STANDARDISING CONTINUOUS ASSESSMENT

RAW SCORES FOR JUNIOR SECONDARY SCHOOL

IN NIGER STATE USING COMPUTER

(A CASE STUDY OF JUNIOR SECONDARY SCHOOL NIKUCHI)

TITLE

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SECONDARY SCHOOLS IN NIGER STATE USING COMPUTER.

(A CASE STUDY OF JUNIOR SECONDARY SCHOOL NIKUCHI)

BY

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REG NO PGD/MCS/012

BEING A PROJECT SUBMITTED IN PARTIAL FULFILMENT FOR THE AWARD

OF POST GRADUATE DIPLOMA IN COMPUTER SCIENCE

FEDERAL UNIVERSITY OF TECHNOLOGY

MINNA, NIGER STATE.

DECLARATION

I hereby declare that this project is an original work of mine and has never been presented else where in any form of the award of diploma or degree.

CERTIFICATION

I certify that this project work was carried out by Mr Joshua Saidu of the Department of Mathematics/Statistic/Computer Science, Federal University of Technology, Minna, Nigeria.

_____
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(Student)

Date ....19...

_____   _____
Dr, K. R Adeboye   Dr, K. R Adeboye
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Date..............19..   Date..............19..

_____
EXTERNAL EXAMINER

Date ....26|2|....19.97

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ABSTRACT

This project work is generally aimed at computer application to data processing. The power of computer over manual technique of data processing can not be over emphasized.

Essentially computer processing is very accurate (ie error-free), very fast in processing data and has storage facility for storing large data. Data that would be naturally stored in a small diskette for a long time.

More over, computer system can be used to process any data provided adequate information on how the processing is to be done, is given to the machine.

It is in the light of the above fact that gears me up to apply the computer system for processing students continuous assessment records of Junior Secondary School Nikuchi, Minna Zone.

For this project, only J.S.S III assessment records were used for a case study. Files were created for entering the continuous assessment and examination marks.
With series of programs, results of these students were obtained automatically.

Thus, the INPUTS DATA are the continuous assessment marks and examination marks. The outputs (ie Report) generated is the Summary of the students T-Score otherwise called the standardised score.

ACKNOWLEDGEMENT

I will first of all wish to register my profound gratitude to God, who have in is infinite mercy provided me with health, energy and necessary guidance for the successful completion of this project work.

My hearty thanks and gratitude go to my project supervisor, DR K. R ADEBOYE for his selfless and assiduous assistance and guidance, which has no doubt led to the realization of this project work in its present form.

I commend the relentless efforts, both moral and material support given to me by my parents. Among whom, special mention must be made of my father, MR E. Saidu and my mother Mrs Fati Saidu, Mrs Margenet Mamman, Mr Julius Haruna for their extra efforts.

I appreciate the kind co-operation and assistance given to me by all my lecturers in the university.

I Specially note the assistance and encouragement given to me by my numerous friends and brother, noted among whom are, Mr Theophilus Zhiri, Alh Baba Salawu, Joseph B. Mamman, Deborah Gana, Joseph Jiya and all others.

DEDICATION

This project is fully dedicated to my parents and relations, whose immeasurable support and assistance, I will continue to appreciate in all my accomplishment. And for the downtrodden masses whose concern is foremost in the selection of this topic.

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CHAPTER 4

CHAPTER ONE

1.0_INTRODUCTION

I an Lister in 1974 noted that schools fail to teach and most students spends years failing to learn things like Mathematics, science and french. He went further to say that in England, to reach the ordinary level of the General Certificate of Education was a highly extraordinary achievement. And in Italy, Dalbort Hallenstein in 1977 reported the accusations levelled against communist teachers in that country for contributing to persistent large-scale failures even through observers suspected that it was the system that was at fault rather then the teachers.

In Nigeria, there has been a hue and cry by members of the public over what is regarded as falling standard in Education. One notices that such complaints comes immediately after a release of the yearly West African School Certificate Examination Results. It stand to reason therefore that the notice of the falling standard of education could not be anything else other than the inability on the part of secondary school pupils to pass the school certificate examination or with higher grades.

All over the world, education as well as parents are becoming increasingly aware that the problem of what to teach, how to teach it and examine it has very much to do with educational systems of the world. Similarly educations are becoming increasingly aware that the children they teach do not learn the things we want them to learn as much. Added to

this, educators are now aware that there are some children who although having the ability to learn fast enough do not learn as much as they should, and a good number of this category of learners dropout of school.

We are similarly informed by research findings and through classroom experiences that a good number of the children we teach who fail to learn what they are expected to learn, and without any guidance coming from the teacher, abandon their learning half-way to escape from the ordeal which the classroom subjects them to. The simple cause of the problem of educational wastage in most countries of the world today, Nigeria not exempted, is that there has been the tendency for education not to do what they are supposed to and by the time it is done it is too late to have the appropriate impact on the learner.

A new National policy on Education for Nigeria was approved by the federal Government in 1979, but the policy dates back to the first National curriculum Conference in September 1969. The outcomes of that historic Conference were published in a book (Adaralegbe, 1970). In 1972, a high-powered committee consisting of educationist, University academics, Civil Servants, industrialist, and intellectual from various walks of life was set out under the chairmanship of Chief S. O Adebo, to study the report in depth and present recommendations based on it for formulation into a New National policy on Education (Federal Ministry of Information, 1971). In 1977, an implementation task force was set-up under

the chieftainship of the late professor S. D Onabamiro to prepare a blue print for the implementation of the policy. Input into the federal task force come from various state task force set-up for the purpose. The federal Government white paper on the report of the implementation task force came out in 1979 and constitute the basis of what is now the new national policy on education (Federal Ministry of Information, 1979).

One of the distinctive features of the New National policy on Education is its emphasis on continuous Assessment.
The following extract from the policy illustrates clearly this emphasis. For each extract, the sub-tittle and the paragraph numbers are indicated.

1.1 EXTRACTS FROM THE NATIONAL POLICY ON EDUCATION

PHILOSOPHY (PARAGRAPH (7))

Education assessment and evaluation will be liberalised by basing them in whole or in part on continuous Assessment of the progress of the individual.

1.2 PRIMARY EDUCATION (Paragraph 15((8&2)

Government plans that progress along the educational cycle will be based on continuous overall guidance oriented assessment by teachers and headmasters. However, Government recognise the implication of the implementation of such a measure for teacher education and will accordingly ensure that programmes of pre-service teacher education in the teachers training colleges, and of in service training in the National

teachers institute and the institute of education, will incorporate training in the continuous assessment of pupils.

Government will work into the possibility of abolishing the primary school leaving certificate examination as soon as the processes for continuous assessment have been worked out and validated. Meanwhile, certification at this level of education will be based on continuous assessment and the result of the primary leaving certificate examination.

1.3 SECONDARY EDUCATION (Paragraph 23(1&2).

As an interim measure, the result system of National Common Entrance Examination will be allowed to continue until the junior secondary school system has taken off. The selection for entry into the secondary schools will, as soon as possible, be improved by incorporating Headmaster's continuous assessment into the common entrance examination result.

Junior Secondary School leaving Certificates will be based on the continuous assessment method.

1.4 RATIONALE FOR ADVOCATING CONTINUOUS ASSESSMENT

Some of the reasons for this advocacy of continuous assessment may be inferred from the policy statements, but there are other reasons not referred to in the National Policy on education. The following appears important for continuous assessment.

i) Assessment is an interim part of the teaching process. It is therefore reasonable that the teacher should be involved in the final assessment of the pupils he or she has

thought. The present system whereby the final assessment of the learner at the end of a particular level of education is done through a single examination set by an external body, tends to deny the teacher the opportunity to participate in the final assessment of his or her pupils.

ii) An assessment procedure which takes into account the learner's performance through the entire period of school is likely to be more valid and more indicative of the learner's overall ability than a single examination.

iii) The readiness of teacher to introduce innovations into their teaching is often frustrated by the fact that a final external examination does not take account of such innovation. In a continuous assessment situation, the teacher's assessment of the performance of student's on such innovation can become a part of the final assessment. The teacher will therefore be encouraged to be flexible and innovative.

iv) An important aspect of instruction is the appropriate guidance of the learner both in his or her learning and preparation for a career. A continuous assessment procedure facilitates such guidance functions in a school.

v) A teacher also needs to assess his or her own instructional methods from time to time in order to improve his or her performance. Data from continuous assessment can be useful to the teacher from such self-assessment.

vi) For several years, Nigeria and indeed many West African countries have been plagued with the occurrence of

examination leakages and other malpractices especially in the West African school certificate examinations. It has been suggested that the one reason for such a high incidence of examination malpractices is the fact that the single final examination is so crucial in deciding the future of the candidate that the temptation to ensure success by all means (fair or foul) is very high. It is believed that if continuous assessment is employed, this temptation would be considerably reduced.

1.5   PROBLEMS OF IMPLEMENTING CONTINUOUS ASSESSMENT

The second extract from the National Policy on Education shows that Government is aware that the implementation of the policy of continuous assessment poses certain significant problems for the educational system in general and teachers in particular. The policy therefore advocates a rigourous training programme (both pre-service and in-service) for teachers who in the final analysis have to implement continuous assessment. Two major problem areas may be identified, namely:-

(a). Comparability of standard, and

(b). Record keeping, and the continuity of records.

A). **COMPARABILITY OF STANDARDS**: At present, the single national examination provides some basis for comparing the quality of student's performances across schools. Under a continuous assessment situation, such comparison becomes

extremely difficult. The difficulty arises from two main sources namely:-

(i)   Differences in the quality of tasks and other assessment instruments used in different schools, and

ii)   Differences in the procedure for scoring and grading the various assessment instruments in the various schools.

B) **RECORD KEEPING AND CONTINUITY OF RECORDS**

For continuous assessment to be meaningful, there has to be meticulous keeping of accurate records on each pupil. Secondly, since these records are expected to be cumulative from class to class and from school to school, there is the need for uniformity in the kinds of record kept and the format for keeping such records. There is therefore the problem that the educational system must expect several thousands, perhaps millions, of teachers to keep accurate records with a more or less uniform format.

Third, the fact that a child even within the same level of education, may move from one school to another, for example, if the parent are transferred to another town, demands that a mechanism must be involved to ensure that the record of the child from one school can be transferred to another school without removing those records from the first school.

CHAPTER TWO

2.0 CONCEPT OF CONTINUOUS ASSESSMENT

As discussed in Chapter one (1), Continuous assessment as a method of evaluating the pupils progress was proposed in the National Policy on Education, 1977. This chapter looks at the concept of continuous assessment from the view point that it will be well understood if the present system of assessment of pupils progress in the country, with its many weaknesses, is discussed. This discussion is then followed with a statement of the meaning and characteristic of continuous assessment. This is a natural lead too the proposed system which also indicates just what it is that should be assessed and gives an overview of assessment techniques.

