theory emphasizes people in an organization, working together in a regular relationship. Due to the interdependence of the various components in the organization, one aspect of it is able to affect the other towards the attainment of set goals. A social system is a plurality of individual actors interacting with each other in a situation which has at least a physical or environmental aspect (Peretomode, 2012). Silver (1983) says a social system is a system in which the components are people. Peretomode opined that although the basic concept of the social system theory was derived by Parsons (1951), the basic application of the system theory to school administration was delineated by Getzels and Guba (1957). Peretomode also went ahead to refer to Getzel and Guba as conceiving of the school as a social system involving classes of phenomena that are independent and as well interactive. These they referred to as nomothetic (normative) and idiographic (personal) dimensions.

The basic features of this theory are: inputs, the conversion process, outputs, feedback and the environment (internal and external). The secondary school which is being viewed in the perspective of determinants of examination fraud is a social system. In the social system, each individual's behaviour (input) is shaped by his or her psychological uniqueness and sociological attributes (conversion process) which in turn brings about various forms of output. For instance, when a student because of laziness could not read, when a teacher due to delay in payment of salary could not teach, when an invigilator because of societal financial influence collects money from students to allow them cheat in an examination, when some parents take their children to 'miracle



centers' to write external examinations, etc, then the output of the organization is jeopardized. This in turn brings about a negative feedback, thus affecting the whole system.

This theory is therefore relevant to this study because the school is a social system whose components include people. In addition, each person's behaviour within the school system is molded by both what goes on within him or her (psychological) as well as what the society impacts on such individuals (normative or sociological). Therefore, a student, a teacher or a secondary school administrator with such personality traits of

academic laxity might resort to examination fraud. Likewise, such individuals may also be influenced negatively too if academic dishonesty and other vices obtain in the general society.

### **Perceived Forms of Examination Fraud**

1. Impersonation: Entails the hiring of touts to write examinations by appearing in the halls as the genuine candidates. In relation to this, Uzoigwe (2000) made reference to male candidates sitting in for girls and verse versa in some sensitive papers, twins writing examinations for each other in connivance with the school examination officers/invigilators or supervisors and other examination officials.
2. Collusion: This arises when an assigned invigilator or supervisor is involved in receiving or giving assistance to candidates in the examination hall for gratification.

3. Examination leakages: A situation where question papers are seen by candidates prior to the writing of the examinations and are traceable to the printing press or persons connected with the custody of the question papers. Chiemeka (2013) refers to this as “Expo”.

4 Mass cheating: This is traceable to large scale organized cheating involving school authorities, examination officials and candidates through the answering of the questions on the chalkboard for the candidates to copy.

5 Smuggling of answer scripts: Involves candidates having external assistance to take to and fro the examination hall answer scripts duly prepared by syndicates in connivance with invigilators and/or supervisors and other examination officials. This is why Tamer (2012) referred to Vona (2008) as suggesting that fraud is like an ATM machine at a bank because both fraud and ATM are somehow intended to withdraw – exam answers in this case.

6 Dubbing: This is an arrangement involving the invigilators or supervisors whereby candidates are allowed to copy from each other in the hall. Chiemeka (2013) referred to Chukwu (1994) who mentioned that in dubbing, students hide relevant pages or pieces in different places especially in lockers for direct copying..

7 Insult/Assault on Supervisors/Invigilators/Inspectors by candidates: This involves beating of examination officials, destruction of examination officials’ cars or property, manhandling of examination officials and using indecent language on supervisors and invigilators who fail to cooperate with them.

8 Bringing foreign materials into the examination hall: Such as textbooks, cribs, past question papers either containing copious notes or used as disguise for current ones that have been smuggled out, photocopies of prepared answers.

Phillip(2006) and Cizek (1999) noted that in-class cheating involves "Giving, Taking, and Receiving" (GTR) of information, the use of "Forbidden Materials" (FM), and "Taking Advantage of the Testing Process" (TAP). Gbagolo (2011) added the followings: 1. Procurement of answer booklets: This is one of the ways the syndicates operate; whereby they have enough current answer booklets through the assistance of the examination body personnel. They tactically exchange written answer booklets with their candidates before stoppage time and/or in connivance with the school examination officer and the assigned supervisor. 2. Enrolling syndicate and self: This happens during the enrolment, the syndicate will be enrolled alongside with the candidate using fake names. In the examination hall, the syndicate will be doing the writing and at the end exchange answer booklet with the candidate. 3 Deliberate late submission of parcels by the Supervisor: The custodian in agreement with some assigned supervisors submits their parcels late. This arrangement gives the supervisors and touts enough time to complete their writings and rearrangement of the scripts. The custodian is settled after receiving the parcels.

In the opinion of Shon(2006), the following are part of forms or devices of examination fraud:

1. **Tactical Deployment:** Tactical deployment refers to the strategic ways that students position themselves in relation to others; this method requires students to be situated in a zone of maximal surveillance in the proximity of someone who has studied for the examination, one who may or may not be an accomplice. Usually, this person is considered the "smart" one in the class, and those who seek his/her assistance simply peek at their answers unknown to their victims:

2. **Semiotic Methods:** A sign encompasses everything that can substitute for another—"something standing for something else" (Eco, 1976). Consequently, any sign system is *inter alia* communicative; and similar to any communicative system, the relationship between the signifier (e.g., word, object) and the signified (e.g., meaning) is arbitrary; that relationship is established through usage and convention, sometimes by collusion. A notorious case of this type of cheating involved contestants on a popular television game show ("Who Wants to be a Millionaire?"), where an audience member supplied the contestant with correct answers through a series of coded coughs. Students rely on similar methods to signal answers to one another. Another method of cheating that was successful on multiple choice tests for a while was using signs. This would work in the classes that had students facing each other. For example, a student could signal the answer to a question by touching the nose for A, the chin for B, the ear for C, and finally touching the top of the head for answer D. Some also use coded coughs—to signal answers, coughing once for A, twice for B and so on, or varying the pitch, duration, and intensity of coughs.

3. Collaborative Cheating: This, according to is a method that students use to cheat in conjunction with their peers. Sometimes, the opportunity to cheat presents itself spontaneously; for some, however, cheating is meticulously planned, rationally calculated, and painstakingly premeditated. It is erroneous to believe, however, that all students cheat with sophistication, their "ingenuity" being used to outwit unsuspecting professors. Bluntly put, some tactics do not take much creativity at all, and only require minimal vigilance from instructors to deter—and catch—students from cheating. Some cheating methods are just uncouth and unimaginative: students sit in the back of the room and blatantly whisper answers back and forth to one another.

4. Creative Smuggling: Creative smuggling refers to the innovative and illicit means that students use to import unauthorized notes to the examination site, "with the intention of defrauding an educational institution out of academic credit for personal gain" (Smith, 2000). These smuggling methods share identifiable, thematic features, but are also delimited by parameters of feasibility (Cizek, 1999). Shon however classified this creative smuggling techniques students use to cheat in examinations into four thematic categories: body parts, articles of clothing, technological gizmos and ordinary objects. In relation to body parts, students write answers in some parts of the body e.g. palms, sides of the fingers, some private parts etc. in articles of clothing also, cheats hide answer materials in some parts of their clothes only to bring them out during examination.

Chiemeka (2013) suggested dubbing as a form of examination fraud: This method according to Chukwu (1994) means direct copying from textbooks which victims often tear. Relevant pages or pieces are hidden here and there especially in lockers for direct copying. Students used cardboard to build ceiling under their lockers where they hide materials. Chiemeka also suggested Tattoo or Body writing as another method used and it is chiefly perfected by female students. This is considered very safe as it can be cleared within seconds. Vital areas used are the tender thighs covered by skirts. As soon as the examination starts, the student opens her skirt often to copy down the points into her answer script. Most invigilators especially men cannot intrude because of the moral question they have to answer. Why were they looking into the girls' sensitive areas?

In addition, copying from someone without the person's knowledge is also a form of examination fraud. This is often referred to as 'giraffing'. The victim stretches his or her neck or use other cunning means to look/copy from a fellow candidate.

### **Study Habit of Secondary School Students**

Education is the most viable legacy left behind by the colonial masters. It is the only heritage bequeathed to us which is well embraced because of its usefulness in shaping the society and "building" of an individual. The impact of study habit is too numerous to the benefit of student in general. A good study habit help the student to be

academically oriented, and his/her academic achievement is very sure. But the reverse is the case for a student with poor study habit (Babakk's Blog, 2010).

In the opinion of Mendezabal (2013), study habit is the pattern of behavior adopted by students in the pursuit of their studies that serves as the vehicle of learning. It is the degree to which the student engages in regular acts of studying that are characterized by appropriate studying routines (e.g. reviews of material, frequency of studying sessions, etc.) occurring in an environment that is conducive to studying. Studies have been carried out which focused on cognitive factors as predictors of academic success. Recently, there has been a growing interest on the non-cognitive factors. A number of researchers have examined the role of non-cognitive variables such as study skills (Awang & Sinnadurai 2011; Hassanbeigi, 2011), study motivation (Tella, 2007), study behavior (Yang, 2011; Otto, 1978), study habits (Nuthana & Yenagi, 2009; Bashir, 2012; Boehler, 2001; Kurshid, 2012; Mutsotso, 2010), and attitudes (Sarwar, 2010 and Yu, 2011) on academic achievement. Some argued that these factors have strong relationship with academic performance of students, while others concluded that it was the combination of the different factors that could explain students' academic performance.

Mendezabal mentioned that in a more recent meta-analysis, Crede and Kuncel (2008) found that non-cognitive factors like study habit, skill and study motivation, among other attitudinal constructs, accounted for incremental variance in academic performance beyond standardized tests and previous grades. Moreover, it was also

mentioned by Mendezabal that a literature review by Nagaraju (2004) pointed out that for good academic success, good study habits and attitudes are important. A review of literature highlighted the importance of students study habits and attitudes in their academic performance. Mendezabal also referred to Rana and Kausar (2011) as saying that many students fail not because they lack ability but because they do not have adequate study skills. Students who have difficulty in college frequently do not have adequate study habits that affect their academic achievement. A central problem noted was that many of these students had not learned how to take effective notes and manage time for studying (cited by Mutsotso & Abenga 2010). To sum it up, the literatures cited point to the importance of study habit to academic performance or success of students.

