

A FOLLOW-UP STUDY OF THE
1972-73 PLACEMENT OF STUDENTS
WHO TOOK TEDRO APTITUDE TESTS
IN FIVE SECONDARY SCHOOLS IN
ZARIA

By

S. W. NDAHI

DECEMBER. 1975

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By

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This research project report has been read and approved as meeting the requirements of the Department of Education, Ahmadu Bello University, Zaria.

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Staff Evaluator

Date: _____

DEDICATION

This research project is dedicated
to my dear wife, Mrs. K.S. Ndahi
and son: Hyelni Danlami Ndahi for
their cooperation.

"Education is the keystone of a peoples' life and happiness. A progressive modern educational system is necessarily a complex structure, for it must meet the many needs and aspirations of the nation as a whole and it must also care for the individual."

- From The Accelerated Development Plan -
Ghana, 1960-62.

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Many people have contributed in various capacities towards the successful completion of this Research Project.

I am particularly grateful to the Ministry of Education, North Central State, Kaduna, for granting the permission to conduct the research in these five selected Secondary Schools in Zaria district.

I am indeed greatly indebted to the Principals, and the Vice-Principals of all the Institutions involved, namely, Barewa College, Kufena College, Commercial College, Government Secondary School, Zaria City, and Government Technical School, Soba, for the maximum cooperation, assistance, suggestions and permission which they readily granted me to have access to the students' academic records.

My deep appreciation and thanks go to the Guidance and Career Masters of all these Institutions for their physical and moral support, valuable suggestions and information which they rendered unto me. I really do appreciate their good gestures, assistance, advice, and cooperation during the time of the conduction of the student opinionnaires.

The project was conducted under the direct guidance and supervision of Professor E.W. Graber, who is in charge of Guidance Education in the Department of Education, Ahmadu Bello University, Zaria. His advice and suggestions were very useful and to him, I owe many thanks. My special thanks also go to Mr. Yusufu Pathan for his assistance in the data analysis of the research project.

Finally, my sincere appreciation and thanks go to my wife for her continual help and encouragement during the writing of the research project. She has at every stage of the work made critical and useful comments.

To all others who have contributed in one way or the other to the success of this project, I extend my sincere gratitude.

Abstract

A FOLLOW-UP STUDY OF THE 1972-73
PLACEMENT OF STUDENTS WHO TOOK
TEDRO APTITUDE TESTS IN FIVE
SECONDARY SCHOOLS IN ZARIA

The researcher attempted to conduct a follow-up study to find out from the students, Guidance and Career Masters their feelings, attitudes and opinions concerning the introduction of the new system of comprehensive education in the North Central State past primary institutions. Five Secondary schools in Zaria district were selected for the purposes of the study. This system was introduced in 1972. The first class of students who took the TEDRO Aptitude tests at the end of their second year course are now in form five. The research project was intended to determine the usefulness of these tests with regards to the students' placement and vocational choice. It was also the intention to find out from the present form five students in the selected schools whether or not they are satisfied with their placements, which were based primarily on the TEDRO Aptitude test scores; and finally to determine whether or not the new scheme of the comprehensive education is welcomed by both the staff and the students.

viii.

Three hypotheses were postulated and tested. The first one is not accepted because there is a pattern of correlation between the Aptitude test scores and the end of-year-examination marks; whereas the second one is rejected, as not all the students welcome the new system of education- The third hypothesis is also accepted in that the majority of the students seemed to be satisfied with their present school placements.

In order to test the three hypotheses students academic records were scrutinized individually and both the TEDRO Aptitude test scores and the end of-year-examination marks in English, Mathematics and Science were recorded and tabulated for comparative purposes. To test hypotheses two and three both students and staff opinionnaires and questionnaires were designed to elicit their opinions with regard to the new scheme.

The information obtained from the opinionnaires, records, questionnaires, as well as the one obtained from discussions with both staff and students was used to test the hypotheses, and to draw the conclusions and recommendations.

It was generally found that the TEDRO Aptitude tests do measure the students capacity and ability to learn, and that they can assist students in their choice of vocation and

school placements - The test scores are good indicators of special aptitude, provided that the individual student has had some opportunities for learning and motivation to learn. More research is needed to investigate and evaluate the validity and the usefulness of the TEDRO Aptitude tests which are being conducted in the North Central State post primary institutions.

December 1975: S.W. Ndahi

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Chapter I

Introduction

Chapter I

Introduction

During the last decade, there has been a rising awareness of the role that guidance services can play in Nigerian Schools. With the intended introduction of the Universal Primary Education in the country in 1976, it is evident that more and more facilities, such as qualified teachers, textbooks, suitable syllabuses and classrooms will be needed. Educational opportunities will be greatly expanded including the provision of adequate testing instruments for the assessment and evaluation of the tremendous development which is highly anticipated. A well-planned and organized Universal Primary Education of any type requires adequate preparation, financial involvement and an efficient testing system for its evaluation.

One of the effective Guidance Services introduced in the North Central State is the organization and administration of the Aptitude test batteries at the end of the second year course in the post primary institution. These TEDRO test results are used to identify pupils who have the special ability to make the best use of training in the specific areas being offered as third year options. Apart

from this, the tests help the individual pupil to discover which of the options might be most suitable for him or her. The results of the Aptitude tests are generally used in two main ways: for selection purposes by the institutions and also for the guidance of the individual. Where these tests are being used as part of the selection procedure for entry to a course with a limited number of places, the selectors will be interested in the higher scores, because these indicate a greater likelihood of success in the course.

It is the purpose of the project to indicate specially how tests can make effective and valuable contributions to the main objective of Guidance and Counseling. Since guidance implies involvement with human beings in problems and decision-making, ordinary observation or an informal investigation into the individual backgrounds may not supply adequate information for effective counseling. The nature of the modern schools where students from different backgrounds and with different aptitudes, interests, and motivations come together demands that there must be someone to help students and a means of assessing their capabilities and potentialities.

Scientific guidance is based on the precise knowledge of the individual obtainable through the use of sound testing instruments. For instance, no one can ascertain the aptitude,

vocational interests and aspirations, attitudes, achievement levels, or operative personality factors of an individual without testing facilities. Tests measure individual differences, which are the principle roots of Counseling and Guidance efforts.

Finally, it is also the intention of the research project to draw the attention of scholars to the vital need of the development of aptitude tests based on the Nigerian traditional way of life, values, goals, and philosophical concepts. It is evident that when the comprehensive or multilateral schools are firmly established there will be need for the adoption of many guidance practices in the schools. In order to develop guidance further in Nigeria, a philosophy to guide action should be formulated.

M.P. Cote gives the following suggestions:-

... "Considerably more experience must be gained and evaluated on a small experimental scale. Some schools will have to be the pioneers and periodically share their experiences. More papers, especially research papers, must be written. More tests must be developed, norms established and procedures formulated. All of this will be a long, exhausting process"...¹

In connection with the above suggestion, perhaps it would be more effective to set up a few guidance centres in the large towns which could serve many schools. It would

1. Cote, P.M., "Guidance in Education: the application of the behavioral sciences in Secondary Schools" in Durojaiye, M.O.A., (edited), Psychological Guidance of the Schoolchild, Evans Brothers Ltd., Ibadan, p. 99.

also be a good idea if several schools would form an association to finance a guidance centre. These centres will begin to develop some of the background information, data and philosophy that is necessary before a large-scale guidance effort begins throughout the country.²

It is worth-noticing that already the Test Development and Research Office of the West African Examinations Council Lagos, has taken the appropriate steps in this direction and has developed some aptitude and achievement tests which are used by the North Central State Ministry of Education in the post primary institutions for the placement of students to academic, technical and commercial clerical secondary schools. It is hoped that in future the State will establish an adequate and self-sufficient testing program relevant to the students' cultural background and educational requirements.³

It is the intention of this research to evaluate the importance of the new system of comprehensive education introduced in the North Central State post primary institutions: to compare the TEDRO Aptitude test scores with the students' actual end of the year examination marks; to ascertain

2. Ibid., p. 99.

3. Ministry of Education, North Central State Publications, Kaduna, Circular Ref. No.N.C.E./CIE/228/29, Dated 20th November, 1972.

whether or not the students generally welcome the new system of education; and finally to investigate whether or not the students are satisfied with their school placement which was based primarily on the results of the TEDRO Aptitude tests which they took at the end of their second year in post primary institutions in 1972.

Chapter II

The Problem

Chapter IIThe ProblemThe Statement of the Problem

The overall problem of the research is to determine the effectiveness of the new scheme of the Comprehensive education introduced in the post primary institutions in the North Central State in January 1972. The purpose of this "comprehensive Scheme" according to the circular Ref.No.NCE/CIE/228/29 and dated 20th November, 1972, is as follows

"... as considered by the government of North Central State it was declared that the scheme should respond to the needs of the nation - economic, social, cultural, political, educational and vocational etc. - it was thought of, to be the most important in the next stage of essential development..."¹

Again in another memorandum presented to the States' Executive Council concerning the subject; the following vital issues were declared:-

"... The 'Comprehensive Scheme or multi-lateral program' accepts the fundamental belief in the intrinsic worth of every human being, and in the furtherance of this belief, it must cater effectively to the educational abilities and aptitudes

-
1. Ministry of Education, North Central State, Publications, Kaduna, Circular Ref.No.NCE/CIE/2283/29, dated 20th November, 1972.

of every child. There must be equal opportunities for every child to develop his/her natural gifts..."²

The above statements as could be observed are in line with the basis of guidance in countries where such services are more fully developed and organized, like the United States of America where guidance services have been recognized as an integral part of the educational program, as such, it is one of several elements within their program. For example, L.G. Derthick stresses the great need for guidance services in America using these words

"... Thus there is a greater need for guidance services even now than everbefore... Rapid technological advances, an increasingly complex society, new concepts of government and its role in the lives of people, the need for outstanding leadership talents, a shift in standards of morality and integrity... all contribute to the need for the philosophy... also specific conditions within the educational setting contribute immensely to the need for the guidance services."³

Generally, there is a growing recognition of individual differences in personality, potential achievements, needs, interests, values and hopes. Added to this idea is the democratic ideal of equality of opportunity to develop one's human potential

2. Ibid., p. 2.

3. Downing, L.N., Guidance and Counseling Services - An Introduction, McGraw-Hill Book Company, New York, 1968 p.9

to the full.

As it is estimated that only about thirty percent of the pupils leaving primary schools in the North Central State enter post primary institutions, the new program cannot be considered as fully "comprehensive" because it does not take in all pupils who are eligible; however, it is highly selective.⁴ In this case there cannot yet be equality of opportunity for all the pupils to develop fully as stated. But it is the duty of the administrators and all the educational authorities to ensure that those pupils who do enter institutions in the State are helped to develop their potential to the maximum.

It is important to recognize the individual differences between pupils who are judged suitable for post primary education; if they are to make the most of the opportunities offered to them. If their innate and environmental differences are not noticed and taken into consideration the pupils' development will be slackened, or even be totally withheld and the resources, which have been invested in their education will be partially wasted.

4. Ministry of Education, North Central State Publications, Kaduna, File No. NCE/GSSZ/G/86, Volume II, dated December, 1973.

The reason for the introduction of this educational change in the North Central State is related to the pursuance and the improvement of high academic, vocational and economic achievement. Among other things, academic accomplishment and attainment are usually the result of excellent environment, facilities, teachers, good learning conditions, well-designed curriculum, organization, parent - participation, and encouragement. These factors depend largely upon the adequacy of the educational guidance services of the state. The main questions to be considered with regard to the statement of the problem are two-fold:-

- a) What are the changes and their implications in the placement of the students in the new scheme?
- b) How does this affect the school Guidance and Counseling personnel?

These questions at hand make the choice of the problem under study to be of vital significance.

Significance of the Problem

The important aspect of the study is to obtain from the affected students a realistic picture of their views, opinions, and attitudes regarding the introduction and the administration

of the Aptitude tests in the North Central State. The information from and the experience of the students will help towards the reappraisal of the students' future educational, and vocational aspirations as well as in the development of the new scheme.

The full implementation of the above-mentioned comprehensive education scheme should give each pupil a wide range of educational experiences and opportunities designed to bring out the individual pupil's natural gifts. At the end of the second year in the post primary institution, the teachers through continuous assessment, coupled with the results of the TEDRO Aptitude tests, should be able to select for each pupil a suitable course of education or training for the next three years.

From the point of view of each form two pupil, the use of the results will be of great importance. By comparing the scores achieved in the three batteries of tests - academic, technical and commercial - the pupil can have some idea of where his strengths and weaknesses may lie.

What matters most here is the comparison between the scores obtained by an individual student in the various batteries and not the comparison between his scores and those

of other students.

For a decision on the placement of students, it is very essential that each pupil is helped to make the most of the opportunities and facilities offered in the first two years. The important functions of educational guidance during the first two years therefore should be the removal of learning difficulties and the utilisation of effective methods of study on a systematic basis.

The Guidance Teachers' main aim is to help the pupil to choose future options, training, and career which are in line with each pupil's own strengths so as to avoid having students persisting in directions where success is less likely.