2.1   DESCRIPTION OF FORMER SYSTEM OF ASSESSMENT

Africa (including Nigeria) in the old, education was mostly oral and informal. Tied up with this oral and informal approach was a system of assessment of achievement which was based on careful observation. With the arrival of Western education in Nigeria, Western methods of assessment were introduced in the form of two broad groups of internal and external examinations.

The internal examination was the type of test conducted by each institution for its own use in assessing the progress of its students.

In primary schools in Nigeria this type of test was conducted definitely at the end of the school year, usually at

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the end of every term and sometimes every two weeks during the school year. But no matter how often, it was generally the result of the end of year test or examination which was used for making decision on the pupil. The situation with regards to the secondary schools was not difficult

lt. One distinctive was that while in the primary schools the class teacher kept the marks, in the secondary schools, this was the responsibility of the subject teacher. In either case, when a decision had to be made, it was normally based on raw scores provided by teachers.

A second type of examination which operated in our schools system was known as the external examination. In general, this type of examination was conducted by agencies external to the pupils in the sense that they had not been responsible for teaching the pupils. Examples are the State Ministries of Education which, in co-operation with the Federal Ministry of Education and NTI, now conduct the teacher´s Grade Examination, and the West African Examination Council which conducted the West African Schools Certificate and the General Certificate of Education.

2.2 SOME SHORT-COMINGS OF THE SYSTEM

It has been indicated that the test of examination is, for the most part, used as the dominant method of assessing pupils progress in this country. Our problem with this approach is that assessment is then directed mostly to the taught aspect of learning activities.

knowledge, understanding and other thinking skills acquired in various subjects of the school curriculum are evaluated and marks are awarded relatively to pupils performance in the several subjects. Usually neglected in this procedure is the assessment of skills normally associated with both the character and the industry of the pupil. Here is are example. A person may know the dose of antibiotics which a patient should take (knowledge). Yet, if he loses his nerves at the sight of a bleeding patient(character) or cannot administer injection even after training (practice skill) he should advised against aspiring to be a nurse. Thus, when testing is used as an exclusive method of assessment, it may not be possible to get an overall picture of the person being assessed.

Another problem with this system of assessment is that emphasis is laid on the performance at the year, the term or the course. One shortcoming of this practice is that by the time a decision is made, it is too late to help pupils improve on their learning because most of them would be going on to other classes, courses or topics. As a result, the educational system (including the pupil, the teacher, the curicula and the administrator) is denied opportunity for meaningful growth. It is unwise and unnecessary to deny the educational system this essential feedback.

A third problem of this system of assessment or practice is to be seen in the manner in which reports are sent to parents and guardians. In primary and secondary schools the common

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practice is to add new scores, as given by different teachers, find an average and give the student a rank among his classmates on the basis of this questionable procedure. The problem with this is that marks obtained in different subjects or given by different teachers may not have equal weights. Thus, some students may be downgraded unnecessarily in rank because of the combination of subjects which they take. This is indeed a very important issue which will be taken up.

Another issue associated with the manner in which reports are presented to parents and guardians is that information provided is usually scanty. At best there are marks or letter grades indicating attainment in different subjects and an overall average which does not indicate much or indicates a false mark based on this average. All of these are geared to the thinking category or the cognitive domain of knowledge. In addition, in primary and secondary schools, there may be a statement on the conduct of the pupil which is just one aspect of what will be introduced as the effective domain. The practical skills of the student or what will be called the psychomotor domain in technical jargon, is generally ignored. Higher educational institutions do not normally go beyond cognitive domain.

Other weaknesses include 'EXPO' which has crept into the practice of assessment in this country as a symbol of National disgrace and poverty of the state of record-keeping. There is therefore, definite need for change of practice.

2.3 MEANING AND EXPLANATION OF CONTINUOUS ASSESSMENT

Continuous assessment may be viewed as the method of finding out in a systematic way what the pupil has gained from learning activities in terms of knowledge, thinking and reasoning, character development and industry. Various tools may be used to find out the outcome of these learning activities. These include tests, assignments, projects, observations, interviews and questionnaires. The data obtained on the pupil will then be used to aid his further development. Besides, accurate records of such data are filed for further use and for the purpose of providing information to the parents, guardians and others who can use then for the benefit of the pupils.

Given this information, a brief definition is that continuous assessment is a mechanism whereby the final grading of a student in the cognitive, effective, and psychomotor domains of behaviour systematically takes account of all his performance during a given period of schooling. Such an assessment involves the use of a great variety of modes of evaluation for the purpose of guiding and improving the learning and performance of the student.

2.4 CHARACTERISTICS OF CONTINUOUS ASSESSMENT

Continuous assessment, as defined above may be characterised as being :-

(a) Systematic

(b) Comprehensive

(c) Cumulative

(d) Guidance Oriented

a) Being Systematic: Continuous assessment is said to be systematic in the sense that it requires an operational plan which indicates what measurement is to be made of the student's performance, at certain time interval or times during the school year. The measurement is made and the result recorded.

b) Being Comprehensive :- Continuous assessment is comprehensive in the sense that many types of instruments are used in determining the performance. As already indicated, these includes tests, projects, assignments, observation, questionnaire and interviews. another aspect of the comprehensiveness is that the student is seen in his totality because decision are made based on information obtained in the cognitive, affective and psychomotor domains.

c) Being Cumulative :- Continuous assessment is cumulative since any decision to be made at any point in time on the student takes into account all previous decisions about him. This requires the keeping of up-to-date or cumulative records on each child.

d) Being Guidance-oriented :- Continuous assessment is guidance oriented because information obtained is used to guide his further development.

2.5 **WHAT TO ASSESS**

Teachers, parents and the society at large expect changes in pupils behaviour in desired and desirable direction as a

result of what the pupils are exposed to in the school. The word behaviour, is used here to include all activities in cognitive, affective and psychomotor domains already mentioned.

In both Teachers and assessment therefore, the first step is to determine the learning outcomes to be expected from the students experiences in and out of class. The following questions may be asked. What knowledge and understanding should the student possess? What interest and attitude should he develop? What changes in habit of thinking, feeling and doings should take place? What skills should he be able to display? These four questions direct attention to some of the various aspect of the student and his development.

Specialists have, over the years accepted a classification of these various aspect which were originally proposed by B.S Bloom and others. These classification system or taxonomy takes development and separates it into the three domains of cognitive development, affective development and psychomotor development. Thus, any behaviour may now be viewed as belonging to one of the cognitive, the affective or the psychomotor domains.

2.6 THE COGNITIVE DOMAIN

There are six different categories in the cognitive domain.

(a) **Knowledge** :- These may mean recall of wide range of materials, for specific fact to complete theories at post primary and higher level of education. All that is required is for the pupils to bring to mind the appropriate

information. Specifically, the pupil response by defining, describing, identifying, labelling, listing, matching, naming, outlining, reproducing, selecting or stating.

(b) <u>Understanding</u> :- Here a higher level of activity is required of the pupil beyond that of remembering or recalling materials from one form to another (words to number, or one language into another). Interpreting material (explaining or summarising) and estimating further trends. A pupil can show understanding by being able to rewrite passages or to give examples.

(c) **Application** :- Application is the ability to use learned material in new and concrete situations. The pupil does not only recall but is able also to use the learned material in a situation that is different from that of the original material.

(d) **Analysis** :- Is the breaking down material into its component parts.

(e) **Synthesis** :- Is the building up new material from given parts.

(f) **Evaluation** :- The judgement of the value of material, statement, novel, poem, or piece of written material.

2.7 **AFFECTIVE DOMAIN**

The affective domain has to do with values and belief, attitude and appreciation, interest, social relation, emotional adjustment, habit and life style.

i. **Value** :- Is concerned with the worth a pupil attaches to a particular object, phenomenon or behaviour. For example, a pupil may desire to improve the skill of his group or may assume responsibility for the affective functioning of the group usually, the values a pupil in bided (internalized) are expressed in his outward (overt) behaviour. A behaviour that is consistent and stable enough can be seen as a learning outcome in the area of valuing values and belief come under instructional objectives classified under attitude and appreciation. That is to say, values and belief determine attitude and appreciation. In concrete terms, a pupil may value group work, demonstrate belief in the democratic process, appreciate local music show concern for the welfare of others, or demonstrate problem solving attitude.

ii. **Interest** :- This is reflected by active participation on the part of the pupil. Such interest leads the pupil to read assigned material voluntarily, read beyond assignment or read for pleasure or enjoyment.

It is interest that makes the pupil seek out certain activities and which enable him to enjoy them. The pupil we have in mind volunteers for special tasks, shows interest in a particular subject or enjoys helping other.

(iii) **Social Relations** :- This refers to the behaviour of the pupil in the group. Is he loyal to the school?. Does he show sprit? These are some relevant questions which help to determine the pupils social relationships.

(iv) **Emotional Adjustment** :- What one will watch out for is the pupils reaction to favourable and unfavourable conditions. How does a quarried between the parents affect the pupils behaviour at school? Does he allow success to get into his head?

(v) **Life Style** :- When a pupil has a value system that has controlled his behaviour for a sufficient long time, he develops a lief style out of the system. This kind of behaviour is pervasive, consistent and predictable.

2.8 THE PSYCOMOTOR DOMAIN

The psycomotor domain deals with manipulative skill and body movements. Example of these are. Writing smoothly and legibly, drawing accurate maps and diagrams, setting up laboratory equipment, typing with speed and accuracy, operating sewing machines skilfully, playing traditional music skilfully, performing a dance step correctly, passing football accurately, demonstrating correct from in swimming, demonstrating skill in driving a car, etc.

The present system of continuous assessment, sets out to measure the extent to which the school is succeeding in making children develop desirable social habits and attitudes.

In addition, the skill which children have acquired in their games and sports, vocational and technical skill are assessed.

In assessing habit and attitude, the teacher needs to develop his skills of observation and bring them to full use. This means the teacher has to interact with his pupils very

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closely and frequently in the classroom, on playing group, dining places and so no. It may even involve visiting children in their homes in appropriate cases in order to verify or observation.

Assessment of skill and technique also involves a lot of observation and in many cases actual cheeking of result by using instrument or some other equipment made for the purpose. But it is more difficult to find out whether or not the joining of two pieces of wood is at right angle.

In all these, the skill or technique to be learnt must be distinguished from assessment tests for record purpose.

This present assessment system means more to the teacher in the following ways

i   He require more training in observation technique and their uses.

ii. There must be frequent record of all that have been observed in respect of the activities of children with particular reference to their habit and attitudes.

iii. He must be capable of writing standard tests and exercises in respect of every subject.

iv. He must make more tests and exercises formally

v. He must keep the accurate record of all tests and exercises.

CHAPTER THREE

SYSTEM DESIGN

3.1 NEED FOR COMPUTERISATION

In respect of the current awareness in the usage of computers in organisation, couple with the changes in information technology (IT), providing management information system (MIS), in-line with office automation/information storage and retrieval system to enhance productivities, computers have now become a catalyst of development for technological advancement of man. Computers are into every aspect of human endeavour complex calculations, statistical application, and management information system (MIS) etc. Computer serve as data bank for essential information which are kept in an integrated data base for use in long and short term objective through plaining, proper control and evaluations.

