

Textile Installations Inspired by Cubism

for Biodiversity Sustainability Education

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Abstract

The study aimed at producing two textile installation projects inspired by the philosophical concepts and design characteristics of the cubism art movement to educate the Ghanaian populace on biodiversity conservation. This was in response to the call for multiple perspectives on the high biodiversity depletion in the country. The qualitative studio-based approach with Aesthetico-Action Research guided the production of the projects. Views from 26 study participants at the final exhibition of the projects were analyzed qualitatively to vouch for the suitability of the textile installation projects for biodiversity conservation education. The findings revealed that the textile installations instill intrinsic and aesthetic values that are ecocentric in viewers. These values motivate them to cultivate moral considerations for protecting biodiversity. The study concludes that the Ministry of Lands and Natural Resources in Ghana must liaise with textile installations artists in Ghana to produce biodiversity conservation projects to be used for educating the general public on the need to cherish and protect the biodiversity in Ghana.

Keywords: *Biodiversity Conservation, Biodiversity Education, Cubism, Ghana, Textile Installation, Textile Art*

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Introduction

The conservation of the biodiversity resources in the environment is crucial for life sustenance (Hogan, 2012; Adom, Umachandran, Parisa, Sawicki and Sekyere, 2019). This is because of the high deteriorating rate of biodiversity globally (Schultz, 2002; IUCN, 2014). In Ghana, the main causes of biodiversity depletion include the destruction and/or modification of the habitats of the flora and fauna diversities, pollution of the forests and river bodies, irresponsible agricultural practices such as wildfires, the misapplication of chemicals to the land and crops as well as illegal operations of mining (Acheampong, Macgregor, Sloan & Sayer, 2019). This has reduced considerably, the species richness of biodiversity in Ghana with her deforestation rate pegged at 2.19% per annum, the sixth-highest in deforestation globally (Food and Agriculture Organization Ghana, 2010). Therefore, the central concern in Ghana is putting pragmatic measures in conserving these biodiversity resources with the ideals of sustainability in focus (IUCN, 2014; Adom, 2018a). A single faceted approach to biodiversity conservation has been criticized by scholars as narrowing the potentials for arresting the menace of biodiversity degradation (Sinclair, Tuke, and Opiang, 2010; Kehinde, 2013). The best approach to biodiversity conservation has been to look for strategies from a multidisciplinary approach (Wilder, O'meara, Monti, and Nabhan, 2016) to offer a pluralistic and synergistic lens (Adom, 2018b) to solving the problem of depletion of biodiversity. Thus, it is a step in the right direction to look for a viable strategy to campaign against the wanton depletion of the biodiversity resources in Ghana from the perspective of the textile art approach.

Textiles as a discipline rely on biodiversity resources in nature such as plants, animals, and synthetic fibers in producing practical and decorative objects (Arshad & Mujahid, 2011). Thus, textile experts must be concerned with developing a strategy to add their voices to the sensitization of biodiversity conservation. Textile installation holds great potential in the production of two and three-dimensional textile products that could be used for this important campaign against biodiversity degradation (Burns, 2006). This studio-based art research aimed at investigating the possibility of creating textile installation projects using the philosophical concepts of cubism, one of the most influential modern art movements in the 20th Century (Adom, 2014), to campaign against biodiversity degradation in Ghana. Its primary goal is to sensitize the general Ghanaian populace on the wanton depletion of the biological diversities.

Biodiversity Conservation: A Search for A New Approach

Biodiversity refers to the variation of life on the earth (Tackacs, 1996). The term encompasses all the variations in species and genes of biological resources and their diverse ecosystems (Science for Environment Policy, 2015). The popular and accepted definition for biodiversity is that of the Convention on Biological Diversity (CBD). The body defines biodiversity as 'the variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystem' (CBD, 1992). In simple terms, the term biodiversity refers to the varieties of plants and animals in the environment

(Adom, 2018a). On the other hand, the term conservation focuses on the judicious or sustainable use of the resources in nature for the present and future generations (Rim-Rukeh, Irehievwie, and Agbozu, 2013).