On the whole, the project will enable one to understand and to appreciate the difficulties and all other related as well as inherent involvements in the implementation of the scheme. It is possible that mistakes would have been made during the initial stages of the scheme; if so the results of the research would be of help in checking their re-occurrence. The aim of the comprehensive scheme is to provide for each pupil the type of education which is most suitable for him. The Aptitude tests are designed to identify a person's ability in certain activities. They would help in indicating

who has talent for technical, clerical, commercial or academic studies. In other words, the comprehensive program provides an opportunity for each pupil to be guided into the course which seem, on the basis of the information collected, to be most appropriate for him, bearing in mind the needs of the state for certain trained people and subject to there being places available on the courses. This may involve the movement of some pupils from their present schools into different institutions that offer the option for which the pupil has been selected.

The most significant aspect of the study is the evaluation of the general effectiveness of the scheme. But also important is the section which deals with suggestions, ideas and recommendations with regards to the successful organization, administration and the improvement of the school placement scheme in the North Central State.

Analysis of the Problem

The problem has been broken down in such a way as to provide answers to the following specific questions:-

1. Are there any correlations between the students' aptitude test scores and their actual classroom

performances as shown by the end of the year examination marks?

2. What are the basic reactions, attitudes, and opinions of the following concerning the new system?
 - a) Guidance and Career masters
 - b) Pupils.

Basic Assumptions

In order to give substance and value to the follow-up study, the following assumptions may serve as a guide in the project in arriving at meaningful variables.

- 1) That follow-up studies are valuable techniques for evaluating guidance services.
- 2) That guidance services are needed in both primary and post primary institutions.
- 3) That tests are useful in measuring individual differences in ability, aptitudes and interests of students in school.
- 4) That counselors are needed in schools to interpret test scores and advise students.

Hypotheses

The following three hypotheses have been formulated and

Will be tested.

1) There is no significant difference in the comparison of the students' TEDRO aptitude test scores and their term test marks in English, Mathematics and Science.

2) The students welcome the introduction of the new system of comprehensive education by the North Central State in the post primary institutions.

3) The students are satisfied with their present school placements based primarily on the results of the TEDRO Aptitude test scores.

Scope and delimitation

The research project is confined to the five leading Government Secondary Schools in Zaria district namely:-

1. Barewa College, Zaria.
2. Kufena College, Zaria.
3. Government Secondary School, Zaria City.
4. Government Commercial Secondary School, Zaria.
5. Government Secondary Technical School, Soba.

These colleges are selected for the purpose of manageability. They are considered to be among the best colleges both in terms of facilities, staff as well as WASC results. These institutions are also located nearby; it is possible to visit them whenever the demand arises.

The research will be largely descriptive and analytical in nature, as it deals mainly with the introduction and the evaluation of comprehensive education in the North Central State. The scheme was also essentially responsible for the establishment of educational guidance services in the state.

As mentioned earlier, the purpose of the study is to find out from the students - the pioneers of the scheme - their reactions and attitudes about the program. It is significant in that the present form five students were the first to sit the TEDRO aptitude tests at the end of their second year in the post primary institutions in 1972. The study intends to evaluate the students' general academic performances after the 1973 school placement exercises and to compare the annual test results with the students' Aptitude test scores. It will be first hand information from the pioneers of the new placement system since its inception.

It is hoped that the weaknesses and the strong points of comprehensive education will be thoroughly investigated, so that appropriate suggestions and worthwhile recommendations will be given to the other students, administrators, principals, careers and guidance masters for the future organization and implementation of the program.

•
Definition of the Terms Used

It is necessary to define the following important terms that are vital to the full understanding of the study.

1. Follow-up study - refers to the study of any group of students or former students of the institution who have shared a common experience to determine if patterns emerge in their subsequent actions or behavior which prove useful in understanding, counseling and establishing policies for other students.⁵ In this project it refers to the study of all the present form five students in the five selected colleges involved in the research.

2. Educational placement - refers to the continuous process of a designed program to inform the students of additional educational opportunities that are compatible with their abilities, interests, needs, and goals, and of helping the individual pupil to gain admittance to the appropriate institutions of his choice.

5. Definitions of Student Personnel Terms in higher Education, Prepared by the National Centre for Educational Statistics in Cooperation with the American Association of Collegiate Registrars and Admissions Officers, US Department of Health Education, and Welfare, Publishers US Government Printing Office, Washington, 1968 p. 28.

3. TEDRO - means Tests Development and Research Office of the West African Examinations Council, Lagos.⁶ This is the main test organizing office of Nigeria, it conducts aptitude and achievement tests apart from the normal West African School Certificate Examinations.

4. Correlation - it often refers to a single number that tells us to what extent two things are related, to what extent variations in the one go with variations in the other;⁷ without the knowledge of the extent to which one thing varies with another, it would be impossible to make predictions.

5. School guidance - is the process of helping individuals to achieve the self-understanding and self-direction necessary to make the maximum adjustment to school, home, and community.

6. Aptitude Tests - embrace intelligence, achievement, personality and interest tests and other skills which are predisposed to learning.⁸ Aptitude tests measure ability to

6. The West African Journal of Educational and vocational Measurement, Vol.1, No.1, Feb., 1973; Published by WAEC TEDRO Academy Press Ltd; Lagos, Nigeria. Front cover page.

7. Guilford, J.P., Fundamental Statistics in Psychology and Education, Fifth edition, McGraw-Hill, Kogakusha Ltd., Tokyo, 1950 p. 79.

8. Shetzer and Stone, Fundamentals of Guidance, 2nd edition, Houghton Mifflin Company, Boston, 1971, p. 244.

learn, through training, and some usually specific knowledge or skill. The tests help to identify which pupils have the ability to make the best use of training in the specific areas being offered as third year options in the North Central State secondary schools.⁹ In this project it refers to the tests designed to measure an individual's capacity to achieve knowledge or skill after a period of training. The main purpose of these tests is to predict future behavior rather than to describe present behavior, which is the main function of an achievement test.

7. Test batteries - a group of tests administered to an individual or group of individuals for a particular purpose such as placement. About eleven TEORD aptitude test batteries were administered to the students in the North Central State post primary institutions at the end of their second year courses. See appendix 4 for the names of the eleven battery aptitude tests.

8. Career Master - refers to the staff member whose additional duty apart from teaching is to provide valid and usable materials as well as information of the world of work which are appropriate for assisting the students seeking

9. Ministry of Education, North Central State, Publications, Kaduna, File No.NCE/GSSZ/G/86, Vol.II. Dated December, 1973.

vacational guidance. Such a person is usually concerned with the dissemination of the materials and information that is directly connected with occupations, requirements for entrance, conditions of work, rewards, patterns of advancement, present and expected work, supply and demand, and resources of additional information about positions, and jobs.

9. High achievers - refers to students who have always been successful in obtaining high marks in tests.

10. Low achievers - refers to the students who have always been getting marks below the average standard.

Chapter III

Review of Related Literature

Chapter III

Review of Related Literature

It is common in present day educational planning and organization to recommend that the background of children be taken into account when designing the school curriculum. Such plans could be best accomplished through the establishment of guidance services in primary and post primary institutions in Nigeria. One of the greatest concerns is the desire to make sure that the children are given opportunities of assistance which they require and deserve in their educational development and aspirations. As such, it is important for educators and planners to take into consideration the needs of the student and those of the nation.

For instance, if a nation wishes to invest a portion of its development resources in school guidance, it will seek to ascertain that the program will be of practical value to the nation. That is why, perhaps, the developing nations find vocational guidance more acceptable than some of the Western Countries like the United States of America and other developed European countries.

There is the growing realization that if the students are to be assisted, they must be reached, tested, and guided

before they leave their schools. This is why testing must be included as part and parcel of the total guidance process in the school curriculum. In order to be effective it must be continuous and well designed. This explains the reason why more and more educational development and testing services are being taken together as an integrally related whole.

It must be realized that guidance is not completely new in our schools. Pastoral care has been going on in the schools for a long time. However, most of the guidance done earlier had been incidental and unorganized. Guidance work in a school should be a team work with the guidance teacher -- co-ordinating, planning and sorting out what information are relevant and significant towards helping the child to develop his potentiality fully.

Professor E.A. Yoloze of Ibadan University is one of those leading Nigerians who had carried out research to illustrate how the knowledge of the Nigerian children's background could be useful in the planning and development¹ of their education. He had carried out several other researches concerning the development of aptitude tests for

1. Yoloze, E.A., "The predictive Validity of Lorge-Thorndike Intelligence Tests for achievement in Nigerian Grammar Schools" in The West African Journal of Educational and Vocational Measurement, Vol.I, No.1, February, 1973. Published by WAEC TEDRO and printed by Academy Press Ltd., Lagos, Nigeria, p. 48.

the prediction of academic success.

For example, in 1965 he studied the concurrent validities of The Lorge - Thorndike Intelligence tests with grades on teacher made tests in nine secondary Grammar School classes. Validity co-efficients ranged mostly between .25 and .62.²

The wide fluctuations were probably due to the variations in the quality as well as in the standard of marking of teacher-made tests from one class to another. A more reliable criterion to use for estimating the predictive validities of the tests is the West African School Certificate examination, which is a common examination taken by all secondary grammar school students in Nigeria at the end of five years in the grammar schools. Performance in this examination serves as a basis for selection to jobs and higher institutions of learning, such as the School of Basic Studies, Preliminary courses of various nature, Polytechnic courses, Advanced Teacher Training Colleges and the present various Colleges of Arts and Technology. The entire secondary grammar, technical and commercial school curriculum is geared towards this examination.

Professor Voloye's intention in the conduction of the study was to determine the extent to which the Thorndike

2. Ibid, p. 48.

Intelligence Tests³ predict success in the West African School Certificate examination. The multi-level edition of the tests - verbal and nonverbal batteries - were administered to a sample of 150 students from three secondary grammar schools in Ibadan during their first year in school and again during their fifth year. These tests were conducted during the fourth month of the year.

The research is considered to be important in that it was conducted on Nigerian children. The results indicated that Western tests could be used with modifications in Nigerian Secondary Schools. Correlations were positive in all cases except for History. On the whole, the verbal correlated higher than the nonverbal batteries with achievement in English Language and Literature as it was expected. The stability of the tests over time in Nigeria is as good as in the United States.

Concluding the research, Professor Yoloye reports:-

-
3. The Large - Thorndike tests are a series of tests of abstract intelligence covering the range from grade 3 to College freshmen. They consist of a verbal and a nonverbal battery. Each battery contains a graded series of items divided into eight different but overlapping scales (A-H). The verbal Battery is made up of five subtests including Word-knowledge, sentence Completion, Verbal classification, Verbal Analogies and Arithmetic Reasoning. The Nonverbal Battery is entirely pictorial, diagrammatic or numerical. It contains three subtests as follows: Figure Analogies, Figure Classification, and Number Series.

"... There is much in common between what is measured by the two batteries. The Large-Thorndike tests in spite of being developed in a non-Nigeria culture, has a substantial predictive validity for achievement in Nigerian Grammar Schools ..."⁴

There are no comparable studies yet on American samples of their predictive validity over time but Lorge, Thorndike and Hagen in (1966) reported concurrent validities with school achievement ranging from .60 to .88 for composite achievement scores.⁵

The sample used for this survey, however, was not considered adequate for making firm generalizations, but the trends indicated are interesting and highly suggestive of variables which may prove fruitful for more vigorous study. It should be noted also that the research survey was conducted between September and December 1967, so the data obtained applied only to the year 1967.

Development of Testing in West Africa

Despite several problems presented by testing, there is an ever increasing demand for instruments of selection for a multitude of purposes in West Africa. Herman Bulley* made

4.85. Yoloye, op. cit., p. 57.

* He was the Director of the Personnel Selection Unit at the University of Ghana in 1963.

notable progress in test construction and evaluation concerning selective purposes in Ghana.

Bulley noted that the Personnel Selection Unit had been using the Raven's Progressive Matrices⁶ as instrument for selecting entrants into training establishments. He tried to make the matrices as an instrument of educational measurement; so he established the Progressive Matrices as a test of non-verbal reasoning. He declared "this test is a reasonably good predictor of school marks"⁷

Bulley had the test administered to 7,209 subjects including 2,241 Secondary School students. The criterion used was class marks. Of the eight separate groups tested, the lowest coefficient of correlation was found to be .43 and the highest .70.

"... The coefficients of correlation suggest a fair degree of relationship between the Matrices and School performance as well as ability to profit from organized instruction."⁸

Bulley warned that one should, however, be a bit cautious in accepting the Matrices as a full-proof indicator of educa-

6. The test is composed of five separate sets (A,B,C,D,E,) and there are twelve different matrices for each set. The items in each set also became progressively more and more difficult.

7. Napier R.W., School Guidance Services: Focus on the Developing Nations, Evans Brothers Ltd., Ibadan 1972, p.94.

8. Ibid, p. 94.

bility. Like all other tests, it has its limitations.

