

ARTISTIC IMAGES AND ILLUSTRATIONS; CATALYSTS FOR IMPROVING  
COGNITIVE LEARNING AMONG AUTISTIC CHILDREN IN ENUGU

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**Abstract**

This paper is a product of a pilot study on the use of artistic images and illustrations to improve cognitive learning among autistic children. Two special schools; The Evangel Ability Motivation Institute and the Therapeutic Daycare Centre, both in Enugu were purposively selected for this experimental study. The life of autistic children is replete with behavioural abnormalities such as hallucinations, hyperactivity, screaming fits, obsessions and morbid fascinations. The features of autism overtly challenge the normal processes of learning and understanding. This paper therefore investigated artistic images and illustrations as materials for improving cognitive learning among autistic children especially in the foray of formal education. Children of the nursery and primary schools age brackets were studied. Two main instruments for data collection were developed, validated and used. They are the syllabus for pilot classes and the improvised percentage rating chart. The results show that Art can be an effective alternative tool for psychometric testing among autistic children as well a therapeutic agent for improving cognitive learning among them.

**Introduction**

Autism is a mental condition in which a person is unable to communicate or form relationship with others. Some schools of thought refer to autism as children's mental disorder affecting communication. It was so defined because autism is usually first noticed at childhood. Discoveries on Autism Spectrum Disorders (ASDs) simplify the features as portraying impaired communication and social skills. All the signs of autism are usually anti-cognitive; this explains why an autistic child may not be able to react immediately to a second stimulus unless there is an attractive way his attention is diverted from the one to which he is already obsessed. Although there are many public and private schools in Enugu with qualified teachers, very few of them are special schools for the challenged. Furthermore, many of the teachers in these schools are not specialized to cater for autistic children.

## **Background**

While there are few speculations on the causes of autism, there is also no lifelong treatment so far offered. However, special schooling, family support and special care have been proffered. According to Obani (1992) special education is very challenging because it requires funding and a lot of care. Even professionals in the field attest to the fact that the needs of special education present unusual challenges owing to the nature of materials needed which also requires a lot of capital. In Nigeria, only few individuals and corporate bodies have made concerted efforts to provide conducive learning environment and materials for the mentally challenged in particular. This accounts for why there are very few special schools in Nigeria that make provision for autistic children. On training of teachers for normal schools, we have the National Teachers Institute (NTI) Kaduna which takes responsibility for training of primary school teachers' basic qualifications. It replaced the Teacher Training Colleges of old. They train teachers who will teach in normal primary and post primary schools but there are no special teachers' school for special education. If a teacher is not trained to handle the challenges of autistic children, it becomes an uphill task for him to apply suitable pedagogy. This is because normal teaching methods may not suffice. The teacher who has not been specially trained to teach autistic children cannot grapple with the challenges. This paper therefore sought the position of art as an integral tool for improving the social restrictions that autism present. By the second half of the 19<sup>th</sup> century, illustrations for visual aid had begun to take an untoward dimension because most illustrations then portrayed artistic images of white people or foreign backgrounds. The reason was not far-fetched; the few available books then were written by white scholars. Special education was the worst-hit because as at then, it was thought that the handicapped could not attain formal education. There arose the need for indigenous illustrators and artists to wake up to the challenges of the moment. Uche Okeke and Bruce Onobrakpeya were among the earliest indigenous book illustrators to emerge; reflecting Nigerian artistic images not the foreign.

## **Statement of the Problem**

In terms of infrastructure such as modern art studios, art stores and instructional materials, the few special schools available are lagging behind. Inconsistent government funding is not helping matters too. In addition to this, most of the teachers in special schools are not formally trained for the purpose. The learning environments most times, do not suit the constantly changing demands of special children like the autistic. It is this general lackadaisical attitude towards special education that exposes the barriers challenging cognitive learning among autistic children. It is on the basis of the problems elucidated above that it became pertinent to create some balance between the use of art as visual aid and art as a subject in whose constant and dynamic exercise, cognitive learning can be improved. In doing this, two special schools; The Evangel Ability Motivation Institute and the Therapeutic Daycare Centre, both in Enugu were purposively selected for this experimental study.