There is much concern globally about the high depleting rate of biodiversity. Thus, international bodies, treaties, and conventions have often highlighted the need for countries to find appropriate strategies in conserving the biodiversity resources in nature (IUCN, 2014; CBD, 1992). Many scholars have opined that combating the menace of biodiversity degradation is a multidisciplinary affair (Adom, 2018b; Sinclair et al, 2010). Several studies from the fields of Arts and Humanities have attempted to find solutions to the biodiversity depletion menace using traditional ecological knowledge (Adom, 2016; Soini and Dessein, 2016; Diawuo and Issifu, 2015).

Researchers in cultural anthropology have sought for answers to the biodiversity decline by looking into the pages of culture (Adom, 2016; Adom, 2017; Adom, 2018a; Ababio, 2014; Avernogbo, 2008). In Ghana, there have been few attempts in using art in suggesting ways of educating the general populace on the need to conserve the biological diversities in nature. For instance, Adom et al. (2018) suggested the use of Adinkra symbols for cultural education on the importance of sustainable conservation of biodiversity resources in nature. However, the art disciplines such as textiles can promote biodiversity conservation education using the textile installation.

Cubism Modern Art Movement as the Underlying Philosophy for the Study

Cubism is an avant-garde most influential art movement in the early 20th Century (Adom, 2014). Pablo Picasso and Georges Braque were the exponents of Cubism. The cubists decided to move away from the traditions of Western Art in search of more vibrant and expressive forms in other cultures to revitalize the artworks that are produced which they found in African Art (Janson, Davies, and Janson, 2011). Cubism had two different phases. The early phase of cubism referred to as analytical cubism was characterized by simultaneous perspectives, geometrical fractured forms, muted depthless bright colors, etc. (Menon and Bai, 2018). Artists initially engaged in simple deformation of forms, then the analysis of the form from different viewpoints before reconstructing it within a creatively built geometric framework (Einstein, 1929). The late phase of cubism, known as 'Synthetic Cubism', attempted to shift cubism from total abstraction to semi-realism by gluing printed images from the real world onto the surfaces of the canvas (Adom, 2014). Thus, synthetic cubism made artistic creations more direct, colorful, and simplified (Janson, Davies, and Janson, 2011). The skillful use of fabrics in a collage and/or assemblage technique by the cubists resonate with the field of fashion and textiles today. Menon and Bai (2018) argued that textiles and fashion were interrelated with the cubism philosophical concept. Their findings revealed that the production processes in both textiles and cubism emphasize the selection of bright and colorful fabrics in creating geometrical compositions. Though not a simple representational art movement, cubism offers a creative platform for viewers of the art forms created from it to engage in a captivating academic discussion

aimed at unraveling the philosophical interpretation. The curiosity component in the cubist style incites viewers to seek an understanding that makes it a suitable style for the creation of projects in Art that is aimed at education. Therefore in this textile installation project, the researchers wanted to represent some of the anthropogenic activities in Ghana that depletes the biodiversity resources in Ghana. These textile installation projects skillfully adapt the geometrical fractures in the analytical cubism style and the assemblage representation of forms in a multiple-colored collage technique. This would fittingly draw the curious minds of viewers into a meaningful and impactful education on biodiversity conservation. The final installation textile projects would be used by the forest reserves and wildlife sanctuaries for biodiversity conservation education.

