



## Using Creative Art Forms in Managing Autism at Little Haven School and Evergreen Autistic Academy in Ghana

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### Abstract

*The study aims to show diverse ways of autism management in Ghana by exploring the potential benefits of using creative art forms as a therapeutic approach in special needs education with the help of assistive technology. Many individuals with autism face challenges in sensory processing. There is a growing need for effective intervention and support for people with autism in special education using creative art forms in Ghana. Creative arts such as painting, sculpture and poetry have shown promises in promoting communication, self-confidence, creativity, social interaction and emotional expression in people with autism. These art forms provide powerful tools for autistic people to interact with their friends and families around them in Ghana and the world with the help of assistive technology. The study explored the different approaches, methods and results of these interventions by using qualitative multiple case studies at Little Haven School and Evergreen Autistic Academy in Ghana. The study employed photographs, interviews and observations as research instruments. The results of this study contribute to the development of evidence-based practices which helps inform policy makers, educators, therapists and other stakeholders involved in autism support. Ultimately, the goal is to improve the well-being and quality of life of people with autism in Ghana and their families by promoting inclusive and accessible interventions that harness the power of creative art forms using assistive technology.*

**Keywords** art forms, autism, comparative analyses, creative art, special education.

### INTRODUCTION

Special education schools are dedicated educational institutions that provide adapted education and support for students with special needs, including autism (Rodriguez et al., 2012). Turnbull et al (2002) argue that these schools create inclusive environments where students receive individual attention and specialized instruction to meet their unique learning needs. Wei et al. (2014) support the idea that they provide a range of services such as speech therapy and behavioral interventions that enable students with autism to succeed academically, socially, and emotionally. In a special education school, highly trained teachers and support staff work closely with students using evidence-based strategies and accommodations to promote their growth and development (Ingersoll & Dvortcsak, 2006). These schools often have smaller class sizes, which allows for more personalized instruction and a focus on developing important life skills. At Little Haven School and Evergreen Autistic Academy, special education fosters a sense of belonging and a sense of community where students can connect with others who share similar experiences and challenges with the help of assistive technology used by students and teachers. Overall, special education in schools in Ghana plays a key role in creating a nurturing and supportive environment for



students with autism, helping them reach their full potential and succeed in their academic and personal lives.

When it comes to managing autism in special schools in Ghana, creative art forms such as poetry, painting and sculpture (clay work) can play an important role. These art forms provide a therapeutic and inclusive environment where autistic people can express themselves, develop their communication skills and improve social interaction. By comparing the effectiveness of different types of creative arts in special pedagogy, we can get an idea of their impact on the general well-being and development of autism. A comparative analysis of different creative art forms can provide valuable insights. The autism type in relation to its corresponding creative art type is also assessed. Little Haven school and Evergreen Autistic Academy often incorporates various art forms such as poetry, painting, sculpture (clay work) into their curriculum to support the development and well-being of students with autism. Comparative analysis takes into account the study of the effectiveness of each art form in promoting self-expression, fine motor skills, promoting social interaction, and general therapeutic benefits using the corresponding type of autism. By analyzing the impact of these creative arts, we can determine which activities are most effective in managing autism type in the Ghanaian context and tailor interventions accordingly using assistive technology.

The use of assistive technology is about using devices and tools to help people with disabilities overcome barriers and live more independently. Communication devices are important for individuals with speech difficulties. Augmentative and alternative communication (AAC) devices, such as speech-generating devices and communication boards, allow people to express themselves and interact with others effectively and help in managing autism. Assistive technology also extends to cognitive and learning disabilities. For example, there are apps and software that provide visual and auditory prompts, organization tools, and text-to-speech features to support individuals with attention deficit hyperactivity disorder (ADHD) or learning disabilities.

