MEASUREMENT OF ARTISTIC CREATIVE ABILITIES AMONG SOME SELECTED POST-PRIMARY STUDENTS IN GONGOLA STATE

BY

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Certification

This Thesis, entitled "Measurement of Artistic Creative Abilities Among Some Selected Post-Primary Students in Gongola State" by Victoria Baunice Lagwampa, meets the regulation governing the award of the Degree of Master of Arts in Art Education of A.B.U. Zaria and is approved for its scientific contribution to knowledge and literary presentation.

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Declaration

I hereby declare that this thesis has been written by me and that it is a record of the research work carried out by myself. All the quotations used are indicated by quotation marks or indentation. All the sources of information are specifically acknowledged by the use of references.

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Dedication

This thesis is dedicated to my parents:
Andrew Maina Mamuno and
Ednah Tile; and my children:
Julius Pwausoko Lagwampa
Christie Pwaatado Lagwampa
Danjuma Ngurigon Lagwampa
Lofeme Mytakaino Lagwampa and
Sanamo David Lagwampa
With whom I am well pleased.

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Abstract

This study is conducted to measure the Artistic Creative Abilities of some selected post primary students in Gongola State, A sample of 389 Form III and IV students (203 males and 186 females drawn from some selected post primary schools in Gongola State were used for the study. The standardised test of visual perception - The Zaria Test of Artistic Creative Abilities - ZAATA (Olorukooba (1981) was used for the purpose of data collection. Two Hypotheses were tested:

1) There will be no significant variation in the correlation of the mean performances of the students in all the test scales taking into account the following:
    a) sex differences,
    b) age groups - 15-19 years, 20-29 years and 30 years and above,
    c) school type - Teachers'college/ secondary school.
2) There will be no significant difference in the students nerformance in all the test scales taking into account the following:
    a) sex differences,
    b) age groups,
    c) school type.

The Data collected was analysed through the use of spearman correlation i-iatric and Lruskal-WalELis' U significance Test (K-W's U). All

hypotheses were tested at 0.05 level of significance.,

From the results of the study the following results were obtained.

a) The overall performance of the students sampled is somehow low.

b) There is no very significant variation in the correlation of the student mean performance in respect of sex difference and age groups. The only place where there exists a variation is the school types sampled.

c) There is no significant difference in their performance in respect of sex differences and age groups, but the study proved that there is a significant difference in their performance considering the school type tested. The computation shows that four tests out of the five conducted have a very high level d of significance: 0.00, 0.00, 0.00, and 0.01 respectively.

Based on the results of the analyses, certain findings and recommendations were made to aid in improving the standard of art teaching in order to enhance creative development in schools.

Victoria Baunice Lagwajajia(Hrs)

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Chapter 1

1.1 INTRODUCTION

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In highly advanced societies, there still exists problems of the non recognition of human rights and dignity due to lack of individual opportunity and encouragement to be creative and inventive. Individual innovation is daily being replaced by a national tendency towards mass production. Man is threatened with the possibility of loosing his power to percieve, imagine, explore and invent ideas of his own. The situation has reached such a critical stage that if something is not done urgently the creative potentials of the individual are going to be seriously undermined. There is therefore a serious need for the recognition of the contributions being made daily by creative people in the society through personal effort and innovation.

One important thing to bear in mind is that, an adult does not just become creative without developing some creative potential through his life-line beginning from childhood. Early childhood education therefore is very important for the creativ growth of any person. Up to the late 1960s and part

of the early 1970s the system of education in Nigeria did very little to encourage the growth of creativity in schools. In all areas of learning, much emphasis was laid upon the acquisition of already laid out facts with little or no opportunity for self expression. The learning process was more or less a receptive, rather than an expressive one. The system of education then, acted as a discouraging factor to art teaching in general and more especially development of creative thinking in students. The following assertion made by Vernon (1964) is therefore justified considering this problem as it applied to Nigerian education. According to him

> The present system is criticized for favouring the comformist mentality - the pupil or student who is good at accepting and learning what his teachers and lecturers tells him, and thinking and writing along conventional lines, whereas it discourages spontanious independent thought.

The same view was also expressed by Olorukooba (1977) in his evaluation of Art Education programmes:

> The nature of teaching - learning evaluation in Nigeria reduces the essense of teaching to mere storage of facts and methods, and the regurgitation of these facts and methods on demand - e.g. during examinations or other forms of assessments. This infers that only those who remember these facts and methods normally "pass" while those who forget "fail".

Moreover, the conditions and methods of teaching art acted as barriers to the development of creativity in the children. Children were expected to copy from certain drawing books or drawing made by the teacher on the blackboard. Stansfield (1958) echoes this view when he says:

> The children made a copy of the teacher's own drawing without adding anything themselves. The educative value of this was small and the children seldom even derived any pleasure from the lesson.

Also in the view of Olorukooba (1977) "Most teachers engage in teaching the subject without any specific objective in mind".

With the educational reforms of the late 1970s however, the Federal Government has started to accord recognition to art as a subject in the school curriculum. Art is also being made a compulsory subject in all primary schools and many post primary institutions. The acquisition of art skills has come to be regarded as a promoter of cultural heritage. The Nigerian Education Council in area III recommendation 18 says that "Schools should start developing and projecting the Nigerian/African culture, arts and language as well as world heritage." Olorukooba (1977), also amplified the recommendation made by the Colloquium Committee

of Festac 1977 with regards to 'the promotion of art teaching.' It states that:

> Considering the importance of political condition for the promotion of Art in African civilization, considering the role of teaching art in the propagation of aesthetic knowledge and in the revival of collective identity, the colloquium makes the following recommendations to the government of African states... to introduce the different artistic disciplines on all levels of the teaching programmes.

In addition, the government has adopted measures which will serve to stimulate and improve students' performance in art. This include among others the organization of an Annual National School Arts Competitions in which artistically gifted students from different schools participate. Prizes are awarded to all deserving students. Furthermore television programmes concerned with art are also broadcasted nationwide. Children in primary schools and students from secondary schools are encouraged to participate in such programmes, which are intended to encourage creativity in both art and other technical fields.

The Nigerian society today is changing at such a rapid rate that there is a need for the educational system to strive to keep up with the changes. There is a definite need to make new and original adapta-

tion which can then be fitted into new situations. The fact remains that in almost all fields of knowledge changes are ever being made to keep up with the new technical, social, and politic at developments. These cannot, of course, be possible unless we equip our youth with the type of education that can ensure that they are creative, constructive and productive in whatever profession they choose in life.

Therefore, in order to support the efforts being made by the Federal Government to foster and encourage creativity in the youth, there is need for the educators, particularly Art Educators to bring to light the problems associated with its development. Olorukooba (1984) probably had this in mind when he stated that:

> ... There is a gradual increase in the awareness of people that yesterdays methods do not tend to be appropriate in solving contemporary problems of the society. There is a desperate societal need of creativity whereas one considers the issue of social development in our younger generation.

The truth contained in this assertion cannot be denied because it clearly shows that our Educational system needs to spearhead the drive toward increasing societal awareness of the importance of creativity.

In a later study of artistic creativity, Isha (1987) expressed the fear that most people still have no clear idea or focus of what creativity really means since the task of encouraging it was comparatively new. He therefore observed that "... those concerned with the development of children (parents, teachers and the intelligent public) need to understand the nature of the creative urge to enable it develop and express itself." To foster creativity therefore is the concern of not only the school, but also that of the family bringing up a child. If the child does not receive positive concern from the family as regards to his creative development, the teacher alone can hardly do much. The standard Nigerian family is such that children are brought up lacking encouragement to grow creatively. The child is not given much freedom to innovate and create according to his natural abilities as Olorukooba (1984) rightly observed when he asserted that:

> ... In the family, Nigerian parents tend to show lack of creativity right from the type of child rearing practices parents adopt in bringing up their children. The stimulation received by the children, the clothes they wear, the food they eat, the literature they are exposed to, all tend toward blind conformity. From early childhood, the youngsters have defficient take-offs. They already develop anticipatory fears

> in pioneering an innovative course and so on. They may also develop cultural blocks manifested in the desire to conform to societal patterns or manifest perceptual blocks in a failure to realize that there is the need to probe and study things that appear to be obvious. These behavioural attributes and definite obstacles to creativity.

For a child therefore to grow creatively, he needs to be able to express himself freely, not only in the class but also at home. The child needs to be provided with enough opportunities to explore and express himself freely. These opportunities ultimately make him acquire a higher sense of responsibility, judgement and control.

Art activities have a more vital role to play in the upbringing of children than that of mere enjoyment. Leeper (1963) highlighted this view by stating that:

> Art for young children is a means of self-expression. Art is used to express what they do, see, feel, think and talk about. Art activities provide opportunities to explore and expriment, to express ideas and feeling about themselves and the world around them. They strengthen ability to imagine and observe, and increase sensitiveness to self and others. As the child works with materials he assumes responsibility for choosing and shaping them, uses judgement and control and gains success experiences that aid in establishing a self-concept of worth as an individual.

Leeper went further to state that "helping a child to turn feeling into creative channels gives an outlet that can be used throughout life". In his view, the setting up of models and patterns in life can serve to block this means of expression and prevent future growth.

Children, early in life and initial stages of education have certain developmental needs which must be met to enable them to grow as productive and responsible future adults. These needs include perceptual, emotional, aesthetic and creative ones. All these can best be fostered through art activity programmes because of the nature of the components and behavioural objectives listed by Linderman (1977):

a) Enrichment of creative thinking and perception;
b) Expansion of knowledge and skills in practicing Art;
c) Enlargement of evaluation in aesthetic judgement and
d) Development of understanding of cultural heritage both past and present.

Even though creativity is so important to the total development and education of the child, there are certain problems that still exist in our educational system and the society today that hinders

complete creative growth in children. To begin with (as has been mentioned earlier) most Nigerian parents often do not encourage their children to express themselves freely through play. They do not provide their children and wards with play materials that will enhance creativity through personal manipulation. Very few children are able to attend nursery schools where they get the chance to start playing with toys and other art materials before they start primary school. Moreover the teachers that teach art in our primary schools are themselves not specialists in any of the subjects they teach (art inclusive). This is further compounded by the fact that primary school teachers are Grade II failures who are not able to properly express themselves so are hardly able to help a child to achieve free expression. Consequently some children go through their primary education without having any noticeable contact with art activities, with the result that they are deficient in personal expression, and thus lack confidence in themselves.

Because of the low turnout of art teachers, there are not many qualified art teachers to teach art up to school certificate level. Many of the N.C.E. teachers that teach art in post primary

schools are not themselves qualified art teachers, because they only learnt art as a subsidiary subject in the course of their training. Moreover, most art materials used in schools are imported because we do not have factories in the country for their manufacture. At present, there is a general Federal Government restriction on various categories of imports. The resultant effect of this is a general lack of art materials even in these schools that have qualified art teachers. This problem seriously affects the effectiveness of art teaching since they require relevant art materials in order to teach successfully.

Another problem facing the teaching of art and the development of creativity is lack of text books for the teaching of art particularly those written by Nigerian Art Educators. This has affected the principle and practice of art education. Moreover, in most schools special classrooms are hardly available for the teaching of art. This poses a problem because there are certain physical standards that a room must meet in order to be considered adequate for effective art teaching.