He went on to say:

"... it is not of sufficient validity to be used alone. Used with vocabulary and comprehension tests based in each case on the type of vocabulary required in training, the Matrices should furnish a useful tool for selection.⁹

Bulley left no doubt as to the limited strength of the instrument as a measure of predictability when in summary he said:

... The Matrices from the present study could be considered as a possible instrument, which when used in a battery of tests, should improve the predictiveness of the battery for selection of potential trainees in various fields.¹⁰

The Development of Aptitude Tests in South Africa

For over two decades S. Biesheuvel, in conjunction with the South African Institute of Race Relations, carried out surveys in the Witwatersrand gold fields of South Africa with both black and white children to determine the Africans' capacity to learn.¹¹

9. Ibid., p.95.

10. Ibid., p.95.

11. Napier, op. cit., p. 87.

In 1952 he noted:-

... Traditionally Africans are considered inferior to Europeans in mentality and capacity for civilization... Could it be, that we have wrongly chosen the vantage point of everyday experience to gain an understanding of the mentality and abilities of the African man?¹²

It had been Biesheuvel's contention for years that the methods used to estimate the potential of the Africans were grossly unfair. He emphasized the point that the extent to which human abilities could be realized depended largely upon environment.

He declared:

... The African environment are greatly lacking in opportunities to acquire the dexterities important for skilled technical work. For the young child there is often no clothing to be buttoned, no shoes to be laced, no door knobs to be turned, no steps to be climbed, no spoons or forks to be manipulated nor paper to be folded.¹³

With this type of condition and background even non-language tests, which are dependent upon intellectual and manipulative skills, are inappropriate if used as a comparative measure with performances by non-Africans. It should be pointed out here that although the facts mentioned above were true

12 & 13. Ibid., p. 88.

during the time of the research - they no longer remain the same - a lot of changes had taken place during the last two decades. Therefore a lot of the facilities enumerated above are no longer new in most of the African homes and backgrounds.

Biesheuvel went on to say, with regard to the make-up of tests:-

"Pictorial material is most commonly used, but experiment has shown that... they may not be properly interpreted. The culture free intelligence test is, in fact, a contradiction in terms, as intelligence is itself a culturally-determined phenomenon.¹⁴

It was his disillusionment with the African performance on Aptitude and intelligence tests that led Biesheuvel to concentrate on developing measures which would help in the selection of individual Africans for position requiring specific skills in the large gold mining operations near Johannesburg. The results of his efforts were striking. Up to one hundred recruits at a time were tested and categorized in terms of leadership, mechanical, or non-mechanical skills. The tests revealed the Africans' ability to cope with a new task and to learn and react under stress situations. Each sub-test was highly task-oriented and closely related to the actual demands of the job. The results indicated a reduction

14. Price-Williams D.R., ed., Cross-Cultural Studies, Penguin Modern Psychology Readings, Published by Penguin Education, Middlesex, England, 1969, p. 62.

of considerable training wastage. Such successful discrimination among an illiterate population was indeed significant.

The Development of Testing in Ghana

The demand and need for a broadly based testing program in Ghana became evident as early as 1950s. But original efforts in developing psychological tests for personnel selection were initiated by A.K. Taylor at the Institute of Education in 1953. Special tests were developed for a literate population in clerical operations and mechanical ability as well as such traditional non-verbal measures of "intellectual capacity" as Raven's Progressive Matrices and Koh's Blocks.¹⁵ However, nothing much was achieved during the next ten years that followed. Little was done to research systematically the usefulness of the measures. It is only recently that the need for suitable instruments to differentiate among large numbers of individuals who form the core of the nation's educated manpower has revised and activated the intensive research program in this field.

So, as early as 1960 the Office of the Planning Commission in conducting its survey of high level manpower suggested:-

15. Napier, Op. cit., p 89.

- a) "That a program undertaken to identify the ablest children early in their school experience and ensure their continued education by scholarship.
- b) "That a program of aptitude and achievement tests be developed to select those talented for specialized training in managerial, technical and skilled occupations.
- c) "That research be undertaken which would be directed toward identifying methods, techniques and incentives to ensure more effective utilization of manpower.¹⁶

Development of Guidance and Testing in Nigerian Schools

Although guidance in Nigeria, especially in the schools, might seem new, this is not actually the case. There was recently found in the educational files a booklet entitled "An Approach to Guidance in the Schools," written by C.I. Berepiki, Vocational Guidance Officer, Federal Ministry of Education, and printed by the Federal Ministry of Education 1961. There are also two other papers on topics related to guidance and testing by the same author. There could be probably others extant somewhere in old files.¹⁷

16. Napier, Op. cit., p. 89.

17. Cote, M.P., "Guidance in Education: the application of the behavioural sciences in secondary schools," in Durojaiye, M.O.A., (Ed.), Psychological Guidance of the Schoolchild, Evans Brothers Ltd., Ibadan, 1972, p. 91.

It was also indicated and reported that in September 1964 a seminar on "Guidance, Counseling and Testing" was organized by the Federal Ministry of Education at Lagos. This conference, according to the reports, ran for six consecutive Saturdays.¹⁸

During a workshop conference on Comprehensive schools held in Aiyetoro in 1960, Dr. Peter. O. Rees delivered a paper on the role of the counselor in a Comprehensive School. In July 1967, the Ibadan Careers Council, now renamed the Nigerian Careers Council, presented a workshop for careers' Masters and Mistresses on Vocational Guidance and testing. They have also conducted several small-scale activities aimed at informing careers' masters of development in testing and vocational guidance.¹⁹ These facts are enough to prove that there had been guidance movements in Nigeria, and that there is interest, on the part of the leaders, in the young people of today, in their development, aspirations and ultimately the future of the country, as a whole.

The Test Development and Research Office (TEDRO) of the WAEC, formally called the Nigerian Aptitude Testing Unit, has for the past several years, besides developing testing programs,

18. Ibid., p. 92.

19. Ibid., p. 93.

conducted various courses on aptitude testing, one of the chief technologies of guidance services.²⁰ In 1960, with considerable American help the TEDRO had developed the (I - D Tests), meaning the Internationally Developed Tests, for Nigeria.²¹ These tests have been thoroughly adapted to the Nigerian conditions and are regularly used by a number of large concerns such as the Shell Oil Company, and the Nigerian Railway Corporation.

For example, entry to such schools of Nursing as those in Katsina, Kano, and Zaria requires the taking of these testing aptitudes. According to the reports, these tests appear to be suitable for the Nigerian use, the trial testing during the 1960s was carried out in such boys' schools as Gindiri, in Benue Plateau State; Government College Kaduna; Kagoro, Okenne and Barewa College. TEDRO has readily agreed to conduct further research with the aim to improve the validity of the tests.

The procedure, apparatus and scoring have been fixed so precisely that the same tests can be given at different times and places and different candidates' scores be compared, even though they were several hundreds of miles apart and there

20. Ibid., p. 93.

21. Ministry of Education, North Central State, Publications on "Background notes on the Use of Aptitude Tests," Kaduna, File No.NCE/GSSZ/G/86, Vol.II, Dated December, 1973.

was a gap of days or weeks. Such comparisons would be impossible without rigorous adherence to testing procedures.

The TEDRO has already developed twenty-one of these Internationally-Developed Tests.²² The North Central State Government has decided to make use of only eleven of these aptitude tests. Some of them when grouped together will give an indication of the pupils' aptitude for academic studies; a different grouping will predict the likelihood of his success in technical courses; yet another grouping will show who has the ability to succeed in clerical/commercial training. With the exception of teacher training, these categories broadly represent the options which will be available in all the third year post primary institutions in the North Central State.

Selection of Aptitude Tests in Nigeria

For years, selective testing in Nigeria, like all other developing nations, has been prejudiced by several factors. Matters were, in the first place, confused even more due to the wide differences that existed among the quality of the

22. Ministry of Education, North Central State, Publications, on "Background Notes on the use of Aptitude Tests", Kaduna, File No.NCE/GSSZ/G/86, Vol.II, Dated December, 1973.

teachers and the availability of the facilities. Remarkable progress was achieved when the Comprehensive High School, Aiyetoro, Western State of Nigeria, was opened in 1963.²³ A full time guidance counselor was appointed at the school. The task of the first counselor was to select students for admission with a radically different policy. He was also to begin the education of the staff of the school on the purpose of the guidance program, and to gather information of policies and decisions affecting the school.

In order to obtain reference data on students, he did some aptitude testing and administered other standardized tests used in America, such as the Preliminary Scholastic Aptitude Test used in University admissions.²⁴

One of the goals of guidance each year is the admissions procedure for form One. The goal at Aiyetoro Comprehensive School has been the admission of the students who are most likely to profit from training or schooling. The first series of three academic aptitude tests organized by the Test Development and Research Office were given to approximately 1,200 students. These tests were machine-scored at the WAEC and a list of merit printed out. Approximately, 400 students in

23. Cote, Op. cit., p. 94.

24. Cote, Op. cit., p. 95.

order of merit were selected for the second series to be held at Aiyetoro in conjunction with an interview. The second stage involved nine tests covering aptitudes in academic, technical and commercial skills, just like what is obtained now in the North Central State post primary institutions. These tests were again administered and scored by TEDRO. The interview was structured to test spoken and aural English as well as to verify application information.²⁵

Formal selection of students to be admitted was again based on merit. Out of a total of 150 places to fill, 60 were in order of merit on the academic battery, 60 from the technical battery, and 30 on the commercial battery. The students were not put into separate classes. The basic assumption was that if a student has an aptitude in a certain area, such as the technical field, it is more likely that he will be successful in the courses in that area and will more likely choose to work in this area when a choice is necessary. These tests will also be useful for further counseling. Choosing students with multiple aptitudes and exposing them to a broad curriculum will certainly increase the probability of producing a more flexible and versatile student.²⁶

25. Cole, op. cit., p. 95.

26. Cole, op. cit., p. 96.

The main problem in the admission exercises has been the systemization of procedures based on both clinical and statistical predictive data. It has been demonstrated at Comprehensive High School Aiyetoro that the "Standardized aptitude tests in combination with other factors such as primary school achievement is the best method of selection."²⁷ Because of the recent changes in the admission procedures the selection process will need further refinement, but the general procedure and rationale itself seem firmly established.

It is important to note that the Comprehensive High School Aiyetoro, was one of the pioneers of the guidance services in the country. The guidance services are now firmly established in the school that it serves as a model to the rest of the schools in Nigeria.

Another group of experts that worked on the development of the achievement and aptitude tests in Nigeria were Schwarz and his Associates. Their activities were supported by the government. The main work was the development of non-academic test batteries.

P.Q. Schwarz and Colleagues

In 1961 Schwarz and other associates from the American

27. Cote, op. cit., p. 96.

Institute of Research in Pittsburgh, undertook a project in Nigeria.

... The program was designed as a one year study to assess the feasibility of devising and implementing suitable screening techniques ... The government of Nigeria agreed to participate in the research, and to permit the use of their country as a 'laboratory' for the initial evaluation.²⁸

Twelve initial tests were created by the aid of the American Institute of Research, but very little emphasis was placed on the understanding of the English Language. The intention was to develop batteries of non-academic tests. This experiment, unfortunately, was not very successful.

M.A. Brimer's experiment

Brimer²⁹ took an exception to the above-mentioned situation when he considered the selection of individuals above the secondary school level. He was of the opinion that as a factor of school success and potential employability, English is by far the most important variable to be considered. Any diffe-

28. Napier, op. cit., p. 97.

29. Prior to 1962, M.A. Brimer has specialized in test design at the University of Ibadan in Nigeria. His interest was primarily in differentiating successful and unsuccessful students in Nigeria at the Primary and secondary levels of education.

rentiation among students must be based to a large degree on their ability to cope with the verbal, oral and written aspects of the English Language,³⁰ he emphasised. It was due to this reason that Brimer paid attention to the development of test instruments which would diagnose problems in English.

Eventually, a special set of nine principles for African testing evolved. These stressed the need to teach every phase of the testing procedure to the examinees, "the use of oral instructions supplemented by visual aids, the inclusion of supervised practice sessions and the opportunity for individual feedback even in group testing situations."³¹

As a result of the Brimer experiment, twelve tests originally administered to 2,000 Nigerian examinees of different backgrounds were given separate measures of intelligence, clerical and technical abilities and various manual skills. The results in general satisfied the examiners. The following conclusions were reached.

(1) It is feasible to design aptitude tests for use in emerging nations.

(2) The tests appear to provide reliable measurements of discrete abilities which are important for occupational screening.

30. Napier, op. cit., p. 97.

31. Napier, op. cit., p. 97.

(3) The tests can raise the quality of the average Nigerian trainee to the level of the current outstanding trainee and may be able to double the number of high aptitude individuals available for specific occupational skills.

(4) The tests seem to be usable in similar cultures with little or no revising necessary.³²

Purposes of Aptitude Tests

As described earlier "an aptitude test is generally regarded as a test designed to measure an individual's capacity to acquire knowledge or skill after a period of training."³³ An achievement test is also a useful indicator of the capacity to acquire further knowledge, so it can also be classified as an aptitude test. With the aptitude test, the main purpose is to predict future behavior rather than described present behavior, which is the main function of an achievement test.

In 1961, for instance, Morris pointed out that tests "are mere tools designed for various purposes and to perform various operations."³⁴ There are five significant purposes: selection, certification, curriculum development, guidance and counseling and educational research.

32. Napier, op. cit., p. 98.

33. Aleyideino, S.C., "The Nature, place and influence of Tests and Measurement Procedures in Education," in The West African Journal of Educational and Vocational Measurement, Vol. I, No. I, February 1973, Published by WAEC FEDRO and Printed by Academy Press Ltd., Lagos Nigeria p. 5.