This research can contribute to ongoing efforts in special education schools in Ghana to provide holistic support and empowerment for individuals with autism. Although researchers have looked into autism and creative art form in special education, there is no comparative analysis on autism and creative art form in Ghana using assistive technology. Aboagye (2017) delved into “Autism in an Inclusive Class: A case study of how teachers manage to include pupils with autism”. This research highlighted on how teachers in Ghana gave special needs education to people with autism in an inclusive class. Obosu et al. (2013) also researched on the use of visual art forms in teaching and learning in schools for the deaf in Ghana: investigating the practice. This research centered on how different visual arts and teaching materials will aid deaf students in schools in overcoming their disability. In order to raise awareness and inspire the change, creative art form has been a powerful tool for engaging autistic children in managing autism in Ghana. Over the years creative art forms have been used as a therapeutic approach for autism management. There is still the problem and challenges of communication, social interaction and sensory processing of individuals with autism. The lack of effective and accessible assistive technology solutions hinders their ability to navigate daily life and reach their full potential. There is the need to use assistive technology in managing autism in Ghana with the help of creative art forms through the comparative analyses of the autism type and suitable creative art forms.



## LITERATURE REVIEW

The research employed Comparative Advantage Theory by Gupta (2015) which originated from economics and focuses on identifying the relative strengths and weaknesses of different units or individual to determine the most efficient allocation of resources. Suls & Wheeler (2012) opines that in comparison theory, examinations on how individuals evaluate themselves by comparing their abilities, opinions, and behaviors with the abilities, opinions, and behaviors of others. This theory suggests that people engage in social comparisons to gain self-confidence and determine their social status. In addition, Dijkstra et al. (2012) elaborates that the theory of comparative analyses suggests that individuals use two distinct cognitive processes when making comparisons: an associative process based on automatic and intuitive judgments, and an analytical process involving conscious and effort thinking. Theories of comparative analysis provide valuable tools for understanding and interpreting the differences and similarities between different fields of research. The theory adopted will serve as a model or guide for the study of managing autism in Ghana using creative art forms in the comparative analysis of suitable creative art forms and autism type with the help of assistive technology.

### Autism: Etymology and Types

#### Classic Autism (Autism Disorder)

According to Simms (2017) classical autism, also known as autistic disorder is one of the subtypes of autism spectrum disorder (ASD). It is characterized by significant impairment in social interaction, communication, and restricted and repetitive behavior. Faras et al, (2010) suggests that people with classic autism often have difficulties with social interaction and have trouble understanding and responding to social cues. They may have challenges starting and maintaining conversations, making eye contact, and understanding nonverbal communication. Communication difficulties can range from delayed speech to a complete lack of spoken language. Some people with classic autism may rely on alternative forms of communication, such as sign language or augmentative and alternative communication (AAC) devices. In addition to social and communication problems, Sinha et al. (2014) supports the view with the opinion that people with classic autism may exhibit repetitive behaviors or have limited interests. These behaviors may include repetitive movements (such as waving the arms or shaking the body), adherence to strict routines, intense focus on specific subjects or objects, and resistance to change.

It is important to note that each classically autistic person is unique and the severity of symptoms can vary. Some people may have an intellectual disability, while others may have average or above average intelligence. Early intervention, special education programs, and therapies such as applied behavior analysis (ABA) can help people with classical autism develop communication and social skills, manage challenging behaviors, and improve their overall quality of life (Frith et al., 1991).

#### Asperger's Syndrome

Asperger syndrome is a subtype of autism spectrum disorder (ASD) characterized by difficulties in social interaction and nonverbal communication, as well as repetitive patterns of behavior and interests. People with Asperger syndrome often have average or above average intelligence and may excel in certain areas of interest (Attwood, 2006). According to McPartland (2006), people with Asperger's syndrome may have difficulty with social interaction and difficulty understanding and responding to social cues. They may have difficulty starting and maintaining conversations, understanding sarcasm or figurative



language, and interpreting facial expressions or body language. However, they may have a strong desire for social connections and may work hard to learn social skills. Kiln (2003) describes that another characteristic of Asperger syndrome is repetitive behavior or intense interests. People with Asperger syndrome may have certain routines or rituals that they follow, and they may become irritable or anxious when these routines are disrupted. They may also have a keen interest in certain subjects and may spend a lot of time studying and talking about those subjects.