With the introduction of computer, timely information regarding the instructional material, continuous assessment reports, etc for both management and non management purposes, will be supplied to the appropriate user where it is mostly needed and useful.

3.2 BACKGROUND OF THE PROJECT

The standardisation of student continuous assessment is an integral part of the 6-3-3-4 restructured education system in the country. The process to arrive at the desired aim of this structure, involves the application of statistical calculation

which goes beyond human ability, because of the quantum calculations involved, and will continue to be involved, having in mind the ever-increasing growth in our educational population.

It is been observed that student assessment is practically based on the raw scores awarded by the teachers of various subjects. In view of the raw scores awarded by the teachers, it is difficult to access or compare student's performance in various subjects. This is due to the fact that various teachers have different ways of awarding marks to their students. A teacher may have a special interest in some of the students and thereby being liberal to them while marking their papers, whereas some students may be unlucky and have their papers marked strictly. Moreso, when we talk of two teachers handing different arms of a set of students, i.e Teacher 1 handles JSS IIIA-C and Teacher 2 handles JSS IIID-F for instance in mathematics, there is a tendency that one teacher. In this case, it is therefore observed that to eradicate this inconsistencies in students assessment, standardization of students raw scores must come into play, to enable us compare students performances is various subjects in each school in Niger State and to also enable us compare students performances in various subjects from various schools in the state.

To achieve the goal of comparability of students performance therefore, the students raw scores must be standardized by using the following mathematical expressions

given as a guide by the federal ministry of education, science and technology.

COMPUTING GUIDE :- FOR STANDARDIZING RAW CONTINUOUS ASSESSMENT SCORE SUBJECT BY SUBJECT.

i.e

1. Find sum i.e $1 + 2 + 3 + 4 + 5 + \ldots\ldots\ldots + n = sum$

2. Calculate the mean $\dfrac{sum}{n-1}$ which is represented by x

3. Calculate $(x-x)^2$, where x represents a row score and x represent mean.

i.e $(x-x)^2 + (x_2-x)^2 + \ldots\ldots (x_n+x)^2$, which is represented by total sum.

$$= \quad (x-x)^2 = \quad (x-x) * (x-x)$$

4. compute standard deviation which is

$$\sqrt{\dfrac{(x-x)^2}{n-1}} = SD$$

5. Calculate Z -Score, ie $\dfrac{x-x}{SD} = Z$

6. Calculate T- Score, ie $50+10*Z =T$

3.3 SCALING RAW SCORES :-

Score - scaling is the process of setting up a scale for interpretation of test performance by means of a set of numbers based on the performance of a reference group. The mean and standard deviation of the group are usually assigned

arbitrary scale values and other scores provided by the test are then placed on the scale.

A raw score is the direct numerical report of a person's test performance, eg number of questions answered, time required, count of right scores. Raw scores can easily be misinterpreted. An examination mark by itself has practically no meaning. The traditional belief that it has an absolute value, is without foundation. All that a mark of 60 percent conveys is that it is one of a set of marks which have a range within the limit of zero to one hundred. Whether the mark is to be reckoned as very good, good, or not so good, (high, medium or low) depends on how 60 is related to other marks by the class.

3.4 FORMS OF REPORTING SCORES:

There are two forms of reporting score presently in our educational system.

1. A lot of schools report only the rawscore. For instance, a pupils permanent record or the report card sent to his parents might contain the entry elementary mathematics, 60. The collated information that given 60 its full meaning is not reported and in such a case, a parents can only make the assumption that 60 in mathematics is the same as 60 in History.

2. Some schools, in addition to the pupils mark, report the class average or the pupils place in the order of merit. Even so, it will be an easy task for the parents to decide

how much better or worse is 60 in mathematics them 60 in History.

3.5 STANDARD SCORE:

It is offer difficult to compare scores from tests of unequal length (here, different tests on the same subject matter) unless we convent the raw score to a common scale. A standard score scale based on the mean and standard deviation is used. Also, use of standardized score scale enable us to add one standard score to another.

The scale that gives the number of standard deviations a score away from the means is called the Z – score otherwise known as zero one scale. The Z-score is obtained from the raw score by dividing the deviation score by the standard deviation of the raw score. This fact is mathematically expressed as:

$$\text{score} = \frac{\text{Raw score} - \text{mean}}{\text{standard deviation}} = \frac{X-M}{SD}$$

Where, X – is the raw scores, M – is mean of raw scores and SD – is the standard deviation of the raw score.

Suppose we assure mean and standard deviation of a given set of raw score to be 33 and 3 respectively, then for raw score 40.

$$Z = \frac{40-33}{3} = \frac{7}{3} = 2.33$$

for raw score 25

$$Z = \frac{25-33}{3} = \frac{-8}{3} = 2.67$$

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For continous assessment exercise, the standardized score is recommended. on this scale, the mean and standard deviation of scaled score are set equal to 50 and 10 respectively.

In the light of the preceding explanation, the formula for converting raw score to standard score