34. Ibid, p. 5.

Selection, in general, is imposed on the educational system mainly to adjust the demand for training to the economic conditions. The reason for using tests for selection is partly based on the need to devise a fair method of sharing out limited educational resources among a large number of competing candidates. Tests are also used to determine whether or not candidates possess the capacity to profit fully from courses of instruction offered by institutions. In other words, tests are meant to predict how well a candidate could perform after under-going some kind of training.

With regard to secondary school selection, several research studies in the United States of America and Britain have produced an accumulation of evidence regarding the validity of certain tests for selection. Among such studies is the one reported by Pidgeon (1962).³⁵ In this study the selection tests used consisted of a battery of three objective tests, one of verbal reasoning, one of English and one of Arithmetic. These were supplemented by other tests and assessment procedures involving the use of a non-verbal test and also two tests of spatial ability. This battery yields a multiple correlation of .929, thus the battery accounts for more than 80 per cent of the total variance. The finding provides testimony to the value of using a carefully constructed battery of tests for

35. Ibid., p. 7.

secondary selection. "Research studies yielded preliminary findings which lend support to the validity of such tests for selection." (Aleyideino, 1962)³⁶

Certification - There are several ways in which activities leading to certification can influence education. The most important of these pertain to the specification of the subject area to be covered and the nature of the test questions contained in the papers.³⁷

Since objective testing involves the setting up of clear specification of objectives, and because some teachers prefer to be guided by the tests than the syllabus, certification tests do really exercise a tremendous sway within the educational system.³⁸

Educational Research - Such research activities rely heavily on the use of testing procedures. The rapid growth of educational research work is closely linked with the development of tests and measurements procedures. Credits must be given to the use of tests and measurement procedures for enabling us to understand better the whole process of education.³⁹

36. and 37. Ibid., p. 7.

38. Aleyideino, S.C., "A note about the validity of Educational Tests" in The Use of Measurement Procedures, Institute of Education Bulletin, 1962, Ahmadu Bello University, Zaria, p. 2.

39. Ibid., p. 3.

Limitations of Aptitude Tests

In the concluding remarks in his last research report on "The predictive validity of Lorge-Thorndike Intelligence Tests for achievement in Nigerian Grammar Schools", Professor Voloye warned that all the newly adapted aptitude tests of prediction should be handled with reservations.⁴⁰ One must be careful in the use and application of the information available, and how to interpret it for the individual students. Educators should bear in mind that no test or group of tests can give a complete picture of the individual's functioning. Tests of these nature provide their greatest benefit when developed over a relatively long period of time so that a pattern of behavior is evolved which may provide certain important insights.

The Ministry of Education, North Central State, publications has the following statements.⁴¹

... While encouraging the subjects to perform as well as they can, we must avoid over-stressing the importance of the testing. Otherwise, it will come to be regarded with the same anxiety as the National Common Entrance Examination. This would be entirely contrary to the intentions of the

40. Voloye, op. cit., p. 50.

41. Ministry of Education, North Central State, Publications, Kaduna, File No.NCE/GSSZ/G/86, Vol.II, 1973.

planners of the two year course of general education, who envisaged no all important terminal examination, but substituted continuous assessment and observation. Anyway, the results of the testing will be only one of the number of pieces of information which will serve as basis for the decision in the school placement of the pupils.⁴²

The statements above are highly significant because the limitations of the aptitude testing have been fully recognized. The scores obtained in these tests are not always absolute predictors of success or failure. Like all other results of assessment, they should be taken only as indicators and not directives. The circular rightly warned all the Guidance teachers about the way in which the results should be treated, should these results be told to pupils, it must be done on a discussion basis between the pupils concerned and the Guidance master or principal, who should bear in mind the limitations inherent in any form of assessment and that the results of the Aptitude tests shall in no case be the sole deciding factor in placement into third year options.⁴³

The warning is appropriate in that, these tests are just being introduced in the state so their validity and predictive qualities cannot be assessed rightly now. There are too many variables which can directly affect an individual's performance

42. Ibid., p. 2.

43. Napier, op. cit., p. 92.

to place undue importance on the results of one test or battery of tests. This fact applies to all types of tests whether they are classified as measuring achievement, attitudes, intelligence, occupational aptitudes or college placements.

The administration of aptitude tests is among the instruments which are vulnerable to criticism. R.W. Napier held the following view.

"... Even if the tests predicting physical aptitude could differentiate accurately between those who did and those who did not have a particular skill, they fail to consider other non-aptitude variables, such as sense of humor, interest, flexibility, qualities of leadership, cooperation, and competition, which are very important in view of the individual's eventual satisfaction and performance..."⁴⁴

It was observed that individual tests of mechanical aptitude seldom have a high relationship with job success. It is also evident that tests do not always reveal enough skills in most cases to be used except as an indirect evidence in the job selection process.

Implications for the North Central State

The general implication is that it is feasible to design aptitude tests for use in Nigeria, and in particular, in the North Central State. More tests should be developed, norms

44. Napier op. cit. p. 93.

established and procedures formulated. At this juncture, it is important to note that the needs for guidance and counseling increase with development and growing sophistication in the community, with more rural-urban migration, with improved communications and mobility, and increased independence from a traditional way of life. These factors should be given serious consideration and must be incorporated within the present trend of our development.

In most cases, however, scientific guidance is impossible without precise knowledge of the individual, obtained through the use of well-designed and tested instruments. For example, no one can ascertain the aptitude, vocational interests, attitudes, achievement levels or operative personality factors by merely looking at the individual. Much of the history of guidance in Western Countries, especially America, reflects the concern about the development of instruments and tests which can render the client open to the guidance worker, and more importantly, to himself.⁴⁵

Cronback defines a test as "a systematic procedure for comparing the behavior of two or more persons".⁴⁶ He further

45 & 46. Patterson H.C., The Counselor in the School: Selected readings, McGraw-Hill Book Company, 1967 p. 274.

argued, "Not all tests are measuring instruments in the sense that they give the specific numerical standing of an individual on a scale of equal units. Some merely indicate general trends."⁴⁷ Nevertheless, it is generally agreed that tests are the prime tools of guidance because they provide some understanding of where an individual stands in relation to some established norm. Cronback considers the knowledge as the basis of intelligent decision-making.

Today, in the country, facilities for primary, post primary and higher education, including technical, commercial and clerical education are growing and will continue to grow in the years ahead. The civil service both at Federal and State levels, and other emergent services such as the Armed Forces, clerical and social, commerce, industries and diplomacy are expanding and demanding more than ever before the right person in the right place. It should therefore be the object of the guidance services in schools and research to determine and establish the objective criteria, and design the instruments for deciding fitness on such criteria, based on the Nigerian conditions and requirements. With such aids at hand, the process of getting students through schools or helping them

47. Patterson, op. cit., pp. 274-275.

make vocational choices, will become scientific.

There is evidence that guidance in Nigeria, when fully implemented, will be complex in nature. It will concern itself with decisions not only with regard to college students, but also with regard to primary school dropouts. Intelligence and aptitude tests for this kind of society must of necessity be multi-form in nature. Research might well reveal that both verbal and non-verbal instruments, and also tests that require various forms of perceptual activities, should be designed and used side by side.

Where tests must be verbal, thought should be given to their development in the Nigerian languages. This view is strongly supported by both Biesheuvel and A.J.A. Esen.⁴⁸ They supported the idea that language is both the vehicle and the projector of the culture. Intelligence tests worded in a foreign language, "with items loaded with the overtones of a foreign culture, are of doubtful validity in the Nigerian context."⁴⁹ Therefore the tests of intelligence and aptitude commonly used in the Western countries, namely the Weschler Intelligence scales for children and adults, and the Stanford

48. Bhatt L.J., and Esen, A.J.A., "A Critical Study of Research needs for Guidance in Nigeria", edited by Osojaye M.O.A., Psychological Guidance of the School-Child, Evans Brothers Ltd., 1972 p. 117

49. Balogun, T.A., "A system. Approach to Education in Nigeria" in West African Journal of Education, Vol.XVI No.II, June 1972, Published by the Institute of Education, University of Ibadan on behalf of Participating West African Universities and Ministries of Education, February, 1974 pp. 221-219.

Binet, are of course, unsuitable for use in Nigeria in their original form.⁵⁰ Either they will need to be modified and adjusted to take account of the Nigerian cultural situation, or completely new tests based on the same or similar assumptions must be designed. Esen suggested that even the modification of Western tests too, must be standardized locally; otherwise they will be of no help in the country.

He said:-

... efforts should be made to produce these tests in the Nigerian languages, not to replace those produced in foreign languages immediately but so that instruments may be available for use at levels where foreign language tests are obviously inappropriate...⁵¹

The discussions above about tests should serve as challenges to the State's Ministry of Education. The Ministry of Education, as indicated, values the use of these aptitude tests as it is intended to help in its future manpower allocation development program. This is a long term plan. The aptitude tests conducted in the institutions are considered to be a screening procedure in which all the talented individuals are identified and channeled into those areas of educational services where their particular skills will be of most benefit.

50. Ibid., p. 118

51. Bhatt and Esen, op. cit., p. 119.

The new system of school placement should provide a better method of distribution than mere traditional interviewing. Therefore the series of the aptitude tests administered by the North Central State should provide the pupils with the appropriate choice of vocational, grammar, technical, and commercial education. The students selected should represent skilled group of students; as such, they should be encouraged and nurtured to ensure that maximum return investment for each study is achieved.

For the successful implementation of the scheme, a lot of trained staff and money are required. Trained staff are required to interpret the test results to the students and to explain the significance and the implications of these tests, to them, otherwise, the functions of the tests will lose their purposes and significance.

Finally, it is the duty of the guidance services of each school to utilize the diagnostic materials which are of immediate value, and easily understood by the students and the parents. The most relevant and important information should go back to the students in the most helpful way possible. The Counselor, or the Career / guidance master in each school should be regarded as a **disse**minator of information and a coordinator of the students' cumulative records and should be

capable of assisting an individual student in his choice.
He could do this best if he/she enlists the support of the
staff and the administrators whenever possible in order to
work in a counseling relationship with the students.

Chapter IV

Procedures

Chapter IV

Procedures

The purpose of the research, as stated earlier, is to conduct a follow-up study to find out from the students their feelings and attitudes concerning the new scheme of comprehensive education, introduced in the North Central State post primary institutions; and to investigate whether or not there is any significant difference between the students' TEDRO Aptitude test scores and the end-of-year examination marks. It is also intended that the research would attempt to determine the usefulness of the tests to students with regards to their vocational choices as well as their general school placements.

The following three hypotheses - already mentioned in Chapter two of the research project - are to be tested.

- (1) There is no significant difference in the comparison of the students' aptitude test scores and their end-of-year examination marks in English, Mathematics and Science.
- (2) The students welcome the introduction of the new system of comprehensive education in the North Central State post primary institutions.
- (3) The students are satisfied with their present school placements based primarily on the results of the TEDRO Aptitude test scores.

TEDRO Aptitude Test Scores

The tests are usually organized by TEDRO, but they are administered by specialists or non-specialists who have received some training in conducting such tests. Most of the tests last 20-30 minutes, an entire session would last over four hours. The tests are scored by TEDRO.

These tests, as mentioned earlier, are standardized. This means that the procedure, apparatus and scoring have been fixed as precisely that the same tests can be given at different times and places and yet the scores of the individual candidates can be compared.

The stanine system is used in the recording of the results. Usually the results are expressed in aggregates. In this system the range from the lowest to the highest scores is divided into nine equal segments. An examinee whose score is in the lowest segment receives the stanine score one; an examinee in the highest segment receives the stanine nine. An examinee in the centre (average) segment receives the stanine score five, and so on for all nine divisions.¹

1. *Bennett, G.J., "The Development of Secondary School Guidance Services in North Central State," Paper presented at the annual Conference of the Nigerian Psychological society at the University of Nigeria, Nsukka, on the 17th & 18th October, 1974.

*Mr. John Bennet was the Adviser (Guidance and Counseling) in the North Central State from 1972-74. He was largely responsible for the establishment of Guidance Services in the States' post primary institutions.

Table I

TEORO APTITUDE TEST GRADING

53.

Table 1 below illustrates how the marks are determined from the stanline scale.² Note that two tests appear in all three batteries, i.e., VAL and RTH. For full names of the tests and other stanline scores see Appendix 4.

Rough	Scholastic				Technical						Commercial				
	VAL	RDL	MEM	RTH	VAL	MEC	CHK	RTH	FIG	MAN	VAL	COD	MAN	RTH	TAB
Estimates	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Above Average	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Average	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Below Average	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Average	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

2. "The background notes on the use of aptitude tests", North Central State Ministry of Education, Publications, Maduna, File No.NCE/GSSZ/3/86, Vol.II.

Techniques Used in the Hypotheses Testing

Briefly, the following techniques are employed in carrying out the project research and in testing the hypotheses mentioned.

In order to test hypothesis one, for example, both the students' TEDRO Aptitude test scores and their annual examination marks were recorded and compared side by side. The latter marks included those in English, Mathematics and Science. The end-of-year examination marks were recorded as the measure of the students' class performances.