Because of the low value attached to art as a subject in the school curriculum, potentially talented pupils in art are easily discouraged and

do not take art seriously in school. Because of the free and creative nature of art lessons, pupils seem to regard them as playful, childish and dirty. Also because art tends to encourage one to be expressive and vocal, many creative art pupils easily come into conflict with their teachers and peers.

With the foregoing problems as identified, there is a necessity to research into this subject in order to find out solution which will in future help to minimise these problems.

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1.2 Statement Of The Problem

This study seeks to measure the artistic creative abilities of some selected post primary school students in Gongola State. The study will specifically aim at finding out how post primary students perform in a test of artistic creative abilities using the standardized testing instruments of the Zaria Test of Artistic Creative Abilities (ZAATA) by Olorukooba (1981).

The following questions underlie the study:

1. Will there be any correlation between the mean performances of students bearing in mind their sex differences ?

2. Will there be any correlation in the mean performance of the students considering the three age groups (a) 15-19 years (b) 20-29 years and (c) 30 years and above ?

3) Will there be any correlation in the mean performance of the students taking into consideration their school type - Teachers college/Secondary school.

4) Will there be any significant difference in the performance of students considering their sex differences ?

5) Will there be any significant difference in the performance of students considering their age groups

a) 15 - 19 years,

b) 20 - 29 years,

c) 30 years and above ?

6) Will there be any significant difference in the performance of the students considering the school type: Teachers' college/Secondary school.

1.3 The Need For The Study

In educational research in Nigeria not much attention has been given to the area of artistic creativity until recently with the development of the Zaria Test of Artistic Creative Abilities (ZAATA) by Olorukooba in 1981.

The present study is very much concerned with this situation and intends to bring to light the importance of artistic creativity and innovativeness in general. This can easily be done through appraising creativity and pointing out the contribution that could be made by creative individuals provided they are given the recognition.

This study will provide a chance for Art Educators and students to determine the artistic creative abilities of selected students of selected Nigerian schools through the use of the ZAATA which in itself is a standardized test that has been used successfully by other Art Education researchers. The study will also attempt to draw government's attention to the importance of artists and artistic creativity to the society.

1.4 Delimitation Of The Study

The study is concerned with the measurement of Artistic Creative Abilities of post primary students in Gongola State. To make this research more manageable, the study has been restricted to schools that have art teachers. The only classes involved are Forms 3 and Four or JSS 3 and SSS 1 because of the comprehension purposes of the test

guide and the age range limits used in the analysis. 10 schools are chosen from 9 different local government areas. A total number of 389 students from these selected schools were involved in the testing.

Students from the lower classes are not sampled because it is felt that they have not done enough art work to enable them do the test successfully. It is hoped that this study will provide a realistic picture of the nature of artistic creative abilities among the students studied.

1.5 Basic Assumptions

The following basic assumption underlie this study,

1. That our present system of education is geared toward convergent thinking rather than divergent thinking.
2. The characteristic traits of the creative students which make them unpopular with their teachers and friends discourages students from paying attention to art activities and becoming artistically creative.
3. Parental and societal attitudes discourage students from participating actively in art classes.

4. The general lack of art materials, textbooks and qualified art teachers in secondary and teacher colleges hinder progress in art education and growth in artistic creativity.

5. The fact that students in general regard art as a subject for low achievers make them to pay less attention to art lessons and activities.

1.6 Hypothesis

From the problem stated in the study, the following hypotheses have been formulated and will be tested by the researcher.

Hypothesis 1

That there will be no significant variation in the correlation of the mean performances of the students in the five scales of the test taking into consideration;

a) sex differences

d) age groups 15-19 years, 20-29 years and 30 years and above

c) school type - Teachers colleges/Secondary school.

Hypothesis 2

That there will be no significant difference in the students' performance in the test taking into consideration:

a) sex differences

b) age groups 15–19 years, 20–29 years and 30 years and above.

c) school type - Teachers college/Secondary school.

All hypotheses are to be tested at the 0.05 level of significance.

Chapter 2

LITERATURE REVIEW

2.1 Introduction

In this chapter the researcher intends to review all the relevant literature concerned with measurement of artistic creative ability and creativity in general. Several topics will be reviewed in connection with their relation to creativity.

2.2 Concept Of Creativity

Many Educators and psychologists have in the past made attempts to define creativity, some in terms of its verbal meaning of ability and product, while others use characteristic traits of creative persons in order to explain in a more clear and observable manner. Whichever way one chooses to define the concept, creativity still remain a problem to tackle. Lowenfeld (1975) expressed views about the existence of this difficult diversity of opinions about creativity that:

> The definition of creativity depends upon who is doing the defining. Often researchers are rather narrow in their definition, stating that creativity means flexibility of thinking or fluency of ideas; or it may be the

> ability to come up with new and novel ideas, or to see things in new relationships; in some cases creativity is defined as the ability to think in ways that are different from other people. Usually creativity is thought of as being constructive, productive behaviour that can be seen in action as accomplishment.

From Linderman (1977) the concept of creativity is viewed differently from one person to the other depending on what importance is attached to it at the time. In his support he listed some definitions that were put forward by some experts from both the sciences and visual arts, each in his case expressing his own view about what creativity should be in his own peculiar line of thought and understanding.

Some of the experts he mentioned defined creativity more in terms of flexibility of thinking. June Mac Fee (1961) defines creativity as:

> Creativity is the ability to invent new symbols and ideas, to improvise on established symbols, to rear range established organization into new organizations, and to integrate new or borrowed ideas into previously organized system or situation.

J.P. Guilford (1959) supports the idea that creativity is best defined in terms of flexibility of thinking. In his views:

> ... Creative thinkers are flexible thinkers. They readily desert old ways of thinking and strike out in directions... In the area of creativity we should certainly expect to find originality.

On the other hand Michael Andrews (1961) puts up a view that creativity can best be defined in terms of uniqueness of ideas and thought. In respect of his own views about creativity, he defines creativity as:

> Creativity is a thinking process. Creative thinking differ from critical thinking in that it is covered with new ideas as opposed to previous ideas of reflections on someone else ideas. Creativity is the act of drawing on all past experiences and the act of selection from these to yield construct of new products.

In the view of another group of researchers, creativity should be defined more in terms of comformity. Alice Miel (1961) for instance expresses this view that:

> Creativity requires freedom - freedom to rebel against stifling conditions, freedom to make decisions differing from those made yesterday and different from those made by others - but it is not unlimited freedom.

Robert Burkhart (1962) supports the view by claiming that:

> Creativity as interactive learning brings in life. The process becomes a matter of responsiveness to all in life that is coming in and going out, and thus refers to a continual process of rejecting and accepting, making and destroying, revising and adding, and failing and succeeding.

If we carefully consider the many divergent ways experts view creativity, we then begin to understand the multi-dimensional nature of creativity and we begin to gain insight into how creativity operates, the types of behaviours the personalities have, the values and the thought processes involved. Rogers (1975) describes creativity in terms of a creative product. In his opinion the creative product must be of novel construction which grows out of the unique qualities of the individual, in his interaction with materials of experience. The definition of creativity therefore is:

> The emergence in action of a novel relational product, growing out of uniqueness of the individual on the other hand; or circumstances of his life on the other hand.

He goes to observe that there is an evident trend in all human life towards expanding, extending and developing nature. This tendency extends to expressing and activating all capacities of the particular organism to the extent that such acti-

vation enhances the organism or the self. This is clearly in line with what is said in Bunhan (1892) and Anderson (1970). For example Anderson (1970) says

> Creativity is something everyone possesses in varying degrees; everyone is born with some creative potential. Creativity occures at almost all ages and in all fields of human endeavour.

Dimmack (1962) also expresses a similar view. In his case he holds that "creativeness in some form or other is possessed by all people, and that creativeness is a common need."

Leeper (1979) expands this view of creativity, maintaining that creativity is not only limited to the arts and music, but it also manifest in whatever learning area there is in life which requires learning and apprehension. This view is also closely supported by Lytton (1971) when he expressed the belief that:

> ... firstly, creative quality can reside in any kind of human activity. Men can be creative not only in painting, writing poetry or discovering scientific theories, but also in cooking, carpentry, playing football or making love. Secondly it is not only the genius who produces the creative acts, but this quality can be present in many minor acts at many different levels of ability and intelligence.

Linderman (1977) and Anderson (1970) expressed

very similar views in support of the fact that in all kinds of professions in life creativity is valued very highly for a better execution of the job. Among the professions that they mentioned are bricklayers, doctors, electricians, salesmen, industrialist, politicians and advertisers. They claimed that in all these professions mentioned, a person who demonstrate creative ability in the execution of his job, is usually more highly valued than one who does not show any creative ability. From the series of views expressed so far it is obvious that creativity is an ability which is present in almost all kinds of life situations.

In Chamber's (1964) view, creativity can best be defined and understood in favour of scientific ability. He therefore defined creativity in the favour of the scientist thus:

> The creative scientist thus emerge as a strongly motivated, dominant person who is not evenly concerned with other peoples views or with obtaining approval for the work he is doing. He is not the type of person who waits for some one else to tell him what to do, but rather think things through and then takes action on his own with little regard to convention or current fashion.
>
> He is then prepared to face the consequences of making unpopular decision or of pursuing unconventional paths in his search for evidence relating to nature's laws.

Some experts instead of defining creativity in terms of ability prefer to use the product executed by the creative person in order to express what creativity is. One of such persons Lytton (1971) expressed the view that the creative product must have novelty, which means that the product should be unusual and must lead to an unusual way of expressing the world. According to Lytton, the creative product should be of highest standard as well as having the power to transfer the traditional constraints of reality. The product must also yield to a radically new perspective. He further expressed the view that the creative product must meet a certain criteria so that it can command effective surprise by the on-looker. The creative product also must make sense in the light of demand or situation and the specification of the producer. Moreover the person appreciating the work must be satisfied with the overall result. Therefore the creative product must not be only right but "just right".

Yamamoto's (1962) views also are not dissimilar to the views expressed by other schools. In his own views the creative person has many ideas that he could communicate to people for their understanding. Accordingly the creative person's mind is so flexible with ideas that he could continue giving varying suggestions as to how a particular project could

be carried out. A creative person therefore is not narrow minded in his opinion but broad minded.

While some scholars and experts think of creativity more in terms of ability and product, others seem more interested in its typical characteristics. To such people peculiar characteristics exist which constitute and enhances whatever ability that a creative individual possesses.

Anderson (1970) enumerates some of these characteristics as:

- They have a healthy appetite towards work and prefer variety in the work.
- They are persistent in the pursuit of problems.
- They have an abundant amount of energy and apply it in a disciplined manner.
- They enjoy manipulating objects as well as ideas.
- They have a strong ego.
- They enjoy thinking and accept challenges.
- They exhibit an impatience to get on with the work at hand.
- They resist an over abundance of supervision.
- They are not prone to worry about inconsistencies but look for them.
- They are critical of current solutions to problems.

- They are sensitive to change.
- They enjoy shuffling and expanding ideas.
- They are curious and wonder about themselves and other things.