### **Pervasive Developmental Disorder (PDD)**

Pervasive Developmental Disorder (PDD) is used to classify children possessing all the qualities of the other three autistic types. An umbrella term used to describe a group of neurodegenerative disorders characterized by delays in social and communication skills, repetitive behaviors, and limited interests. PDD encompasses several disorders, including autism spectrum disorder (ASD), Asperger's syndrome, and childhood wasting disease (Towbin, 2005). According to Tanguay (2000), people with PDD may have difficulties with social interaction, such as difficulty understanding and responding to social cues, difficulty maintaining eye contact, and limited interest in interacting with others. Communication difficulties can manifest as delays in speech or language development, difficulty understanding and using non-verbal communication, and a tendency towards repetitive or stereotyped language patterns. Lastly Smith et al. (2000) opines that repetitive behaviors and restricted interests are common features of PDD. It may involve repetitive movements or activities, strict adherence to routines or rituals, and intense focus on specific subjects or objects. These behaviors and interests can provide comfort and predictability for people with PDD.

### **Childhood Disintegrative Disorder (CDD)**

Childhood disintegrative disorder (CDD), also known as Heller syndrome, is a rare neurodevelopmental disorder that usually affects children between the ages of 2 and 10 years. It is characterized by a significant loss of previously acquired skills in several functional areas, such as language, social skills and motor skills (Mehra et al., 2019). Charan (2012) emphasize that children with CDD usually have a normal developmental period before experiencing a decline in their abilities. Regression can be quite severe, causing the loss of previously acquired language skills, social interaction, play skills and self-help skills. This regression can occur over months or even years. Mehra et al. (2019) expresses that in addition to the loss of skills, children with CDD may have other symptoms, such as repetitive behaviors, unusual interests, and difficulties with sensory processing. They may have challenges in both verbal and non-verbal communication and may have difficulty understanding social interactions and social cues. The exact cause of CDD is unknown, but it is thought to have a neurological basis. Some researchers suggest that it may be related to abnormalities in brain structure or function. However, more research is needed to understand the causes of CDD (Hendry, 2000).

## **METHOD**

Qualitative research approach was employed in the research. Under qualitative research, case study was employed by researchers for the study. There was the need for the collection of data for the comparative analysis, with the population of study limited to the autistic children in Little Haven School and Evergreen Autistic Academy at Kumasi Metropolitan Area in Ghana. Although a feasibility study conducted by the researchers

showed that there were many special needs private and public schools in Ghana, the study narrowed its focus on two established schools in Ghana. The deployment of qualitative multiple-case study allowed the study to compare and contrast the uniqueness and diversities (Cresswell, 2014) associated with children with autism and selected creative art forms cases under investigation in managing autism in Ghana. All the sampled children were autistic with different types of autism. The study, triangulated instruments being interview, observation and photography were used in data collection and for comparative analyses.

The researchers adopted this data collection instruments as a blueprint to gather information on autistic individuals, creative art forms and assistive technology via personal interviews, photographs and participatory observation. The personal (One-on-One) interviews were conducted using unstructured interview guide which was validated through pre-testing on other teachers in special needs education not part of the original sample. Photographs of each of the phases of activities in creative art forms in autism management using assistive technology were taken to give descriptive and interpretative documentation.

Participatory observations of the various activities of creative art forms using assistive technology were observed and an informed consent form was filled and signed by two Headmistresses of the two schools. The researchers observed as well as participated in the creative art forms in autism management using assistive technology. Little Haven School and Evergreen Autistic Academy were selected because preliminary research by the lead researcher revealed that they have the records of type of autisms and engaged in various creative art forms using assistive technology. An observation checklist was designed and validated through an expert review by two seasoned qualitative researchers whose identity wanted to remain anonymous. It was used for gathering data on the activities in creative art forms in autism management using assistive technology. The guide detailed the variables of interest and their angles of observation were the key element in comparing the autism type and the corresponding creative art forms using assistive technology.