By comparing the TEDRO aptitude test scores with the end-of-year examination marks one can determine whether or not there is a correlation between the two sets of scores. It would not be possible, however, to estimate the degree or the pattern of relationship.

There is no easy way to get the set scores, except through careful scrutiny of each student's academic records. The data was synthesized, compiled and tabulated with the permission of the school authorities. The actual marks scored by students were recorded but the students' identity was not disclosed.

The procedure required the co-operation of the Ministry of Education, Principals, Vice-Principals, Guidance and Career Masters of each college. Note below the pattern of comparison

of scores in (table II).

Table II
The Pattern of Score Comparison

NO	TEDRO Aptitude Test Scores in aggregate	End-of-year Examination marks		
		English	Mathematics	Science
	Scores	Mark	Mark	Mark

The findings are considered significant because they would enable the researcher to ascertain the direction and the pattern of relationships that exist between the test scores.

To test hypotheses two and three "Opinionnaires" and "questionnaires" were used. Both the opinionnaires and questionnaires were designed to determine the pupils' attitudes and feelings about the scheme. They were designed specifically to elicit the following responses.

- (1) The students feelings as to whether or not the TEDRO Aptitude test scores are the best way to predict their academic success.

- (2) Their reactions as to whether or not a better method can be used other than the TEDRO tests.
- (3) Their attitudes and feelings with regard to the taking of the TEDRO aptitude tests.
- (4) Their reactions to the idea of the new system of school placement based primarily on the TEDRO aptitude test scores.

The students were asked to indicate whether or not they welcome the system of comprehensive education. Also they were to express their feelings as to whether or not they are satisfied with their present school placements.

Both the opinionnaires and the questionnaires were distributed to all the form five students in the five secondary schools selected for the study in the order reflected in table III.

Table III

System of Distribution of
opinionnaires and questionnaires

No	Name of College	No. of classes	No. of students
1	Barewa College, Zaria	5	135
2	Kufena College, Zaria	4	115
3	G.S.S. Zaria City	4	115
4	Commercial College, Zaria	3	101
5	G.S.T.S., Soba	3	110
	Totals	19	576

The responses from the students (576) were analyzed and tabulated. The questions were asked in an effort to determine whether or not the pupils believe that the aptitude tests are worthwhile and had been of assistance to them during their educational and vocational decisions.

Likert Scale Technique

To obtain the desired information a scaling technique was utilized for the appraisal and the measurement of the students' attitudes and opinions concerning the comprehensive education introduced by the North Central State.

Generally, this technique has been used by various leading educators to obtain facts about past, and anticipated events, conditions and practices and to make inquiries concerning attitudes and opinions.³

The scale permits the use of items that are not manifestly related to the attitude being studied. It is also considered simpler to use than other techniques. It is likely to be more reliable than Thurstone Scale if the same number of items are used. The scale permits the expression of several degrees of

3. Van Dalen, J., Understanding Educational Research, An Introduction, 3rd Edition, University of California, Berkeley, California, 1973, p. 327.

agreement or disagreement. The range of responses permitted to an item given in a Likert type scale provides, in effect more precise information about the individual's opinion on the issue referred to by the given item.

Scoring

The responses to the various items were scored in such a way that a response indicative of the most favourable attitude was given the highest score. It made no difference whether five was high and one was low or vice-versa. The important thing was that the responses were scored consistently in terms of the attitudinal direction they indicated. Whether "approve" or "disapprove" was the favourable response to an item depended, of course, upon the content and wording of the item. Normally an individual's score is the sum of his ratings on each item. The responses were analyzed to determine most clearly between the high scorers and the low scorers on the total scale.⁴

4. Selltiz, C., Jahod, M., Deutsch, M., Cook, S.W., Research Methods in Social Relations - Revised one Volume edition; Holt, Rinehart and Winston, New York, 1966, pp. 367-372.

Disadvantages

The Likert Scale does not claim to be more than an ordinal scale, that is, it makes possible the ranking of individuals in terms of the favourableness of their attitude towards a given object, but it does not provide a basis for saying how much more favourable one is than another, nor for measuring the amount of change after some experience.

Another disadvantage of the Likert Scale, is that often the total score of an individual has little clear meaning, since many patterns of responses to the various items may produce the same score.

However, despite the lack of theoretical rationale for scalability, pragmatically, "the scores on the Likert-type questionnaires often provide the basis for a rough ordering of people on the characteristic being measured."⁵

The opinionnaires and questionnaires designed for the purpose of this research are indicated in the appendixes 2 and 3 of the project report.

In responding to each item, a person indicated how strongly he approved or disapproved of an event, usually on a five-point scale.

5. Nwana, O.C., "Three-Dimensional Approach to Achievement Reporting in Nigerian Educational Institutions", in The West African Journal of Educational and Vocational Measurement, Vol.I, No.I, February, 1973; Published by WAEC, TEDRO Academy Press Ltd., Lagos, Nigeria, pp. 14-19.

- | | | |
|-----|-------------------|------|
| (1) | Strongly agree | (SA) |
| (2) | Agree | (A) |
| (3) | Undecided | (U) |
| (4) | Disagree | (D) |
| (5) | Strongly disagree | (SD) |

In order for the technique to be effective, the students' agreement or disagreement was determined on the basis of their own particular convictions. They were therefore to check their positions on the scale as the statements first impressed them; and also to indicate what they believe rather than what they thought they believed.

Another separate set of opinionnaires and questionnaires was designed for the Guidance and Career Masters in the Colleges. It is important, too, to get their opinion, views and attitudes about the new system as they are fully involved in its implementation. The same method was used in the organization, administration, and coding of both staff and student opinionnaires and questionnaires.

The data, having been collected, was analyzed, synthesized and arranged into suitable tables. This procedure was followed by summary, conclusions and recommendations.

Chapter V

Data Analysis

Chapter VData Analysis

The opinionnaires were distributed to all class five students in the five secondary schools in Zaria district. Out of 576 students in the nineteen classes in the schools 515 responded. For the distribution of the students and their classes in each of the Colleges - see tables IV(A) and IV(B) below.

Table IV(A)Distribution of the Respondents

Name of College	No of classes	No. of students	Respondents
Borewa College	5A	35	32
	5B	30	26
	5C	30	27
	5D	20	18
	5E	20	18
Totals	5 Classes	135	121
Kufena College	5A	35	35
	5B	30	25
	5C	25	21
	5D	25	23
Totals	4 Classes	115	104
G.S.S. Zaria City	5 Arts	30	24
	5 Technical	20	17
	5 Science I	35	24
	5 Science II	30	22
Totals	4 Classes	115	87

Name of College	No of classes	No. of students	Respondents
Commercial College	5A	33	31
	5B	33	32
	5C	35	33
Totals	3 Classes	101	96
G.S.T.S. Soba	5A	35	34
	5M	40	39
	5W	35	34
Totals	3 Classes	110	107

Table IV(B)

Grand Total of Responses

Name of College	No of classes	No of students	Respondents
Barawa College	5	135	121
Kufena College	4	115	104
G.S.S. Zaria	4	115	87
Com. College	3	101	96
G.S.T.S. Soba	3	110	107
Totals	19	576	515

Analysis of the Results

The results are based on the information obtained from the opinionnaires completed by the above-mentioned number of students - all from the five secondary schools - and also through the students' academic records. The permission to have access to these records was given by either the principals or the vice-principals of the colleges concerned.

Testing of hypothesis one

The hypothesis reads "There is no significant difference in the comparison of the students' TEDRO Aptitude test scores and their term test marks in English, Mathematics and Science."

For the purposes of The Comparison which follows, scores of about 20 selected students from each school are used.

The Comparison of TEDRO and Year Exams - A Sample

Table V(A)

Serewana College

Students' Nos.	TEDRO Test Scores	End-of-year Examination marks.		
		English	Maths.	Chemistry
1	27	73	74	72
2	28	70	79	73
3	17	57	62	69
4	09	44	40	60
5	11	56	32	80
6	15	83	51	78
7	16	71	14	61
8	12	54	36	66
9	29	73	75	86
10	15	65	46	60
11	17	60	72	86
12	14	68	31	55
13	18	67	38	62
14	24	60	74	84
15	21	50	36	82
16	15	80	26	36
17	20	37	46	70
18	08	54	42	69
19	11	61	49	78
20	30	88	87	100

Sarewa College has been producing students with very good WASC results annually. The entry to the College is always very competitive. Only those with high marks are admitted. Looking at the above marks it is noticeable that those who scored high marks in the TEDRO aptitude tests also have high scores in the end-of-year examination marks. Notice numbers 1, 2, 9, 14, and 20. These candidates have high marks in the two sets of tests. Those candidates that scored low marks in the end-of-year examination also seemed to have very low marks in the TEDRO Aptitude tests. For example, numbers 4, 5, 8, and 18. Number 17 is an exception that although the aptitude test score is relatively high, the end-of-year marks in English and Mathematics are low.

Table V(B)

Kufena College

Students Nos.	TEORO Test Scores	End of-year Examination marks		
		English	Maths.	Chemistry
1	08	23	35	21
2	06	19	37	27
3	14	69	43	38
4	09	42	35	34
5	16	51	40	55
6	27	65	63	50
7	18	50	40	27
8	21	43	32	46
9	25	75	61	34
10	05	30	43	35
11	18	58	34	41
12	17	62	25	53
13	13	44	41	49
14	23	65	56	46
15	14	68	50	32
16	12	46	41	33
17	14	55	48	31
18	15	50	33	56
19	25	71	67	56
20	05	28	13	7
21	24	67	53	70

It is clear from the table that generally those candidates who scored high marks in the TEORO aptitude tests also did have high marks in the end-of-year examinations. For example, note the numbers 6, 9, 14, 19, and 21. Compare the two sets of scores carefully against each of the above number. The exceptions appear to be numbers 7, 8, and 11. These seem to read contrary to the pattern

of correlation. Note also that those who scored low marks in the TEDRO aptitude tests tend to have low marks in the end-of-year examinations. Examples include numbers 1, 2, 4, 10, and 20. These students obtained low marks in both sets of tests.

G.S.S. Zaria City

Those candidates having high scores in the end-of-year examinations seem to have high marks from the TEDRO aptitude tests. Notice numbers 1, 4, 7, 8, 13, 15, 16, and 19 below. Number 12 seems to be an exception. Although this particular student was able to score high marks in the TEDRO aptitude tests his class performance does not correlate well. The low achievers in the end-of-year examinations seem to be also the low ones in the TEDRO aptitude tests. Notice numbers 2, 9, 11, 17, and 20. Number 3 candidate did fairly well in the end-of-year examinations, although he did not do very well in the TEDRO aptitude tests. Again the highest scorer in the class in the TEDRO aptitude test, student number 10, did not appear to have done very well in the year examinations as would be expected of him. Note also number 18; this student is another exception contrary to the

correlation pattern. Several reasons might have contributed to his bad class performance.

Table V(C)
G.S.S. Zoria City

Students Nos.	TEDRO Test Scores	End of-year Examination marks		
		English	Maths.	Physics
1	16	55	86	72
2	10	35	72	48
3	11	60	71	56
4	26	67	90	88
5	19	40	56	67
6	14	45	79	64
7	16	58	81	74
8	21	51	76	68
9	13	40	73	44
10	28	31	78	30
11	07	40	77	62
12	23	51	79	44
13	25	70	97	74
14	27	71	99	78
15	19	62	77	72
16	25	40	90	76
17	10	38	80	54
18	27	45	76	46
19	22	45	98	92
20	09	26	72	38

Table V(D)

Commercial College

Nos.	TEDRO Test Scores	End of-year-Examination marks		
		Clerical	English	Maths. Typing
1	19	C	D	B
2	16	C	C	A
3	25	B	B	A
4	17	D	B	C
5	23	A	B	B
6	21	D	C	C
7	17	C	B	D
8	21	B	A	A
9	15	E	E	D
10	14	C	D	C
11	17	B	D	C
12	11	C	C	D
13	13	D	E	E
14	32	C	B	B
15	18	A	E	E
16	17	D	A	A
17	23	C	B	B
18	23	B	A	A
19	17	D	A	A
20	07	D	B	D
21	10	C	E	C
22	22	C	C	B
23	13	D	E	E

The above-mentioned college is a co-educational in its enrollment. All the other schools involved in the research, are boys' institutions. However there is no distinction between the boys' and the girls' performances. The same system of marking and grading applies to both sexes.

The comparison of the grades does indicate a pattern of correlation between the two sets of tests. Note how the following numbers correlate, 3, 5, 8, 14, 17, and 18. The correlations are significant and cannot just be dismissed as a matter of coincidence. These students scored high marks in both the TEDRO aptitude tests and the annual tests. Numbers 12, 13, 20, 21, and 23 scored low marks in both the tests. On the contrary number 7 whose TEDRO aptitude test result does not seem to correlate well with the end-of-year examination result is an exception.