Adigun (2014) traced part of the students' problem in this area to the homes the students come from. According to him, when you get home in some cases, you find that there is no electricity to conveniently do assignments from school and no water to do domestic chores. So these are responsible for the inability of the child to attend to home work and assignments thereby adding to their poor reading habit. Ogonor (2014) had a similar view when she said that there could be learners (students) who have issues that are psychological because of their family background and she went ahead to suggest that such students need to be helped to be able to cope with their academic work.



## **Teachers Inability To Complete Syllabuses**

In our educational system, there are things to be covered in each academic session. These are often spelt out in the academic syllabuses. The teaching-learning process is the technical core of the school. However, teachers do not often meet up with the requirements thereby bringing about examination fraud. Gbagolo (2011) has the following to say about this: Inadequate supervision of teachers by inspectors: Due to the poor remuneration of teachers and nonchalant attitudes of the civil servants, programs of supervisions on every term are not religiously followed and teachers capitalize on these lapses to avoid classes. Also, the schedule of their inspections are made known to the teachers who prepared lesson notes ahead of their visits both on topics taught and not.

Akpotu (2006) referred to the opinion of Ukeje (1986) that the teacher is the main focus of change and the anchor in the teaching learning process, indeed the main determinant of quality in the educational system. Good teaching is required to help the learner more quantitatively and qualitatively. Akpotu (2006) lamented that the Nigerian teacher has been so relegated and neglected by governments and society. Consequently, teachers display non-chalant and lukewarm attitude to the teaching-learning process. This state of affairs breeds “cheaters” instead of teachers who turn the classrooms, staff rooms and school environment into mini-markets. Akpotu (2006) called the above ‘teachers truancy’. Thus secondary school students are subjected to truancy, poor teaching/learning and hence, must resort to examination fraud. The issue

of constant closure of schools which has weakened academic excellence in schools because of disruption of academic calendars due to strikes is often a concern. This often hinders teachers' ability to complete their syllabuses thus leading to examination fraud.

Chiemeka (2013) commented on teachers' lack of total commitment to teaching saying that most teachers in our schools are not doing effective teaching, though some teachers too are poorly treated. Many teachers find it hard to attend classes as at when due. Some do not even plan their lessons accordingly only to cheat the students instead of teaching them. When this is the situation, students actually have little or no knowledge of what is expected of them and they have no alternative than to resort to examination fraud. Often, the problem is not what to teach but how to teach. If the how is lost, then the what and when may be of little or no relevance.

The followings also bring about teachers' inability to complete their syllabuses:

(1) Laziness/lack of positive attitude to work: This is a major reason why some teachers do not complete their syllabuses in a recorded time. Some teachers feel it is not their father's work and therefore should not put in their best. (2) Too many holidays: in Nigeria for instance, there are so many holidays during which teachers and students have to stay at home. Take for instance, in the month of May alone, there is May Day (workers day), children's day and democracy day i.e. May 1<sup>st</sup>, 27<sup>th</sup> and 29<sup>th</sup>. (3) Overcrowded curriculum: At times, some subjects have too many topics to handle within a term. When curriculum planners do not take into consideration the time it takes to effectively teach some topics, it will end up in teachers not completing their syllabuses.

## **Competency of School-Administrators**

The need for competency of school Administrators is a necessity because they serve as anchors, provide guidance and are responsible for the effectiveness of the school. Akpotu (2006) opined that it needs no doubt that the most vital influence on the success and effectiveness of an academic programme is collective 'know-how' of the professional staff and the recruitment and selection of the right caliber of staff which is the 'sine qua non' in the development of human resources in the school system. No matter the training given to some incompetent staff, they cannot be transformed into better skilled staff.

The secondary school administrator is a leader. Ikoya (2014) mentioned that the essence of leadership is to serve, and no one can serve a people effectively without humility. Hence he recommended that individuals aspiring to the position of leadership should have vision, intelligence, humility, trust and ability for effective communication.

For any administration to be effective, there needs to be proper manpower planning. Often, this constitutes a problem in personnel administration in Nigerian school system. Improper manpower planning leads to deficiency of staff thus increasing the work load of teachers in the school system and consequently leading to ineffectiveness in teaching and on the long run bring about desire for examination fraud among students. According to Akpotu (2006), if there must be effective administration in the area of determining the number of staff, factors such as the recommended

workload, the number of students in the school, administrative responsibilities etc should be considered.

In reference to the opinions of Agabi and Okorie (1999 and 2002), goal attainment requires that the school administrator seriously involve in various types of administrative activities such as rational decision making, planning, coordinating the activities of teachers and other school personnel and evaluating the school programmes and the performance of the different categories of the school personnel in order to improve their goal oriented activities and procedures. Organizational maintenance activities of the school administrator include all functions and processes relating to staff and student morale, satisfaction, discipline, etc. failure in all these will amount to poor administration and will consequently bring about poor academic standard leading to examination fraud.

### **Inadequate Supply of Educational Facilities**

Educational facilities refer to non-human and non-financial resources Abdulkareem (2014). They also include all movable and immovable materials, which are used for teaching, learning and other school activities. They are synonymous with school physical facilities, school material resources, school plant, etc. Abdulkareem quoted Olagboye (2004) who stated that educational facilities consist of instructional resources such as audio and visual aids, graphics, printed materials, display and consumable materials. They also include physical resources such as land, building, furniture, equipment, machinery, vehicles, electricity and water supply infrastructure.

He, in another dimension, made reference to Ojedele (2004) who identified three components of educational faculties. These are school infrastructure, such as buildings and playgrounds; instructional Facilities (teaching-learning materials, equipment and furniture) and school physical environment (beautification of the school environment).

According to Lyons (2014), learning is a complex activity that supremely tests students' motivation and physical condition. Teaching resources, teachers' skill, and curriculum, all play a vital role in a child's education. Lyons went ahead to emphasize that while a good teacher can teach anywhere, yet there is a direct relation between the condition and utility of the school facility and learning. The classroom is the most important area within a school. It is here that students spend most of their time, hopefully in an environment conducive for learning. Learning in the classroom requires a reasonable level of concentration, listening, writing, and reading. Students are more likely to prosper academically when their environment is conducive to learning. He also opined that facility condition may have a stronger effect on students' performance than the combined influences of family background, socio-economic status, school attendance, and behavior. To a great extent, I agree with his opinion – since the student is often what the environment makes him.

According to Abdulkareem (2014) educators are to renovate or design buildings that provide the appropriate infrastructure for new learning approaches, mode of instruction, as well as tools for technology that improves teaching and learning. In the view of Adigun (2014), inadequacy of learning facilities in schools is also

responsible for poor and fallen standard of education. Many schools lack necessary facilities to train the child to see what is being taught because the teacher must demonstrate what is being taught and give notes accordingly. This eventually gives room to examination fraud.

Inadequate facilities in schools will definitely affect the smooth teaching and learning process. It is known that the academic performance of each student depends to a large extent on the facilities they are exposed to while learning. For instance, students in science class who always learn in abstract, that is without practical knowledge, of what the teacher is saying cannot have effective learning and this will automatically affect his/her academic performance. Also the non availability of teaching facilities like textbooks, buildings, chart, chalkboards etc. have hindered students performance academically and this has resulted in their low interest in most of the subjects offered in their various level in secondary schools; but when they offer them, their low educational level in those areas will bring about non-academic confidence thus leading to examination fraud.

### **Parental Involvement in examination fraud**

In education, parents, teachers and students are stakeholders. Societal pressures have made parents to abandon their primary responsibilities at the home. Parents now leave home early and return late in the night without reading through the child's school work (Adigun, 2014). He also opined that the involvement of children in too much household chores like fetching of water and other errands caused by societal challenges

tell much on the children who are preoccupied with engagements outside their academic learning. Some parents don't allow their children to read. The inability of the child to attempt take-home assignments has negative effects on learning and contributes to poor academic performance and consequently cause examination fraud.

In the opinion of Ndefo (2014), examination fraud in Nigeria is traceable to parents. Parents bribe teachers, or buy live examination papers for their children, or pay mercenaries to write examination for their children. These parents who supposed to show the right way for their children to follow, instead engage in helping them to cheat early in life. The parents can therefore be regarded as the unseen hands manipulating events from behind the scene in terms of examination fraud in our secondary schools.

The following are some of the things some parents do to encourage examination fraud in our secondary schools (Ndefo 2014).

- i. Parents pay mercenaries to sit for examination on behalf of their children who are the real candidates.
- ii. Parents move their wards or children to “miracle centers”, where anything goes and very little takes place in the area of invigilation.
- iii. Parents don't educate their children on the dangers of examination fraud such as the scary penalty of N100,000 and 3 years jail term as stated by the Examination Malpractice Act 33 of 1999 constitution; and the incompetent workforce it breeds.
- iv. Most parents' academic record do not challenge their children to work hard to

become like them (Dad and Mum). Hence, these children are highly probable to fall into the temptation of opting for cheaper means of getting good grades through examination fraud.

v. Inadequate financial power of most parents cause their children to only enroll into schools with deplorable educational standards that allow all forms of fraudulent acts.

vi. Some parents were culprits themselves when they were in school; hence, they lack moral justification in standing against it.

vii. The problem of illiteracy of many parents place them in the dark about the existing vices of examination fraud. They feel innocent as long as they are not caught in the act.

Apart from the above, charity, it is often said, begins at home. According to Nnabuo and Okorie (eds) (2005), the major agencies that influence the student's behaviour and discipline or indiscipline are the home, the school and the larger society. The home is the first port of call of the child (student). This is why Elliot, Kratochwill, Littlefield-Cook and Travers (2000) were quoted by Nnabuo and Okorie (eds.)(2005) as saying that what happens during the first two years of life provides the foundation for more formal work. This is to say, what the child becomes in life and the behaviour pattern, mainly start from the home. If the parents do not rise up to their responsibilities early enough, the child grows up to constitute nuisance in the school. Such students do not often concentrate in class, let alone giving respect to teachers. This consequently brings about examination fraud.

## **Appraisal of Related Literature**



All the literature reviewed agreed that examination fraud is common in our secondary schools. Various views were put forth as perceived causes of this phenomenon which include the problem of general societal moral decadence, poor teaching in schools, absence of good guidance counselors, overemphasizing of certificates, inability of students to comprehend what is being taught in classes, high cost of enrolment, etc. Many agreed that there are numerous forms and devices employed by students, some examination officers, some school administrators and teachers, some anxious parents, etc. Some forms or devices mentioned were grouped under mini-headings by some of the writers of the literatures reviewed while others simply mentioned/explained them at random. However, some of the points advanced as forms or devices used by perpetrators of examination fraud include: Impersonation, collusion, mass cheating, dubbing, Tattoo or Body Writing, storing answers in electronic instruments like handset, etc. It is however noticeable that the students of this 'jet age' device new methods of cheating as soon as one way becomes too common.