### Definitions of Autism

Autism is a developmental disability significantly affecting verbal and non-verbal communication and social interaction. It also affects the cognitive power of an individual negatively. Autism is usually noticed before the age of three. In the words of Coronna, Milunsky and Tager-Flusberg (2008) some writers use the word autism when referring to the range of disorders on the autism spectrum or to the various pervasive developmental disorders. Broder (2008) defines autism as a condition in which a child is unable to relate to people and situations. A Nigerian Art Therapist Amagiya (2010) defines autism as

a severe developmental disability that generally begins at birth or within the first three years of life. It is the result of a neurological disorder that changes the way the brain functions thereby causing delays or problems in many different skills from infancy to adulthood.

According to Livingston (1998) Autism is a condition of self-absorption in which there is a retreat from reality into a private world of thought, fantasies and in extreme cases, hallucinations.

### Brief History of Autism

Long before autism was given a name, the symptoms were noticed on children in various parts of the world. This means that neural processing disorder may be as old as the beginnings. Most primitive cultures especially Africa during and after the medieval ages, abhorred children with visible traits of brain malfunction. According to Wing (1997) the *Table Talk of Martin Luther*, compiled by his note taker Mathesius, contains the story of a twelve-year-old boy who may have been severely autistic. Luther reportedly thought that the boy was a soulless mass of flesh possessed by the devil and suggested that he be suffocated for the eye sore he constituted. In the words of Munroe (2005) Luther assumed that such children were demon-possessed and should be done away with. And so did many other people in Medieval Africa and Europe.

The new Latin word **Autismus** was coined by Swiss psychiatrist Eugen Bleuler in 1910 as he was defining symptoms of Schizo Phrenia. *Autismus* was derived from the Greek word **Autos** (αὐτός, meaning self) and Eugen used it to interpret morbid self-admiration. According to Kuhu and Cahn (2004) Eugen used the morbid self-admiration interpretation while referring to the unceremonious withdrawal of the patient to his fantasies, against which any influence from outside becomes an intolerable disturbance. The word autism first took its modern sense in 1938 when Hans Asperger of the Vienna University Hospital adopted Eugen Bleuler's terminology *Autistic Psychopaths* in a lecture in Germany about child psychology. Asperger was investigating an ASD now known as Asperger syndrome (named after him), then thought to be exactly the same as autism. According to Wolff (2004) Leo Kanner of John Hopkins Hospital first used autism in its modern sense in English when he introduced the label *Early Infantile Autism* in a 1943 report of eleven children with striking behavioural similarities. Though it is not known whether Kanner derived the term independently of Asperger but the

striking qualities in the children under review were mainly “autistic loneliness” and “insistence on sameness”. According to Szatmari and Jones (2007) as late as the mid-1970s there was little evidence of a genetic role in autism, now it is thought to be one of the most heritable of all psychiatric conditions. Today, sociological and cultural aspects of autism have developed. According to Bieuer (2007) some in the community seek a cure while others believe that autism is simply another way of being.

### **Characteristics and Challenges of Autism**

Scholars have postulated many views on the features noticeable in autistic children. These features also define the challenges they face every day. Geschwind (2008) opines that the neuro-developmental disorder generally follows a steady course without remission. The characteristic challenges of autism are broadly divided into two;

#### **1. Intrinsic Challenges:**

The intrinsic characteristics of autism define the problems within. The problems associated with internal features make up the factors responsible for weak or redundant cognitive learning; they could be termed primary characteristic challenges. Some intrinsic characteristics are; *Self injury, impaired cognition, hallucinations, hyperactivity, and ritualistic behaviour.*

#### **2. Extrinsic Challenges:**

Extrinsic problems exist outside the person or persons they affect. In this context, these are external factors affecting autistic children and in turn, proffer no solution to their problems. They can also be identified as social or inter-relational challenges. Some of the extrinsic characteristics include; *poor communication, impaired social participation, poor learning environment, carelessness of parents and teachers of autistic children, impatience with autistic children etc.* According to Broder (2008)

The autistic child reacts with distress to alteration in routine or interference with activities. Rituals develop in play and there is often attachment to unusual objects or obsession with one particular idea. Behavioral activities include rocking, self-injury, screaming fits and hyperactivity.