G.S.T.S. Soba

Again it seems as though the principle that applied to the four Colleges previously mentioned, is also applicable to this college. There is a definite trend of pattern of correlation running through the two sets of grades. As usual, those students that scored high marks in the TEDRO aptitude tests are often the ones to have high marks in the

end-of-year examinations, while the low achievers of the TEDRO aptitude tests are also those in the other. The high aptitude test achievers of this school are numbers 1, 2, 3, 5, 6, 7, 8, 14, 16 and 17. However, although numbers 3, 5, 7, 8, 16 are high achievers in this test their end-of-year performances are below standard. Numbers 13, 15, 16, and 17 are typical examples of the candidates expected to perform well in the class examinations, but were not capable of reaching the standard. On the whole, the group seemed to have done well in the TEDRO Aptitude tests as indicated by their marks. The lowest achiever in the group has 18 marks while the highest has 33.

Table V(E)
G.S.I.S. Soba

Nos.	TEDRO Test Scores	End-of-year Examination marks		
	Technical	Geography	Maths.	Chemistry
1	29	77	89	76
2	29	76	70	70
3	26	58	30	52
4	18	74	46	39
5	28	63	53	73
6	29	85	85	72
7	24	40	38	36
8	26	39	26	39
9	22	61	53	69
10	23	67	37	48
11	22	41	37	33
12	24	71	55	60
13	30	64	55	64
14	33	85	76	65
15	25	58	21	28
16	30	74	52	44
17	26	44	31	40

Conclusions

A careful study and analysis of the previous tables indicates that there is a correlation between the TEDRO aptitude test scores and the end-of-year examination marks. Generally, the high achievers in the TEDRO aptitude tests are also those who are high in the end-of-year examinations. The same principle applies to the low achievers. Although, as indicated, exceptions do exist, these do not destroy the whole pattern of the correlation. Since there is significant evidence indicating the relationship between the two sets of test scores, hypothesis one is rejected. The degree of the correlation, however, is subject to further investigation and cannot be readily estimated. The implications of the finding are that the TEDRO aptitude tests do measure, to some extent, the students' capabilities and skills to learn, and that they can be applied in Nigerian Secondary Schools.

Testing of hypotheses two and three

Hypothesis two reads "the students welcome the introduction of the new system of comprehensive education by the North Central State in the post primary institutions."

Hypothesis three is "students are satisfied with their present school placements based primarily on the results of the TEDRO Aptitude test scores."

The two hypotheses are dependent upon the information, elicited from the results of both the students' opinionnaires and questionnaires.

Table VI(A)
Garewa College, Zaria
Students' Responses

No	Opinionnaires	SA	A	U	D	SD	SAA	DSD	Total	% SAA	% DSD
11	The TEDRO test scores are the best way to predict academic success.	19	41	8	23	28	60	51	111	54	46
15	The tests are difficult to understand.	11	18	14	43	32	29	75	104	28	72
26	The idea of school placement based on TEDRO test scores is welcomed by every student.	8	12	21	28	51	20	79	99	20	80

The comparison of the two sets of percentage figures of student responses "agree" and "disagree" with opinionnaire No.11

indicates that the difference is significant. Although the percentage responses of agreement (54) is higher than that of disagreement (46), the difference is hardly significant, therefore conclusions cannot be based on it.

As for the opinionnaire 15, it is evident that the majority of the students disagree with the statement, that the tests are difficult to comprehend. The per cent score of those who disagree is 72 against 28 per cent of those who agree. The range is highly significant. It allows us to conclude that students generally do not consider the Aptitude test hard.

Based on the figures above, it is apparent that the students of Barewa College do not welcome the idea of school placement which is based on the TEDRO aptitude test scores. This conclusion can be drawn from a careful examination of the per cent. The number of responses of "agree" is only 20 and "disagree" is 79, in percentage the figures are 20 and 80 respectively for the total number of students.

Table VI(8)
Barewa College, Zaria
Students' Responses

No.	Questionnaires	Yes	No	Total	% Yes	% No
30	Do these tests predict your skills and capacity to learn?	59	61	120	49	51
31	Were you happy to take the TEDRO tests?	50	71	121	41	59
33	Do you regret coming to your present school?	23	99	122	19	81

Questionnaire No.30 is meant to re-enforce opinionnaire number 11 of Table VI(A). The response, here again like, the one in the former table, is not decisive. The difference between the response "yes" (59) and "no" (61) is very slight - three points - as such it would not be possible to draw concrete conclusions based on the results. The response percentages are "yes"(49) and "no"(51).

As to the question whether the students were happy to take TEDRO aptitude tests, the responses are fairly decisive, since the number of the responses range from "yes" (50) to "no" (71), corresponding to approximately 41 and 59 percentages respectively in favour of "No". The general conclusion is that the students did not object to the taking of the TEDRO Aptitude tests.

Although the students did not support the idea of school placement based on the TEDRO aptitude test results surprisingly enough, their responses to questionnaire number 33 are contrary to their responses to the opinionnaire number 26, as they did not regret being in their present colleges, the placement of which was based on the TEDRO aptitude test results. There is a significant difference between the responses of those who said "yes" (23) and "No" (99); expressed in percentages the figures became 19 and 81 respec-

tively. The opinion expressed by these responses seem to be in conflict with those in number 26 of the opinionnaire.

Table VII(A)

Kufena College, Zaria

Students' Responses

No.	Opinionnaires	SA	A	U	D	SD	SAA	DSD	Total	% SAA	% DSD
11	The TEDRO Test scores are the best way to predict academic success	36	38	6	11	10	74	21	95	78	22
15	The tests are always difficult to understand.	7	13	7	49	25	20	74	94	21	79
26	The idea of school placement based on the TEDRO test scores is welcomed by every student.	17	28	19	24	8	45	32	77	58	42

A total of 74 out of 95 students at Kufena College agree that the TEDRO aptitude test scores are the best way to predict their academic success; the remaining 21 disagree. Expressed in percentages the figures are 78 and 22 respectively. The difference is significant enough for one to conclude that the majority of the students agree with the statement. The students are of the opinion that the tests are not always very difficult to understand. The percentage responses are 21 "agree" and 79 "disagree".

The responses of opinionnaire number 26 are not very decisive because the difference between agree and disagree is not so

great. Contrary to the opinions of Barewa College students, the majority of Kufena College students' responses are in favour of "agree." The percentages are "yes" (80) and "no" (20). The range of the percentages is 16.

Table VII(B)
Kufena College
Students' Responses

No	Questionnaires	Yes	No	Total	% Yes	% No
30	Do these tests predict your skills and capacity to learn?	76	19	95	80	20
31	Were you happy to take the TEDRO tests?	76	21	97	78	22
33	Do you regret coming to your present school?	12	84	96	12	88

About 80 per cent of the students in Kufena College agree that the TEDRO aptitude tests predict their skills and capacity to learn whereas 20 percentage disagree. The difference is highly significant. These responses support those of opinionnaire number 11.

It could be deduced that most of the students were also happy to take the TEDRO tests. This is in contrast to responses of Barewa College students who objected to the taking of such tests.

About 12 out of 96 students regret being in their present school; 88 per cent of the student population are contented with their school placement. Note that in Barewa College about 81 per cent of the students are satisfied with their placement exercises.

Table VIII(A)

G.S.S. Zaria City
Students' Responses

No	Opinionnaires	SA	A	U	D	SD	SAA	DSD	Total	% SAA	% DSD
11	The TEDRO Test scores are the best way to predict academic success.	20	36	3	17	10	56	27	83	67	33
15	The tests are always difficult to understand.	9	9	3	35	29	18	64	82	22	78
26	The idea of school placement based on the TEDRO test scores is welcomed by every students.	19	19	12	23	14	38	37	75	51	49

In this college, about 67 per cent of the students agree that The TEDRO aptitude test scores are the best way to predict academic success. So far all the three Colleges discussed have higher percentages of those who agree with the statement. Also all the three have majority of responses disagreeing with the notion that the "TEDRO Aptitude Tests are difficult to under-

stand." In the G.S.S., Zaria 78 per cent of the students disagree and only 22 agree.

The difference between the percentages of the students who agree and those who disagree with the opinionnaire No.26, like that of Kufena College, is very insignificant. It is only 3 per cent. Only Barewa College has a higher percentage of "disagree" responses.

Table VIII(8)
G.S.S. Zaria City
Students' Responses

No	Questionnaires	Yes	No	Total	% Yes	% No
30	Do these tests predict your skills and capacity to learn?	61	24	85	72	28
31	Were you happy to take the TEDRO tests?	60	26	86	70	30
33	Do you regret coming to your present school?	17	68	85	20	80

As regards questionnaire No.30 about 72 per cent of the students agree with the statement and only 18 disagree; 70 per cent of the students agree with statement No.31 while the other 30 per cent said "no". The percentage of the students who "regret coming to their present school" is 20

and those who have no regrets is 80. The conclusion is that the majority of the students are happy and satisfied with their school placement based on the results of TEDRO aptitude tests.

Table IX(A)
Commercial College, Zaria
Students' Responses

No	Opinionnaires	SA	A	U	D	SD	SAA	DSD	Total	% SAA	% DSD
11	The TEDRO test scores are the best way to predict academic success.	53	26	1	5	10	79	15	94	84	16
15	The tests are always difficult to understand	9	19	8	26	32	28	58	86	33	67
26	The idea of school placement based on TEDRO test scores is welcomed by every students.	21	21	17	19	18	42	37	79	53	47

The percentage of students agreeing with the opinionnaire number 11 is 84 and that of those who disagree is only 16. It is clear that the majority of the students are of the opinion that the TEDRO aptitude test scores are the best way of predicting academic success.

The students are of the idea that the TEDRO Aptitude tests are not always very hard, as can clearly be seen from the figures - 67 per cent disagree - while 33 agree (opinionnaire No.15).

As for No.26 slightly over half of the students welcome the idea; the difference between the percentage figures "agree" (53) and "disagree" (47) being only six.

Table IX(3)
Commercial College, Zaria
Students' Responses

No	Questionnaires	Yes	No	Total	% Yes	% No
30	Do these tests predict your skills and capacity to learn?	80	15	95	84	16
31	Were you happy to take the TEDRO tests?	71	25	96	74	26
33	Do you regret coming to your present school?	18	78	96	19	81

Both numbers 30 and 31 have high percentages of "yes" responses 84 and 74 respectively. The per cent figures of "no" responses are also 16 and 26. It is evident that the majority of the students agree with the statements. As for number 33, only 19 per cent said "yes", the higher percentage of 81 do not regret being at their present school. They appear to be satisfied with their placements.

Table X(A)
G.S.T.S., Soba
Students' Responses

No	Questionnaires	SA	A	U	D	SD	SAA	DSD	Total	% SAA	% DSD
11	The TEDRO test scores are the best way to predict academic success.	27	30	10	20	20	57	40	97	60	40
15	The tests are always difficulty to understand.	8	13	8	48	29	21	77	98	22	78
26	The idea of school placement based on TEDRO test scores is welcomed by every students.	14	20	12	34	26	34	60	94	36	64

The responses of students of this college, like those of the four schools previously analyzed, have higher per cent figures to support the idea that the TEDRO aptitude tests predict academic success. Approximately 78 per cent disagree with the opinionnaire No.15 that "the tests are always difficult to understand." Only 22 per cent agree with the statement. Sixty-four (64) per cent of the students disagree with the statement No.26, while 36 per cent agree with it. The range of difference between the two percentages is fairly great since it is 28 per cent, and it is considered significant.

Table X(B)
G.S.T.S., Soba
Students' Responses

No	Questionnaires	Yes	No	Total	% Yes	% No
30	Do these tests predict your skills and capacity to learn?	69	34	103	67	33
31	Were you happy to take the TEDRO tests?	59	45	104	57	43
33	Do you regret coming to your present school?	19	83	102	19	81

Sixty-nine (69) students out of 103 agree that "the TEDRO tests predict skills and capacity to learn," while 34 disagree with the opinion; percentage-wise the figures are 67 and 33 respectively. At the same time, 57 per cent of the students said that they were happy to take the TEDRO tests; 43 per cent were not. The difference between the two percentages is 14. Majority of the students, however, are satisfied with their placements, the percentage figures being 81 and 19; the former indicates satisfaction while the latter per cent denotes dis-satisfaction.

SUMMARYThe Overall Responses of the Five SchoolsTable XI(A)

No	Opinionnaires	SA	A	U	D	SD	SAA	DSD	Total	% SAA	% DSD
11	The TEDRO test scores are the best way to predict academic success.	155	171	28	76	78	326	154	480	68	32
15	The tests are always difficult to understand.	44	72	40	201	147	116	348	464	27	73
26	The idea of school placement based on TEDRO test scores is welcomed by every students.	79	100	81	128	117	179	245	424	42	58

The average percentages of both responses of "agree" and "disagree" are shown in Table XI(B).

The Average Responses - OpinionnairesTable XI(B)

No	Names of the Colleges	Total No. of Responses	SAA %	DSD %
11	Barewa College, Zaria	111	54	46
	Kufena College, Zaria	95	78	22
	G.S.S. Zaria City	83	67	33
	Commercial College, Zaria	94	84	16
	G.S.T.S., Soba	87	60	40
	Average		69	31

Table XI(B) (Cont.)

Table XI(B) (Cont.)