Linderman (1977) laying support to this view by adding the following characteristics -

1. That creative people are extremely alert perceptually.
2. Creative people are builders of their own ideas through construction, re-arrangement, experimentation, trials, manufacturing and problem solvers.
3. They are confident in themselves by being flexible in approach to situations independent expressive and fearless.
4. They like to explore ideas by being original, inventive and they are dreamers.
5. They like to investigate the nature of things by searching into meanings, questioning available data, enquiring into the unknown, discouraging and uncovering.

Rogers (1975) maintains that a creative person has "an internal focus of evaluation which enables him to examine himself and to make sure that whatever he creates is satisfying to him. Furthermore,

he described the creative child as one who is intellectually curious, oriented toward complex and novel activities, showing independence in judgement, humorous and playful. To Rogers, the creative person has the patience to absorb any type of conflicting ideas without showing any biased feeling in any way.

Baron (1969), Wild (1965), Dill (1978), Torrance (1969), and Mustakas (1974) all express very similar views about the characteristics associated with creative people in general. The views they expressed include independence in judgement, flexibility in thinking, originality of ideas, unusual manner of perception, tolerance, novelty of ideas, persistence, honesty and consistency.

From all said so far, there seem to be some concensus as to the distinguishing characteristics of creative people. Almost all the authors cited are in agreement as to the fact that creative individuals exhibit certain fluency of ideas, flexibility and originality of thought. There is also an agreement on the behaviouristic attitudes which include strong affection, attraction to mystery, preference for difficult tasks, constructiveness in criticism, firmness in implementing decisions, etc. Creative ability enables a person to

develop an independent mind towards learning and whatever judgement one is bound to make in almost all types of situations in life.

2.3 Creativity And Learning Situation

The nature of a creative person (or child) is bound to make him face a lot of problems with the school system and the society as a whole. Efforts have been made to identify such problems, giving advice in some cases on how to treat a creative child and on how best creativity is to be fostered in the school system and the society.

Several Educators have put forward the view that the character of the teacher is one of the major factors hindering creative development in school children. Gailskell (1975) for example holds the view that there are bound to be problems with the development of creativity among school children if the teacher/instructors do not value creativity or if teachers remain conformists in their views.

Getzels and Jackson (1962) from a study of young creatives observed that highly creative youngsters virtually remain outsiders in the typical school system. They further expressed the view that even though the high creatives are high achivers,

they tend to be less popular with their teachers as compared to the high intelligent (1Q) children.

In another research by Torrance (1965) carried out to find out the views of teachers from such different cultures and backgrounds as U.S.A., Germany, India, Greece and Phillipines. It was found that most teachers disapprove of the unconventional behaviour of creative children. In general the teachers showed distaste for asking questions, guessing, being independent in judgement and thinking, being inituitive, being willing to take risks and unwillingness to accept opinion on mere authority.

Other researchers such as Torrance (1962), Jackson (1962) and Lowenfeld (1965) all show similar results with respect to the part played by the teacher in discouraging creativity in children. They all show that teachers place a high value on conformity rather than imaginative and divergent behaviours.

In the light of the results obtained from empirical research on creativity, there is a tendency that the problems identified act as major barriers in the development of creativity with the school system. If being creative can be termed as

rebellious in the system, a child is most likely to supress his creative urge and ability. There is no doubt then that teachers' attitude go a long way to discourage creative behaviours in children.

Apart from the attitudes of teachers, the demands often made by parents on their children to avoid unorthodox behaviours also acts as another major impediment to the full creative development of children. Long (1965) proposed a hypothesis which says that "social rejection associated with none comforming children would affect most of the children with high originality." This assertion is in line with the views of many experts who have expressed similar opinion. As mentioned earlier, creativity can best be developed from early school age. For example, Torrance (1975) confirms the truth of this hypothesis when he reported the experiment about 392 students results of an involine. Twelve years later after the experimental group of students had graduated and taken different appointments, it was found that those identified as creative during their high school days eventually become productive and creative adults, with good promising careers in different disciplines, as opposed to those that score low in creativity.

The findings from Torrance's study clearly shows that if a child develops creative ability early in life, it goes a long way to determine the type of adult he will be. In other words, high level of productivity in adulthood can be partly traced to a relatively unrestricted free environment at an early age. There is therefore the need to encourage creativity in children early, so as to make them develop into productive adults.

Leeper (1979) identified some of the factors he considered as obstacles to the development of creative learning.

a) Peer pressure for conformity
Children trying to do things which they see others do instead of doing what is of interest to them as individuals.

b) Pressure against questioning and Exploration
Teachers and parents discouraging children from asking too many questions by shouting them down (allowing them to speak out their mind).

c) Emphasis on Sex Role Differences
Associating certain traits and activities to masculinity or femininity only tend to limit opportunity for exploration and discovery. Some children sacrifice creativity to

maintain expected roles.

d) Fear of making errors - thus upsetting culture and society as a whole.

e) Work-play dichotomy - in which creative activities are usually regarded as play and not serious.

2.4 Fostering Creativity in Children

Creative development in children is very vital for their total development, and for that reason ways should be found through which creativity could be inculcated in the child at an early age. Rogers (1975) spelt out two conditions which are necessary for fostering constructive creativity in children. These are:

1. Psychological Safety
   a) Accepting the individual under any condition as a worthy person and having unconditional faith in the person.
   b) Providing a climate in which external evaluation is absent - not to form judgement of other people in our own locus of evaluation.
   c) Understanding emphathically - to be able to see someone from his own point of view and yet accept him as he is.

2. Psychological Freedom - to permit an individual a complete freedom of symbolic expression. This makes one free to think to feel and to be whatever is most inward within him. It is therefore very necessary to put these conditions in mind while fostering creativity in the children.

According to Davis (1974), a far fetched humorous and playful attitude often helps to loosen students. A teacher who exhibits such attitude is more likely to encourage creative growth in a child more than a teacher who takes things very serious.

Many more factors have been identified as being capable of encouraging creative learning in our children. Torrance (1974) for example enumerated the following factors:

1. Providing activities which are effective in creating open-endedness in all circular area, e.g.
   a) Playing with ambiguities and uncertain-ties;
   b) Letting one thing lead to the other;
   c) Encouraging transformation of information.

2) By combining apparently irrelevant element on any curricular by:-

   a) Experimenting and manipulating objects, ideas etc.

   b) Encouraging children to use knowledge in one field to solve problems in another.

   c) Requiring and reorganization of information and objects.

3) Providing activities that are useful in implementing the strategy of producing elements and then combining them by:

   a) Searching for all the facts in a mystery and then solving it.

   b) Making a series of predictions on the basis of accumulating information.

   c) Producing multiple analogies and then combining the insight gained for their use.

4) Brainstorming within a given structure.

5) Warm-up experiences like

   a) heightening concern about a problem

   b) stimulating curriosity and wanting to know.

   c) giving minimal clues and direction.

6) Environmental warn-up - the class can be easily modified to create a mood or arouse effect.

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7) Identifying gaps in knowledge by the teachers showing to students that education is not complete through providing questions about pictures, objects and stories etc.

8) Playing with improbabilities e.g.

   a) What could happen if it always rain on Saturdays and Sundays ?

   b) What could happen if it were against the law to sing ?

   c) Just suppose you could visit the pre-historic section of the museum and the animals could come back to life, what would happen.

9) Multi-modal expression - creative movement, producing sounds and drawing.

10) Asking provocative questions that will arouse interest.

Leeper (1979) emphasised the fact that the teacher should plan in advance for creative achievement in his teaching. Such plans are to enable the teacher to have positive views about himself, be able to identify with the views of others and to have a rich and available perceptual field. For the teacher to be able to accomplish these, Carlson (1960) suggests that he must do the following:

1) Eliminate negative, hostile thought, fears and

feelings.

2) Building more positive satisfaction through understanding and experiences.
3) Participate in original thinking process.
4) Develop a more active awareness of environmental learning experiences and
5) Discourage new dimension of learning.

These suggestions are in line with those given by Leeper (1979):

a) To avoid doing something one way only.
b) To project alternatives that are less rigid and more flexibles.
c) To be attentive to unusual questions children ask.
d) To respect the unusual ideas from children.
e) To show children that their ideas have value.
f) To give credit for self initiated learning.
g) To provide chances for learning and discovery.
h) To encourage behaviour attributed to creativity e.g. awareness, originality, fluency, flexibility, and elaboration.
i) To release the child's fears.

Torrance (1967) drew a very important educational conclusion that:

> Children learn best when given the opportunity to learn in ways best suited to their motivations and abilities. Whenever teachers change their ways of teaching in significant ways, a different group of learners become the stars or high achievers... Somewhere, however we need to reassess our objectives and determine what criteria we should be interested in predicting. This would probably lead to a recognition that we need multiple criteria and that we should value a variety of difficult kinds of achievement.

Lytton (1971) however in supporting Torrance's conclusion points out that there are two major ways in which a school as a whole may enhance children's creative abilities. They are:

a. To introduce a special educational experience for deliberately training creative thinking of problem solving skills.

b. To generate a creative spirit in the school and adopt an experimental, creative, open-ended approach to learning in each individual field of the curriculum.

He further adds that

> Improving creative abilities is, at least in part, tantament to improving the effectiveness of thinking and means that we apply rational thought to the progress of education itself. In short, efforts to develop creative behaviour adds up simply to what has long been recognized as a good education.

The views and ideas expressed by experts go a

long way to suggest that if we want our children/ pupils/students to use their knowledge creatively, we must let them draw analysis from other subject matter or seek symbolic equivalents of their experiences in other sensory modalities. For that reason the need exist for the provision of opportunity in some areas of the curriculum for the discovery as well as rememberance of facts. The children should be encouraged to play with facts, and ideas and not only to reproduce them. They should be made to be aware of the fact that every problem has several interpretation as well as solutions. In order then to arrive at a solution to a particular problem there should be several other suggestions.

2.5 Creativity And Home Background

In the first chapter the present study has attempted to capture various views on how the family background affects creative developments in children particularly in Nigerian schools. This situation does not just apply to Nigerian schools alone, but applies to schools in other parts of the world.

Lytton (1971) in a research to find out the effect of family background in children's creative abilities, found that certain inherent characteristics are peculiar to the parents of the children

that grow up to be highly creative, which compared to parents of the less creative children are lacking. The results show that the parents of the creative children make room for their children individualism. In doing so, they show greater confidence in their children ability to always do the right thing, as well as granting their children considerable independence to explore the world through independent activities.

Lytton further expressed support for Weisber and Spinger (1961) who had carried out a similar study on 32 highly gifted children. The results from Weisber and Spinger's study showed that the parents of the affected children gave their children a large degree of freedom in exploring and fully realizing their creative abilities.

The family background and its effect on the creative development of children cannot be overlooked when studying creativity in children. The family plays a very important role in moulding characters and general development of any person. If in a family, the parents are liberal in their judgement, and give their children liberty to do whatever is right, the likelihood is that the children will grow up to have the same attitude to life. Children from such homes are more likely to grow up to be

creative.

On the other hand, if the parents are very possessive and prefer their children to obey them without comments, the children will grow up to be comformists - afraid to stand out and do something by themselves.