Teachers' inability to complete their syllabuses is considered a problem giving rise to examination fraud. Some reasons are however advanced by some writers as possible reasons for this problem. Among these are: Incessant strike actions, some teachers' non-chalant attitude to their teaching profession, poor remuneration of teachers, lack of adequate facilities to work with, etc.

Anything worth doing is expected to be done well if the aim must be achieved. Poor study habit among secondary school students is obvious. This gives rise to

inability to comprehend thus leading to the desire to cheat in examinations. Lack of enough/qualified guidance counselors, teachers' truancy/lack of proper care for the students and a lot more cause this.

In a social system like the school, good administration brings effectiveness. On the other hand, poor administration brings about break down of law and order. If there is no cooperation in the school – principal, teachers and students working at cross purposes, then it will bring about poor teaching-learning process and consequently pave way for examination fraud. In my opinion, the authors reviewed were sincere on the determinants of examination fraud as perceived by teachers of public secondary schools. However, I identify more with the views of Nnabuo and Okorie (eds.)(2005) who suggested that the home is the first port of call of every child and whatever happens during the early years of such a child provides the foundation for more formal work. This is to say, whatever each person will become in life and the behaviour pattern mainly start from the home. I agree with this view because charity, as often said, begins at home.

### CHAPTER THREE

#### RESEARCH METHOD AND PROCEDURE

This chapter describes the method used in carrying out this research. It also describes the research design, the population, the sample size, the sampling techniques, the research instrument, its validity and reliability, the procedure for data collection as well as the method of data analysis.

#### **Research Design**

The ex-post facto design has been used in this work employing the survey method. This is because the issues relating to the statement of the problem already exist and are being experienced in Delta State public secondary schools.

#### **Population of the Study**

The population of the study is thirteen thousand and forty seven (13047) teachers in four hundred and thirty five (435) public secondary schools of the twenty five (25) Local Government Areas of the three Senatorial Districts in Delta State (See appendix 2).

#### **Sample and Sampling technique**

A total of 840 teachers were chosen in the sample through simple random sampling and this represents 27.5% of the number of teachers in the selected schools. The secondary schools were stratified into the three senatorial districts in the State:

Delta North, Delta South and Delta Central districts. One hundred and four schools representing 24% of the total schools in the three Senatorial Districts in the State were used for the study. Through simple random sampling, the researcher used 24% of the total Local Government Areas in the three Senatorial Districts (see Table 1). All selected schools were given equal number of questionnaire on the determinants of examination fraud in Delta State Public Secondary schools.

Table 1      SAMPLE OF TEACHERS IN DELTA STATE

S/No.	Senatorial District	LGA	No of Schools	No of Teachers Sampled
1.	Delta Central	Udu	14	140
2.		Uvwie	16	140
3.	Delta North	Ndokwa West	20	140
4		Ndokwa East	25	140
5	Delta South	Isoko South	19	140
6.		Isoko North	17	140
	TOTAL		6 (24%)	104 (24%)
				840 (27.5%)

Source: Field work

## Research Instrument

The instrument used in this research is the questionnaire based on “Determinants of examination Fraud”. There were all together forty-nine items. The 4 point Likert type scale was used. The ‘section A’ of the questionnaire was on respondents’ demographic data. In order to avoid the possibility of prejudice, the names of the respondents were

excluded. 'Section B' was for the responses of the respondents in relation to the determinants of examination fraud in public secondary schools in delta state.

### **Validity of the instrument**

The instrument went through qualified hands. The researcher's supervisor approved it and other experts in this field also gave approval to it based on face validity.

### **Reliability of the instrument**

In order to establish the reliability of the instrument used for the collection of data, the instrument was administered to thirty teachers once in two other separate Local Government Areas which were not part of the sample for the study and the test scores were correlated by using Pearson Product Moment Correlation Coefficient. The computed correlation coefficient was subjected further to Cronbach alpha formula to yield 0.86.

### **Administration of research instrument**

Eight hundred and forty seven copies of questionnaire were administered by the researcher to male and female (married and single as well as young and old) teachers in the sample but eight hundred and forty were retrieved. Instrument was given to only those accessible to avoid getting missing. Majority of the instruments were filled and immediately returned while few others were collected at later fixed date.

## **Method of Data Analysis**

The responses under ‘Strongly Agree’ and ‘Agree’ are grouped under ‘Agreed’ while the responses under ‘Disagree’ and ‘Strongly Disagreed’ are grouped under ‘Disagreed’. Mean and standard deviation were used to answer the research questions while z-test statistics was used to test the hypotheses at 0.05 level of significance.

## CHAPTER FOUR

### PRESENTATION OF RESULTS AND DISCUSSION

This chapter presents the results and the analysis of the data collected. The presentation is done in accordance with the research questions and hypotheses.

#### Research Question 1

What are the forms of examination fraud as perceived by young and older teachers of public secondary schools in Delta State?

Table 1: Mean and standard deviation on the perceptions of young and older teachers on the forms of examination fraud in public secondary schools.

Variable	N	$\bar{x}$	SD	MD
Young Teachers	280	40.73	6.87	
Older Teachers	560	40.46	6.74	0.27

Source: Field Work

Table 1 indicated that a mean difference of 0.27 is in the opinions of young and older teachers on the forms of examination fraud in public secondary schools in Delta State.

#### Research Question 2

To what extent does poor study habit of students contribute to examination fraud in public secondary schools in Delta State?

Table 2: Mean and standard deviation on the opinions of male and female teachers on poor study habit of students as determinant of examination fraud in public secondary schools.

Source: Field Work

Variable	N	$\bar{x}$	SD	MD
Male Teachers	360	48.08	6.13	
Female Teachers	480	35.27	6.72	12.81

The result in Table 2 revealed that there was difference between the opinions of male teachers and female teachers on poor study habit of students as a determinant of examination fraud in public secondary schools in Delta State. There was a mean difference of 12.81 between the two groups.

### Research Question 3

How does teachers' inability to cover required syllabuses promote examination fraud in public secondary schools in Delta State?

Table 3: Mean and Standard deviation of married teachers and the single on teachers' inability to cover required syllabus as determinant of examination fraud in public secondary schools in Delta State.



Variable	N	$\bar{x}$	SD	MD
Married Teachers	540	42.08	6.55	
Single Teachers	300	41.6	6.62	0.48

Source: Field Work

Table 3 shows that inability of experienced and less experienced teachers to cover required syllabuses promotes examination fraud in secondary schools in Delta State. The mean difference of 0.48 between the two variables indicates inability to cover required syllabus which leads to examination fraud in secondary schools.

#### Research Question 4

How does incompetency of school administrators enhance examination fraud in public secondary schools in Delta State?

Table 4: Mean and standard deviation on the opinion of young and older teachers on the incompetence of school administrators as perceived determinant of examination fraud in public secondary schools in Delta State.

Variable	N	$\bar{x}$	SD	MD
Young Teachers	280	43.46	6.77	
Older Teachers	560	38.65	5.57	4.81

Source: Field Work

Table 4 implies that there is difference between the opinions of young and older teachers on the incompetence of school administrators as determinant of examination fraud in public secondary schools. The mean difference of 4.81 between the two variables is shown in the table 4.

#### Research Questions 5

What role does inadequate supply of educational facilities play in relation to examination fraud in public secondary schools in Delta State?

Table 5: Mean and standard deviation on the perceptions of male and female teachers on inadequate supply of educational facilities as a determinant of examination fraud in public secondary schools.

Variable	N	$\bar{x}$	SD	MD
Male teachers	360	44.08	6.11	
Female Teachers	480	42.63	6.48	1.45

Source: Field Work

Table 5 shows that a mean difference of 1.45 indicates the difference between the perceptions of male and female teachers on inadequate supply of educational facilities as a determinant of examination fraud in public secondary schools.

#### Research Question 6

To what extent does parental involvement contribute to examination fraud in public secondary schools in Delta State?

Table 6: Mean and standard deviation on the opinions of married and single teachers on parents' involvement in examination fraud in public secondary schools.

Variable	N	$\bar{x}$	SD	MD
Married Teachers	540	43.06	5.80	
Single Teachers	300	40.70	6.75	2.36

Source: Field Work

Table 6 shows that a mean difference of 2.36 exists between the opinions of married and single teachers on parents' involvement in examination fraud in public secondary schools in Delta State.

## HYPOTHESES

### Hypotheses 1

There is no significant difference between the perceptions of young and older teachers on the forms of examination fraud in public secondary schools in Delta State.

Table7: z-test analysis of young and old teachers on the perceived forms of examination fraud in public secondary schools in Delta State.

Variables	N	$\bar{X}$	SD	DF	z-Cal	z-Crit	Decision
Young teachers	280	40.73	6.87	838	1.08	1.96	Not significant (Retained)
Older teachers	560	40.46	6.74				

Source: Field Work

P = 0.05

Table 7 indicates that the z-calculated value of 1.08 is less than the z-critical value of 1.96. Therefore, the null hypothesis is retained. This shows that there is significant difference between the perceptions of young and older teachers on the forms of examination fraud in public secondary schools in Delta State.

## Hypotheses 2

There is no significant difference between the opinions of male and female teachers on poor study habit of students as a determinant of examination fraud in public secondary schools in Delta State.

Table 8: z-test analysis of male and female teachers' opinions on poor study habit of students as a determinant of examination fraud in public secondary schools in Delta State.

Variables	N	$\bar{X}$	SD	DF	z-Cal	z-Crit	Decision
Male Teachers	360	48.08	6.13	838	26.25	1.96	Significant (Rejected)
Female Teachers	480	35.27	6.72				

Source: Field Work

P = 0.05

Table 8 shows that the z-calculated value of 26.25 is greater than the z-critical value of 1.96. Therefore, the null hypothesis is rejected. This implies that there is significant difference between the opinions of male and female teachers on poor study habit of students as a determinant of examination fraud in public secondary schools in Delta State.

### Hypotheses 3

There is no significant difference between the responses of experienced and less experienced teachers' inability to cover their required syllabuses as perceived determinant of examination fraud in public secondary schools in Delta State.