No	Names of Colleges	Total No. of Responses	SAA %	DSD %
15	Barewa College, Zaria	104	28	72
	Kufena College, Zaria	94	21	79
	G.S.S. Zaria City	82	22	78
	Commercial College, Zaria	94	84	16
	G.S.T.S., Soba	98	22	78
	Average		35	65
26	Barewa College, Zaria	99	20	80
	Kufena College, Zaria	77	58	42
	G.S.S., Zaria City	75	51	49
	Commercial College, Zaria	79	53	47
	G.S.T.S., Soba	94	36	64
	Average		44	56

Discussions of Table XI(A)

The total number of students who responded to opinionnaire No.11 is 480. The percentage of those who "agree" is 68; and that of those who "disagree" is 32. The majority of the students are of the opinion that the TEDRO Aptitude test scores are the best way to predict academic success.

Four hundred and sixty-four (464) students responded to opinionnaire No.15, and 73 per cent of the respondents have the opinion that the tests are not too difficult to understand - only 27 per cent of the students consider them hard.

For No.26 there are 424 respondents. Fifty-eight (58) per cent "disagree" while 42 "agree". The number of undecided

students is 81. The range of percentages is 16. This figure is not so great and it will not allow one to accept the hypothesis that "all students welcome the introduction of the new scheme of comprehensive education in the North Central State post primary institutions." The only reasonable conclusion is that less than half of the students in the five colleges of study welcome the scheme.

Discussions of Table XI(B)

The average percentage of students who "agree" with opinionnaire No.11 is 69 and that of those who "disagree", is 31. The range per cent is 38. This is significant. The number of undecided students is 28, as it can be seen from Table XI(A) above.

The average percentages for No.15 are 35 "agree" 65 "disagree". For No.26 the percentages are 44 "agree" and 56 "disagree." The average percentages of this particular opinionnaire show that not all students welcome the scheme.

Perhaps it is the duty of the authorities to ensure the importance of the new system and to justify its worth; so that the majority of the students would welcome it.

The Average Responses

Table XI(C)

Questionnaires

No	Names of Colleges	Total No of Respons.	Yes%	No %
30	Barewa College, Zaria	120	49	51
	Kufena College, Zaria	95	80	20
	G.S.S. Zaria City	85	72	28
	Commercial College, Zaria	95	84	16
	G.S.T.S. Soba, Zaria	103	67	33
	Average		70	30
31	Barewa College, Zaria	121	41	59
	Kufena College, Zaria	97	78	22
	G.S.S. Zaria City	86	70	30
	Com. College, Zaria	96	74	26
	G.S.T.S., Soba, Zaria	104	57	43
	Average		64	36
33	Barewa College, Zaria	122	19	81
	Kufena College, Zaria	96	12	88
	G.S.S., Zaria City	85	20	80
	Com. College, Zaria	96	19	81
	G.S.T.S., Soba, Zaria	102	28	72
	Average		20	80

Table XI(C) gives the summary of total responses on the questionnaires. The average per cent of "yes" respondents for No.30 is 70 and that of "no" is 30. An average per cent of seventy (70) students believe that TEDRO aptitude tests predict their "skills and ability to learn, thirty (30) per

cent object to this very idea. An average per cent of 64 students were happy to take the tests, but the other 36 per cent were not. Eighty per cent (80) of students seem to be happy with their school placements; only 20 per cent are dissatisfied with their school placements based on the results of the TEDRO aptitude tests of 1972. The conclusion is that the majority of the students, as evidenced by the above average figures, are satisfied with their school placements. Since the average percentage responses in figures are 80 "satisfied" and 20 "dissatisfied", hypothesis three which reads "The students are satisfied with their present school placements based on the results of the TEDRO Aptitude test scores" is therefore accepted. The degree of the satisfaction, however, requires further investigation.

Table XII(A)
Guidance and Career Masters'
Opinionnaires: Summary of Responses

No	Opinionnaires	SA	A	U	D	SD	SAA	DSD	Total	% SAA	% DSD
8	The TEDRO aptitude test scores are the best method to predict students' academic success.	2	2	2	2	0	4	2	6	67	33
9	A better technique can be devised instead of the TEDRO aptitude tests.	2	3	1	2	0	5	2	7	71	29
10	That there is no relationship between the two tests - TEDRO and annual examination marks.	1	3	2	2	0	4	2	6	67	33
12	The tests are very important since they are strictly taken into account in school placement.	3	1	0	0	0	4	0	4	100	0
13	The tests are true predictors of students' learning capacity.	2	1	2	3	0	3	3	6	50	50
14	The tests are designed to indicate students' specific areas of interest and skills.	2	4	1	1	0	6	1	7	86	16
16	The idea of school placement based on the test scores is ridiculous.	1	1	1	3	2	2	5	7	29	71
17	All the academic staff are happy with the new system of placement.	0	3	2	2	1	3	3	6	50	50
18	The test results are of no help to the teachers as they are meant to aid the students in their decision-making.	1	0	1	3	2	1	5	6	17	83

Looking at table XII(A) one can easily note the staff opinion with regards to the scheme. The responses to Nos. 8, 9, 10, 12, and 14 indicate that the majority of the staff agree with the statements. Half of the respondents agree and the other half disagree with statements 13 and 17. The percentage of responses in each case is 50 agree and 50 disagree. These responses are not out of place because often new ideas or changes are not usually unanimously accepted at the initial stages. There are bound to be objections from some people. As such, North Central State Ministry of Education should not expect every staff to welcome the new system of comprehensive education.

Table XII(B)

Guidance and Career Masters' Questionnaires:
Summary of Responses

No	Questionnaires	Yes	No	Total	% Yes	% No
19	Do these tests really predict students skills and capacity to learn?	6	1	7	86	14
20	Are the students class performances satisfactory	3	4	7	43	57
21	Do these test results justify the financial involvement?	3	4	7	43	57
22	Do you consider the tests very effective means of student school placement?	4	3	7	57	43
23	Are you satisfied with the method in which the tests are being conducted?	3	4	7	43	57

The responses from questionnaire number 19 indicate that the majority of the staff - 86 per cent-agree that the TEDRO aptitude tests predict students' skills and capacity to learn; only 14 per cent object to the idea. Forty-three (43) per cent of the respondents believe that students' class performances are satisfactory while (57) do not. Forty-three per cent (43) are of the opinion that the tests are worth doing, whereas (57) per cent are not; they do not justify the financial involvement. The majority of the staff (57 per cent) feel that the tests are a very effective means of deciding the students' school placement; while 43 per cent have contrary views. Fifty-seven (57) per cent of the respondents are not satisfied with the way in which the tests are being administered; only 43 per cent seem to be satisfied.

Conclusions

Generally, the majority of the Guidance and Career Masters have the following views with regard to the new system of comprehensive education which is introduced in the North Central State post primary institutions, as indicated by both the opinionnaires and questionnaires.

1(a) They are of the opinion that:

The TEDRO aptitude tests are the best method
to predict the students' academic success.

- (b) There is relationship between the students' TEDRO aptitude test scores and their end-of-year examination marks.
- (c) The TEDRO aptitude tests are very important as they are taken into account in the students' final school placement.
- (d) The TEDRO aptitude test scores are of use to both staff and students.

2. Not all the staff are satisfied with the new system of school placement based primarily on the TEDRO aptitude test scores.

3. Majority of the staff are not satisfied with the way in which these tests are administered.

Chapter VI

Summary, Conclusions and Recommendations

Chapter VI

Summary, Conclusions and Recommendations

SUMMARY

The findings have revealed many interesting facts about the attitudes of both the students and the Guidance and Career Masters with regards to the comprehensive education in the North Central State post primary institutions.

The comparison of the TEDRO Aptitude test scores with the end-of-year examination marks indicates that there is a correlation between the two sets of scores. However, there is need for further research to find out the degree of this correlation.

The average per cent of respondents agreeing that the TEDRO Aptitude test scores are the best way to predict their academic success is 72; only 28 per cent disagree (Table XI(8)). The majority of the students are of the opinion that the TEDRO aptitude tests are not often difficult and irrelevant 65 per cent, 35 per cent have contrary views.

The idea of school placement based primarily on the TEDRO aptitude test scores is not welcomed by all the

students. This is clear from their responses: 56 per cent welcome it, while 44 object to it.

The majority of the students are satisfied with their school placements as shown by the average response percentages from table XI(C) questionnaire 33. The percentage responses are 80 "satisfied" 20 "dissatisfied".

Some of the significant findings are that not all the staff are satisfied with the new placement system (Table XII(A)) opinionnaire No.17. The per cent responses are 50 "agree" and 50 "disagree." The majority responses indicate that not all the staff are also satisfied with the method of conducting the TEDRO aptitude tests (Table XII(B)) questionnaire No.23. The percentage of responses are 57 "no" and 43 "yes".

Conclusions

Now that the TEDRO Aptitude tests have become an ongoing integral part of Guidance and Counseling services in the North Central State post primary institutions, it is essential that the program be publicised widely. It is vital that everyone concerned, especially parents, pupils and teachers understand the reasons why the tests are administered and used in their placements. From discussions with staff, it is evident that many teachers,

apart from the very few Guidance and Career Masters, understand something about the organization, administration and the interpretation of these test scores. It is the duty of the Ministry of Education, particularly the Guidance and Counseling section and all those involved in the implementation of the scheme to jointly publicise and enlighten others about the new system of comprehensive education.

It is also the main duty of the authorities to explain as explicitly as possible the proper uses and limitations of the TEDRO aptitude tests. It is the opinion of the staff that more teachers could be involved in the organization and the administration of the TEDRO Aptitude tests.

The Guidance and Career Masters in the post primary institutions should listen to and note down the points that are raised by both the teachers and the students before and after the administration of the tests. "The collection of such points, suggestions, and complaints should be considered for the improvement and the better preparation of the pupils"¹ before the next TEDRO Aptitude test session.

Both the staff and the students are also of the opinion that the main function of the TEDRO Aptitude tests is to identify which pupils have the special ability to make the

1. Halligan F., "Learning Problems in Primary Schools in Zaria and Kaduna" in West African Journal of Education Vol. XII No.1; Published by the Institute of Education, University of Ibadan on behalf of Participating West African Universities and Ministries of Education, February, 1974. pp. 198-202.

best use of training in the specific areas being offered as third year options. The aptitude tests are to help students discover which of the options offer training from which they can benefit most. These tests appear to be most useful in the selection of students for technical, commercial and grammar schools.

Facilities

From discussions with the staff and the students, it is evident that one of the main drawbacks in the implementation of the new scheme is the limitation of students' facilities as well as choice of institutions. Most of the institutions lack the essential equipment for teaching of industrial arts as part of the second year general course. Many boys lack the opportunity to demonstrate any aptitude for technical and commercial studies. The reason is due largely to the students' "poor" environment.² To make up for the deficiency, general courses should be offered in the first two years of the post primary institutions whereby students could be observed practically for both technical and clerical aptitudes.

2. Long, J.S., "Academic Performance of Direct Entry and Preliminary Year Students", in West African Journal of Education, Vol. XII, No. I, February, 1968; Published by the Institute of Education, University of Ibadan on behalf of Participating West African Universities and Ministries of Education, pp. 221-222.

It is suggested therefore, that more technical, clerical and commercial as well as grammar schools should be built by the State Government and the existing ones expanded to provide background material for the various options from which students could later choose. Also more vocational courses should be introduced in the post primary institutions.

It is the consensus opinion of the staff that the North Central State Ministry of Education should consider seriously the possibilities of introducing special schools or classes of vocational training for the bright children who are physically handicapped. Such students cannot earn their living by doing heavy manual work; however, the majority could be trained for secondary occupations and be placed by the school in such employments. This should be incorporated into the guidance program.

A Word of Caution

As mentioned previously, it should be realised that tests have limitations. The standard raw scores obtained from the TEDRO Aptitude tests should not be regarded as absolute predictors of success or failure. Like all other results of assessment, "they should be taken only as predictors and not as the sole directives."³ Guidance teachers

3. Sinder, J.G., "Aptitude Tests for West Africa" in West African Journal of Education, Vol.XVI, No.2, June 1972; Published by the Institute of Education, University of Ibadan on behalf of Participating West African Universities and Ministries of Education, pp. 171-176.

should be cautious in their treatment of these tests. The raw scores should not be displayed or told to pupils as if they were some ordinary classroom or teacher-made-test results. "The most important single principle in the aptitude test interpretation is that the test results must be considered in the context of all other information on the students' abilities (available in school records or supplied by students and parents.)"⁴

Recommendations

The following recommendations and suggestions which are put forward come from the results of interviews, and discussions with both students and staff as well as from their responses from the opinionnaires and the questionnaires which they filled.

1. The TEDNO Aptitude tests should not be the sole factor used in the final individual student school placement, since there are at present only limited schools to meet all the students' options.

4. Adams, G.S., Measurement and Evaluation in Education, Psychology and Guidance, Holt Rinehart and Winston, New York, 1964, p. 219.

2. More facilities as well as additional courses should be introduced in the two year general course in the post primary institutions, prior to the administration of the TEDRO Aptitude tests for options in the third year. Also more attention should be paid to practical subjects so that students do not regard technical and commercial subjects inferior to the academic ones.
3. At present the schools do not use the same curriculum in the first two years in the post primary institutions. If the students are to have a fair chance in the TEDRO tests, the syllabuses should be revised in such a way that they provide uniform background material which would prepare the students for the tests.
4. The Guidance and Career Masters are required to teach as well as to perform their guidance duties; if the staffing condition is improved, they would get opportunity to organize guidance activities in the schools more effectively.
5. Guidance should be regarded as a profession and so trained and qualified full-time Counselors should be employed in all the post primary institutions. They should be allowed to practise their profession with limited interruption from the administrators.
6. As much as possible more teachers should be trained to view the organization and the interpretation of the TEDRO

Aptitude tests.