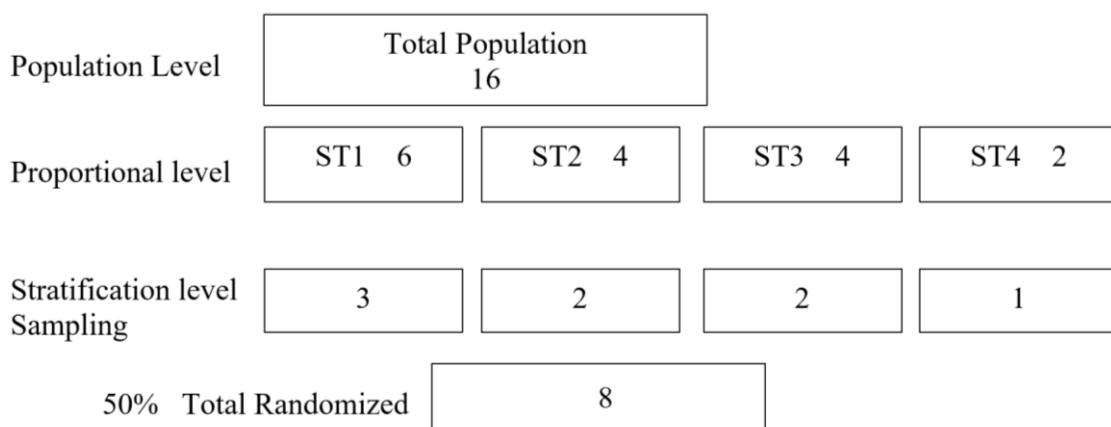
The use of multiple data collection instruments (triangulation) enhanced the originality and trustworthiness of the findings of the study. The triangulated instruments later highlighted in the study adopted Lincoln & Guba (1985) trustworthiness and authenticity of findings. Data collected were comparatively analysed using Harvey (2000) comparative analysis. The study adopted stratified sampling for the two special needs schools.

### **Stratified Random Sampling**

Stratified Random Sampling is a sampling technique in which the population is divided into strata with similar attributes and characteristics, and then samples are collected from each group (Camstra & Kontnerus 2013).

Creswell (2014) estimated that 50% of the total population (available) to represent relevant individuals for the study was randomly selected for the study. Figure 1 shows a diagram of the stratification of the existing population into 4 strata. Out of 16, 8 were randomly included in the study. The following figure illustrates a schematic overview of the proportional stratification and sampling procedure used for a random sample of 8

### **Schematic Overview of the Proportional Stratified and Sampling Procedure**



**Figure 1:** Schematic Diagram of the Proportional Straight Sampling Design  
Source: Leedy and Omrod (2015)

### Data collection Instruments and Analysis

The data for this study were mostly collected through direct observations at the special education school department at Little Haven School and the Evergreen Academy. Data collection used personal interviews to seek information from the teachers about their autism type. These data collection tools not only allowed for the actual measurement of accuracy, but also allowed the researchers to capture any unspoken observation about the participants while conducting the study. The data collected was comparatively analysed under the results and discussions.

## RESULTS AND DISCUSSION

This section of the research discusses the results gained from the comparative analyses of all grouped autistic children in Little Haven School. The discussion is presented in themes regarding each comparative analysis of creative art forms and even the suitable corresponding autistic type.

### Comparative Analyses of Painting and Sculpture (Clay work)

#### Poetry

Autistic students at Little Haven School and Evergreen Autism Centre and Inclusive Academy were given poems to learn on their open day and in-class exercises using assistive technology where software and applications like Visual Poetry-Word Collage and communication assistive software. The communication assistive software used was Proloquo2Go, Touch Chat, and AAC Speech Buddy. These apps can help individuals with special needs communicate effectively to the audience. The Visual Poetry- Word Collage was used by Asperger's Syndrome Children in Little Haven since they responded well to the process and found keen interest in the poetry. During recitals, Visual Poetry-Word Collage was helpful for individuals with Asperger's Syndrome, as it allowed them to create visually captivating word collages using various fonts, colors and shapes.