2.6 The Importance of Creativity in General

Much interest has been generated by study on creativity because creativity is believed to be an essential element in almost all types of occupation. The researches carried out so far have served to show creativity as a form of intellectual ability and a means of problem solving. The importance of creativity to the individual as well as the society cannot therefore be overlooked.

Guilford (1976) has expressed the view that the challenges involved in scientific, cultural, economic as well as political developments has only been made possible through the unique contributions of creative individuals at different times and in different places in the world. Rasik (1976) expresses a similar opinion when he says that it was after the 2nd world war (especially as a result of development of the Atomic bomb) that man begin to recognize creativity as a special commodity which

needs to be harnessed for the benefits rather than the destruction of mankind. Since then there have been a series of attempts to utilize the creative potentials of individuals for the progress of different societies all over the world. As Rogers (1975) asserts -

> Unless individuals, groups, and nations can imagine, construct, and creativity revise new ways of relating these complex changes, the light will go out. Unless man can make new original adaptations to his environment as rapidly as his conscience can chance the environment, our culture will perish. Not only individual maladjustment and group tension, but international annihilation will be the prize we pay for lack of creativity.

Rogers expressed regret in the way that conformists are continually being turned out from our educational institutions, while in leisure time passive activities and regimental group actions are predominantly common. He further expresses the view that technicians are not very creative in their execution of their work, nor are the people encouraged to be creative in the industries. Moreover in the family, the clothes we wear, the food we eat, the books we read and the ideas we hold are all geared towards conformity.

Maslow (1974) expresses the belief that creativity is not peculiar only to works of indivi-

duals as painters, poets, composers, artists, scientists, inventors and writers, but also that whatever occupation or vocation a person is engaged. He believes that for one to be trully successful and productive, he has to exhibit a certain level of creative competence in the execution of his work.

Mehrens et al (1978) extensively dealt with the many potential benefits that can be derived from effectively harnessing creative talents for development purposes. A point of observation here is that almost all the writers understand the importance of creative people to the developing nation. Nigeria is no exception. There is a real need for the harnessing of creative potentials in Nigeria since it is in the process of development. There is need to bring to light this valuable element, identifying it in our youth, find ways to inculcate it into them.

One possible way in which creativity can be acknowledged by Nigerians is for the few that have the opportunity to study Art Education and other creative subjects, to bring to the notice of the people the nature and benefits of creative behaviours and emphasise its importance to the development of the individual and the society. Nigerian youths should be aware of what their personal contributions can do to the development of their society. The

general attitudes towards learning in which a child is made to reproduce exactly what the teacher says should be minimised, and in its place a more healthy attitude towards questioning and creativity be encouraged.

2.7 Aim Of Art Education

Linderman (1977) is of the opinion that:

> Art in the school is both a body of knowledge and a series of activities which the teacher organizes to provide experiences related to specific goals. The sequence and depth of these experiences are determined by the nature of art discipline, the objectives desired, and by the interest, abilities and needs of the children at different levels of growth.

He puts forward four major objectives for teaching art in any school curriculum:

1. It intends to enrich the sensory perceptions and visual thinking of the teacher and ultimately to enrich the creative thinking of those whom to teach.
2. It intends to expand one's knowledge and skills in practicing art.
3. It intends to enlarge the way in which a person evaluates his aesthetic judgement and it gives him a structure of map with which to appraise art works in the area of art history.
4. It intends to develop understanding of our cultural heritage both past and present.

There are sets of values that are generally associated with the teaching of art. Horn (1967) summarises these values as;

a) Art education contributes to the awareness of the value of aesthetic experience developed through contact with ideas, symbols, as well as through personal performance.

b) Art education contributes to the intellectual and cultural maturity of the student.

c) Art education develops in the student an ability for healthy criticism thereby enhancing progress in society.

d) Art education provides a new dimension to the students personality and broadens the boundaries of his experience.

e) Art activities nurture the students creative and imaginative capacities, develops in the student a spirit of enquiry and adventure in his search for a personal response to problem.

f) Art education increases the perceptive and the manipulative competencies of the student.

The values as identified above stress the importances of the student's attitudes, understanding, sensitivities, responses, and skills as they relate to the visual arts and to his place in life.

Along lines similar to that of Horn (1967), Lowenfeld (1975) opined that:

> Art ought to play a very important role in the life of students in the secondary school. Within the framework of our public school system however art usually plays a subordinate role, whereas within our society it is playing an increasingly large one.
> ... It is a means by which our sensitivities are to experiences an heightened and refined.

Eisner (1972) justified the place of Art in Education by giving the following reasons:

i) Art helps develop interest that can provide a sense of satisfaction for the individual.

ii) Art activities provide opportunities for the child to alleviate pent-up emotions that cannot be expressed in the so called academic areas.

iii) Art has an especially important contribution to make to the development of creative thinking.

iv) Art activities develop the students' understanding of the other academic subject areas especially social studies and hence should be used as an important resource in teaching these subjects.

v) Art activities develop childrens' muscles and hence improve the child's physical coordination especially in early education.

Due to the importance of Art in education there is the need to have a good art program that will cater for artistic/creative needs in individuals. Horn (1967) proposes that a good art program should be organized to provide for the following -

a) A comprehensive involvement of the students with the art product of man.

b) An intelligent basis for making value judgement and,

d) A qualitative relationship of the student with tools, materials, and processes utilized in his personal visual expression.

Linderman (1977) and Herberholz (1972) also express very similar views. They however go further to say that a good art program should begin in pre-school and sequencially progress through to higher levels of education and should be able to provide experiences in the following skills summarizes in Herberholz (1972).

1. examining intensively both natural and man-made objects;

2. expressing individual ideas through the use of a variety of art media suited to the manipulative abilities and expensive needs of the student;

3. experimenting indepth with art materials and processes to determine their effectiveness in achieving personal expressive form;

4. working with tools appropriate to the students' ability in order to develop manipulative skills needed for satisfying aesthetic expression;

5. organizing, evaluating and re-organizing work-in-progress to gain an understanding of the formal structuring of line, form, colour, and structure in space;

6. evaluating art of both students and mature artists, industrial products, home and community design;

7. engaging in activities which provide opportunities to apply art knowledge and aesthetic judgement to personal life.

2.8 Artistic Creativity

Art creativity refers to the type of ability acquired through the teaching of art activities. These activities helps a person to develop such qualities as originality, elaborative power, independence in judgement and fluency of ideas. Since these abilities are considered by experts as attributes of creativeness, the teaching of art should be vigorously promoted.

Howard Conant (1963) expresses support of this view when he says

> Creativity is a quality of uniqueness originality, newness, or freshness with an individual voluntarily, perhaps intuitively, contributes to the conception and development of an idea... I see creativity as one of the fundamental in separable elements of arts.

Horn (1967) also speaking of the values of art in the education program advocated that art education should serve as a force in character building and refinement. He also believes that art education provides for emotional release as well as fostering creativity. To this end he adds:

> From the beginning of progressive education movement in the 1970s and 1980s art education assumed the role of chief advocate and promoter of creativity. In the decades that have followed, art programs, art guides, art educators and art conference have placed major emphasis on art education as a means of promoting creative attitudes in the students. The literature of art education has been profound in its endorsement of creativity as a paramount virtue, acentral goal of the program of art education.

The opinions expressed above goes to show that art education is a major promoter of creativity. Linderman (1964) supports this assertion, saying:

> The picture of the artist or creative person developed thus far is that of one who creates out of a vast wealth of knowledge.

Hardiman and Zernich (1981) also see art as a catalyst in bringing about creativity. In their views -

> ... Art is an open ended experience which provides frequent opportunities for imaginative and highly idiosyncratic expressions. Research supports the notion that open-ended activities are conductive to creative behaviours, particularly activities that value in conventional responses or risk-taking with low penalities for failure.

All the views/opinions quoted so far clearly supports the fact that art activities and experiences make very significant contributions to the development of any educational system.

2.9 Creativity And Intelligence

Because of the high value placed on both creativity and intelligence people tend to associate one with the other; creativity however may in a number of instances not have much to do with intelligence. For example, a study carried out by Getzels and Jackson and reported by Vernon (1962) shows that students cannot be judged on the basis of intelligence tests alone. After contrasting the students that scored high in IQ (but low in creativity tests) with the students that scored high on creativity test (but low on IQ) they came to the conclusion that traditional methods of measuring intelligence had adverse effect on many of the students with very creative abilities.

Furthermore they found out that not only are intelligence tests biased against creative individuals, teachers often prefer to have pupils with high IQ in their classes rather than high creatives. Their study also indicates that high IQ students and high creatives as a group are superior to other students in school achievements. However, while the high IQ students seek for their teachers' approval, the high creatives tend to be more independent.

Wallach and Kogan (1965; 1966) characterises

creativity as independent of intelligence even though there is some measure of postive relationship between them. According to them, students that are high in creativity and intelligence are usually successful in their academic persuit, and possess unusual problem solving skills. In their opinion, students who are high creatives but of average intelligence face a lot of problems in their schools. Such students are often alienated from their peers and their classroom performance is consequently affected.

In support of Wallach and Kogan Torrance (1962) working with children of various levels of ability in public schools it was discovered that we miss about 70% of creative youth when we depend sorely on intelligence tests as a means of measuring abilities, since persons below 1Q 120 can also be high creatives. Torrance also agreed with Getzels and Jacksons' finding about the attributes of teachers to high 1Q students and high creatives.

Guilford was one of the first workers to raise questions about the orthodox system of measuring intelligence through 1Q test batteries. These are held to be biased against creativity. In his address to the American psychological Association (A.P.S) in 1950, he advocated a re-definition of intelligence so as to include creative behaviours. Using his factor analysis, he isolated 120 separate

measurable qualities of creativity among which the existing intelligence tests are able to measure only a few. He sought to prove that intelligence tests only measure convergent qualities, which are responses already known, specified with logical reasoning towards a single right answer. On the other hand, creative qualities are much more divergent such as originality of thoughts, fluency of ideas, flexibility of the mind, and the ability to elaborate and redefine. In his opinion creative abilities have wider measurable qualities than intelligence.

The creativity versus intelligence question is still a crucial one in most educational systems including ours in Nigeria. The present researcher is aware of the prevalent tendency for people to rate intelligence (as measured by the traditional IQ methods) higher than creativeness. For example, school teachers tend to still favour the so-called intelligent students than they do the creative students.

Within the society itself, intelligence is also prized higher than creativity, without consideration being given to the fact that one cannot be effectively creative without a certain amount of general intelligence. Vernon's report on

Getzels and Jackson's findings goes a long way to explain why methods of measuring intelligence are given much more consideration than those of creativity.

2.10 Previous Attempts At Measuring Artistic Creativity

The earliest attempts at assessing art achievements were made in the guise of the measurement of abilities. Examples of such tests are: Test for Fundamental Ability of Visual Art by Lowenmenz (1927) which is on subjects of perception and art history, Grave's Design Judgement Test (1948), Knaubers' Art Ability test (1935) and Meirs Art Judgement test (1940). These tests were used for the purpose of determining aesthetic sensitivity or 'good taste' and also for predicting students' success in art courses.