otherwise called the T-score is stated as :-

Standard score(T-score)=10z+50

3.6 PROGRAM LISTING

```
**********************************************************
* Author...: Joshua Saidu                                *
* Program..: Menu.prg                                    *
* Date.....: November 1995                               *
* Note.....: This program is designed to display *
* .........: the main menu in a horizontal bar.  *
**********************************************************
Procedure Menu
SET TALK OFF
SET BELL OFF
SET AUTOSAVE ON
SET DATE BRITISH
SET SCOREBOARD OFF
SET COLOR TO
CLEAR
*msg = ´Highlight An Option With ´ +  CHR(27) + ´ ´+ CHR(26) +
´ ´+;
        ´And Press ´+ CHR(17) + CHR(196) + CHR(217)  + ´ ´ +
´Or Esc To Cancel´
DEFINE MENU MainMenu &&MESSAGE msg
DO WHILE .T.
    CLEAR
    SET COLOR TO
    SET COLOR TO ,, g+
    @ 00,00 CLEAR TO 00,79
    SET COLOR OF INFORMATION TO W+/B+
    SET COLOR OF MESSAGES TO W+/B+
    SET COLOR OF HIGHLIGHT TO W+/GB+
    @ 00,00 FILL TO 00,79 COLOR W+/B+
    @ 00,00 SAY ´Screen 2 of 24 ´    COLOR W+/B+
    @ 00,40 SAY ´Date :´  COLOR W+/B+
    @ 00,47 SAY DATE( )    COLOR W+/B+
    @ 00,64 SAY ´Time :´  COLOR W+/B+
    SET CLOCK TO 00,69
    SET BORDER TO DOUBLE
    @ 1,0 TO 3,79 DOUBLE COLOR RG+/N
    @ 2,1 CLEAR TO 2,78
    @ 2,1 FILL TO 2,78
    DEFINE  PAD Main1 OF Mainmenu PROMPT  "Data Entry"
    AT 2,02
    DEFINE  PAD Main2 OF Mainmenu PROMPT  "Files Utilities"
    AT 2,23
    DEFINE  PAD Main3 OF Mainmenu PROMPT  "Report Generator"
    AT 2,48
    DEFINE  PAD Main4 OF Mainmenu PROMPT  "Exit"
    AT 2,73
    ON SELECTION PAD Main1 OF Mainmenu DO Datain
    ON SELECTION PAD Main2 OF Mainmenu DO File
    ON SELECTION PAD Main3 OF Mainmenu DO Extract
    ON SELECTION PAD main4 OF Mainmenu DO Qui
    @ 00,00 SAY ´Screen 2 of 24 ´    COLOR W+/B+
    @ 1,0 TO 3,79 DOUBLE COLOR RG+/N
```

```
    @ 2,3 CLEAR TO 2,78
    @ 2,2 FILL TO 2,78
    ACTIVATE MENU Mainmenu
ENDDO
RETURN
* End of Procedure Menu

***************************************************
* Author...: Joshua Saidu                         *
* Program..: Add.Prg                              *
* Date.....: November 1995                        *
* Note.....: This Program Accept Users            *
* .........: Data Enter Via the Keyboard to       *
* .........: the file Payroll.DBF                 *
***************************************************

Procedure Datain
SET TALK OFF
SET BELL OFF
SET CURSOR ON
SET INTENSITY ON
SET AUTOSAVE ON
SET BORDER TO DOUBLE
@ 00,00 CLEAR TO 00,79
@ 24,00 fill to 24,79 color w+/b+
SET COLOR TO
SET COLOR TO ,, r+
SET COLOR TO GR/B,W+/GB+
DEFINE POPUP Add FROM 3,2 TO 5,19
*MESSAGE "Data Entry"
DEFINE BAR 1 OF Add  PROMPT "Junior Sec. Sch"
ON SELECTION POPUP Add DEACTIVATE POPUP
DO WHILE .T.
    SET COLOR OF INFORMATION TO w+/b+
    @ 00,00 SAY 'Screen 3 of 24 ' COLOR W+/B+
    @ 00,00 FILL TO 00,79 COLOR W+/B+
    @ 00,44 SAY 'Date :'   COLOR W+/B+
    @ 00,50 SAY DATE()     COLOR W+/B+
    @ 00,64 SAY 'Time :'   COLOR W+/B+
    SET CLOCK TO 00,69
    ACTIVATE POPUP Add
    DO CASE
        CASE BAR( ) =1
        set border to
        store space(20) to m_school,m_location
        store space(6) to m_centre
        store space(1) to yn,m_sex
        store space(3) to
        m_town_cd,m_loc_cd,m_sch_cd,m_place,m_board
        use studrec
        do while .t.
            store space(20) to m_candname
            store space(6) to m_exam
```

```
store 0 to
m_eng,m_math,m_inter,m_agric,m_social,m_crs,m_irs,m_h
ausa,m_igbo
store 0 to
m_yoruba,m_fine,m_intro,m_home,m_arabic,m_french,m_ph
e,m_bus
store 0 to m_pass,m_fail
@ 00,23 say 'Record No :' + str(reccount(),6) color
w+/b+
@ 4,4 to 23,76 double color g+
set color to w+
@ 5,08 SAY " Location"
@ 5,28 SAY "Town"
@ 5,33 SAY "Code"
@ 5,44 SAY "School Name"
@ 5,63 SAY "School Code"
set color of fields to rg+/gb+
@ 6,06 GET m_location   picture
"!!!!!!!!!!!!!!!!!!!!!"
@ 6,30 GET m_loc_cd     picture "!!!"
@ 6,40 GET m_School     picture
"!!!!!!!!!!!!!!!!!!!!!"
@ 6,67 GET m_sch_cd     picture "!!!"
@ 08,07 SAY "Candidate's Name"
@ 08,34 SAY "Sex"
@ 08,44 SAY "Centre No"
@ 08,61 SAY "Exam  No"
@ 09,06 get m_Candname picture "!!!!!!!!!!!!!!!!!!!"
@ 09,35 get m_Sex      picture "!"
@ 09,45 get m_centre   picture "!!!!"
@ 09,62 get m_Exam     picture "!!!!"
@ 10,05 to 10,75 color rg+
@ 10,32 say "Core Subjects Scores" color rg
@ 12,07 say "English"  color w+
@ 12,18 say "Maths"
@ 12,26 say "Inter. Sc"
@ 12,37 say "Agric. Sc"
@ 12,50 say "P. H. E"
@ 12,60 say "Social Study"
@ 13,08 get m_eng     picture '99.9'
@ 13,18 get m_math    picture '99.9'
@ 13,28 get m_inter   picture '99.9'
@ 13,39 get m_agric   picture '99.9'
@ 13,51 get m_phe     picture '99.9'
@ 13,63 get m_social  picture '99.9'
@ 15,07 say "C. R. S"
@ 15,18 say "I. R. S"
@ 15,28 say "Hausa"
@ 15,37 say "Yoruba"
@ 15,50 say "Fine Art"
@ 15,60 say "Intro Tech"
@ 16,08 get m_crs     picture '99.9'
@ 16,19 get m_irs     picture '99.9'
@ 16,28 get m_hausa   picture '99.9'
```

```
@ 16,39 get m_yoruba  picture '99.9'
@ 16,51 get m_fine    picture '99.9'
@ 16,63 get m_intro   picture '99.9'
@ 18,5 TO 18,75  color gb+
@ 18,30 say 'Pre-Vocational/Electives' color r+
@ 19,06 say "Bus. Studies"
@ 19,20 say "Home Econs"
@ 19,32 say "Igbo"
@ 19,41 say "Arabic"
@ 19,49 say "French"
@ 19,57 say "Placement"
@ 19,67 say "Boarding"
@ 20,09 get m_bus    picture '99.9'
@ 20,23 get m_home   picture '99.9'
@ 20,32 get m_igbo   picture '99.9'
@ 20,41 get m_arabic picture '99.9'
@ 20,49 get m_french picture '99.9'
@ 20,59 get m_place  picture '!!!'
@ 20,68 get m_board  picture '!!!'
read
@ 22,05 to 22,75 color rg+
@ 22,25 say 'Are These Entries Ok (Y/N) ?' color rg+
@ 22,52 get yn
read
if m_exam = space(4)
    ?? chr(7)
   @ 24,00 clear to 24,79
   @ 24,00 fill to 24,79 color w+/b+
   @ 24,20 say 'Null Record Not Allowed    '+
   chr(17)+chr(196)+chr(217)+' To Continue.'color
   w+/b+
   set console off
   wait
   set console on
   tf='Y'
   @ 24,00 clear to 24,79
   @ 24,00 fill to 24,79 color w+/b+
   @ 24,23 say 'Insert New Record (Y/N) ?'color
   w+/b+
   @ 24,50 get tf
   read
   @ 24,00 clear to 24,79
   @ 24,00 fill to 24,79 color w+/b+
   if upper(tf) $ 'Y'
       loop
   else
      exit
   endif
endif
if upper(yn) $ 'N'
   loop
endif
locate for m_exam = exam_no
if found()
```

```
      ?? chr(7)
      @ 24,16 say 'Exam No : '+ exam_no + ' '+ 'Already
      Exist' + chr(17)+chr(196)+chr(217)+'  To
      Continue...' color w+/b+
      set console off
      wait
      set console on
      tf='Y'
      @ 24,00 clear to 24,79
      @ 24,00 fill to 24,79 color w+/b+
      @ 24,23 say 'Insert New Record (Y/N) ?'color
      w+/b+
      @ 24,50 get tf
      read
      @ 24,00 clear to 24,79
      @ 24,00 fill to 24,79 color w+/b+
      if upper(tf) $ 'Y'
         loop
      else
         exit
      endif
   endif
   if upper(yn) $ 'N'
      loop
   endif
   if m_eng >40
      m_pass=m_pass+1
   else
      if m_eng >=1 .and. m_eng <=39.9
         m_fail=m_fail+1
      endif
   endif
   if m_math  >40
      m_pass=m_pass+1
   else
     if m_math >= 1 .and. m_math <= 39.9
        m_fail=m_fail+1
     endif
   endif
   if m_inter > 40
      m_pass=m_pass+1
   else
      if m_inter >=1 .and. m_inter <= 39.9
         m_fail=m_fail+1
      endif
   endif
   if m_agric > 40
      m_pass=m_pass+1
   else
      if m_agric >= 1 .and. m_agric <= 39.9
         m_fail=m_fail+1
      endif
   endif
   if m_phe > 40
```

```
      m_pass=m_pass+1
   else
      if m_phe >= 1 .and. m_phe <= 39.9
         m_fail=m_fail+1
      endif
   endif
   if m_social > 40
      m_pass=m_pass+1
   else
      if m_fail >= 1 .and. m_fail <=39.9
         m_fail=m_fail+1
      endif
   endif
   if m_crs > 40
      m_pass=m_pass+1
   else
     if m_crs >= 1 .and. m_crs <= 39.9
        m_fail=m_fail+1
     endif
   endif
   if m_irs > 40
      m_pass=m_pass+1
   else
      if m_irs > 1 .and. m_irs <= 39.9
         m_fail=m_fail+1
      endif
   endif
 if m_hausa > 40
    m_pass=m_pass+1
 else
    if m_hausa >=1 .and. m_hausa <= 39.9
       m_fail=m_fail+1
    endif
 endif
if m_yoruba > 40
   m_pass=m_pass+1
else
   if m_yoruba >= 1 .and. m_yoruba <=39.9
      m_fail=m_fail+1
   endif
endif
if m_fine > 40
   m_pass=m_pass+1
 else
    if m_fine >= 1 .and. m_fine <= 39.9
       m_fail=m_fail+1
    endif
endif
if m_intro > 40
   m_pass=m_pass+1
else
   if m_intro >= 1 .and. m_intro <= 39.9
      m_fail=m_fail+1
   endif
```

```
endif
if m_bus >40
   m_pass=m_pass +1
else
   if m_bus >= 1 .and. m_bus <= 39.9
      m_fail=m_fail+1
   endif
endif
if m_home >40
   m_pass=m_pass +1
 else
   if m_home >= 1 .and. m_home <=39.9
      m_fail=m_fail+1
   endif
endif
if m_igbo >40
   m_pass=m_pass +1
else
   if m_igbo >= 1 .and. m_igbo <= 39.9
      m_fail=m_fail+1
   endif
endif
if m_arabic >40
   m_pass=m_pass +1
else
   if m_arabic >= 1 .and. m_arabic <= 39.9
      m_fail=m_fail+1
   endif
endif
if m_french >40
   m_pass=m_pass +1
 else
   if m_french >=1 .and. m_french <= 39.9
      m_fail=m_fail+1
   endif
endif
set color of fields to w/w+
if upper(yn) $ ´Y´
   append blank
   replace location with m_location, sch_name with
   m_school, town_code with m_loc_cd
   replace sch_code with m_sch_cd, cand_name with m
   candname, sex with m_sex
   replace centre_no with m_centre, exam_no with
   m_exam, english with m_eng
   replace mathmatics with m_math,inter_sc with
   m_inter, agric_sc with m_agric
   replace phe with m_phe,social_sc with m_social,crs
   with m_crs,irs with m_irs
   replace hausa with m_hausa, yoruba with
   m_yoruba,fine_art with m_fine, intro_tech with
   m_intro
   replace b_studies with m_bus,igbo with m_igbo,
   arabic with m_arabic,french with m_french
```

```
          replace home_econs with m_home,placement with
          m_place,boarding with m_board
          replace pass with m_pass, fail with m_fail
        endif
        yn='Y'
        @ 22,07 to 22,75
        @ 22,25 say 'Add more Records (Y/N) ?' color rg
        @ 22,52 get yn
        read
        if upper(yn) $ 'Y'
           @ 04,04 clear to 23,79
           loop
        else
           exit
        endif
      enddo
      @ 04,03 clear to 23,79
    otherwise
      exit
    endcase
 ENDDO
return
* Enf of Procedure

Procedure File
*Procedure File
SET TALK OFF
SET SAFETY OFF
SET BELL OFF
SET COLOR TO
@ 00,00 CLEAR TO 00,79
@ 04,00 CLEAR TO 24,79
SET COLOR TO GR+/B, W+/GB+
SET BORDER TO DOUBLE
DEFINE POPUP Upd FROM 3,22 TO 08,44
DEFINE BAR 1 OF Upd PROMPT" Indexing of Files" MESSAGE    "
Indexing of Files"
DEFINE BAR 2 OF Upd  PROMPT " Modify old Records"  MESSAGE    "
Modify Old Records"
DEFINE BAR 3 OF Upd  PROMPT " Delete old Records"  MESSAGE    "
Deleting of Records"
DEFINE BAR 4 OF Upd  PROMPT " Initialised Files "  MESSAGE    "
Initialising of Files"