Table 9: z-test analysis of married and single teachers on inability to cover their required syllabuses as perceived determinant of examination fraud in public secondary schools in Delta State.

Variables	N	$\bar{X}$	SD	DF	z-Cal.	z-Crit.	Decision
Married Teachers	540	42.08	6.55	838	1.01	1.96	Not significant (Retained)
Single Teachers	300	41.6	6.62				

Source: Field Work

P = 0.05

The result in table 9 reveals that the z-calculated value of 1.01 is less than the z-critical value of 1.96. The null hypothesis is therefore retained. This shows that there was no

significant difference between the responses of experienced and less experienced teachers on teachers' inability to cover their required syllabuses as a determinant of examination fraud in public secondary schools in Delta State.

#### Hypotheses 4

There is no significant difference between the perceptions of young and older teachers on the incompetence of School Administrators as a determinant of examination fraud in public secondary schools in Delta State.

Table 10: z-test analysis of perceptions of young and older teachers on the incompetence of School Administrators as a determinant of examination fraud in public secondary schools in Delta State.

Variables	N	$\bar{X}$	SD	DF	z-Cal	z-Crit	Decision
Young Teachers	280	43.46	6.77	838	11.01	1.96	Significant (Rejected)
Older Teachers	560	38.65	5.57				

Source: Field Work

P = 0.05

In table 10, the z-calculated value of 11.01 is greater than the z-critical value of 1.96.

Hence, the null hypothesis is rejected. This indicates that there is significant difference

between the perceptions of young and older teachers on the incompetence of School Administrators as a determinant of examination fraud in public secondary schools in Delta State.

#### Hypotheses 5

There is no significant difference between the opinions of male and female teachers on inadequate supply of educational facilities as a determinant of examination fraud in public secondary schools in Delta State.

Table 11: z-test analysis of male and female teachers' opinions on inadequate supply of educational facilities as a determinant of examination fraud in public secondary schools in Delta State.

Variables	N	$\bar{X}$	SD	DF	z-Cal	z-Crit	Decision
Male Teachers	360	44.08	6.11	838	3.32	1.96	Significant (Rejected)
Female Teachers	480	42.63	6.48				

Source: Field Work

P = 0.05

Table 11 shows that the z-calculated value of 3.32 is greater than the z-critical value of 1.96. Hence the null hypothesis is rejected. This reveals that there is significant difference between the responses of male and female teachers on inadequate supply of

educational facilities as a determinant of examination fraud in public secondary schools in Delta State.

#### Hypotheses 6

There is no significant difference between the views of experienced and less experienced teachers on parents' involvement as determinant of examination fraud in public secondary schools in Delta State.

Table 12: z-test analysis of married and single teachers' views on parents' involvement in examination fraud in public secondary schools in Delta State.

Variables	N	$\bar{X}$	SD	DF	z-Cal	z-Crit	Decision
Married Teachers	540	43.06	5.80	6.75	5.40	1.96	Significant (Rejected)
Single Teachers	300	40.70	6.75				

Source: Field Work

P = 0.05

In Table 12, the z-calculated value of 5.40 is greater than the z-critical value of 1.96. Therefore, the null hypothesis is rejected. This indicates that there is significant difference between the views of experienced and less experienced teachers on parents' involvement in examination fraud in public secondary schools in Delta State.

### Discussion of Results



The result of the first hypotheses tested shows that there was significant difference between the responses of teachers below thirty-one years of age and teachers above thirty years of age on the perceived forms of examination fraud in public schools in Delta State. It is clear that both the teachers below thirty-one years of age and those above thirty years of age concur that there are various forms through which examination fraud is perpetuated in public secondary schools in Delta State. This finding supports the views of Shon (2006) who suggested various forms through which examination fraud is carried out in public secondary schools, among which are: Tactical development, semiotic methods, collaborative cheating and creative smuggling. The finding also supports the views of Gbagolo (2011) who added that procurement of answer booklets, enrolling syndicates and self as well as deliberate late submission of parcels by the supervisor are forms of examination fraud in public secondary schools.

The findings from this study also indicate that there is significant difference between the opinions of male and female teachers on poor study habit of students as a determinant of examination fraud in public secondary schools in Delta State. Nevertheless, the central problem noted is that many of these students had not learned how to take notes and manage time for studying effectively. This finding supports the opinion of Mendezabal (2013) that study habit is the pattern of behavior adopted by students in the pursuit of their studies that serves as the vehicle of learning. It is the degree to which the student engages in regular acts of studying that are characterized

by appropriate studying routines (e.g. reviews of material, frequency of studying sessions, et cetera.) occurring in an environment that is conducive to studying.

The result in hypothesis 3 reveals that there is no significant difference between the responses of married and single teachers on teachers' inability to cover required syllabuses as a determinant of examination fraud in public secondary schools in Delta State. This finding is in line with the view of Akpotu (2006) who mentioned that the teacher is the main focus of change and the anchor in the teaching-learning process, indeed the main determinant of quality in the educational system. Good teaching is required to help the learner more quantitatively and qualitatively. This finding is equally in line with the opinion of Chiemeka (2013) who commented that most teachers in our schools are not doing effective teaching. Many teachers find it hard to attend classes as at when due. Some do not even plan their lessons accordingly only to cheat the students instead of teaching them. When this is the situation, students actually have little or no knowledge of what is expected of them and they have no alternative than to resort to examination fraud

Furthermore, results also indicate that there is significant difference between the opinions of teachers below thirty one years of age and teachers above thirty years of age on the incompetence of school administrators as a determinant of examination fraud in public secondary schools in Delta State. It indicates that to a great extent, the incompetence of secondary school administrators can encourage examination fraud in public secondary schools in Delta State. This is in line with the view of Ikoya (2014)

who mentioned that the essence of leadership is to serve, and no one can serve a people effectively without humility. Hence he recommended that individuals aspiring to the position of leadership should have vision, intelligence, humility, trust and ability for effective communication. In addition, the finding is in line with the opinion of Agabi and Okorie (2002) who mentioned that, for the school administrator to attain his goals there must be serious involvement in various types of administrative activities such as rational decision making, planning, coordinating and evaluating the school programmes and the performance of other workers in the school system.

The findings from the study show that there is significant difference between the responses of male and female teachers on inadequate supply of educational facilities as a determinant of examination fraud in public secondary schools in Delta State. It indicates that to a great extent, inadequate supply of educational facilities can encourage examination fraud in public secondary schools in Delta State. This finding supports the studies of Bert (2011) who said that the evaluation of school facilities along with reform movements allow educators and planners to align academic initiatives with tangible factors of the school. He also mentioned that students in classrooms with good facilities perform 19 to 26% academically better than their peers in classrooms without these features.

The result in hypothesis 6 indicates that there is significant difference between the opinions of married teachers and the single on parents' involvement in examination fraud in public secondary schools in Delta State. The implication is that, not all parents

get involved in examination fraud to aid their wards academically – though this does not rule out the fact that many parents do so. This finding is in line with the views of Ndefo (2014) who said that examination fraud in Nigeria is traceable to parents. Some parents bribe teachers, buy live examination papers for their children, pay mercenaries to write examination for their children et cetera. Ndefo also went ahead to suggest that some parents don't educate their children on the dangers of examination fraud. He also added that most parents' academic record do not challenge their children to work hard to become like them (Dad and Mum). Hence, such children may be prone to the temptation of examination fraud.

## CHAPTER FIVE

### SUMMARY, FINDINGS, CONCLUSION AND RECOMMENDATIONS

This chapter presents the summary of the study, findings, conclusion and the recommendations for the further studies.

## **Summary**

This study is a descriptive survey meant to ascertain the determinants of examination fraud in public secondary schools in Delta State. The purpose of the study was to:

- Determine the perceived forms of examination fraud in public secondary schools in Delta State.
- Determine the part which poor study habit among students and teachers' inability to complete their syllabuses play in examination fraud in public secondary schools in Delta State.
- Determine the role of incompetency of school Administrators and inadequate supply of educational facilities in relation to examination fraud in public secondary schools in Delta State.
- Consider parental involvement in examination fraud in public secondary schools in Delta State.

In order to ascertain the above, six research questions were raised to serve as guide for the study. Simple random sampling technique was used to ascertain the number of Local Governments, the schools and the number of teachers.

A questionnaire form was designed by the researcher to get information from the respondents. Mean and standard deviation were used to analyze the research

questions while Z-test statistics was used to test the hypotheses at 0.05 level of significance.

## **Findings**

The followings are findings of the study:

1. The opinion of young teachers was different from that of the older teachers in relation to the perceived forms of examination fraud in public secondary schools in Delta State.
2. There was a difference in the views of male teachers and that of the female teachers on students' poor study habit as a determinant of examination fraud in public secondary schools in Delta State.
3. There was no difference in the opinions of married teachers and the single as to whether inability of teachers to cover their required syllabuses can encourage examination fraud in public secondary schools in Delta State.
4. The opinion of older teachers was not different from that of the young teachers concerning incompetency of school administrators as a determinant of examination fraud in public secondary schools in Delta State.
5. There was a difference in the views of male teachers and that of the female teachers vis-à-vis inadequate supply of education facilities as a determinant of examination fraud in public secondary schools in Delta State.

6. There was also a difference in the opinion of experienced teachers and the less experienced teachers in relation to parents' involvement in examination fraud in public secondary schools in Delta State.

## **Conclusion**

The following conclusion is based on the findings of the study:

Teachers perceived incompetency on the part of school administrators as well as poor reading habit of students as factors that encourage examination fraud in public secondary schools in Delta State.

Teachers also perceived inability to cover their required syllabuses as determinant of examination fraud in public secondary schools in Delta State.

Some respondents feel that the problem of examination fraud has come to stay in the educational system and might be difficult to be done away with in public secondary schools in Delta State.

## **Recommendations**

The following recommendations are made based on the findings in this study:

1. There is the need to create more awareness of the consequences of examination fraud. This could be done through seminars, workshop and public enlightenment campaign.
2. Students should be educated and built up in proper reading culture.
3. There is the need for more routine visits to schools in order to make both teachers and school administrators to be more serious with their job.
4. Those found guilty of examination fraud should be made to face the wrath of the law.
5. Experience should be emphasized more than mere certificates.
6. There is also the need for more periodic re-training of both teachers and school administrators to bridge the gap of major differences in opinions in relation to examination fraud and some other vices perpetuated in the State.