The earliest attempt to measure capacity of creative and inventive thinking is outlined in Whipple's famous mannual (1915). It set out to measure the following

a) Differences in the fertility of visual imagination by means of ink drops.

b) Linguistic invention - in which a number of

words are presented to be joined into sentences.

c) Word complextion - a paragraphy is presented with deleted words for the subjects to fill in the missing words.

d) Tabular Analysis - a subject is given a table and then asked to interprete its meaning.

e) Uncontrolled associations - a subject is required to produce words as rapidly as possible to stimulus words by continous association method.

f) Kent-Rosenoft test - Quick association to each of 100 words with scoring on the basis of commonality of associations.

However, there were problems then that hindered the production of Art test materials. Raph Hoepfner (1984) outlined several problems that hinder the production of Art tests materials as follows.

1. Art has not enjoyed reserved space in the curriculum of the public schools because few schools teach art, there was therefore no large market for art achievement tests.

2. Art Educators do not agree on uniform curriculum content and sequence, therefore a test linked to any one curriculum no matter how loosely is likely to be rejected

by posponement of other cirriculum.

3. Good tests for many domains of art achievements are expensive to print and score. The position exist because of the high quality production and moreover if the scoring involves judgement or content analysis of the responses, the more it will take specially trained personnel which are also difficult to come by.

Meirs Art Tests (1940)

Test I - Art Judgement Test - The Test consists of 100 plates of paired black and white pictures which are similar except that there may be a slight change in design and composition in altering some areas of perspective and picture content. The examinee is then expected to select the better of the two pictures.

Test II - Aesthetic Perception - Consists of 50 items mostly examples of paintings, sculpture design and abstract composition. Each item is presented in 4 versions varying in some artistic dimension. The subject is then expected to rank them according to their aesthetic preference 1st, 2nd, 3rd and 4th. He is also expected to select the one among the four which is the original work of Art, and to indicate the aspects in which the copies differ from the original.

Reliability and Application - There is bound to be a problem if this test is applied on Nigerian student. It may not be possible for our students to identify such works if they have not been given enough training in appreciating art works of famous artists. There is a possibility that most of the Art teachers in most of the secondary schools cannot appreciate Art themselves how much more of teaching the students to do it. If it becomes necessary to use Art pieces, indigenous African Art works could be used. Even then only few schools could be considered good enough, and such schools are either the ones in which Art is offered up to certificate level or the ones which have well trained Art teachers.

Meirs test measure aesthetic judgement and good organization of Art works. Its reliability usually ranges from 0.70 to 0.84.

Knoubers Art Ability Test (1935)

Various assigned drawing tasks are used including problem solving in shading, perpectives and composition. His art vocabulary tests uses many items that are of little value today. He used many difficult words which are not easy for the students to comprehend. By today's standards the test which

is supposed to be mannal does not provide an adequate array of specification regarding reliability and validity of the instruments used because their content visually and verbally are out of date.

Grave Design Test (1948)

The items used in the test are abstracted and non representational art materials or products. The objects used are usually paired with a difference in the aspect of design e.g. balance proportion, shading and the subject is required to tell which of the aspects the pair is different. The test only measures the subjects power of observation.

Thomas (1965) identified four major shortcomings of the early art tests as follows:

1. They were able to measure only a few of the complex factors that constituted art abilities.
2. They are largely based upon the assumption that there is a single 'correct' criterion of good art.
3. They failed to distinguish adequately among abilities to judge, to appreciate, and to create.

4. They fail to account adequately for the creativity components of art ability.

2.11 Recent Attempts at Measuring Creativity

Earlier attempts at measuring creativity in Nigeria are very few. Kellaghan's (1967) colour-form test was aimed at finding the effect of environmental supports on learning among some selected Nigerian and European children in Oyo State. This findings reveal that the westernized Nigerians in Oyo State show good facility with colour and form concepts. He attributed this findings to the subjects contact with two cultures i.e. the form dominant European culture and colour dominant culture of subjects from Oyo State. The findings from Kellaghan's research is however of limited value because while the instrument is used for form and colour, it is intended for purposes other than measuring students' attitudes towards visual art.

Another researcher Forshaw (1976) administered a colour preference test on 100 mature female of Home Economics at the Advanced Teachers' College, Zaria. The test reveals that the students have colour preference in the following order: blue, red, green, violet, orange, and yellow. Similarly, Eikenberry (1977) administered another colour

preference of the colour as: blue, red, green, violet, orange and yellow; a result which has the outcome of Forshaw's study. While one cannot quarrel with the overall usefulness of Forshaw and Eikenberry's studies yet the instruments used were not able to measure knowledge and attributes towards visual art.

Abiola (1965) reports the results of a study on Nigerian childrens' pictorial representation of objects of their environment. The test instrument used was mainly drawing exercises classified into four sections: perceptual identity; perceptual configuration; perceptual organisation; and perceptual set. The results obtained showed that there is an improvement in the development of childrens' pictorial representation of objects in Africa as compared to Europe. The research reveals that such a developmental trend was hidden in Africa because of absence of good training and inadequate exposure to pictorial representation of objects. However there was no specification from the study as to what aspects of the developmental trend are due to perceptual conceptualization and what part is due to years of exposure to both the right type of stimulation and the right type of training.

Generally the tests instruments used in past

researches tended to measure one or just a few of the complex factors which constitutes art abilities - neither was any proof on the reliability and validity of the test instruments used.

Olorukooba (1981) criticised these attempts and identified four shortcomings of the tests. The first was the fact that the characteristics previously measured were few - (a wider variety could have been used). The second shortcoming had to do with the common assumption of a single criterion for identifying good art. Olorukooba maintains that a good art work does not need to have any standardized set of characteristic measurements. The third shortcoming of past art studies relate to the inability to distinguish between art criticism and the creation of art works. In other words, it is not everybody who can judge an art piece that is capable of producing an art piece himself.

Olorukooba's Zaria Test of Artistic Creative abilities (ZAATA) is therefore designed to measure some abilities which were previously ignored and neglected. There include:

(1) Making provision for measuring a greater variety of factors that composed Art products and art abilities.

(2) Attempting to distinguish more adequately the abilities involved if creativity is to be fully measured.

(3) Incorperation of norms which were adaptable to different schools of thought and philosophies.

The primary objective of ZAATA was to serve as a battery of Artistic Ability Test which may be used with other cognitive tests in assessing and determining aesthetic sensitivity and good taste. It is also intended to serve in predicting students success in Art courses and possible future careers in Art.

The Test Consist of Five Subscales

a) The construction problem Test which is supposed to measure the student's ability to follow directions and manipulation of skills.

b) Creative Design Test measuring the student's ability to imagine, his originality in thinking and also a fine sense of discrimination.

c) The student's ability for having insight and making choice in being measured by perspective drawing.

d) Art appreciation - measures the student analytical power and critical judgement.

e) Art History - measures recognition of facts and forms previously studied, especially on Nigerian Art.

Chapter 3

DESIGN OF THE STUDY

3.1 Selection Of Samples

All the post primary schools selected and sampled for this study are within Gongola State. They were chosen because they all offer art as a subject in their school curriculum. The researcher had originally intended to use only schools within the Yola metropolis - Yola being the state capital. However, in the final sampling only two schools were sampled in Yola and an additional eight more schools were sampled from eight different local government areas.

The variables used by the researcher to restrict the types of schools sampled are:

a) Age of school - long established schools were favoured for sampling.

b) Whether or not art is taught in the school; and if there exist a qualified art teacher.

c) The situation of the school in the state and within the local government area.

All the schools sampled are within local government centres.

In all 389 students were sampled for the study. See Table 1.

3.2 Distribution of Schools and the Subjects of the Study

The researcher obtained information from the state Ministry of Education on the number of schools in the state that offer art as a teaching subject. The number sampled is shown in table 2. Tables 3, 4 and 5 show the distribution of students tested according to sex differences, age grouping and school type.

Table 1: Schools sampled showing age of school, teachers'qualifications and Availability of Art Materials

School	Local Government Area	Year of Establishment	Teachers' Qualification	Availability of Material	Students Tested
T.C.Numan	NUMAN	1937	N.C.E.	None	43
G.G.S.S.Yola	YOLA	1964	Dip.Fine Arts	None	32
T.C. Song	SONG	1974	N.C.E.	None	38
G.S.S. Song	GANYE	1958	N.C.E.	Little	48
T.C. Yola	YOLA	1970	B.A. Fine Arts	Available	51
G.S.S. Guyuk	GUYUK	1980	N.C.E.	None	20
T.C. Jada	JADA	1974	N.C.E.	Available	51
G.S.S. Uba	UBA	1977	N.C.E.	None	30
T.C. Jalingo	JALINGO	1974	N.C.E.	None	27
T.C. Mubi	MUBI	1950	B.A.Fine Arts	Available	49
					389

Table 2: Schools Sampled with the Number of Student Showing Males and Females

Code	Name of School	No rightly answered papers	Male	Female
1	T.C. Numan	43	15	28
2	G.S.S. Yola	32	0	32
3	T.C. Song	38	25	23
4	G.S. Sugu	48	29	19
5	T.C. Yola	51	16	35
6	G.S.S. Guyuk	20	10	10
7	T.C. Jada	51	37	14
8	G.S.S. Uba	30	16	14
9	T.C. Jalingo	27	20	7
10	T.C. Mubi	49	25	14
		389	203	186

Table 3: Frequency Distribution of Students by Gender Categories

Code	Sex	Count	Percentage
1	Male	203	52.19
2	Female	186	47.81
	Ave	389	100

Table 4: Frequency Distribution of Students by Age Groupings

Code	Age	Count	Percentage
1	10 - 19 years	298	76.60
2	20 - 29 years	87	22.37
3	29 yrs above	4	1.03
	Ave.	389	100

Table 5: Frequency Distribution of Students by School Type

Code	Type of School	Count	Percentage
1	Teachers College	259	66.58
2	Secondary School	130	33.42
	Average	389	100

Out of the total of 389 students sampled 203 (about 52.19%) are male, 186 (47.81%) are female. The bulk of the students population fall into 15-19 age group (accounting for 76.6%), about 22.37% fall within the 20-29 years and only 1% is in the 30 + age group. Considering the distribution of students by school type (shown in table 5) these fall into two categories: Teachers' College (T.C.) and Secondary School (SS). The population from T.Cs is

larger because out of the 10 schools sampled six are T.C. while four are secondary schools, see table 2).

3.3 The Instrument of the Test

The researcher made use of the instrument of the "Zaria Test of Artistic Creative Abilities" (ZAATA) a standardized test designed by Olorukooba (1981).

3.4 Design of the "ZAATA"

The Zaria Test of Artistic Creative abilities (ZAATA) consists of five sections of Artistic activities and problems, lettered A - E as follows:-

Section A Construction problem
Section B Creative Design
Section C General Drawing
Section D Appreciation Test in painting
Section E Art History/Art Appreciation

The first three sections which are practical activities are designed to test any artistic creative ability a student may posses. Originality is a major factor that can be tested in all the three practical activities A, B, and C. Because of this the test instrument emphasises the fact that in each case the student should interprete his or her own problem in a way that "no one else will think

of". This serves as a clear indicator that each student should be original in his interpretation.

Flexibility is another factor which is also important for the students in interpreting their practical activities. In the construction problem, for example, the student can exhibit his flexibility of mind by using as many techniques as possible from a given number of techniques which are listed as a guide for the student. Also, the student can exhibit his flexibility of mind in creative design by using any type of interesting shape, geometric or abstract as a motif for the design work.