Rapin (2008) posits that people with autism have social impairments and often lack the intuition about others that many may take for granted. The early childhood of autistic children record unusual social development, which is why they show less attention to social stimuli. According to Burgess (2006)

Children with high functioning autism suffer from more intense and frequent loneliness compared to their non-autistic peers... making and maintaining friendships often proves difficult with those with autism. For them, the quality of friendships, not the number of friends predicts how lonely they feel. Functional friendships such as resulting in invitation to events may affect the quality of life more deeply.

### **Therapeutic Impact of Art on Autistic Children**

The therapeutic impact of autistic activities on handicapped children cannot be overemphasized. According to Bentivegna (1983) art therapy can look very different when practiced by and with different individuals. It can be free-flowing or structured, interactive or individual. Many people with autism have extraordinary ability to think visually. According to Emery (2004) many can turn that ability to good use, in processing memories, recording images and visual information, expressing ideas through drawing or other artistic media. According to Wolf (1971) Though the power of art to transform human emotions was recognized early by Plato, it was not until during the 19<sup>th</sup> century that the by-products of art activities and art objects were seen as having healing potentials. Furthermore, Betty, Mark, Hilda (1972) Postulate that

Drawing provides for the retarded child possibilities to which he can measure up; a path of liberation, in spite of the definitive weakness that stands on the way of normal development. The child who is incapable of assimilating intellectual concepts retains an elementary possibility of unimpaired humanity through his art work.

Due to the pictorial impressions and rhythmic flow that attends artistic exercise, it is found useful and of healing essence to handicapped children.

### **Art as Alternative Tool for Psychometric Testing Among Autistic Children**

Psychometric testing means measurement and evaluation of intelligence. Before the advent of the 19<sup>th</sup> century, little was thought of art as a possible tool for testing the communicative powers of the mentally disturbed. Other paradigmatic innovations in use belonged to the field of the social and physical sciences. There have been many theories and scales founded for psychometric testing by psychologists like the Binet scale by Binet, Cyril Burt, the Eugenics (followers of Eugen) and the Darwinist approaches (followers of Darwin). But this paper is proffering art as an alternative test tool for measuring the IQ level of autistic children with the aim to know how to use same to increase competence. There are eight different ranges of human intelligence as developed by Horward Gardner in his book *Frames of Mind; the Theory of Multiple Intelligences*. According to Leeber (2009) Gardner proposed eight different intelligences to account for a broader range of human potential in children and adult. According to Gardner (1991)

We are all able to know the world through language, logical-mathematical analysis, spatial representation, musical thinking, the use of the body to solve problems or to make things, an understanding of other individuals and an understanding of ourselves. Where individuals differ is in the strength of their intelligences....these differences challenge an educational system that assumes that everyone can learn the same materials in the same way and that a uniform, universal measure suffices to test students' learning.

When the methods of teaching art in special education are applied, the intelligences must respond in a way to what art experiences has to offer. They are;

1. The linguistic intelligence (*word smart*)
2. The logical-mathematical intelligence (*number/reasoning smart*)
3. The spatial intelligence (*picture smart*)
4. The bodily-kinesthetic intelligence (*body smart*)
5. The musical intelligence (*music smart*)
6. The intrapersonal intelligence (*self- smart*)
7. The interpersonal intelligence (*people smart*)
8. The naturalistic intelligence (*nature smart*)

This paper explored the use of artistic images to put the eight intelligences to a test of response.