### **Contribution to Knowledge**

This study made the following contributions to knowledge:

1. Poor institutional practices such as poor study habit among students, inability of teachers to cover their required syllabuses, incompetency of school Administrators, inadequate supply of educational facilities and parental negative involvement are agents that encourage examination fraud in public secondary schools in Delta State.
2. Age, marital status and gender differences, to some extent, affect the level of involvement in examination fraud in public secondary schools in Delta State.



### **Limitation of the study**

While conducting the study, the researcher experienced a difficulty which would have delayed the work and would have also affected the findings of the study. This has to do with the reluctance of some teachers to collect the instrument. Some of the teachers who collected it were reluctant to fill and return same. Nevertheless, all required information for the study were supplied and used for the data analysis.

### **Suggestions For Further Studies**

Based on this study, the following suggestions are made for further studies:

1. A similar study could be carried out using private secondary schools in the State.
2. A wider and detailed study could be carried out on parental involvement as a determinant of examination fraud.

## **REFERENCES**

- Abdulkareem, A. Y., (2014). *Management of Educational Facilities in Nigerian Secondary Schools: The Roles of Administrators and Inspectors*. Retrieved from [www.unilorin.edu.ng/publications/abdulkareemay/](http://www.unilorin.edu.ng/publications/abdulkareemay/)
- Adeyegbe, S., and Oke, M., (1994). *The New and widening Dimensions of Examination Malpractice and the Effects on the Integrity of Educational Credentials in the West African Sub-Region*. Paper presented at the 12<sup>th</sup> Annual Conference of the Association of Educational Assessment in Africa(AEAA) September 19<sup>th</sup> - 21st Accra, Ghana.
- Adigun, L.(2014, July 10). *Teachers, parents are involved in exam malpractices*. Daily Independence, p.150
- Agabi, O., and Okorie N., (1999, 2002). *Introduction to Management of change in education*. Uniport: Pam Unique Publishing Coy Ltd.
- Akpotu, N.E.(2006). *“Examination Malpractice in Nigeria”*. In Itedjere P. (ed.) (2006) *Current Issues in Nigeria Educational System*. Abraka: Delsu Publishers, Delsu.
- Awang, M. and Sinnadurai, S.K. (2010). A study on the development of strategic tools in study orientation skills towards achieving academic excellence. *Journal of Language Teaching and Research*, Vol. 2, No. 1, pp. 60-67.
- Babakk's B. (2010), [A research project on Study Habit, Locust of control and academic achievement in junior secondary schools in Ogun state Nigeria](http://babakk.wordpress.com/2010/05/11). Retrieved from <http://babakk.wordpress.com/2010/05/11>
- Bashir, I. & Mattoo, N. (2012). *A study on study habits and academic performance of adolescents (14-19) years*. *International Journal of Social Science Tomorrow*, Vol. 1 (5).
- Boehler, M.(2001). An evaluation of study habits of third-year medical students in a surgical clerkship. *The American Journal of Surgery*, Vol. 181 (3), 268-271.
- Blanchard K., Meyer P., & Rube, D. (2007). *Know Can Do!: Put your Know-How into Action*. Benin City: Joint Heirs Publication Nig. Ltd.

- Bruno, O., and Obidigbo, G., (2011). *The counseling implications of examination malpractice among university undergraduates*. Retrieved from <http://ajhss.org/pdfs/Vol2Issue2/9.pdf>.
- Chiemeka C. (2013). *Concept of Examination Malpractice*. Retrieved from <http://chiemekaodera.blogspot.com/>
- Cizek, G. (1999). *Cheating on Tests: How to Do It, Detect It, and Prevent It*. Mahwah, NJ: Lawrence Erlbaum & Associates.
- Demir, S., Kilinc, M., & Dogan, A. (2012). The effect of curriculum for developing efficient studying skills on academic achievements and studying skills of learners. *International Electronic Journal of Elementary Education*, Vol. 4 (3), 427-440.
- Emeka, N., (2014). *Students blame Parents for Examination Malpractice*. Internet Retrieved from <http://emekandefo.com/blog/blog/2014/03/20/students-blame-parents-for-examination-malpractice/>
- Farrel, and Daniel, L (1995). *A frame of reference for understanding behaviours related to the academic misconduct of undergraduate teacher*. *Research in Higher Education*, 36, 345-375.
- Gbagolo, H. (2011). *Continental Journal of Education Research* 4 (3):34-43
- Getzels, J.W., and Guba, E.G., (1957). *Social Behavior and the Administrative Process*. *School Review*, 65,423-41
- Gottfredson and Hirschi (1990). *A General Theory of Crime*. Stanford, CA: Stanford University Press.
- Hassanbeigi, A. et al. (2011). The relationship between study skills and academic performance of university students. *Procedia-Social and Behavioral Sciences*, Vol. 30. 1416-1424.
- Hiko, M.A. (2008). *Examination malpractice causes and implication*. A paper presented at the occasion of 2007/2008 session orientation for 100 level students, 11th March.
- Hoy, W., and Miskel, C., (2008). *Educational Administration: Theory, Research and Practice*. MacGraw Co. Inc., New York.

- Ikede, R. (2012). *Why Exams Fraud Must Stop*. The Pointer, Thursday December 6.
- Loyns, J.B., (2014). *Do School Facilities Really Impact A Childs Education? The Rural School and Community Trust*. Retrieved from [www.barbaralawrence@mediaone.net](http://www.barbaralawrence@mediaone.net)
- Kelly, J. and Worrell, L. (1978). Personality characteristics, parent's behaviors, and sex of subject in relation to cheating. *Journal of Research in Personality*, 12, 179-188.
- Khurshid, F., Tanveer, A., & Qasmi, F. (2012). Relationship between study habits and academic achievement among hostel living and day scholars' University students. *British Journal of Humanities and Social Sciences*, Vol. 3 (2), 34-42.
- Lillian, C. and Daniel, N. (2014), "Students and Staff Perceptions on Examination Malpractice and Fraud in Higher Education in Zimbabwe" *Asian Journal of Humanities and Social Sciences (AJHSS)*, Volume 2—Issue 2, ISSN: 2320-9720.
- Maduemezia, M. U. (1998). *Examination Malpractice in the Senior School Certificate Examination: Current Trends, Problems and Prospects*. Paper presented at the WAEC monthly seminar, Lagos, June.
- Mendezabal, M. (2013). *Study Habits and Attitudes: The Road to Academic Success*. Retrieved from <http://scholar.google.com/scholar>
- Mutsotso, S.N. and Abenga, E.S. (2010). Study methods for improving quality learning and performance in higher education. *Educational Research and Review*, Vol. 5 (12), 808-813.
- Nasiru, S. (2012). *Nigerians and examination fraud*. New Nigerian Newspaper. Retrieved from <http://www.duniyanrcomputer.com>
- Ndefo, E. (2014), *Students blame parents for examination malpractice*. Retrieved from <http://emekandefo.com/blog/blog/2014/03/20/students-blame-parents-for-examination-malpractice/>

- Nigerian Muse (2007). *Federal Ministry of Education: 2005 WAEC/NECO Exam malpractice. Blacklist of Recognized Secondary Schools in Nigeria*. Retrieved from <http://www.fine.gov.ng/Downloads/Schools>
- Nnabuo, Okorie (eds) (2005). *Fundamentals of Educational Management*. Oweri: OJ Prints.
- Nuthana, P. & Yenagi, G. (2009). Influence of study habits, self-concept on academic achievement of boys and girls. *Kartanaka Journal of Agricultural Science*. Vol. 22, (5), 1135-1138.
- Nwahunanya, C. (2004). *Examination Malpractice: A threat to the Credibility of Distance education*. Retrieved from <http://ajhss.org/pdfs/Vol2Issue2/9.pdf>.
- Obidigbo, G.C.E. (2011). *The connection between exam malpractice and exam anxiety*. Paper delivered to Enugu Psychological Consortium Forum held at Enugu, 17th August.
- Ogonor, B. (2014). *Above the Ivory Tower: School strategies for educational goal attainment*. Abraka: University Printing Press.
- Olujuwon, T. (2013). *Examination malpractices and the academic performance of secondary school students in public examination*. M. Ed Thesis, Department of Educational Management, Lagos State University, Ojo.
- Otto, E.P. (1978). *Study behavior and tertiary academic achievement*. *Australian Journal of Teacher Education*, Vol. 3 (2), Article 4.
- Peretomode, V.F. (2012). *Theories of management – Implication for educational administration*. Benin City: Justice Jeco Printing & Publishing Global.
- Phillip C., (2006). *How College Students Cheat On In-Class Examinations: Creativity, Strain, and Techniques of Innovation*. MI: M Publishing, University of Michigan Library.
- Royal Times, Nigeria, (2012, December 29). *Examination malpractices contributed to the rot in education system*. Retrieved from <http://royaltimes.net/education/examinationmalpractice>

- Sarwar, M. et. al (2010). Study attitude and academic achievement at secondary level in Pakistan. *Journal of College Teaching and Learning*, Vol. 7 (2).
- Shom, P. (2006). *How College Students Cheat on in-class examination: Creativity strain and techniques of innovation*. Retrieved from <http://quod.lib.umich.edu/p/plag>
- Silver, P.F.,(1983). *Educational Administration: Theoretical Perspectives on Practice and Research*. New York: Herpar & Row Publishers.
- Smith, T. (2000). *Challenging Academe's Mystique: Applying Criminological Theories to College Student Cheating*. Ph.D. Dissertation. University at Albany, State University of New York: School of Criminal Justice.
- Tamer, A. (2012), *An Empirical Analysis On The Determinants Of Fraud Cases In Turkey*. *International Journal of Business and Social Science* Vol. 3 No. 1; 157
- Tella, A. (2007). The impact of motivation on student's academic achievement and learning outcomes in mathematics among secondary school students in Nigeria. *Eurasia Journal of Mathematics, Science, & Technology Education*, Vol. 3 (2): 149-156.
- The Editorial (2012, April 8). *Parents and Examination Malpractice*. Punch Newspaper. Retrieved from <http://www.punchng.com/editorial/parents-and-examination-malpractice>
- The Editorial (2012, December 6). *Why examination fraud must stop*. The Pointer Newspaper. Retrieved from <http://thepointernewsonline.com>
- Ugwu, C. (2008). *The Menace of Examination Malpractice*. Retrieved from [Http://Feathersproject.Wordpress.Com/2008/07/16](http://Feathersproject.Wordpress.Com/2008/07/16).
- Uzoigwe, G.O., (n.d), *Corruption in Education and Assessment System: The WAEC Experience in Nigeria*. Retrieved from [www.iaea.info/documents/paper - 1162d1b538.pdf](http://www.iaea.info/documents/paper - 1162d1b538.pdf)

Yu, D. (2011). How much do study habits, skills, and attitudes affect student performance in introductory college accounting courses? *New Horizons in Education*, Vol. 59 (3)

## APPENDIX

### Appendix 1

**DELTA STATE UNIVERSITY, ABRKA. FACULTY OF EDUCATION. DEPARTMENT OF EDUCATIONAL ADMINISTRATION AND POLICY STUDIES**

### **QUESTIONNAIRE**

Sir/ma,

This questionnaire is aimed at obtaining information from teachers in Delta State public secondary schools on “***The Determinants of Examination Fraud***”. Kindly and sincerely respond to the following items. Your responses will be treated with confidentiality.