The construction problem is set up especially to test a student's manipulative power as well as his ability to elaborate. Students are expected to construct objects free standing or in spaces out of a piece of cardboard paper given to them. Moreover, creative design requires the student to exhibit his originality, imagination as well as discriminatory ability in appreciation of what is beautiful especially in design work.

In all, the practical activities, a student is expected to be able to follow directions especially the direction that tell how to interprete each activity as they are clearly stated in each of the question papers. On the other hand, the last two

sections are more or less appreciation test in Art. Section D particularly is set to test a student's memory of his Art lessons on colour classification, composition and properties. The section also tests ability in painting composition and the methods of approach in painting. Section E however is supposed to test students' general knowledge on Nigerian Art from North to the South without discrimination.

The more comprehensive description of the test instruments concerning the scoring methods and more detailed interpretation can be found in the 'Users Manual' obtainable from the author, Bashir Kolawole Olorukooba of Fine Arts Department, Ahmadu Bello University, Zaria.

According to the manual, any student scoring 75% and above is an exceptionally creative student; between 65-74% represents a comparatively high level of artistic creativity; between 50-64 represent an average creativity level, between 40-49% shows a low creativity level, and between 0-39 shows a poor creativity level.

3.5 Reliability and Validity

The validity and reliability of the Zaria Test

of artistic creative ability have been substantively established. Olorukooba (1981) identified shortcomings in the early tests of creative abilities, and has taken more adequate measures to establish the validity and reliability of this particular Test of Artistic Creative Ability (ZAATA). The measures he took were:

a) provision to measure a greater variety of factors that compose art products and art abilities.

b) he made attempts to distinguish more adequately among the abilities involved.

c) test norms which were adaptable to different schools of thought or philosophies of art were incorporated.

Moreover co-efficient alpha which gives a reasonable clear-cut idea of the way all items hang together was used and the co-efficient alpha was found to be 0.677.

3.6 Administration Of The 'ZAATA'

The test was administered personally by the researcher and three other assistants between 10th April and 30th May 1988. In each of the schools sampled the art teacher (or teachers) assisted the

group in the administration of the test. This consisted in helping to give art materials such razor blades, knives, colours, pencils, rulers and other materials that were used for the execution of the test. To ensure understanding of the test paper, the researcher reads aloud the explanations preceeding each section, and tried to clarify any difficulty the students may encounter understanding the interpretation of the test itself. Opportunity was then given for any relevant questions from the students on the test procedure. Time limit for each section was given and the students were asked to proceed. The students were continually reminded of the time after every five minutes. After the time limit for each section, the work was collected from the students even though work was completed or not.

Chapter 4

TREATMENT OF DATA

4.1 Introduction

This study has set out to measure the Artistic Creative Abilities of students from selected post primary institutions in Gongola State. The test instrument used is the standardized instrument of the Zaria Test of Artistic Creative Abilities 'ZAATA' explained in Chapter 3. The procedures adapted in collecting the study data has also been discussed in the previous chapter. Facts about the number of students tested in each of the schools sampled; the breakdown of the population of tested students by gender (males and females) is also provided in chapter 3.

The input into the computer for analysis provides for eight different variables which are to be tested. Table 6 shows the variables and their description.

4.2 Comparison Of Performances Using the Mean and The Standard Deviation

The mean and standard deviation of the perfor-

Table 6: Variables and their Description

Code	Variable	Description
1	Gender	Male/Female
2	Age	Category 1 15-19 years
		Category 2 20-29 years
		Category 3 30 years and above
3	School type	Type 1 - Teachers Colleges
		Type 2 - Secondary Schools
4	Scale A	Construction Problem
5	Scale B	Creative Design
6	Scale C	General Drawing
7	Scale D	Appreciation Test in painting
8	Scale E	Art History/Art Appreciation

mances of all the students are computed in all the test scales A, B, C, D and E. Their performances using the variables gender, age grouping and type of school are also compared. With the use of Kruskal Wallis one way statistical test the significances of differences in the performances of all the students is also calculated to see what differences may exist in the performance of the students using Gender categories, age groupings and school type.

4.3 Mean Performances By Gender Categories

In table 7, the mean performance of all the students in all the five test scale shows that the students perform better in scale A (construction design) with a mean performance of 46.57 for the males and 48.48 for the females. The general performance of the students tend to get lower down the test scales. The only exception is in scale C where the mean score for the males is lower than their mean score in scale D. The lowest means score recorded by the males and females respectively is in scale E. (Art History/Art Appreciation). The general performance raises two possibilities - (a) that the construction problem is easier to handle or (b) that the test became tougher down the scales.

Taking into account each scale and comparing the performances of each group within the scale, there is evidence to show that the mean scores of the female group is higher than the male groups in scale A, B, and E, whereas the males mean score is higher in scale C. In scale D there is no significant difference in the mean performance of the two groups. We can then conviniently conclude that the females perform better than the males in scales A, B, and E.

The dispersion in the performance of the groups shows that the standard deviation and the co-efficient of variance (c.v) of each group in each of the scales A, B and C are comparable to each other. But in

Table 7: The Mean and Standard Deviation of Scale By Gender Categories

Test Type	Group	Mean	Std Dev.	C.V.
Scale A	Male	46.57	14.33	30.69
Construction problem	Female	48.48	15.72	32.42
Scale B	Male	40.86	13.93	34.01
Creative Design	Female	43.71	14.51	33.20
Scale C	Male	38.10	14.80	38.85
General Drawing	Female	34.95	13.44	38.45
Scale D	Male	37.56	36.84	98.08
Appreciation Test in painting	Female	37.05	16.37	44.18
Scale E	Male	30.08	12.80	80.50
Art History/Art Appreciation	Female	32.55	15.90	48.85

scales D and E the dispersion from the mean of the male students in each of the two tests are far more scattered in comparison with the female within their own groups. For example, in scale A construction

problem the standard deviation of the male group is 14.33 with co-efficient of variance (c.v) 30.69. It can be comparable to that of the females standard deviation of 15.72 and C.V. 32.42. But in scale D the male standard deviation of 36.84 and C.V. 98.08 shows that the scores are more scattered from mean because of the high co-efficient of variance than the female group in the same test with standard deviation of 16.37 and C.V. 44.18.

4.4 Mean Performances By Age Groupings

The results in table 8 is a clear indication that the mean performances is higher starting with scale A down through the scales to scale E. This is however with the exception of scale D where the mean performance is higher than that of scale C but lower in comparison to scale B. The best mean performance in the test is recorded by the first and second age group in scales A and B respectively considering their mean scores.

According to the performance recorded in the groups we can deduce that the younger students are far better than the older students in construction problem, Basic design and Art Appreciation. The only test in which the older students did better than the younger groups is the Art History/Art

Appreciation test. These conclusions could probably be explained by the following facts. Since the execution of construction problem, Basic design and Art Appreication need much imaginative power, the younger student by nature tend to be smarter than the elderly student in that respect. However the older students exhibited a more settled kind of attitude by being better than the younger groups in scale E Art History which is more or less testing memory from class teaching.

Taking a close look at the dispersion of the age groups within their groups in comparison to the others, the standard deviation and the co-efficient of variance shows that in scales A (Construction problem) B (Basic design) and C (General drawing), the dispersion of each age group around their mean is comparable to each other in each of the tests. There is none of the age groups whose scores are too far from the group mean as compared to the other. But in scale D the dispersion pattern among the first age group 15-19 years is widely spread in comparison to the dispersion among the 2nd age group 20-29 years and 3rd age group 30 years and above. The standard deviation 31.89 with C.V. variance 85.45 of the 1st group is a clear proof of the wideness in their variation. In scale E however the reverse is the case.

Table 8: Mean And Standard Deviation For Scale By Age Groupings

Test Type	Code	Age Group	Mean	Std Dev.	C.V.
Scale A	1	15-19 yrs.	47.96	15.19	31.67
Construction	2	20-29 yrs.	46.29	14.25	30.78
problem	3	30 & above	38.64	16.74	43.32
Scale B	1	15-19 yrs.	41.73	14.33	34.34
Creative	2	20-29 yrs.	44.02	14.18	32.21
Design	3	30 & above	39.71	10.05	25.31
Scale C	1	15-19 yrs.	36.71	14.83	40.40
General	2	20-29 yrs.	36.17	12.31	34.03
Drawing	3	30 & above	36.67	8.61	23.48
Scale D	1	15-19 yrs.	37.32	31.89	85.45
Appreciation Test in	2	20-29 yrs.	37.36	17.09	45.74
painting	3	30 & above	33.33	15.21	45.63
Scale E	1	15-19 yrs.	31.07	14.81	47.67
Art History/	2	20-29 yrs.	31.61	12.59	39.83
Art Appreciation	3	30 & above	37.50	22.55	60.13

On the whole the performance of age group 1 and age group 2 in scale A and B are the best performances so far as recorded in the study while the worst performance is also by the same age group in scale E.

Table 9: Mean and Standard Deviation For Scale Performance by School Type

Test Type	Group	Mean	Std. Dev.	C.V.
Scale A	Teachers College	47.84	16.13	33.72
	Sec. School	46.78	12.55	26.83
Scale B	Teachers College	45.81	13.76	30.04
	Sec. School	35.07	12.50	35.64
Scale C	Teachers College	39.56	13.28	33.57
	Sec. School	30.67	14.27	46.50
Scale D	Teachers College	38.90	16.39	42.04
	Sec. School	34.17	44.25	129.50
Scale E	Teachers College	32.61	14.94	45.81
	Sec. School	28.28	12.89	45.54

4.5 Mean Performances By School Type

Generally, the mean of the group of students in school type 1 (Teachers College) is higher in all the tests conducted. We can then deduce that in all the tests the students from teachers colleges do better than the students from secondary schools.

However, the dispersion within the group for teachers colleges is comparable to the dispersion within the secondary schools in scales A, B, C and E. The exception comes in scale D where the dispersion of students scores in secondary schools is far more spread with standard deviation 44.25 and C.V. 129.50 as compared to teacher colleges standard deviation 16.29 and C.V. 42.04.

Table 10: Test of Significance of Difference For Gender Categories

Gender	A	B	C	D	E
Mean score % for male	46.57	40.86	38.10	37.56	30.08
Mean score % for female	48.48	43.71	34.95	37.05	32.55
KW Stat.	2.61	4.69	4.33	1.06	0.83
Prob. of Sigf.	0.11	0.03	0.04	0.30	0.36
Decision of Test	NS	Sig.	Sig.	NS	NS
Overall Mean Score	47.49	42.22	36.59	37.32	31.26

In table 10 the mean scores for the males are not significantly different from that of the females mean score in each of the test A, D and E. This happens because in both sex group performance none

of their means is significantly higher than the others mean in the same tests. However in scale B the mean score for the female group is much higher than that of the males while the case for scale C is the reverse.

Comparing the mean of each group with the overall mean within the scales we can deduce that in both scales A, B and E, the means of the female group are higher than the means of the whole group in each of the tests mentioned above, while that of the males are lower than the overall mean scores in the same tests. In scale C however the male mean scores are higher than the overall mean in comparison to the females whose mean is comparatively lower. The record clearly shows that there is no difference between the mean scores of the two groups 37.56 and 37.05 respectively with the overall mean of 37.32 in scale D.