ON SELECTION POPUP Upd DEACTIVATE POPUP
DO WHILE .T.
   @ 00,00 SAY 'Screen 4 of 24 ' COLOR W+/B+
   SET COLOR TO
   @ 04,00 CLEAR TO 24,79
   @ 00,00 FILL TO 00,79 COLOR W+/B+
   SET COLOR TO GR+/B,W+/GB+
   SET COLOR OF INFORMATION TO W+/B+
   @ 00,44 SAY 'Date :' COLOR W+/B+
   @ 00,50 SAY DATE()   COLOR W+/B+
   @ 00,64 SAY 'Time :' COLOR W+/B+
```

```
      SET CLOCK TO 00,69
      SET COLOR TO ,, G
      ACTIVATE POPUP Upd
      SET BORDER TO DOUBLE
      @ 01,00 TO 03,79 COLOR RG+
      DO CASE
         CASE BAR( ) = 1
               DO Index
         CASE BAR( ) = 2
               DO Modify
         CASE BAR( ) = 3
               DO Delete
         CASE BAR( ) = 4
               DO Initial
         OTHERWISE
               Exit
      ENDCASE
ENDDO
@ 00,00 SAY 'Screen 2 of 24 ' COLOR W+/B+
RETURN
* End of Procedure

Procedure Index
SET TALK OFF
SET BELL OFF
SET SAFETY OFF
SET COLOR TO GR+/B+,W+/GB+
SET COLOR TO ,, rg
SET BORDER TO DOUBLE
@ 00,00 clear to 00,79
@ 00,00 fill to 00,79 color w+/b+
@ 00,00 SAY 'Screen 7 of 24 ' COLOR W+/B+
@ 00,44 SAY 'Date :' COLOR W+/B+
@ 00,50 SAY DATE( )   COLOR W+/B+
@ 00,64 SAY 'Time :' COLOR W+/B+
@ 04,00 CLEAR TO 24,79
@ 04,00 FILL TO 24,79 COLOR N+/N+
SET CLOCK TO 00,69
STORE SPACE(1) TO chioce,sure
USE STUDREC
go top
IF RECCOUNT( ) = 0
    @ 24,00 clear to 24,79
    @ 24,00 FILL TO 24,79 COLOR W+/B+
    @ 24,17 SAY 'No Enough Records To Change <Press Return>'
    COLOR W+*/B+
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    @ 24,00 CLEAR TO 24,79
    @ 24,00 FILL TO 24,79 COLOR W+/B+
    RETURN
ENDIF
@ 00,17 CLEAR TO 00,24
```

```
@ 00,17  FILL TO 00,27 COLOR /B+
set border to double
@ 01,00 to 03,79  color rg+
@ 04,00 clear to 13,79
STORE 'Y' TO YN,TF
STORE SPACE(4) TO mrecord
SET COLOR TO G/N
@ 00,17 FILL TO 00,27 COLOR W+/B+
@ 00,17 SAY STR(RECCOUNT(),4) + '  Record(s) In File' COLOR
w+/B+
@ 04,00 CLEAR TO 15,79
@ 14,00 CLEAR TO 24,79
@ 24,00 CLEAR TO 24,79
@ 24,00 FILL TO 24,79 COLOR W+/B+
@ 24,15 SAY 'Indexing File :- Studrec.Dbf, Please Wait ...'
color w+*/b+
INDEX ON TOWN_CODE+SCH_CODE TO STUDREC
@ 24,00 CLEAR TO 24,79
@ 24,00 FILL TO 24,79 COLOR W+/B+
@ 24,15 SAY 'Index Completed Successfully, Press Enter to
Continue...' color w+*/b+
SET CONSOLE OFF
WAIT
SET CONSOLE ON
@ 24,00 CLEAR TO 24,79
@ 24,00 FILL TO 24,79 COLOR W+/B+
RETURN
* End of Procedure

Procedure Modify
SET TALK OFF
SET BELL OFF
store 0 to m_pass,m_fail
DO WHILE .T.
   SET COLOR TO GR+/B+,W+/GB+
   SET COLOR TO ,, rg
   SET BORDER TO DOUBLE
   @ 00,00 clear to 00,79
   @ 00,00 fill to 00,79 color w+/b+
   @ 00,00 SAY 'Screen 7 of 24 ' COLOR W+/B+
   @ 00,44 SAY 'Date :' COLOR W+/B+
   @ 00,50 SAY DATE()   COLOR W+/B+
   @ 00,64 SAY 'Time :' COLOR W+/B+
   @ 04,00 CLEAR TO 24,79
   @ 04,00 FILL TO 24,79 COLOR N+/N+
   SET CLOCK TO 00,69
   STORE SPACE(1) TO chioce,sure
   USE STUDREC
   DO WHILE .T.
      IF RECCOUNT() = 0
         @ 24,00 clear to 24,79
         @ 24,00 FILL TO 24,79 COLOR W+/B+
         @ 24,17 SAY 'No Enough Records To Change <Press
         Return>' COLOR W+*/B+
```

```
        SET CONSOLE OFF
        WAIT
        SET CONSOLE ON
        @ 24,00 CLEAR TO 24,79
        @ 24,00 FILL TO 24,79 COLOR W+/B+
        EXIT
    ENDIF
    @ 00,17 CLEAR TO 00,24
    @ 00,17   FILL TO 00,27 COLOR /B+
    set border to double
    @ 01,00 to 03,79  color rg+
    @ 04,00 clear to 13,79
    STORE 'Y' TO YN,TF
    STORE SPACE(4) TO mrecord
    SET COLOR TO G/N
    @ 00,17 FILL TO 00,27 COLOR W+/B+
    @ 00,17 SAY STR(RECCOUNT(),4) + '  Record(s) In File'
    COLOR w+/B+
    @ 04,00 CLEAR TO 15,79
    @ 14,00 CLEAR TO 24,79
    SET COLOR OF FIELDS TO W+/B+
    @ 16,17 SAY 'Modify What Exam  Number :' COLOR GR+/BG+
    @ 16,45 GET mrecord PICTURE '9999'
    READ
    @ 16,10 CLEAR TO 16,79
    IF mrecord $ SPACE(4)
        ? CHR(7)
        @ 24,00 FILL TO 24,79 COLOR W+/B+
        @ 24,10 SAY 'No Null Record(s) In Database File(s)
        <Return> To Continue' COLOR W+*/B+
        SET CONSOLE OFF
        WAIT
        SET CONSOLE ON
        @ 24,00 CLEAR TO 24,79
        @ 24,00 FILL TO 24,79 COLOR W+/B+
        set color of fields to w+/r+
        @ 24,25 SAY 'Modify More Records(Y/N) ?' COLOR
        GR+/B+
        @ 24,53 GET YN
        READ
        @ 24,00 CLEAR TO 24,79
        IF UPPER(YN) $ 'Y'
            @ 01,00 TO 03,79 double COLOR GR+
            @ 04,00 CLEAR TO 13,79
            @ 04,04 FILL TO 24,79  COLOR N+/N+
            LOOP
        ELSE
            @ 04,04 CLEAR TO 23,79
            EXIT
        ENDIF
ENDIF   && mrecords
@ 01,00 TO 03,79 double COLOR GR+
@ 04,04 CLEAR TO 24,79
@ 04,04 FILL TO 24,79 COLOR N+/N+
```

```
LOCATE FOR EXAM_NO = mrecord
IF FOUND( )
    SET COLOR OF FIELDS TO W+/W
    @ 24,00 FILL TO 24,79 COLOR W+/B+
    @ 24,20 SAY 'Modifying Old Records :- School' COLOR
    W+/B+
    @ 00,00 SAY 'Screen 12 of 24 ' COLOR W+/B+
    @ 00,17 CLEAR TO 00,42
    @ 00,17 FILL  TO 00,42 COLOR W+/B+
    @ 00,23 SAY 'Record No :' + STR(RECNO(),4) COLOR W+/B+
    @ 04,04 TO 23,77  DOUBLE COLOR G+
    SET BORDER TO SINGLE
    @ 00,23 say 'Record No :' + str(reccount(),6) color
    w+/b+
    @ 4,4 to 23,76 double color g+
    @ 5,08 SAY " Location"
    @ 5,28 SAY "Town"
    @ 5,33 SAY "Code"
    @ 5,44 SAY "School Name"
    @ 5,63 SAY "School Code"
    @ 6,06 GET location   picture "!!!!!!!!!!!!!!!!!!!!!!"
    @ 6,30 GET TOWN_CODE   picture "!!!"
    @ 6,40 GET Sch_NAME    picture "!!!!!!!!!!!!!!!!!!!!!!"
    @ 6,67 GET SCH_CODE    picture "!!!"
    @ 08,07 SAY "Candidate's Name"
    @ 08,34 SAY "Sex"
    @ 08,44 SAY "Centre No"
    @ 08,61 SAY "Exam  No"
    @ 09,06 get Cand_name   picture "!!!!!!!!!!!!!!!!!!!!"
    @ 09,35 get Sex         picture "!"
    @ 09,45 get centre_No   picture "!!!!"
    @ 09,62 get Exam_NO     picture "!!!!"
    @ 10,05 to 10,75 color rg+
    @ 10,32 say "Core Subjects Scores" color rg
    @ 12,07 say "English"  color w+
    @ 12,18 say "Maths"
    @ 12,26 say "Inter. Sc"
    @ 12,37 say "Agric. Sc"
    @ 12,50 say "P. H. E"
    @ 12,60 say "Social Study"
    @ 13,08 get english    picture '99.9'
    @ 13,18 get mathmatics picture '99.9'
    @ 13,28 get inter_sc   picture '99.9'
    @ 13,39 get agric_sc   picture '99.9'
    @ 13,51 get phe        picture '99.9'
    @ 13,63 get social_sc  picture '99.9'
    @ 15,07 say "C. R. S"
    @ 15,18 say "I. R. S"
    @ 15,28 say "Hausa"
    @ 15,37 say "Yoruba"
    @ 15,50 say "Fine Art"
    @ 15,60 say "Intro Tech"
    @ 16,08 get crs        picture '99.9'
    @ 16,19 get irs        picture '99.9'
```

```
@ 16,28 get hausa          picture '99.9'
@ 16,39 get yoruba         picture '99.9'
@ 16,51 get fine_art       picture '99.9'
@ 16,63 get intro_tech     picture '99.9'
@ 18,5 TO 18,75  color gb+
@ 18,30 say 'Pre-Vocational/Electives' color r+
@ 19,06 say "Bus. Studies"
@ 19,20 say "Home Econs"
@ 19,32 say "Igbo"
@ 19,41 say "Arabic"
@ 19,49 say "French"
@ 19,57 say "Placement"
@ 19,67 say "Boarding"
@ 20,09 get b_studies      picture '99.9'
@ 20,23 get home_econs     picture '99.9'
@ 20,32 get igbo           picture '99.9'
@ 20,41 get arabic         picture '99.9'
@ 20,49 get french         picture '99.9'
@ 20,59 get placement      picture '!!!'
@ 20,68 get boarding       picture '!!!'
read
if english >40
    m_pass=m_pass+1
  else
    if english >=1 .and. english <=39.9
      m_fail=m_fail+1
    endif
  endif
  if mathmatics  >40
    m_pass=m_pass+1
  else
    if mathmatics >= 1 .and. mathmatics <= 39.9
      m_fail=m_fail+1
    endif
  endif
  if inter_sc > 40
    m_pass=m_pass+1
  else
    if inter_sc >=1 .and. inter_sc <= 39.9
      m_fail=m_fail+1
    endif
  endif
  if agric_sc > 40
    m_pass=m_pass+1
  else
    if agric_sc >= 1 .and. agric_sc <= 39.9
      m_fail=m_fail+1
    endif
  endif
  if phe > 40
    m_pass=m_pass+1
  else
    if phe >= 1 .and. phe <= 39.9
      m_fail=m_fail+1
```

```
        endif
    endif
    if social_sc > 40
        m_pass=m_pass+1
    else
        if social_sc >= 1 .and. social_sc <=39.9
            m_fail=m_fail+1
        endif
    endif
    if crs > 40
        m_pass=m_pass+1
    else
        if crs >= 1 .and. crs <= 39.9
            m_fail=m_fail+1
        endif
    endif
    if irs > 40
        m_pass=m_pass+1
    else
        if irs > 1 .and. irs <= 39.9
            m_fail=m_fail+1
        endif
    endif
 if hausa > 40
     m_pass=m_pass+1
 else
     if hausa >=1 .and. hausa <= 39.9
         m_fail=m_fail+1
     endif
 endif
if yoruba > 40
    m_pass=m_pass+1
else
    if yoruba >= 1 .and. yoruba <=39.9
        m_fail=m_fail+1
    endif
endif
if fine_art > 40
    m_pass=m_pass+1
 else
     if fine_art >= 1 .and. fine_art <= 39.9
         m_fail=m_fail+1
     endif
endif
if intro_tech > 40
    m_pass=m_pass+1
else
    if intro_tech >= 1 .and. intro_tech <= 39.9
        m_fail=m_fail+1
    endif
endif
if b_studies >40
    m_pass=m_pass +1
else
```

```
    if b_studies >= 1 .and. b_studies <= 39.9
        m_fail=m_fail+1
    endif
endif
if home_econs >40
    m_pass=m_pass +1
  else
    if home_econs >= 1 .and. home_econs <=39.9
        m_fail=m_fail+1
    endif
endif
if igbo >40
    m_pass=m_pass +1
else
    if igbo >= 1 .and. igbo <= 39.9
        m_fail=m_fail+1
    endif
endif
if arabic >40
    m_pass=m_pass +1
else
    if arabic >= 1 .and. arabic <= 39.9
        m_fail=m_fail+1
    endif
endif
if french >40
    m_pass=m_pass +1
  else
    if french >=1 .and. french <= 39.9
        m_fail=m_fail+1
    endif
endif
@ 24,00 CLEAR TO 24,79
@ 24,00 FILL TO 24,79 COLOR W+/B+
set color of fields to w+/r+
@ 24,25 SAY 'Modify More Records (Y/N) ?' COLOR GR+/B+
@ 24,53 GET YN
READ
IF UPPER(YN) $ 'Y'
    @ 04,00 CLEAR TO 24,79
    @ 04,00 FILL TO 24,79 COLOR N+/N+
    LOOP
ELSE
    @ 04,00 CLEAR TO 24,79
    @ 04,00 FILL TO 24,79 COLOR N+/N+
    EXIT
ENDIF
ENDIF  && found
IF .NOT. FOUND()
    @ 24,00 FILL TO 24,79 COLOR  W+*/B+
    SET CURSOR OFF
    @ 24,10 SAY 'No Such Record Exist In The File,
    <Return> To Continue...' COLOR W+*/B+
    SET CURSOR ON
```

```
        SET CONSOLE OFF
        WAIT
        SET CONSOLE ON
        @ 24,00 CLEAR TO 24,79
        @ 24,00 FILL TO 24,79 COLOR W+/B+
        set color of fields to w+/r+
        @ 24,25 SAY 'Modify More Records (Y/N) ?' COLOR GR+/B+
        @ 24,53 GET YN
        READ
        IF UPPER(YN) $ 'Y'
            @ 04,00 CLEAR TO 24,79
            @ 04,0 FILL TO 24,79 COLOR N+/N+
            LOOP
        ELSE
            @ 04,0 CLEAR TO 24,79
            @ 04,0 FILL TO 24,79 COLOR N+/N+
            EXIT
        ENDIF
    ENDIF && .not. found
  ENDDO
  RETURN
 enddo
* End of Procedure

Procedure Delete
SET TALK OFF
SET BELL OFF
DO WHILE .T.
    SET COLOR TO GR+/B+,W+/GB+
    SET COLOR TO ,, rg
    SET BORDER TO DOUBLE
    @ 00,00 clear to 00,79
    @ 00,00 fill to 00,79 color w+/b+
    @ 00,00 SAY 'Screen 7 of 24 ' COLOR W+/B+