T h a n k s.

Obe O Charles  
*Signed*

Please tick ( ☐ / ) as appropriate in the spaces provided below:

#### **SECTION A** (Personal Data)

**Sex:**        Male ( ☐ )        Female ( ☐ )

**Marital Status:** Single ( ☐ )        Married ( ☐ )

**Age range:** 30 and below        ( ☐ )        31 and above (....)

#### **SECTION B**

Please respond to the followings by indicating (✓) which is appropriate  
(4)Strongly Agree (3) Agree (2) Disagree (1) Strongly Disagree

	4	3	2	1
<b>Forms of examination fraud</b>	SA	A	D	SD
1. There are various forms of examination fraud in vogue.				
2. Forms of examination fraud vary from school to school.				
3. Some forms of examination fraud depend on the sex of the perpetrator.				
4. Impersonation (hiring of touts to write examination by appearing in the hall as the genuine candidate) is a form of examination fraud.				
5. Collusion (assigned invigilators or supervisors receiving or giving assistance to candidates in the examination hall for gratification) is a form of examination fraud.				
6. Examination leakages (situation where question papers are seen by candidates prior to the writing of the examinations, traceable to the printing press or persons connected with the custody of the question) is another form of examination fraud.				
7. Smuggling of answer scripts which involves candidates having external assistance to take to and from the examination hall answer scripts duly prepared by syndicates in connivance with invigilators, supervisors and other examination officials is a form of examination fraud.				
8. Dubbing, an arrangement involving the invigilators or supervisors whereby candidates are allowed to copy				



from each other in the hall, is a form of examination fraud.				
9. Bringing of foreign materials into the examination hall (such as textbooks, cribs, photocopies of prepared answers etc) is another form of examination fraud.				
10. Enrolling syndicate and self is a form of examination fraud (during the enrolment, the syndicate will be enrolled alongside with the candidate using fake names. In the examination hall, the syndicate will be doing the writing and at the end exchange answer booklet with the candidate).				
11. Mass cheating (traceable to large scale organized cheating involving school authorities, examination officials and candidates through the answering of the questions on the chalkboard for the candidates to copy) is a form examination fraud.				
<b>Study habit among students</b>				
12. Study habit of students is the immediate cause of examination fraud in our secondary schools.				
13. Parents are to blame for poor study habit among our students which promote examination fraud.				
14. Absence of good instructional materials affects students' study habit.				
15. The age of students in secondary schools nowadays affect their study habit.				
16. Poor study habit is hereditary thereby promoting examination fraud in our secondary schools.				
17. Home background contributes to the study habit of students.				

<p>18. Absence of adequately qualified Guidance Counselors contributes to students' poor study habit thereby encouraging examination fraud.</p> <p>19. Peer group pressure is capable of influencing the study habit of our secondary students.</p> <p><b>Inability of teachers to cover required syllabuses</b></p> <p>20. Teachers' inability to complete their required syllabuses promotes examination fraud.</p> <p>21. Teachers' inability to complete their required syllabuses affect the students who are not hardworking, thereby promoting examination fraud.</p> <p>22. Delay in payment of teacher's salaries can bring about low morale in teachers thereby affecting their zeal to work.</p> <p>23. Teachers do not complete their syllabuses because they are often saddled with other responsibilities.</p> <p>24. When the class ratio is high e.g 40 students to a teacher, the ability of teachers to effectively complete their syllabuses is affected.</p> <p>25. Students' poor response to teaching and learning makes teacher not to complete their syllabuses thereby leading to examination fraud.</p> <p>26. Teachers' inability to complete their syllabuses is caused by lack of educational materials which consequently promotes examination fraud.</p> <p>27. Teachers' inability to complete their syllabuses is due to industrial actions and this encourages examination fraud.</p>				
---	--	--	--	--

28. Teachers do not complete their syllabuses due to their nonchalant attitude to government work thereby promoting examination fraud.				
<b>Competency of school administrators</b>				
29. Incompetence of school administrators causes examination fraud.				
30. Ineffective school administration could be due to inexperience on the part of school administrators, thereby promoting examination fraud.				
31. Incompetence of school administrators is common in rural areas thereby promoting examination fraud there.				
32. Poor school administration is the result of previous examination fraud on the part of some unqualified administrators who cheated their way to the top.				
33. Ineffective school administration has no bearing on students' involvement in examination fraud.				
34. Administrators do not often perform well because enough funds are not released by government for them to run the schools.				
35. If educational inspectors do their work well, school administrators will work harder and thereby reduce the rate of examination fraud in our secondary schools.				
<b>Inadequate supply of educational facilities</b>				
36. Inadequate supply of educational facilities contributes to the incidence of examination fraud in Delta State secondary schools.				

<p>37. Inadequate supply of educational facilities is as a result of misplaced priority by government in allocation of funds, hereby causing Examination fraud.</p> <p>38. Inadequate supply of educational facilities has no effect on proper study in this computer age to the extent of causing examination fraud.</p> <p>39. There is adequate supply of educational facilities in Delta State Secondary Schools but mismanagement of same is the problem.</p> <p>40. There is likely not going to be a time when there will be adequate supply of educational facilities to prevent examination fraud in our Secondary schools.</p> <p><b>Parental Involvement</b></p> <p>41. Some parents pay mercenaries to write examinations for their children or wards.</p> <p>42. Parents do not educate their children or wards on the consequences of examination fraud.</p> <p>43. The poor financial status of some parents makes them to encourage their children to go into examination fraud to make their papers once and for all.</p> <p>44. Some parents must have cheated their way through during their school days so they have no moral justification to stand against it.</p> <p>45. Illiteracy on the part of some parents makes them encourage or close their eyes to their children's involvement in examination fraud.</p> <p>46. Children and wards of rich parents often get involved in examination fraud.</p> <p>47. Some parents are too busy to attend to their children's academic needs, thereby leading to examination fraud.</p> <p>48. Parents who pamper their children are the cause of such children's immoral behaviour leading to examination fraud.</p> <p>49. Children from broken homes are likely to be more involved in examination fraud.</p>				
--	--	--	--	--

--	--	--	--	--

Appendix ii

*Teachers in Public Secondary Schools in Delta State*

<b>Ser. No.</b>	<b>Senatorial Districts</b>	<b>Local Government Areas</b>	<b>Number of Schools</b>	<b>Number of Teaching Staff</b>
1	Delta Central	Ethiope East	25	714
2		Ethiope West	21	415
3		Okpe	16	407
4		Sapele	17	840
5		Udu	14	593
6		Ughelli North	42	1367
7		Ughelli South	24	508
8		Uvwie	16	1,064
9	Delta North	Aniocha North	19	469
10		Aniocha South	19	503
11		Ika North-East	17	794
12		Ika South	18	817
13		Ndokwa East	25	224

14		Ndokwa West	20	320
15		Oshimili North	12	506
16		Oshimili South	10	992
17		Ukwuani	13	353
18	Delta South	Bomadi	9	111
19		Burutu	19	169
20		Isoko North	17	412
21		Isoko South	19	446
22		<b>Patani</b>	<b>9</b>	<b>107</b>
23		<b>Warri North</b>	<b>10</b>	<b>171</b>
24		<b>Warri South</b>	<b>18</b>	<b>662</b>
25		<b>Warri South-West</b>	<b>6</b>	<b>83</b>
<b>Grand Total:</b>			<b>435</b>	<b>13,047</b>

**Source: Post Primary Education Board, Asaba, 26<sup>th</sup> June, 2014**

### **Appendix iii TEST OF RELIABILITY**

#### **Case Processing Summary**

	<b>N</b>	<b>%</b>
<b>Cases Valid</b>	<b>30</b>	<b>100.0</b>
<b>Excluded<sup>a</sup></b>	<b>0</b>	<b>0</b>
<b>Total</b>	<b>30</b>	<b>100.0</b>

**a. Listwise deletion based on all variables in the procedure**

#### **Reliability Statistics**

---

<b>Total No. of items</b>	<b>2</b>
<b>Correlation between forms</b>	<b>.747</b>
<b>Cronbach alpha    Equal Length</b>	<b>.855</b>
<b>Unequal Length</b>	<b>.855</b>

#### Appendix iv

#### Hypotheses 1

Mean and standard deviation of young teachers on the perceived forms of examination fraud in public secondary schools in Delta State.

Class interval	Mid point X	Frequency F	D	d <sup>2</sup>	Fd	Fd <sup>2</sup>	
50 – 54	52	36	2	4	72	144	
45 - 49	47	63	1	1	63	63	
40 – 44	42	42	0	0	0	0	
35 – 39	37	72	-1	1	-72	72	
30 – 34	32	67	-2	4	-134	268	
		$\Sigma f = 280$			$\Sigma fd = -71$	$\Sigma fd^2 = 547$	

$$\begin{aligned} \text{Mean } (X_2) &= \text{Assumed mean} + \frac{(\Sigma fd)i}{\Sigma f} = 42 + \frac{(-71)5}{280} = 42 + \frac{(-355)}{280} = 42 + (-1 \cdot 2679) \\ &= 42 - 1 \cdot 2679 \\ \bar{x}_1 &= 40.73 \end{aligned}$$

$$\begin{aligned} SD_1 &= \sqrt{\frac{\Sigma fd^2}{\Sigma f} - \left(\frac{\Sigma fd}{\Sigma f}\right)^2} \\ &= \sqrt{5 \cdot \frac{547}{280} - \left(\frac{-71}{280}\right)^2} = 5\sqrt{1 \cdot 9534 - (-0 \cdot 2536)^2} = 5\sqrt{1 \cdot 9534 - 0 \cdot 0643} \\ &= 5\sqrt{1 \cdot 8891} \end{aligned}$$

$$\begin{aligned} &= 5 \times 1 \cdot 3744 \\ SD_1 &= 6.87 \end{aligned}$$

$$\text{Variance } (S_2^2) = (SD)^2$$

$$\text{Variance } (S_1^2) = (6.87)^2$$

$$S_1^2 = 47 \cdot 20$$

Mean and standard deviation of older teachers on the perceived forms of examination fraud in public secondary schools in Delta State.