We can conviniently deduce that the female group perform better than the males in scale B, while the male group perform better in scale C with no much significant difference in their performances in scales A, D and E because of the decision levels of the probability of significance in scales B and C.

The results of the above test of significance

show a very balance sort of performance between the two sex groups. We can easily conclude that performance in these tests had no much bearing as to what sex one belongs to.

If the means of all the age groups are compared to the means of each other in all the test scales one will observe that in scale A (Construction Problem) B (Creative Design) and D (Art Appreciation) the mean of the 1st and 2nd age groups 15-19 years and 20-29 years respectively is higher than the means score of the 3rd age group 30 years above. However in scale E (Art History) the means score of

Table 11: Test Of Significance For Age Groupings

Age	A	B	C	D	E
Mean score % for age 15-19 years.	47.96	41.73	36.71	37.36	31.07
Mean score % for age 20-29 years	46.29	44.02	36.17	37.36	31.61
Mean score % for age 30 & above	38.64	39.71	36.67	33.33	37.50
KW Stat	2.45	1.80	0.04	0.48	0.92
Prob. of Significance	0.29	0.41	0.94	0.79	0.63
Decision of Test	NS	NS	NS	NS	NS
Overall Mean Score	47.49	42.22	36.59	37.32	31.26

the 3rd group is higher than the other two groups means. This simply imply that the 1st age group and the 2nd age group did better than the 3rd age group in tests A, B and D while the reverse has occured in Test E. But in test C all the three age groups means are very close together with mean 36.71, 36.17 and 36.67 respectively.

The fact that the younger group of students did better than the older group in scales A, B and D may be due to the fact that the three tests require the student to use a lot of imagination which is more present in the youngsters than the elderly. Because the answers in scale E require more of remembering lesson notes from previous lessons, the elderly with a more settled mind are shown to be better.

Despite the above results however the K.W. statistical test calculation on the probability of significance in all the test scales by age groups indicate that there is no much difference. When the mean performance of all the age groups are compared with each other within the scales, the probability of significance in each case is not less than 0.05 which is the decision level for significance.

Consequently we can say that age grouping alone is not a significant factor that can

influence the creative performance of any student. That is, to say the ability to be artistically creative is not much influenced by the age of a person.

The computation on table 12 below shows more level of significance than the other two Tables 10 and 11. In observing the school type there is a significant difference between the means of the schools in each of the test scales B,C,D and E. The mean scores for Teachers Colleges proves to be higher than that of the secondary schools with mean marks in scale B 45.81 compared to 35.07, in scale C 39.90 compared to 34.17 and scale E 32.61 compared to 28.58. This results show that the students in the Teachers Colleges did better than the ones from secondary schools in four out of the five tests conducted. The above difference exist probably because in most of the schools visited by the researcher for sampling, most of the secondary schools have no record of Art as a subject in their school or for the fact that every trained primary teacher is expected to teach art in the primary school

Table 12: Test of Significance of Difference for School Type

School Type	A	B	C	D	E
Mean score % for Teachers Colleges	47.84	45.81	39.56	38.90	32.61
Mean score % for Sec. Schools.	46.78	35.07	30.67	34.17	28.58
K.W. Stat.	0.33	52.00	52.00	20.14	7.06
Prob. of Significance	0.57	0.00	0.00	0.00	0.01
Decision of Test	NS	Sig.	Sig.	Sig.	Sig.
Overall Mean score	47.49	42.22	36.59	37.32	31.26

made it necessary for almost all teacher colleges to provide minimum facilities for Art teaching in their schools to equip the trained teachers. This is not properly met. The problem of not having enough qualified Art teachers for the state as a whole poses difficulty in the teaching of Art. Since it is through teaching of art in the schools that artistic creativity could be enhanced among the students, the secondary school students are more disadvantaged compared to the other students from teachers colleges.

4.6 Summary of Results

The results of the study reveal a general low trend in the performance of the student in all the tests administered. There is evidence to show that the whole test battery is somewhat difficult for the majority of the students tested accounting for the poor results generally. Therefore we can conclude and state that the students exhibited very low level of artistic creative abilities. There are even cases where the performances are well below expectation.

However if the 1st hypothesis that underlined the study is considered, the performances of the students in all the test scales do not vary so much

considering the variable gender categories, age groupings and school type.

With regards to Hypothesis 2 - the results show a balanced sort of performance between the two sex groups and the same result considering the age groupings. But the results however show a very significant difference in respect to school type. The teachers colleges exhibited more or less a higher level of artistic creative ability as compared to the secondary schools.

Chapter 5

5.1 SUMMARY OF THE STUDY

This study was conducted to assess the artistic creative abilities of some students from post primary institutions in Gongola State. Early in this study the researcher identified some problems that exist within the Nigerian Educational system and the society as a whole with regards to creative growth in the students. Some of the problems identified are:

1. Conforming learning attitudes in schools.
2. Lack of family encouragement.
3. General lack of interest by the students.
4. Lack of sufficient art materials and qualified art teachers.
5. General lack of art books especially those written by Nigerian authors.

Despite these problems however the researcher identified ways in which the Federal Government has been gradually introducing measures to encourage art teaching in schools. Some of such include the introduction of compulsory art education at both primary and post primary levels, and the organization of such activities like inter-school art competition and television programs on creativity.

The researcher is of the view that in order to assess the extent of success of the efforts that the government is making to promote art education, there is need for periodic assessment of students artistic creative abilities through the use of standardized tests and measurements. The instrument used for the measurement in this study is the Zaria Test of Artistic Creative Abilities, (ZAATA) designed by Olorukooba (1981). The content materials of the ZAATA are a collection of what the students should have studied in their art lessons. The test is basically divided into five sub-scales of art activities. 389 students in all were tested, their performances in all the five sub-scales (A - E) were statistically analysed. The statistical measurements used are the spearman correlation Metric and Krustal Wattis (K-W's U) test of significance. Two major hypothesis were tested upon.

Hypothesis 1

There will be no significant variation in the correlation of the mean performances of the students in all the test scales taking into account the following:

a. sex differences

b. age groups

c. school type

Hypothesis 2

That there will be no significant differences in the students' performances in all the test scales taking into account the following;

a. sex differences
b. age groups
c. school type

From the results of the study these two hypotheses were broken down and tested, each with its decision level as follows;

1. That the mean performances of the student in all the test-scales may vary in respect of sex differences. This was found not to be so.
2. That their mean performances may also vary in terms of age differences. It was found that age had no effect on the general production, since the performances in all the age groups are similar and related.
3. That the production mean performance may differ in terms of the two types of schools sampled. The result shows that there exist some differences, in this respect.
4. That there will be a significant difference in the performances. From the study this was found to be none-existent.

5. Using the same test of significance of difference, on age groups. The result showed no significant differences in respect to age groups.

6. The study proved that there exist a significant difference in performances considering the school types tested. This was so because the computation using the Kruskal Wallis test of significance, four tests out of the five conducted showed a very high level degree of significance: 0.00, 0.00, 0.00, 0.00 and 0.01 respectively.

5.2 Discussion

It has been stated earlier that this study was originally intended to be carried out only in schools within Yola town. It was thought that as the state capital, Yola would present a larger area of representation in terms of student population of schools within it. However, after a careful study of the schools within Yola town, it was discovered that only four had art included in their school curriculum. After visiting the four schools it was further discovered that only two schools have art teachers. These two schools are G.G.S.S. Yola and Teachers College Yola.

Subsequently, the researcher was forced to find out how many of the schools outside Yola had art

included in their schools curriculum. From the records of the Ministry of Education Yola, it was discovered that art teaching is not actually carried out in many schools. Even those with art teachers don't have properly equipped art rooms. Ordinary classrooms are being used for art lessons.

The reasons mentioned above somehow affected the smooth conduct of the test and to some extent the results obtained. Those problems may have been partly responsible for the low general performance of the students in the tests administered to them. It is possible that if more of qualified art teachers are provided, and if there are enough art materials for the students to use in art classes, coupled with good art rooms, then the level of art performance could have been different or perhaps better.

There is need to assess the Artistic Creative Abilities of students in Gongola State at present. This is because, the researcher found out from many of the schools visited that art is included in the school curricular and that many new art teachers who have just graduated from Advanced Teachers' Colleges have been posted to the schools. Moreover, this study should serve as a challenge to art educators to in future carry out similar tests in order to assess what progress has been made in

promoting the development of art education in schools.

The problems that exist in many of the schools visited are similar in nature to the types of problems that Talabi (1979) has discussed. He mentions so many problems which he feels act as hinderance to the effectiveness of art teaching in many African schools. In his opinion, lack of qualified art teachers, non-availability of art materials, and properly equipped art classrooms, lack of moral support from parents and lack of financial support from the education authorities all contribute to retarding the progress of art education in general.

5.3 Findings

Within the limits of this study the following findings have been made:

a) Not much attention has been given to Art teaching in many of the post primary institutions in Gongola State in the past. In many schools that the researcher visited there was evidence to show that art has been taught at one time by some very keen art teacher, but due to lack of support and encouragement from either the school or higher education authorities the teaching of art has become neglected.

b) Provision of Art teachers for the schools has been limited in the past. This may be due to the fact that very few qualified art teachers are turned out by higher institutions.

c) Schools have not been well provided with physical structural, material facilities that will help in the teaching of art.

d) In many of the schools visited, there are no special classrooms for the teaching of art. Most of the art classes conducted in ordinary classrooms are crowded with no space for good viewing.

5.4 Recommendations

Taking into consideration the findings of this study, the following recommendations could be made.

1. Provision of Art Teachers -

There is need for the state to provide more art teachers for the schools where art has been included in the school curriculum. The two Advanced Teachers Colleges at Jalingo and Hong should be utilized for the training of art teachers. The provision of qualified art teachers will ensure that there are teachers that are aware and can appreciate the behaviours associated with creative children. The negative teacher attitudes highlighted by Jackson

(1962), Torrance (1962 & 1965) and Lowenfeld (1975) could be substantially minimized.

2. Provision of Art Material And Art Rooms -

Art materials should be made available to schools. This will act as a form of encouragement for the teachers and give them the opportunity to teach more effectively. If art materials are provided for art classes, the students are bound to be more interested in art than when they are asked to provide their own materials. Rooms specially designed for teaching art should be provided in each school so that the students can move into such rooms for art lessons rather use the ordinary classroom.

3. Improvisation of Art Materials -

The teachers in the course of their training should be taught how to use local materials to produce resources needed for art teaching. For example, brushes could be made from local animal hair, foam and chewing sticks, colours could be made by mixing a type of coloured clay, crushing of leaves and flowers; charcoal could be used for drawing if pencils and crayons are difficult to comeby. If the students are fully incorporated into the production of these materials, they will become more interested in the art subject.

Stansfied (1958) supports this view when he suggests some ways in which art materials could be improvised for art lesson. In his view:

> It is excellent training for the children to make things which are of practical use; it stimulates their imagination and heightens their interest in the work they are doing.