    @ 00,44 SAY 'Date :' COLOR W+/B+
    @ 00,50 SAY DATE()   COLOR W+/B+
    @ 00,64 SAY 'Time :' COLOR W+/B+
    @ 04,00 CLEAR TO 24,79
    @ 04,00 FILL TO 24,79 COLOR N+/N+
    SET CLOCK TO 00,69
    STORE SPACE(1) TO chioce,sure
    USE STUDREC
    DO WHILE .T.
        IF RECCOUNT() = 0 '
            @ 24,00 clear to 24,79
            @ 24,00 FILL TO 24,79 COLOR W+/B+
            @ 24,17 SAY 'No Enough Records To Delete <Press
            Return>' COLOR W+*/B+
            SET CONSOLE OFF
            WAIT
            SET CONSOLE ON
            @ 24,00 CLEAR TO 24,79
            @ 24,00 FILL TO 24,79 COLOR W+/B+
            EXIT
```

```
    ENDIF
    @ 00,17 CLEAR TO 00,24
    @ 00,17  FILL TO 00,27 COLOR /B+
    set border to double
    @ 01,00 to 03,79  color rg+
    @ 04,00 clear to 13,79
    STORE 'Y' TO YN,TF
    STORE SPACE(4) TO mrecord
    SET COLOR TO G/N
    @ 00,17 FILL TO 00,27 COLOR W+/B+
    @ 00,17 SAY STR(RECCOUNT(),4) + '  Record(s) In File'
    COLOR w+/B+
    @ 04,00 CLEAR TO 15,79
    @ 14,00 CLEAR TO 24,79
    SET COLOR OF FIELDS TO W+/r+
    @ 12,17 SAY 'Delete What Exam  Number :' COLOR GR+/BG+
    @ 12,45 GET mrecord PICTURE '9999'
    READ
    @ 12,10 CLEAR TO 12,79
    IF mrecord $ SPACE(4)
        ? CHR(7)
        @ 24,00 FILL TO 24,79 COLOR W+/B+
        @ 24,10 SAY 'No Null Record(s) In Database File(s) <
        Return> To Continue' COLOR W+*/B+
        SET CONSOLE OFF
        WAIT
        SET CONSOLE ON
        @ 24,00 CLEAR TO 24,79
        @ 24,00 FILL TO 24,79 COLOR W+/B+
        set color of fields to w+/r+
        @ 24,25 SAY 'Delete More Records(Y/N) ?' COLOR
        GR+/B+
        @ 24,53 GET YN
        READ
        @ 24,00 CLEAR TO 24,79
        IF UPPER(YN) $ 'Y'
            @ 01,00 TO 03,79 double COLOR GR+
            @ 04,00 CLEAR TO 13,79
            @ 04,04 FILL TO 24,79  COLOR N+/N+
            LOOP
        ELSE
            @ 04,04 CLEAR TO 23,79
            EXIT
        ENDIF
ENDIF  && mrecords
@ 01,00 TO 03,79 double COLOR GR+
@ 04,04 CLEAR TO 24,79
@ 04,04 FILL TO 24,79 COLOR N+/N+
LOCATE FOR EXAM_NO = mrecord
IF FOUND()
    SET COLOR OF FIELDS TO w+/r+
    @ 24,00 FILL TO 24,79 COLOR W+/B+
    @ 24,20 SAY 'Deleting of Records :- School' COLOR
    W+/B+
```

```
@ 00,00 SAY 'Screen 12 of 24 ' COLOR W+/B+
@ 00,17 CLEAR TO 00,42
@ 00,17 FILL  TO 00,42 COLOR W+/B+
@ 00,23 SAY 'Record No :' + STR(RECNO(),4) COLOR W+/B+
@ 04,04 TO 23,77  DOUBLE COLOR G+
SET BORDER TO SINGLE
@ 00,23 say 'Record No :' + str(reccount(),6) color
w+/b+
@ 4,4 to 23,76 double color g+
@ 5,08 SAY " Location"
@ 5,28 SAY "Town"
@ 5,33 SAY "Code"
@ 5,44 SAY "School Name"
@ 5,63 SAY "School Code"
@ 6,06 SAY location    color w+/r+
@ 6,30 SAY TOWN_CODE   color w+/r+
@ 6,40 SAY Sch_NAME    color w+/r+
@ 6,67 SAY SCH_CODE    color w+/r+
@ 08,07 SAY "Candidate's Name"
@ 08,34 SAY "Sex"
@ 08,44 SAY "Centre No"
@ 08,61 SAY "Exam  No"
@ 09,06 say Cand_name    color w+/r+
@ 09,35 say Sex  color w+/r+
@ 09,45 say centre_No   color w+/r+
@ 09,62 say Exam_NO     color w+/r+
@ 10,05 to 10,75 color rg+
@ 10,32 say "Core Subjects Scores" color rg
@ 12,07 say "English"
@ 12,18 say "Maths"
@ 12,26 say "Inter. Sc"
@ 12,37 say "Agric. Sc"
@ 12,50 say "P. H. E"
@ 12,60 say "Social Study"
@ 13,08 say english      color w+/r+
@ 13,18 say mathmatics   color w+/r+
@ 13,28 say inter_sc     color w+/r+
@ 13,39 say agric_sc     color w+/r+
@ 13,51 say phe          color w+/r+
@ 13,63 say social_sc    color w+/r+
@ 15,07 say "C. R. S"
@ 15,18 say "I. R. S"
@ 15,28 say "Hausa"
@ 15,37 say "Yoruba"
@ 15,50 say "Fine Art"
@ 15,60 say "Intro Tech"
@ 16,08 say crs          color w+/r+
@ 16,19 say irs          color w+/r+
@ 16,28 say hausa        color w+/r+
@ 16,39 say yoruba       color w+/r+
@ 16,51 say fine_art     color w+/r+
@ 16,63 say intro_tech   color w+/r+
@ 18,5 TO 18,75  color gb+
@ 18,30 say 'Pre-Vocational/Electives' color r+
```

```
@ 19,06 say "Bus. Studies"
@ 19,20 say "Home Econs"
@ 19,32 say "Igbo"
@ 19,41 say "Arabic"
@ 19,49 say "French"
@ 19,57 say "Placement"
@ 19,67 say "Boarding"
@ 20,09 say b_studies      color w+/r+
@ 20,23 say home_econs     color w+/r+
@ 20,32 say igbo           color w+/r+
@ 20,41 say arabic         color w+/r+
@ 20,49 say french         color w+/r+
@ 20,59 say placement      color w+/r+
@ 20,68 say boarding       color w+/r+
@ 24,00 CLEAR TO 24,79
@ 24,00 FILL TO  24,79 COLOR W+/B+
yn='N'
@ 24,25 SAY 'Delete This Record (Y/N) ?' COLOR w+/B+
@ 24,50 GET yn
READ
IF UPPER(yn) $ 'N'
   yn='N'
   @ 04,00 CLEAR TO 24,79
   @ 04,00 FILL TO 24,79 COLOR N+/N+
   @ 24,00 CLEAR TO 24,79
   @ 24,00 FILL TO  24,79 COLOR W+/B+
   @ 24,25 SAY 'Delete More Record (Y/N) ?' COLOR
   w+/B+
   @ 24,50 GET yn
   READ
   IF UPPER(yn) $ 'N'
      @ 04,00 CLEAR TO 24,79
      @ 04,00 FILL TO 24,79 COLOR N+/N+
      LOOP
   ENDIF
ENDIF
IF UPPER(yn) $ 'Y'
   ?? CHR(7)
   yn='N'
   @ 24,00 CLEAR TO 24,79
   @ 24,00 FILL TO 24,79 COLOR W+/B+
   @ 24,30 SAY 'Are you Sure (Y/N) ?' COLOR w+/b+
   @ 24,52 GET yn
   READ
   IF UPPER(yn) $ 'N'
      @ 04,00 CLEAR TO 23,79
      @ 04,00 FILL TO 24,79 COLOR N+/N+
      EXIT
   ELSE
      IF UPPER(yn) $ 'Y'
         DELETE
         PACK
         @ 24,00 CLEAR TO 24,79
         @ 24,00 FILL TO 24,79 COLOR W+/R+
```

```
                @ 24,10 SAY 'Record Has Been Deleted, Press
                Any Key To Continue...' COLOR W+*/R+
                SET CONSOLE OFF
                WAIT
                SET CONSOLE ON
                YN='Y'
                @ 04,00 CLEAR TO 24,79
                @ 04,00 FILL TO 24,79 COLOR N+/N+
                @ 24,00 CLEAR TO 24,79
                @ 24,00 FILL TO  24,79 COLOR W+/B+
                @ 24,25 SAY 'Delete More Record (Y/N) ?'
                COLOR w+/B+
                @ 24,50 GET YN
                READ
                IF UPPER(YN) $ 'Y'
                    @ 04,00 CLEAR TO 23,79
                    @ 04,00 FILL TO 24,79 COLOR N+/N+
                    LOOP
                ELSE
                    IF UPPER(YN) $ 'N'
                        @ 04,00 CLEAR TO 23,79
                        @ 04,00 FILL TO 24,79 COLOR N+/N+
                        EXIT
                    ENDIF
                ENDIF
            ENDIF
          ENDIF
        ENDIF
       endif
       IF .NOT. FOUND()
          @ 24,00 FILL TO 24,79 COLOR  W+*/B+
          @ 24,10 SAY 'No Such Record Exist In The File,
            <Return> To Continue...' COLOR W+*/B+
          SET CONSOLE OFF
          WAIT
          SET CONSOLE ON
          @ 24,00 CLEAR TO 24,79
          @ 24,00 FILL TO 24,79 COLOR W+/B+
          @ 24,25 SAY 'Delete More Records (Y/N) ?' COLOR
            w+/B+
          @ 24,53 GET YN
          READ
          IF UPPER(YN) $ 'Y'
              @ 04,00 CLEAR TO 24,79
              @ 04,00 FILL TO 24,79 COLOR N+/N+
              LOOP
          ELSE
              @ 04,00 CLEAR TO 24,79
              @ 04,00 FILL TO 24,79
              EXIT
          ENDIF
       ENDIF
    ENDIF
  ENDDO
SET BORDER TO DOUBLE
```

```
   @ 00,16 CLEAR TO 00,43
   @ 00,16 FILL TO 00,43 COLOR W+/B+
   RETURN
 ENDDO
* End of Procedure

Procedure initial
SET TALK OFF
SET BELL OFF
DO WHILE .T.
   SET COLOR TO GR+/B+,W+/GB+
   SET COLOR TO ,, rg
   SET BORDER TO DOUBLE
   @ 00,00 clear to 00,79
   @ 00,00 fill to 00,79 color w+/b+
   @ 00,00 SAY 'Screen 7 of 24 ' COLOR W+/B+
   @ 00,44 SAY 'Date :' COLOR W+/B+
   @ 00,50 SAY DATE()   COLOR W+/B+
   @ 00,64 SAY 'Time :' COLOR W+/B+
   @ 04,00 CLEAR TO 24,79
   @ 04,00 FILL TO 24,79 COLOR N+/N+
   SET CLOCK TO 00,69
   STORE SPACE(1) TO chioce,sure
   USE STUDREC
   DO WHILE .T.
      IF RECCOUNT() = 0
         @ 24,00 clear to 24,79
         @ 24,00 FILL TO 24,79 COLOR W+/B+
         @ 24,17 SAY 'No Enough Records To Wipe <Press
         Return>' COLOR W+*/B+
         SET CONSOLE OFF
         WAIT
         SET CONSOLE ON
         @ 24,00 CLEAR TO 24,79
         @ 24,00 FILL TO 24,79 COLOR W+/B+
         EXIT
      ENDIF
      @ 00,17 CLEAR TO 00,24
      @ 00,17  FILL TO 00,27 COLOR /B+
      set border to double
      @ 01,00 to 03,79  color rg+
      @ 04,00 clear to 13,79
      STORE 'Y' TO YN,TF
      STORE SPACE(4) TO mrecord
      SET COLOR TO G/N
      @ 00,17 FILL TO 00,27 COLOR W+/B+
      @ 00,17 SAY STR(RECCOUNT(),4) + '  Record(s) In File'
      COLOR w+/B+
      @ 04,00 CLEAR TO 15,79
      @ 14,00 CLEAR TO 24,79
      ? chr(7)
      yn=space(1)
      @ 24,00 clear to 24,79
      @ 24,00 fill to 24,79 color w+/r+
```

```
        @ 24,02 say 'This Routine Will Wipe Out Records Held In
        Database File, Continue (Y/N) ? ' color w+*/r+
        @ 24,77 get yn
        read
        if upper(yn) $ 'N'
            @ 04,00 CLEAR TO 24,79
            @ 04,00 FILL TO 24,79 COLOR N+/N+
            exit
        else
            if upper(yn) $ 'Y'
                @ 24,00 clear to 24,79
                @ 24,00 fill to 24,79 color w+/b+
                @ 24,08 say 'Have You Make A Back-up Copy of This
                File  (Y/N) ?' color w+/b+
                @ 24,60 get yn
                read
                if upper(yn) $ 'N'
                    @ 24,00 clear to 24,79
                    @ 24,00 fill to 24,79 color w+/b+
                    @ 24,02 say 'Please Back-up Your Database File
                    Before Wiping off It Contents, Press Enter To
                    Continue...' color w+*/b+
                    set console off
                    wait
                    set console on
                    return
                else
                    @ 24,00 clear to 24,79
                    @ 24,00 fill to 24,79 color w+/b+
                    @ 24,10 say "Wait Wiping out Previous Year's
                    Records ..."  color w+/r+
                    delete all
                    pack
                    @ 24,00 clear to 24,79
                    @ 24,00 fill to 24,79 color w+/b+
                    @ 24,08 say 'Records Has Been Completely Wiped
                    Out, Press Enter To Continue...' color w+*/b+
                    set console off
                    wait
                    set console on
                    exit
                endif
            endif
        endif
    enddo
    return
enddo
*Eop
procedure Quidos
clear
@ 07,20 SAY '**********************************' COLOR RG+/GB+
@ 08,20 SAY '* End Run Computerised Asses Sys*' COLOR RG+/BG+
@ 09,20 SAY '*                                *' COLOR RG+/BG+
@ 10,20 SAY '*           Remember To Backup   *' COLOR RG+/BG+
```

```
@ 11,20 SAY '*                                    *' COLOR RG+/BG+
@ 12,20 SAY '*      All Data Base Files !!!  *' COLOR RG+/BG+
@ 13,20 SAY '*********************************' COLOR RG+/BG+
@ 15,24 SAY 'Press Any Key To Exit To Dos...' COLOR W+/R+*
SET CONSOLE OFF
WAIT
SET CONSOLE ON
clear
quit
* EoP
```