**Procedure for Pilot Study  
Percentage Distribution of Population**

Scope/Respondents	Population	Instrument for data collection	Percentage rating of population	Total percentage
Autistic children at the Therapeutic Daycare Centre and Inclusive schools, Abakpa Nike-Enugu	20 (15 boys & 5 girls)	Observation & scoring	Boys: 75 % Girls:25%	100%
Autistic children at the Evangel Motivation And Vocational Institute, Ind. Layout, Enugu	20 (15 boys & 5 girls)	Observation & scoring	Boys: 75 % Girls:25%	100%
TOTAL	40			$\frac{200}{2} = 100\%$

A pilot art class of 15 male and 5 female autistic children was set up in each of the special schools. A maximum of 20 autistic children were made to participate in the five-week experimental classes per school. Progressively, comparison was being made between the experimental groups and the control groups. Both were put under comparative observation throughout the period of the pilot study. Results collated in each school were later summed up and divided by two to get a final cumulative for reference and percentage rating.

**Instruments for Data Collection**  
**Time Table for Pilot Art Classes**

Days	WEEK I	WEEK II	WEEK III	WEEK IV
	Drawing & colouring	Collage, mosaic & bead making	Clay modeling and 2-dimensional puppet art	Teaching aid & instructional materials
MONDAYS	Exploration with lines and basic shapes such as circles, cubes, triangles, spirals, scrolls, dots etc	Collage & paper designs: test of sense of organization and its improvement. Spatial intelligence is expected to be developed here	Exploration with clay kneading, rolling, twisting & joinery. Test of knowledge of objects and figures.	Use of easels, boards, flip charts, roliographs for teaching
WEDNESDAYS	Test of sense of observation with still-life drawings of household materials like oranges, cups, boxes, chair, books or any object placed before them for drawing	Mosaic making as tool for teaching tonal gradation and colour assemblage without wet colours	Making of dots, plates and other objects with clay as shown by the researcher	Use of artistic images, shapes and objects to teach other subjects
FRIDAYS	Colouration with crayons, water colour/shading with pencils. Knowledge of suitable colours as well as observation with certain colours will be put under test here.	Bead making for utilitarian art. Building of sense of organization. Collage and mosaic approach used for elementary assemblage art	Use of papers, fabrics & beads for 2-dim.& puppet art. Collage, mosaic, drawing & colouration may be combined, though at elementary art level.	Use of images to boost memory of past experiences. Instructional materials as bearers of artistic images

**Observation and Rating Table**

The primary instrument for data collection was a non-conventional observation chart for recording responses of the autistic children to art classes. The chart represent as follows:

RATING PARAMETERS		WEEK ONE	WEEK TWO	WEEK THREE	WEEK IV	RATING	REMARKS
		Drawing & colouring	Collage, mosaic, bead making	Clay mod. 2-dim. puppet art	Teaching aid & inst. materials		
1	Acceptance/attention span					20 %	
2	Spatial intelligence (picture smart)					10 %	
3	Inter-personal or interactive intelligence (people smart)					10 %	
4s	Naturalistic intelligence (Nature smart)					10 %	
5	Intra-personal intelligence (self-smart)					10 %	
6	Kinesthetic intelligence (body smart)					10 %	

7	Musical intelligence (music smart)					10 %	
8	Logical/mathematical intelligence (number smart)					10 %	
9	Linguistic intelligence (word smart)					10 %	

100% max

### Findings and Conclusion

The paper findings are summarized thus;

1. Art is a veritable instrument for psychometric testing among autistic children. Art therapists, teachers and parents of autistic children should realise when the need for change of learning materials and methods arise.
3. It has become expedient that in managing special children, stratification or grouping of autistic children, for instance, in order of kinds of autism or gender should be given a right place of thinking.
4. Illustrative and artistic education should be updated or upgraded in its entirety. The technical materials with which these illustrations are used for teaching should be updated for easier use.
5. Monitoring and guidance should be a prime factor when teaching methods are being tested or used for autistic children.
6. To achieve good healing results, repetition is called for to encourage familiarity with given objects and their meanings. Preserving their old art works and comparing them with the recently produced ones will help in assessing level of improvement.
7. With artistic images, attention span of autistic children could become elongated. Illustrations and pictures make adaption to classes quicker.
8. Harmful and toxic art materials are not acceptable in a class of autistic children to avoid class room accident or injury.

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