7. The importance of Guidance Services is to be publicised and encouraged in the schools. As much as possible some of the guidance activities should involve the locality or the community - and it should not be confined to the classroom walls and the school premises alone.

8. Interested teachers should be encouraged to undergo further training in the Guidance and Counseling field.

9. In-service-training and workshops should be organized, at least annually, for all the Guidance and Career Masters, like the one organized at Kaduna in 1974, so as to acquaint the staff with modern guidance and counseling techniques.

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D. Records

Students' individual academic Records were all consulted and both TEDRO Aptitude test scores and the end-of-year examination marks recorded.

Appendixes

Appendix IAHMADU BELLO UNIVERSITY
DEPARTMENT OF EDUCATION

Ref: DE/16/M.6A

25th July 1975

The Permanent Secretary,
Ministry of Education,
Kaduna.

Dear Sir,

M.Ed. Research Thesis

The Department of Education, Ahmadu Bello University, Zaria, requires each postgraduate student working for the M.Ed. to complete a research thesis in one's area of specialisation.

Some of our students, whose M.Ed. research proposals have been approved by the Department, are supposed to carry out their investigations during the year.

Through this letter, we request permission and assistance to conduct the following research investigation;

"OUR FOLLOW-UP STUDY OF THE 1972-73 PLACEMENT OF STUDENTS WHO TOOK TEDRO APTITUDE TESTS IN FIVE SECONDARY SCHOOLS IN ZARIA"

by Mr. Shawulu W. Ndahi.

Thanking you for your continuing cooperation.

Sincerely yours,

(Sgd.)
(Yusuf Pathan)
for Professor and Head
Department of Education.

cc. Chief Education Officer (T.T) Ministry of Education,
Kaduna.
Chief Education Officer (S.S) Ministry of Education,
Kaduna.
Chief Education Officer (Technical) Ministry of Education,
Kaduna.
The Principal, Barawa College, Zaria.
The Principal, Government Secondary School, Zaria.
The Principal, Government Secondary School, Kufena, Zaria.
The Principal, Government Commercial College, Zaria.
The Principal, Government Secondary Technical School, Soba.
The Guidance Master, Ministry of Education, Kaduna.
The Careers' Master, Ministry of Education, Kaduna.
Professor Graber, Student Supervisor, Ahmadu Bello
University, Zaria.
Mr. S.W. Ndahi.

Appendix II

DEPARTMENT OF EDUCATION
AHMADU BELLO UNIVERSITY
ZARIA

The Student Opinionnaire on the
TEDRO Aptitude Tests

The Ministry of Education, teachers, and other educationists are very much interested to know the students' feelings and attitudes with regards to the TEDRO Aptitude Tests to which all the Form two Post Primary Institution students in the North Central State have been subjected. The questions are being asked in an effort to determine whether or not you believe such tests are worthwhile and had actually been of assistance to you in your educational and vocational decisions. Note that the success of this opinionnaire will depend on the mature way you answer the questions and the personal interest you have in the subject. Your honest opinions will be greatly appreciated.

Date.....

1. Name of Student.....
Surname other names.
2. Male.....Female.....
3. Birth date.....
4. State of Origin.....
adm. area/Province
5. Home address.....
.....
6. Name of College.....
7. Year of first attendance.....

8. Form.....
9. House.....
10. Previous Post Primary Institution attended.....
-

The following statements represent opinions, and your agreement or disagreement will be determined on the basis of your particular convictions. Kindly check your position on the scale as the statement first impresses you. Indicate what you believe, rather than what you think you should believe.

SA strongly agree

A agree

U undecided

D disagree

SD strongly disagree.

11. The TEDRO Aptitude test scores are the best way to predict your academic success.
12. A better method can be used instead of these TEDRO tests.
13. There is no relationship between the TEDRO Test results with the present classroom annual test results.
14. Students strongly object to the taking of the TEDRO Aptitude tests.
15. The tests are always very difficult to understand.

SA	A	U	D	SD

Answer the following questions by either encircling
Yes or No

29. Are you happy with your present school placement as a result of the TEDRO Test scores? Yes..... No.....
30. Do these tests really predict your skill and capacity to learn? Yes..... No.....
31. Were you happy to take the TEDRO Aptitude tests? Yes..... No.....
32. Are your parents happy with your present placement? Yes..... No.....
33. Do you regret coming to your present school? Yes..... No.....
34. Would you like to change to another school, if you have an alternative to do so? Yes..... No.....
35. Are you satisfied with your present classroom performance - annual grade report? Yes..... No.....

Answer the following questions briefly.

36. Name the two subjects you like most
1.
2.
37. Name the two hobbies you like best
1.
2.

38. What is your ambition after leaving Secondary School?
Select one of these two alternatives.

1. take to occupation
2. further education

39. Where specifically would you like to work if you have an
opportunity to work? Indicate only one place.

1. urban area
2. rural area
3. anywhere

40. Briefly give two reasons for your choice of the area of work.

1.
.....
2.
.....

Appendix III

DEPARTMENT OF EDUCATION
Ahmadu Bello University
Zaria

Opinionnaire on the TEDRO Aptitude Tests16 September, 1975

The Ministry of Education, and other educationists are very much interested to know your opinion with regards to the TEDRO Aptitude Tests to which Form two Post Primary Institution students in the North Central State have been subjected. The questions are being asked in an effort to determine whether or not you believe such tests are worthwhile and had actually been of assistance to your students in their educational and vocational decisions. Note that the success of this opinionnaire will depend on the mature way you answer the questions and the personal interest you have in the scheme. Your honest opinions will be greatly appreciated.

Date

1. Name of Staff
Surname Other names

2. Sex.....Male.....Female

3. Nationality: Nigerian.....or Foreigner.....

4. Area of Specialization.....

.....

5. Specific Nature of duty assigned in the college.
Tick the appropriate one.

..... /
Teaching Administration

6. State other responsibilities if any.....

.....

15. The tests are meant to aid the authorities know and understand better, the strengths, weaknesses and needs of individual students.
16. The idea of school placement based on the TEDRO Aptitude test scores is ridiculous.
17. All the academic staff are happy with the new system of placement.
18. The TEDRO test results are of no help to the teachers since they are meant for the students.

SA	A	U	D	SD

Answer the following questions by either encircling Yes or No

19. Do these tests really predict the students' skills and capacity to learn? Yes..... No.....
20. Are the students' class performance satisfactory? Yes..... No.....
21. Do the Aptitude test results justify the financial involvement? Yes..... No.....
22. Do you consider the TEDRO Aptitude Tests very effective means of student school placement? Yes..... No.....
23. Are you satisfied with the method in which the TEDRO tests are being conducted? Yes..... No.....

Answer the following questions briefly.

24. Suggest method of improving the TEDRO Aptitude Tests in the North Central State.
1.
 2.
 3.
 4.

25. Give reasons why the TEDRO tests are good predictors of the students' skills and capacity to learn.

.....
.....
.....
.....

26. Give reasons why the TEDRO tests may not be good predictors of the students' skills and capacity to learn - if any.

.....
.....
.....
.....

27. What are the main criticisms of the system generally?

.....
.....
.....
.....

Appendix IVPUPIL BACKGROUND INFORMATION SHEET

1. Name of Pupil.....
 first other names last
2. Birth Date..... Place.....
 town
3. Religion of Pupil..... of Parents.....
4. Name of Father.....
 Address.....
 Occupation.....
 Home Town.....
5. Name of Mother.....
 Address.....
 Occupation.....
6. Name of Guardian.....
 Address.....
 Occupation.....
7. Name of Local Guardian.....
 Address.....
- 8.(a) Your Father has.....wife/wives and.....children.

(b) Your Mother's children:-

F	M	1	2	3	4	5	6	7	8	9	10	11	12	13	14

In the table above put a tick () under F if your Father is still alive, and under M if your Mother is still alive. In the rest of the table you should write down the order of your Mother's children including yourself. Write B for a boy and G for a girl. If a brother or sister has died, put that letter in, but with an X over it. Draw a circle round the letter that represents you.

9(a) How many of your brothers from the same Father are in or have completed post-primary education? In Completed

(b) How many of your sisters from the same Father are in or have completed post-primary education?

10. How much education did these people have? The one statement that you tick in each column that applies to you should indicate the highest education that they had.

	Father	Mother	Guardian
Did not go to school			
Had some primary			
Finished primary			
Had some post-primary			
Finished Secondary School			
Finished Teachers' College			
Finished Technical School			
Attended A.T.C. or Polytechnic			
Attended University(which?).....			
Finished at another kind of school.(Which?).....			
Other training.(What?).....			
Don't know			

11. List the schools you have attended by order of date.

Name of School	Place	from	to
.....			
.....			
.....			

12. a) What subjects were you best at in your last school?

- i.
- ii.
- iii.

b) What position did you take in your last school examinations?

Position.....out of..... pupils.

13. What games do you enjoy?.....

.....

14. What do you do in your spare time at home?.....

.....

15(a) Height.....metres. (b) Weight.....kilos.

Name of Institution _____ Class _____
Number 73 _____

Pupil's			
Name	first	others	last
			Age
			years

1. Which 2 school subjects do you like most?
What do you specially like about each?

(a).....

Subject.....

Position in latest exam.....

.....out of.....

(b).....
 Subject
 position in latest exam

out of.....

2. Which 2 subjects do you find most difficult?
What do you find difficult about each?

(a).....

Subject.....

Position in latest exam.....

.....out of.....

(b).....
 Subject.....
 Position in latest exam.....
out of.....

- 3.(a) What school activities do you join in outside lessons?

.....

3(b) What other activities would you like your school to offer?

.....

4. What interests and activities do you follow at home in the vacations?

.....

5(a) Is there anything you think you may be good at?

(Circle one) Yes No

If 'Yes', what is it?

(b) Is there anything that others think you are good at?

(Circle one) Yes No

If 'Yes', what is it?

6(a) If you could choose any job in Nigeria, which would you like to have when you are old enough?

.....

(b) What sorts of things does a person having this job spend his/her time doing?

.....

.....

(c) Apart from helping your country, what specially attracts you to this job?

.....

.....

7(a) What does your family want you to do when you finish the 5th year?

.....

(b) What does your family want your future career to be?

.....

(c) Why do they choose that career for you?

.....

8. At the end of the 2nd year you will progress to more specialised education. The 3rd year Options will be:-

WASC with an Arts	...	...	...	...	bias
" " a Science	...	...	...	...	"
" " " Technical	...	...	...	...	"
" " " Commercial	...	...	...	...	"
" " " Home Economics	...	...	...	...	"

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Write down in order the 3 you most prefer.*

1st

2nd

3rd

*You should note that there is no guarantee that you will be given your top choice in the 3rd year, but we shall take a lot of notice of what you choose. So, you should think carefully before you write down your preferences.

For the Guidance Teacher.

9. How realistic is the answer to (circle one)

Question 7a? Very Somewhat Not at all

Question 7b? Very Somewhat Not at all

Question 8? Very Somewhat Not at all

10. What points need checking or discussing with this pupil?

.....

.....

Appendix VINotes on the Aptitude Tests

- VAL - Verbal Analogies. A verbal reasoning test, used to predict success in school or a job requiring formal studies.
- SDL - Reading Comprehension. A test of ability to read and understand written material, used to predict academic potential.
- MEM - Memory. A test of ability to learn and remember material organised in a meaningful way.
- MEC - Mechanical Information. An interest and aptitude test for technical occupations.
- CHK - Checking. A test of speed and accuracy in perceptual discrimination.
- FIG - Figures. A test of flexibility in responding to changing perceptual cues, used in determining aptitude for skilled trades.
- COD - Coding. A test of speed and accuracy in encoding data, used for the clerical occupations.
- NAM - Names. A test of speed and accuracy in checking written material. Used for clerical jobs and others requiring attention to details.
- RTH - Arithmetic. A test of speed and accuracy in doing simple computations.
- TAB - Tables. A test of speed and accuracy in obtaining data presented in a tabular form. Used for selection into clerical occupations.
- MAN - Manual Dexterity. A test of speed and coordination in arm and hand movements, used to predict success in the skilled trades.

STANINE SCORES

The scores are expressed in "stanine" units. In this system a score of 9 is best possible score; a score of 1 is the poorest. The average score is 5.

Stanine scores are relative scores rather than absolute scores. It is the examinee's performance relative to that of North Central State examinees that determines his stanine score. If he is in the top 4% state-wide, he receives a score of 9; if he is in the next highest 7%, he receives a score of 8; and so on, in accordance with the following scheme:

Stanine Score	Percentage of Examinees with this score	Percentage of Examinees with higher scores	Percentage of Examinees with lower scores
9	4%	0%	96%
8	7%	4%	89%
7	12%	11%	77%
6	17%	23%	60%
5	20%	40%	20%
4	17%	60%	23%
3	12%	77%	11%
2	7%	89%	4%
1	4%	96%	0%