CHAPTER FOUR

4.0 SYSTEM IMPLEMENTATION

Once the decision to go ahead with the computerisation of students continous assessment has been made by the management or the government, the team has to consider implementation of such decision.

4.1 INPUT DESCRIPTION

This is the process of converting an external user oriented input system into a machine oriented Format. The input consideration are greatly affected by the output requirement and the following factors should be born in mind

1. Data collection method and validation

2. Type of input media available

3. Volume of input documents

For this project, the input data are generated from the summary report of the JSS 1-3 program of students continous assessment raw score awarded by the teachers. The input data are equally attached in the project.

4.2 OUTPUT DESCRIPTION

This specifies the manner and the structure in which the information that leaves the system should be presented to the outside world or the users.

The design of the output depends on the information required, it should be known that the computer printout from the system depends on the output firm design.

After working with our input data and running of our programme from the previous chapter, i.e chapter 3, the output report generated the required T-score otherwise known as the standardized score, which is the target of this very project.

4.3 TESTING OF NEW SYSTEM

It is important that a system is thoroughly tested so as to avoid loss of time and money during live running. The various means of testing programme are :-

a) Desk checking the various programme using test data. The test data involved in writing the program using live data. This is usually applied at the final stage of testing.

b) The result of test with live and test data should be compared to the expected results, and all error corrected.

c) A program trial log must be maintained by the programmer to record the result and progress of each program during testing.

4.4 TRAINING OF STAFF

During the implementation stage, the management must estimate the staffing need of the different activities involved. Some of the existing staff, if any may have to retain and train the so as to be whole need system. The various method of training might be in-house training or outside training. In addition, new staff might be recruited. The management must ensure that all the staff involved in the new system will understand the job.

4.5 SYSTEM CHANGE OVER

After the new system has been fully tested, change over can be made. The various methods of change over includes:-

1) **PARALLEL RUNNING** :- This involves the processing of the current line data on both the old and the new system at the same time and then cross- check the result to check the accuracy of the new system in the real situation.

   The main attraction of apparel change over is that the old system is kept alive until the new system has been sufficiently proved for at least on cycle using full data in the real environment (i.e running live data).

It is safer their the direct change over since the current data is processed simultaneously by both old and new system and the result compared. Its main disadvantages are the extra cost and difficulty or impracticability of user staff having to carry out different clerical operation for two system in the time available for one and their cross-checking the result.

   The use of extra may not be possible or derivable, and it is very hard to decide if may extra staff should be put to work on the old system or the new. The choice of parallel change over should never be use as an excuse for bad system testing. The system should still undergo to total testing before the change over period begins.

2) **PILOT OPERATION**

   Pilot operation is to two types. The first can be described as introducing the new system in piece meal

fashion. It may be difficult to do this with an integrated system as a separate entity.

The other method can be described as phase out parallel running, i.e not so much parallel as consecutive. The new period and the result checked from the previous period and the result checked against the known original system. This is easier to control them parallel running.

SOFTWARE/HARDWARE SPECIFICATION

Software, is the expression used (in contrast to hardware describe all programs which are in use in a particular puter installation. More, specifically, however, it refers these programs supplied by manufacturer, or specialist tware houses and this include the application (these being led application programs).

For this particular project the software used for cedures and programming is Data base mangement system MS).

The data base management system is a olex software tem which constraints, expand, and maintaine data base. also provides the interface between the und the data the base.

The DBMS allocates storage to data. It min indices, so that separate items of data in the ba be cross- erence. The structure of data base is dyrnd can be nge as needed. The data base maintain the the base :-

adding new records

2. deleting dead records

3. amending records

To be more precise DBASE IV is used for this project it is an advanced various of Dbase that provides a full relational database environment to users. While many users found the assistant made from Dbase III plus too restrictive, they will find the control centre of DBase IV a significant improvement.