Class interval	Mid point X	Frequency F	D	d <sup>2</sup>	Fd	Fd <sup>2</sup>	
50 – 54	52	43	2	4	86	172	
45 - 49	47	155	1	1	155	155	
40 – 44	42	114	0	0	0	0	
35 – 39	37	83	-1	1	-83	83	
30 – 34	32	165	-2	4	-330	660	
		$\Sigma f = 560$			$\Sigma fd = -172$	$\Sigma fd^2 = 1070$	

$$\begin{aligned} \text{Mean } (\bar{X}_2) &= \text{Assumed mean} + \frac{(\Sigma fd)i}{\Sigma f} = 42 + \frac{(-172)5}{560} = 42 + \frac{(-860)}{560} = 42 + (-1 \cdot 536) \\ &= 42 - 1 \cdot 536 \\ \bar{x}_2 &= 40.46 \end{aligned}$$

$$\begin{aligned} SD_2 &= i \sqrt{\frac{\Sigma fd^2}{\Sigma f} - \left(\frac{\Sigma fd}{\Sigma f}\right)^2} \\ &= 5 \sqrt{\frac{1070}{560} - \left(\frac{-172}{560}\right)^2} = 5 \sqrt{1.9107 - (-0.3071)^2} = 5 \sqrt{1.9107 - 0.0943} \\ &= 5 \sqrt{1.8164} \\ &= 5 \times 1.3477 \\ SD_2 &= 6.74 \end{aligned}$$

$$\text{Variance } (S_2^2) = (SD)^2$$

$$\text{Variance } (S_2^2) = (6.74)^2$$

$$S_2^2 = 45 \cdot 43$$



$$Z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} = \frac{40.73 - 40.46}{\sqrt{\frac{47.20}{280} + \frac{45.43}{560}}} = \frac{0.27}{\sqrt{0.1686 + 0.0811}} = \frac{0.27}{0.2497}$$

Z – Calculated = 1.081

## Hypothesis 2

Mean and standard deviation of male teachers on poor study habit of students as determinant of examination fraud in public secondary schools in Delta State.

Class interval	Mid point X	Frequency F	d	d <sup>2</sup>	Fd	Fd <sup>2</sup>
55 – 59	57	60	2	4	120	240
50 – 54	52	108	1	1	108	108
45 – 49	47	72	0	0	0	0
40 – 44	42	90	-1	1	-90	90
35 - 39	37	30	-2	4	-60	120
		$\Sigma f = 360$			$\Sigma f d = 78$	$\Sigma Fd^2 = 558$

$$\text{Mean } (\bar{X}) = \text{Assumed} + \frac{(\Sigma Fd)}{\Sigma f} i = 47 + \frac{(78)5}{360} = 47 + 1.08$$

$$\bar{X}_1 = 48.08$$

$$\begin{aligned} SD &= i \sqrt{\frac{\Sigma f d^2}{\Sigma f} - \left(\frac{\Sigma f d}{\Sigma f}\right)^2} \\ &= 5 \sqrt{\frac{558}{360} - \left(\frac{78}{360}\right)^2} = 5 \sqrt{1.55 - (0.2167)^2} = 5 \sqrt{1.55 - 0.047} \\ &= 5 \sqrt{1.503} = 5 \times 1.226 \\ SD &= 6.13 \end{aligned}$$

$$\text{Variance } (S1^2) = (SD)^2$$

$$\text{Variance } (S1^2) = (6.13)^2$$

$$S1^2 = 37.58$$

Mean and Standard Deviation of female teachers on poor study habit of students as a determinant of examination fraud in public secondary schools in Delta State.

Class interval	Mid point X	Frequency F	d	d <sup>2</sup>	Fd	Fd <sup>2</sup>
44 - 48	46	69	2	4	138	276
39 - 43	41	115	1	1	115	115
34 - 38	36	54	0	0	0	0
29 - 33	31	161	-1	1	-161	161
24 - 28	26	81	-2	4	-162	324
		$\sum f = 480$			$\sum fd = -70$	$\sum Fd^2 = 876$

$$\text{Mean } (\bar{X}) = \text{Assumed} + \frac{(\sum Fd)}{\sum f} i = 36 + \frac{(-70)5}{480} = 36 + \frac{(-350)}{480} = 36 + (-0.729)$$

$$\bar{X}^2 = 35.27$$

$$\begin{aligned} SD_1 &= i \sqrt{\frac{\sum fd^2}{\sum f} - \left(\frac{\sum fd}{\sum f}\right)^2} \\ &= 5 \sqrt{\frac{876}{480} - \left(\frac{-70}{480}\right)^2} = 5 \sqrt{1.825 - (-0.1458)^2} = 5 \sqrt{1.825 - 0.021} \\ &= 5 \sqrt{1.804} = 5 \times 1.343 \\ SD_2 &= 6.72 \end{aligned}$$

$$\text{Variance } (S^2) = (SD)^2$$

$$\text{Variance } (S^2) = (6.72)^2$$

$$S^2 = 45.16$$

$$\begin{aligned} Z &= \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} \\ &= \frac{48.08 - 35.27}{\sqrt{\frac{37.58}{360} + \frac{45.16}{480}}} \\ &= \frac{12.81}{\sqrt{0.1044 + 0.0941}} = \frac{12.81}{\sqrt{0.2381}} = \frac{12.81}{0.488} \end{aligned}$$

$$Z - \text{calculated} = 26.25$$

### Hypothesis 3

Mean and standard deviation of experienced teachers on teachers' inability to cover their required syllabuses as determinant of examination fraud in public secondary schools in Delta State.

Class interval	Mid point X	Frequency F	d	d <sup>2</sup>	Fd	Fd <sup>2</sup>
50 – 54	52	96	2	4	192	384
45 - 49	47	99	1	1	99	99
40 – 44	42	144	0	0	0	0
35 – 39	37	120	-1	1	-120	120
30 – 34	32	81	-2	4	-162	324
		$\sum f = 540$			$\sum f d = 9$	$\sum Fd^2 = 927$

$$\text{Mean } (\bar{X}) = \text{Assumed} + \frac{(\sum Fd)}{\sum f} i = 42 + \frac{(9)5}{540} = 42 + \frac{45}{540} = 42 + 0.0833$$

$$\bar{X}_1 = 42.08$$

$$SD_1 = i \sqrt{\frac{\sum fd^2}{\sum f} - \left(\frac{\sum fd}{\sum f}\right)^2}$$

$$= \frac{5\sqrt{927}}{540} - \frac{(9)^2}{(540)} = 5\sqrt{1.7167} - (0.0167)^2 = 5\sqrt{1.7167} - 0.0003$$

$$= 5\sqrt{1.7164} = 5 \times 1.310$$

$$SD_1 = 6.55$$

$$\text{Variance } (S_1^2) = (SD)^2$$

$$\text{Variance } (S_1^2) = (6.55)^2$$

$$S_1^2 = 41.90$$

Mean and Standard Deviation of less experienced teachers on teachers' inability to cover their required syllabuses as determinant of examination fraud in public secondary schools in Delta State.

Class interval	Mid point X	Frequency F	d	d <sup>2</sup>	Fd	Fd <sup>2</sup>
----------------	-------------	-------------	---	----------------	----	-----------------

50 – 54	52	56	2	4	112	224
45 – 49	47	44	1	1	44	44
40 – 44	42	60	0	0	0	0
35 – 39	37	100	-1	1	-100	100
30 – 34	32	40	-2	4	-80	160
		$\Sigma f = 300$			$\Sigma fd = -24$	$\Sigma fd^2 = 528$

$$\text{Mean } (\bar{X}_2) = \text{Assumed} + \frac{(\Sigma Fd)_i}{\Sigma f} = 42 + \frac{(-24)}{300} = 42 + \frac{(-120)}{300} = 42 + (-0.4) = 41.6$$

$$\begin{aligned} \bar{X}_2 &= 41.6 \\ SD^2 &= \frac{\Sigma fd^2}{\Sigma f} - \left( \frac{\Sigma fd}{\Sigma f} \right)^2 \\ &= \frac{528}{300} - \left( \frac{-24}{300} \right)^2 = 1.76 - (-0.108)^2 = 1.76 - 0.0064 \\ &= 1.7536 = 1.3242 \\ SD &= 6.62 \\ \text{Variance } (S^2) &= (SD)^2 \\ \text{Variance } (S^2) &= (6.62)^2 \\ S^2 &= 43.82 \end{aligned}$$

$$\begin{aligned} Z &= \frac{\frac{\bar{X}_1}{\sqrt{S_1^2/n_1}} - \frac{\bar{X}_2}{\sqrt{S_2^2/n_2}}}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} \\ &= \frac{\frac{42.08}{\sqrt{42.90/540}} - \frac{41.6}{\sqrt{43.82/300}}}{\sqrt{\frac{42.90}{540} + \frac{43.82}{300}}} \\ &= \frac{0.48}{\sqrt{0.0794 + 0.01461}} = \frac{0.48}{\sqrt{0.2255}} = \frac{0.48}{0.4749} \end{aligned}$$

$$Z - \text{calculated} = 1.011$$

#### Hypothesis 4

Mean and standard deviation of young teachers on incompetence of school administrators as determinant of examination fraud in public secondary schools in Delta State.