This was a great way for individuals with Asperger's Syndrome to share their thoughts and emotions through visual media during recitals. Another application which helped students at Evergreen Autism Centre and Inclusive Academy with their poetry recitals on open day was the Proloquo2Go application. The Proloquo2Go is a fantastic communication assistive software that helps individuals with special needs communicate effectively. The Proloquo2Go software provided a customizable grid of symbols and words



that can be tapped to generate spoken messages. These were adopted by children with autism in Evergreen Autism Centre and Inclusive Academy for their poetry recitals on their open day (Figure 2).



**Figure 2:** Recital of poem by autistic child on open day

Source: Photographed by researchers (2023)

## Painting

In the comparative analyses of painting, all 8 autistic were given pictures of drawings to paint. At the end of the painting, all 2 children from Childhood Disintegrative Disorder performed well in the painting exercise illustrated in Figure 3. Three children from the Classical Autism category painted outside the objects given to them to paint and lastly three children from the Asperger's Syndrome and Pervasive Developmental Disorder category didn't attempt any painting.



**Figure 3:** Painting of house by Childhood Disintegrative Disorder Autistic Child one

Source: Photographed by researchers (2023)

## Sculpture (Clay work)

In the comparative analyses of sculpture, all 8 autistic were given clay for modelling. At the end of the modelling exercise, three children from the Asperger's Syndrome and Pervasive Developmental Disorder category who didn't attempt any painting now were partaking activity illustrated in Figure 4.



**Figure 4:** Modelling of clay by Asperger's Syndrome Autistic child two.

Source: Photographed by researchers (2023)

### Lessons Learnt From Comparative Analysis

Comparative analysis of creative art forms such as painting, sculpture and ceramics has provided fascinating insights into their effectiveness in supporting people with autism. Each art form offers unique benefits and can be tailored to the specific needs and preferences of individuals.

For example, painting provides a platform for people to express themselves in a lively interplay of colors, shapes and brush strokes. It not only improves fine motor skills and hand-eye coordination, but is also an effective means of communication and self-expression. Painting can be a therapeutic tool for autistic people, allowing them to communicate their thoughts and feelings visually and creatively. Sculpture, on the other hand, provides a hands-on experience that allows people to create three-dimensional works of art from different materials. This art form promotes spatial awareness, sensory exploration, and can promote a sense of accomplishment. Sculpture allows autistic people to have tactile and kinesthetic experiences and manipulate materials to bring their imaginations to life. This process promotes sensory integration and can be a source of joy and personal fulfillment.

As we discussed earlier, working with clay gave isolated three children from the Asperger's Syndrome and Pervasive Developmental Disorder category who didn't attempt any painting tactile and sensory experiences. Working with clay allows you to explore different textures, shapes and forms, encouraging relaxation, self-expression and fine motor skills. Clay malleability offers a therapeutic option for autism because they can shape and mold it according to their preferences and creative vision. This process can promote a sense of control and self-confidence. The effectiveness of these creative art forms in managing autism in special schools in Ghana is based on their ability to engage people in meaningful and enjoyable activities. By creating a safe and supportive environment for self-expression, communication and personal growth, these art forms contribute to the overall well-being and development of people with autism. It is important to understand that the effects of creative arts can vary from person to person, as autism is a spectrum disorder with unique characteristics and strengths. Therefore, a person-centered approach is crucial, as the form and function of art are adapted to the specific needs and interests of each person. This individualized approach ensures that creative art forms are used in a way that maximizes their therapeutic potential.

**CONCLUSION**

In summary, the use of creative art forms such as painting, sculpture and clay work shows promise in supporting people with autism. These art forms provide opportunities for self-expression, communication and personal growth while improving fine motor skills, sensory integration and overall well-being. By offering a variety of arts experiences, special education schools in Ghana can create inclusive environments that meet the unique needs and preferences of people with autism. A person-centered approach ensures that everyone can practice art forms that resonate with them, enabling a personal and meaningful experience. It is important to continue to research the effectiveness of creative art forms in autism management and to promote awareness and understanding of the benefits they provide. Through continued research, collaboration and advocacy, we can further advance the integration of creative arts into special education programs, ultimately improving the lives and development of individuals with autism.

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