Through the control centre, and without the use of command language you can design database, manipulate and edit records and files, generate reports, perform dabase query, design labels, and browse database. Data field can be specified with default values as well as valid ranges. Data can be verified automatically as they are enter to the field. Up to 255 field can now be specified per rec, and a data base can be related to more them two oth database. Programs and procedures can also be complied aved as project code for faster execution. Pop-up menus indows can be designed.

Other improvement over Dbase I included a larger number of memory variables, users de functions, up to 99 files can be opened at one time. T lso improved indexing, a lager command line buffer, ed command line editor, improved printer handling c and faster execution.

The term hardware ref physical components of computer system, i.e the ctronic or otherwise) used for processing data ontrast to software or method of use; a set o edures and associated

documentation concerned with the operation of data processing unit.

Hardware, because of the periodical work load ahead, and the cost of buying computers for each an individual users, couple with the advancement in computer technology, most of the latest computers are capable to support multiuser task. We recommend one 80486/DX2 computer, and four WYSZ 60 terminals, to enable four users share the resources of one computer and perform their duties simultaneously at their different locations.

This method will save the cost of purchasing computers to individual users and at the same time speed the task of data entries.

TYPICAL FIVE MULTIUSER SYSTEM

```
┌──────────────┐                    ┌──────────────┐
│ ┌──────────┐ │                    │ ┌──────────┐ │
│ │ Terminal │ │                    │ │ Terminal │ │
│ │    1     │ │                    │ │    2     │ │
│ └──────────┘ │                    │ └──────────┘ │
└──────┬───────┘                    └──────┬───────┘
       │                                   │
       │          ┌──────────────┐         │
       │          │  ┌────────┐  │         │
       │          │  └────────┘  │         │
       │          │              │         │
       │          │ ┌────┐  ┌──┐ │         │
       │          │ └────┘  └──┘ │         │
       │          │         ┌──┐ │         │
       │          │ File    └──┘ │         │
       │          │ Server       │         │
       │          ├──────────────┤         │
       │          │  80486/Dx/2  │         │
       └──────────┤  Processor   ├─────────┘
       ┌──────────┤              ├─────────┐
       │          └──────────────┘         │
       │                                   │
┌──────┴───────┐                    ┌──────┴───────┐
│ ┌──────────┐ │                    │ ┌──────────┐ │
│ │ Terminal │ │                    │ │ Terminal │ │
│ │    3     │ │                    │ │    4     │ │
│ └──────────┘ │                    │ └──────────┘ │
└──────────────┘                    └──────────────┘
```
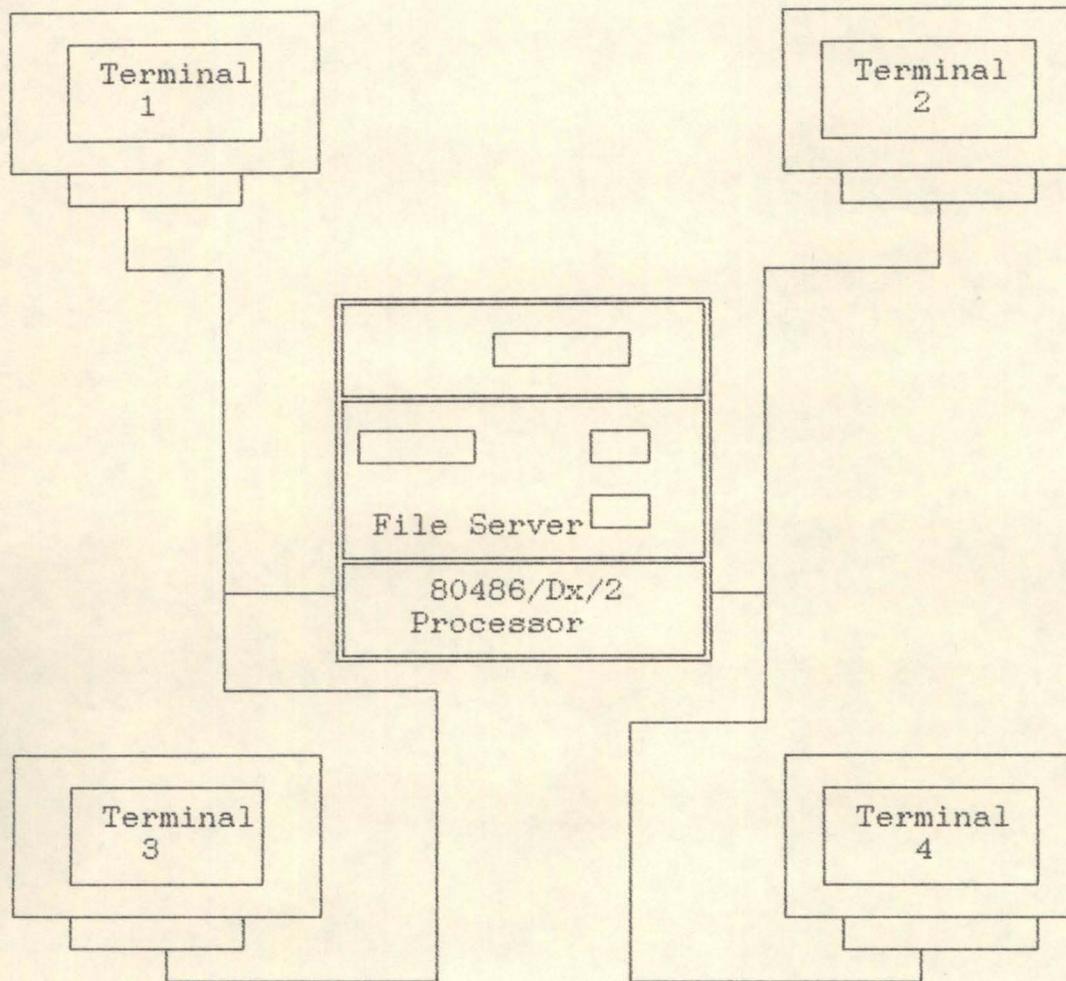
CHAPTER FIVE

CONCLUSION

5.1 SYSTEM EVALUATION

This system has been tested and running error-free for some times, and also an evaluation on Post implementation review of this system is been carried out (i.e critical supervision of the running system). This is to examine the efficiency of the system, with a view of seeing where improvement could be made, to compare the actual achievement of the system with the objective originally set-out, and also, to provide the analyst with valuable feedback, to enable him to learn from good and bad part of the system.

5.2 SYSTEM REVIEW

Since this system has been tested and working efficiently, it is important to be reviewed periodically so that:-
- any unforeseen problems may b solved.
- it might be comfirmed that is achieving and will continue to desired result.

In apprising operation of this new system, comparison should be made between actual and predicted performance.

The appraisal should cover the following areas:-

i.   Computer department staff and organisation

ii. suitability of the system.

iii. cost/benefit analysis

iv. internal control

5.3 BENEFIT FROM COMPUTERISED SYSTEM

This is an important part of system development and it involves:-

a. ACCURACY AND EFFICIENCY:-

It should always be bear in mind that accuracy is one of the factors that determines the introduction of computer. This system is therefore designed to meet this requirement and also produces information efficiently.

- The fact that all processes is computer based, all difficulties involved in calculating students continuous assessment is eliminated.

-    The system bridge the gap of human discrepancy in awarding marks.

- The result of all calculation is tested accurate and available immediately.

b) CHANGES IN ENTRIES

In a manual situation changes made in on paper work will require re-calculation of all affected data or the entire work sheet.

With application of computer system, entire/changes made on numerical data will trigger automatic re-calculation of the affected data and present the result instantaneously.

c) INSERT/DELETING OF RECORDS

Using the traditional method of paper work, adding or deleting of un-wanted records will call for cutting and pasting which will eventually require rewriting of the entire worksheet. The application of computer in this aspect will eradicate this problem as one can and a new record, amend or delete un-wanted record at any point leaving the system to readjust itself.

d) **COMPARISON**

The system will be able to compare the performance of each students subjects by subjects, schools by schools and states by states nationwide to determine the level of their academic performances.

e) **RELATIVE ROUTINE**

The use of computer will greatly minimized the time consumed performing repetitive tasks, work.

f) **PLACEMENT**

The package (program) has an in-built decision marking process thereby marking students placement in schools to be based on individual students performance.

g) **STANDARD LAYOUT**

The result generated by this package, is not only readable and attractive, but at the same time a turn around document for easy and accurate storage of information on the data base management system with facilities to generate the report in a pictorial format, graphs ie (Bar,pie etc).

h) **ADAPTABILITY**

The designed system is flexible to accommodate any required changes at any time.

5.4 RECOMMENDATION

If the present system is fully operational, we will adopt the method of parallel change-over. Using this method the manual process will confirm, while the computer generated output of the same data will be compared with the manual to check and eradicate discrepancies in the computerised system before discarding the manual system completely.

This exercise will commence as soon as required by the Niger state ministry of education. The schools in the state will be divided into zones and actual data entry into computer will commence followed by editing and amending of report before the production of the results and summaries.

5.5 USERS MANUAL

NOTE : This program can only be run under Dbase IV.

1. To run the program, insert the assessment software package in drive A

2. At C:> type A:. then you press Enter or Return Key.

3. At A:> type install, then you press Enter Key.

The package will be installed to drive C, the system will automatically load Dbase IV and present the dot prompt.

4. At Dbase IV dot-prompt, type Do assess and press Enter Key. Here the assessment program will be loaded and present the user with be menu in an horizontal bar. ie,,

- The first row of the screen will present you the system status, where you see the position and the number of screen

available, Also the status of the database file is display between the screen and the system date.

- The main menu consists of four (4) options namely:-

A) **DATA ENTRY MENU**

On selection of the data entry, a pulldown menu will be displayed below the data entry option, the pull down menu consists of one option 99 Junior secondary school).

The system will pause to require the user to press return to activate the data entry form. Refer to appendix for data entry form.

- **DATA VALIDATION**

i The system will not allow a duplicated candidate examination number.

ii No empty record can be inputted to the database.

iii At the completion of entering a record the system will pause and present a message (Are these entries OK Y/N)?. This is to allow the user to validate the entire data before being written to the database. On the other hand if the user respond No or N to the presented question record the program will transfer the cursor to the first field in the record and allow the user to effect the required changes.

iv After the record has been written to the database file program will present to the user with a text (Add more record, Y/N)? This is to enable the user to decide either to continue entering another record or terminate the data entry process.

B) **FILE UTILITIES MENU :**

The file utilities menu consists of four(4) sub menu, namely.

i) **INDEXING OF FILE** :- This is to allow the user to rearrange records held in the database in an orderly form.

ii **MODIFY OLD RECORDS** :- This is to enable the user to effect change in an existing records.

iii) **DELETE OLD RECORDS** :- This allowed the user to remove unwanted records.

iv) **INITIALISED FILE** :- This enable the user to wipe out all records held in the database.

C) **REPORT GENERATOR**

This is to allow the user to generate report to the printer.

D) **EXIT**

This is to allowed the user to terminate the program and return to the C prompt.

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