Class interval	Mid point X	Frequency F	d	d <sup>2</sup>	Fd	Fd <sup>2</sup>
50 – 54	52	38	2	4	76	152
45 - 49	47	120	1	1	120	120
40 – 44	42	40	0	0	0	0
35 – 39	37	50	-1	1	-50	50
30 – 34	32	32	-2	4	-64	128
		$\Sigma f = 280$			$\Sigma f d = 82$	$\Sigma Fd^2 = 450$

$$\text{Mean } (\bar{X}) = \text{Assumed} + \frac{(\Sigma Fd)}{\Sigma f} i = 42 + \frac{(82)5}{280} = 42 + \frac{410}{280} = 42 + 1.464$$

$$\bar{X}_1 = 43.46$$

$$\begin{aligned} SD_1 &= i \sqrt{\frac{\Sigma f d^2}{\Sigma f} - \left(\frac{\Sigma f d}{\Sigma f}\right)^2} \\ &= 5 \sqrt{\frac{450}{280} - \left(\frac{82}{280}\right)^2} = 5 \sqrt{1.6071 - (0.2929)^2} = 5 \sqrt{1.6071 - 0.0858} \\ &= 5 \sqrt{1.5213} = 5 \times 1.2334 \\ SD_1 &= 6.17 \end{aligned}$$

$$\text{Variance } (S_1^2) = (SD)^2$$

$$\text{Variance } (S_1^2) = (6.17)^2$$

$$S_1^2 = 38.07$$

Mean and Standard Deviation of older teachers on the incompetence of school administrators as determinant of examination fraud in public secondary schools in Delta State.

Class interval	Mid point X	Frequency F	D	d <sup>2</sup>	Fd	Fd <sup>2</sup>
50 – 54	52	30	2	4	60	120
45 - 49	47	60	1	1	60	60
40 – 44	42	110	0	0	0	0
35 – 39	37	225	-1	1	-225	225
30 – 34	32	135	-2	4	-270	540
		$\Sigma f = 560$			$\Sigma f d = -375$	$\Sigma Fd^2 = 945$

$$\text{Mean } (\bar{X}_2) = \text{Assumed} + \frac{(\sum Fd)_i}{\sum f} = 42 + \frac{(-375)5}{560} = 42 + \frac{(-1875)}{560} = 42 + (-3.348)$$

$$\bar{X}_2 = 38.65$$

$$SD^2 = \frac{\sum f d^2}{\sum f} - \left( \frac{\sum f d}{\sum f} \right)^2$$

$$= \frac{5 \times 945}{560} - \frac{(-375)^2}{(560)^2} = 5 \times 1.6875 - (-0.6696)^2 = 5 \times 1.6875 - 0.4484$$

$$= 5 \times 1.2391 = 5 \times 1.1131$$

$$SD^2 = 5.57$$

$$\text{Variance } (S^2) = (SD)^2$$

$$\text{Variance } (S^2) = (5.57)^2$$

$$S^2 = 31.02$$

$$Z = \frac{\frac{\bar{X}_1}{\sqrt{S_1^2}} - \frac{\bar{X}_2}{\sqrt{S_2^2}}}{\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

$$= \frac{\frac{43.43}{\sqrt{38.07}} - \frac{38.65}{\sqrt{31.02}}}{\sqrt{\frac{1}{280} + \frac{1}{560}}}$$

$$= \frac{4.81}{\sqrt{0.136 + 0.055}} = \frac{4.81}{\sqrt{0.191}} = \frac{4.81}{0.437}$$

$$Z - \text{calculated} = 11.006$$

## Hypothesis 5

Mean and standard deviation of male teachers on inadequate supply of educational facilities as determinant of examination fraud in public secondary schools in Delta State.

Class interval	Mid point X	Frequency F	d	d <sup>2</sup>	Fd	Fd <sup>2</sup>
50 – 54	52	62	2	4	124	248
45 - 49	47	153	1	1	153	153
40 – 44	42	54	0	0	0	0
35 – 39	37	55	-1	1	-55	55
30 – 34	32	36	-2	4	-72	144

		$\sum f = 360$			$\sum f d = 150$	$\sum Fd^2 = 600$
--	--	----------------	--	--	------------------	-------------------

$$\text{Mean } (\bar{X}) = \text{Assumed} + \frac{(\sum Fd)}{\sum f} i = 42 + \frac{(150)5}{360} = 42 + \frac{750}{360} = 42 + 2.083$$

$$\bar{X}_1 = 44.08$$

$$\begin{aligned} \text{SD}_1 &= i \sqrt{\frac{\sum f d^2}{\sum f} - \left(\frac{\sum f d}{\sum f}\right)^2} \\ &= 5 \sqrt{\frac{600}{360} - \left(\frac{150}{360}\right)^2} = 5 \sqrt{1.6667 - (0.4167)^2} = 5 \sqrt{1.6667 - 0.1736} \\ &= 5 \sqrt{1.4931} = 5 \times 1.2219 \\ \text{SD}_1 &= 6.11 \end{aligned}$$

$$\text{Variance } (S_1^2) = (\text{SD})^2$$

$$\text{Variance } (S_1^2) = (6.11)^2$$

$$S_1^2 = 37.33$$

Mean and standard deviation of female teachers on inadequate supply of educational facilities as determinant of examination fraud in public secondary schools in Delta State.

Class interval	Mid point X	Frequency F	d	d <sup>2</sup>	Fd	Fd <sup>2</sup>
50 – 54	52	74	2	4	148	296
45 - 49	47	141	1	1	141	141
40 – 44	42	110	0	0	0	0
35 – 39	37	81	-1	1	-81	81
30 – 34	32	74	-2	4	-148	296
		$\sum f = 480$			$\sum f d = 60$	$\sum Fd^2 = 814$

$$\text{Mean } (\bar{X}_2) = \text{Assumed} + \frac{(\sum Fd)}{\sum f} i = 42 + \frac{(60)5}{480} = 42 + \frac{(300)}{480} = 42 + 0.625$$

$$\bar{X}_2 = 42.63$$

$$\text{SD}_2 = i \sqrt{\frac{\sum f d^2}{\sum f} - \left(\frac{\sum f d}{\sum f}\right)^2}$$

$$= \frac{5\sqrt{814}}{480} - \frac{(60)^2}{(480)} = 5\sqrt{1.6958} - (0.125)^2 = 5\sqrt{1.6958} - 0.0156$$

$$= 5\sqrt{1.6802} = 5 \times 1.2962$$

$$SD^2 = 6.48$$

$$\text{Variance } (S^2) = (SD)^2$$

$$\text{Variance } (S^2) = (6.48)^2$$

$$S^2 = 41.99$$

$$Z = \frac{\frac{\bar{X}_1}{\sqrt{S_1^2/n_1}} - \frac{\bar{X}_2}{\sqrt{S_2^2/n_2}}}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

$$= \frac{\frac{44.08}{\sqrt{37.33/360}} - \frac{42.63}{\sqrt{41.99/480}}}{\sqrt{\frac{37.33}{360} + \frac{41.99}{480}}}$$

$$= \frac{1.45}{\sqrt{0.1037 + 0.0875}} = \frac{1.45}{\sqrt{0.1912}} = \frac{1.45}{0.4373}$$

$$Z - \text{calculated} = 3.315$$

## Hypothesis 6

Mean and standard deviation of experienced teachers on parents' involvement in examination fraud in public secondary schools in Delta State.

Class interval	Mid point X	Frequency F	D	d <sup>2</sup>	Fd	Fd <sup>2</sup>
50 – 54	52	80	2	4	160	320
45 - 49	47	150	1	1	150	150
40 – 44	42	156	0	0	0	0
35 – 39	37	112	-1	1	-112	112
30 – 34	32	42	-2	4	-168	168
		$\sum f = 540$			$\sum f d = 114$	$\sum Fd^2 = 750$

$$\text{Mean } (\bar{X}) = \text{Assumed} + \frac{(\sum Fd)}{\sum f} = 42 + \frac{(114)5}{540} = 42 + \frac{570}{540} = 42 + 1.056$$

$$\bar{X}_1 = 43.06$$



$$\begin{aligned}
 SD_1 &= i \sqrt{\frac{\sum fd^2}{\sum f} - \left(\frac{\sum fd}{\sum f}\right)^2} \\
 &= 5 \sqrt{\frac{750}{540} - \left(\frac{114}{540}\right)^2} = 5 \sqrt{1.3889 - (0.2111)^2} = 5 \sqrt{1.3889 - 0.0446} \\
 &= 5 \sqrt{1.3443} = 5 \times 1.1594 \\
 SD_1 &= 5.80
 \end{aligned}$$

$$\begin{aligned}
 \text{Variance } (S_1^2) &= (SD)^2 \\
 S_1^2 &= 33.64
 \end{aligned}$$

Mean and standard deviation of less experienced teachers on parents' involvement in examination fraud in public secondary schools in Delta State.

Class interval	Mid point X	Frequency F	D	d <sup>2</sup>	Fd	Fd <sup>2</sup>	
50 – 54	52	36	2	4	72	144	
45 - 49	47	66	1	1	66	66	
40 – 44	42	52	0	0	0	0	
35 – 39	37	76	-1	1	-76	76	
30 – 34	32	70	-2	4	-140	280	
		$\sum f = 480$			$\sum fd = -78$	$\sum Fd^2 = 566$	

$$\begin{aligned}
 \text{Mean } (\bar{X}_2) &= \text{Assumed mean} + \frac{(\sum fd)i}{\sum f} = 42 + \frac{(-78)5}{480} = 42 + \frac{(-390)}{480} = 42 + (-1.3) \\
 &= 42 - 1.3 \\
 \bar{X}_2 &= 40.7
 \end{aligned}$$

$$\begin{aligned}
 SD_2 &= i \sqrt{\frac{\sum fd^2}{\sum f} - \left(\frac{\sum fd}{\sum f}\right)^2} \\
 &= 5 \sqrt{\frac{566}{480} - \left(\frac{-78}{480}\right)^2} = 5 \sqrt{1.1867 - (-0.26)^2} = 5 \sqrt{1.1867 - 0.0676} \\
 &= 5 \sqrt{1.1191} \\
 &= 5 \times 1.058 \\
 SD_2 &= 6.75
 \end{aligned}$$

$$\text{Variance } (S_2^2) = (\text{SD})^2$$

$$\text{Variance } (S_2^2) = (6.75)^2$$

$$S_2^2 = 45.56$$

$$Z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} = \frac{43.06 - 40.7}{\sqrt{\frac{33.64}{540} + \frac{45.56}{300}}} = \frac{2.5}{\sqrt{0.0623 + 0.1519}} = \frac{2.5}{\sqrt{0.2142}} = \frac{2.5}{0.4628}$$

$$Z - \text{Calculated} = 5.402$$