4. Reward Creative Efforts Of Students -

Student that exhibit outstanding creative ability should be appraised by teachers. If possible, prizes should be awarded to outstanding art students at the end of each school year. Torrance (1975) found that "high level of productivity in adulthood is associated with high level of creativity at an early age." Therefore if student are encourage to be creative the most likely thing is that we will end up with highly productive adults which is a credit to any society.

5.5 Implication for Further Study

As mentioned earlier there is evidence that there is a growing recognition of art as a subject from the state government, since in many schools that were visited there are new art teachers that have just been posted. For this reason, the researcher believes that when these teachers have settled down and worked with the students for some period,

they are bound to help in raising the standard of art education in the state generally.

It is hoped that tests similar to that carried out in this study will be done in future to test the viability/success of art education. Such tests may also help to arose interest in students, and act as an encouragement for the art teachers because they will believe that their teaching subject is being given due recognition.

Appendix

Attitudes Connected With Aptitudes Being Measured in Creativity Tests

Wilson et al (1954) stated the following:

1. Fluency -
   a) World fluency in which a subject should produce words containing a specified letter or combination of letters.
2. b) Associational fluency - to produce as many words with the same meaning as a given word.
   c) Expressional fluency - produce as many phrases as words in order to express an idea.
   d) Ideational fluency - to produce ideas to fulfil certain requirements in a limited time e.g. name objects that are white, hard, edible or give various uses of a common place object like brick, or give a story plot.
2. Flexibility -
   a) Spontaneous flexibility - the ability to produce a great variety of ideas.
   b) Adaptive flexibility - being able to produce many different ways in which a particular problem could be solved e.g. the march stick problem.
3. Originality - Unusualness of responses remote

association of relationships.

4. Elaboration - a test in which the examinee is given one or two simple lines and then told to construct on this foundation a more complex object. The score is the amount of elaboration demonstrated.

Anastasi (1976) elaborated the Aptitudes Research Project (ARP) which was carried out by Guilford as an investigation of creative reasoning and problem solving. In the process of this factor analysis investigations, Guildford developed the categories of divergent and convergent thinking. He used the following as code symbols for the scoring process while implementing the southern California Test of fluency, elaboration flexibility and originality.

Anastasi (1976)

Operational

D - Divergent production

Content	Products
F - Figural	U - Units
S - Symbolic	C - Classes
M - Semantic	R - Relations
B - Behavioural	S - System
	T - Transformation
	I - Implication.

The scoring system of some of the items in the (ARP) tests using the code symbols shown were as

follows:

1. Word Fluency - (DSU) write words containing a specific letter e.g. o, a, b, etc.
2. Ideational Fluency - (DMU) Name things that belong in a given class e.g. fluids that will burn like gasoline, kerosine, alcohol etc.
3. Expressional Fluency - (DMS) Write four sentences, each word to begin with a given letter e.g. k - u - y - i. keep up your interest.
4. Associational Fluency - (DRP) Write words similar in meaning to the given word e.g. hard, difficult, solid, tough etc.
5. Alternate Uses (DMC) - List possible uses for a specified object other than its common usage e.g. newspaper (commonly used for reading).
6. Simile Interpretation (DMS) Complete in several different ways sentences that contain similes e.g. "Beauty is like the morning flower..."
7. Utility Tests - (DMU, DMC) - List as many uses as you can.

There are two scores for this particular number.

1. for the total number of response
2. for the number of shifts in use categories.

8. Plot Titles - (DMU, DMC) Write titles for a short story.

Two scores 1) - for total number of titles

2) - for the number of clever titles

9. Consequences - (DMU, DMC) List different consequences of a given hypothetical event e.g. what would be the result if people no longer needed or wanted sleep ?

Two scores 1) - number of obvious responses

2) - number of remote responses

10. Possible Jobs (DMI) - List possible jobs that might be symbolized by a given emblem e.g. a light bulb.

11. Making Objects (DFS) Draw specified objects using only a set of given figures like circles, triangles etc. Any given figure may be used repeatedly for the same object and may be changed in size, but no other figure or lines may be added.

12. Sketches (DFU) - each test page contains a set of identical figures such as circles, for the subject to make different sketches of recognizable objects as possible by elaborating on each figure.

13. Match stick problems (DFT) removing a specified number of match sticks leaving a specified number of triangles or squares.

14. Decorations (DFI) - Outline drawings of common objects are to be decorated with as many designs as possible.

These Tests were generally applicable to the high school level and above. In the Nigerian situation secondary and post secondary students could be used. The scoring system is quite labourious and time consuming and usually requires about five to six experts to be able to make any general decision.

Another set of tests adapted from the Cuilford ARP test items were the Torrance Test of creative Thinking (TTCT) whose scoring system is based on the factors identified in Guilfords research. However Torrance tried to provide models of the creative process in its natural complexity so that each test is scored in terms of two, three or the four items identified as creative traits.

His tests of creative thinking is composed of 12 tests grouped into a verbal, pictorial and auditory battery:-

1. VERBAL

Thinking creatively with words ask and guess in which the examinee is provided with an intriguing

picture and then expected to respond by:

a) Writing all the questions he would need to ask in order to find out what is happening.

b) Listing possible causes for the action depicted.

c) Listing the possible consequences of the action.

d) The examinee is given a toy (possibly unfinished) and asked ways in which the toy can be imppproved on to make it more interesting to play with.

e) Listing unusual uses of common objects.

f) Unusual question asked on a common object e.g. a question on what would happen in an improbable situation.

Scoring system - each of the activities is scored taken into consideration, the three traits of a creative person i.e. fluency, flexibility and elaboration.

2. PICTORIAL

Thinking creativity with pictures -

This test consists of only three activities:

a) Picture Construction - The examinee is expected to develop a picture from a coloured shape on a blank sheet of paper.

b) The examinee is given a sheet of paper with a few lines drawn on it and is then expected to

complete the picture out of the few lines.

c) Picture making parallel lines or circles are presented to the examinee on a card and he is then asked to make as many pictures as he can from the basic shape.

Note: The scoring is based on aspects of creativity rather than on artistic quality.

3. AUDITORY

Thinking creativity with sounds and words

(In most of the recent tests tape recorders are used).

a. Sounds and images tests - this is done using both familiar and unfamiliar sound effects as stimuli.

b. Onomotopean and Images

Using words that goes well some natural sounds that are associated with the object object or action involved. e.g. crunch, pop, etc.

Note: - that in the above test the examinee is expected to respond verbally after listening to each stimulus. He is also expected to write down what it suggests to him on paper.

Scoring - This is only for originality therefore uncommon responses receive more credit than common response.

Generally in all of Torrance battery tests, originality proved to be the most difficult trait to score. The verbal scores show high reliability than the figural scores. Speed is an integral part of performance in Torrance Tests and is a characteristic that is common with virtually all current creativity tests.

Many suggestive relationships have been found between Torrance scores with interest, attitudes and the other personality traits measured by tests, rating and other assessing procedures. However threre is little evidence to prove that there is relationship between Torrance Tests and everyday life. There is therefore need for comprehsnsive systematic valid action studies showing the relationship of these tests to measure the other intellectual traits as well as pictorial criteria.

However there is evidence to prove that there are several factors which are cognitive and evaluative aptitudes classified under reasoning which have emerged from the Guildford research of ARO. Like:-

a) Ship destination Test - which comprises of general reasoning factors and utility problem similar to those found in Arithmetic Reasoning Tests.

b) Logical Reasoning - This is composed of

syllogistic terms, pertinent question for conceptual foresight.

c) Watson-Glase Critical Thinking Appraisal - Commonly used one high school and college levels consists of 5 parts dealing with reference, recognition of assumption, deduction, interpretation and evaluation of arguments.

Furthermore Guilford (1957) suggests that there are many more relationships between creative tests and their physchological tests e.g. the verbal areas related to creative writing and the corresponding factor can play an important role in the graphic arts, music and choreography. It is therefore apparent that creative achievement whether in science, engineering, art, music or any human endeavour requires a complex pattern of aptitudes and personality traits appropriate to the particular field.

Paul Torrance (1969) on the other hand fully reported in the test that he used for measurement of divergent and creative tendencies, the tests could be administered to pre-school children up to the graduate level. Some of the items used for the tests were:-

1. Ask and guess Tests - a subject is shown a picture and then given instruction and question relating to the picture.

Younger children are expected to give their responses verbally to adults while older children and adults used to write down their responses on paper. In the written versions the following instrument can accompany the questions.

1st Task - On this page, write out all the questions you can think of about the picture on the page before this one. Ask all the question you would need to know for sure about what is happening. Do not ask questions that can be answered simply by looking at the picture. This task was designed to sense what he cannot find looking at the picture. It also encourages him to ask questions that will enable him to fill up the missing gap in his knowledge.

2nd Task - (guessing causes) In the space below list as many possibilities as you can of the action shown in the picture.

- You may use things that might have happened just before the event in the picture, or something that happened a long time ago that might have occured to you.
- Make as many guesses as you can, do not be afraid to guess.

This task reveals the subjects ability to formulate hypothesis concerning cause and effect. It also shows fluency of shifts in thinking abilities, as well as different categories of questioning. There

is a clear direction to the degree at which a response represent a mental leap or departure from the obvious and commonplace given the measure of originality, hypothesis provide one measure of ability to elaborate.

3rd Task - guessing consequences - Subjects are asked to produce unusual and provocative questions about an object like tin, cardboard box or ice. The expectation usually is for the subject to ask questions that will arouse the interest and curiosity in people concerning the object.

Many of the items in Torrance tests are similar or more or less the same as the items in the ARP, and such items include Product Improvement Test, unusual uses test just suppose test, imaginative stories test, the sound and image test, picture construction test, figure completion test and repeated closed figure test.

The observations that were made about these tests in general were that (1) Children scoring high in test of creative thinking initiated a large number of ideas, produce more original ideas, give more explanation of working of unfamiliar science toys than the less creative.

(2) Creative children produce drawings that were original, their work was characterised by humour, playfulness and relative lack of rigidity and relaxation. (3) Their performance was both referred

to as being sensitive and more independent mindedness.

Similarly among graduates Torrance found that those who achieved high scores on tests of creative thinking developed original ideas in the content area of the course and made more creative application of knowledge than the less creative.

In support of Torrance, Hasen (1965) proclaimed that more creative business education teachers ask more provocative question, more self involving question and divergent ones as compared to less creative teachers. Hansen went further to express the view that more creative teachers behave creatively in the classroom. This view was supported unanimously by Black Huns (1963), Sommers (1961) and Wallace (1964).

In another set of tests conducted by Bently (1960), he came out with the following set of correlation, co-efficient for four different measure of achievements in a graudate class of 110 students in Educational Psychology. A composite measure of creative thinking ability based on battery of Torrance Tests and Millers Analogies Tests was used.

Achievement Measure	Creativity	Millers
Recognition (Multiple choice)	0.03	0.47
Memory (completion and short answer test)	0.11	0.41
Productive thinking (creative application)	0.53	0.37
Evaluation & Judgement (Decision making)	0.38	0.27

From the correlation table it can be observed that when knowledge is obtained by authority, a measure of intelligence is a better and higher predictor of achievement. But when knowledge is obtained in a creative way through discovery or experiment, the better predictor of achievement are the measures of originality fluency and the like.

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