Installation Art: Origin, Style and Exponents

Allan Kaprow in 1958 used 'Environment' to describe his room-size multimedia works. Until the term 'Installation art' became part of the language of modern art, critics selected the term and used it to describe a variety of works for two decades. The term "Environment", which was still popular, was used in the mid-1970s, while it was joined by others, like "Project Art" and simply "Temporary Art." Ultimately there was a change in terminology, but it wasn't from Environment to Installation art but, rather, from exhibition to installation. In 1971, Daniel Buren, the French conceptual installation artist wrote about the need to preserve the bond between a work of art and its production place, establishing that installation has replaced the exhibition (Tate, 2010). Developing during the 1970s, Installation is connected with Conceptual art which can be traced back to artist Marcel Duchamp (1887-1968) with his modernist ready-made urinal called 'Fountain.' Other influences of that era included the modern Dada exhibitions in Berlin and Cologne by collage artist and sculptor Kurt Schwitters (1887-1948), whose 'Merzbau' assemblage filled a whole building. Again, the Proun Room at the Berlin Railway Station in 1923, which was constructed by the Russian artist El Lissitzky (1890-1941), was perhaps the most basic ever installation (Modern, 2011)

According to Kaprow's conception, all environments could also be termed as installations, but the contrary is not true. The progression from the term "Environment" to the term "installation" was slow but sure, even the establishment of the artistic practice called Environments was very slow to become established. The word "installation" looked for its entry into universal reference books sooner than it did in the art catalog. The late 1980s experienced some artists specialized in assembling installations (Tate, 2010).

The importance of Installation art is viewer partaking, but the partaking differs greatly from one artist to another and even different work by the same artist. Giving the observer a specific task can also mean partaking. Demanding that the observer walk through space and simply confront what is there is also partaking. Objects may fall directly in the observer's path or become evident only through the assessment of space. In all the situations, the observer is vital to complete the piece; the meaning advances from the communication between the artist and the viewer (Modern, 2011).

Some of the renowned modern installation artists include The ex-Professor of Monumental Sculpture at the Dusseldorf Academy, Joseph Beuys (1921-86), who arranged and handled installations. He extensively used found objects for installations and engaged in bold lectures in art and creativity. Dedication to his work earned him a retrospective at the Guggenheim Museum in New York. Another famous installation artist is the German multi-media artist Rebecca Horn (b.1944), who is noted for her film presentation, her kinetic installations, and the Guggenheim retrospective which explored Europe in 1994. Others are the Italian Arte Povera artists Mario Merz (1925-2003), Michelangelo Pistoletto (b.1933), Jannis Kounellis (b.1936), and Gilberto Zorio (b.1944). Judy Chicago (b.1939) is a notable feminist installation artist. Her installation titled 'The Dinner Party' (1979, Elizabeth A. Sackler Center for Feminist Art, Brooklyn Museum, New York) is a classic example of her famous installations. Noted for his neon light sculpture and video installation art is Bruce Nauman (b.1941). The Frenchman, Christian Boltanski (b.1944), is also famed in his installations of photographs. The Bulgarian-French couple, Christo and Jeanne-Claude (both b.1935), are noted for their huge 'embaquetage' interventions in nature. Nevertheless, other current installation artists include the Norwegian Olafur Eliasson, who installed 'The Forked Forest Path' (1998, Towner Art Gallery, East Bourne), the Korean Nam June Paik (1932-2006) is noted for his video art installations and Do-Ho Suh's composition titled 'Some/One' which included thousands of nickel military dog tags displayed at the Serpentine Gallery in London (Modern, 2011). This study picked lessons from the choice of materials, visual elements, philosophy, and techniques these exponents of installation art are used. Moreover, the study expresses the same sentiments of installation art, which install objects in space, where space and materials become part of the art. In this respect, ideas would be developed from the existing installations. The installation targets at bringing positive social change, which is the halting of biodiversity decline in Ghana.

Materials and Methods

The study employed a studio-based research method of the qualitative research design, adapting the Aesthetico-Action research method to observe, reflect, plan, create textile art installations and interpret them using observation as a research instrument. The studio-based research method was used as the main method for the study. According to de Freitas (2002), studio-based research in art and design refers to those research projects in which creative practice plays the most important role in the cluster of research methods used. The studio-based research method is a practically oriented method which involves the artist's freedom of exploring and experimenting with materials or items to produce interesting, conceptual, and intuitive art piece. The studio-based research method was chosen for this study because the researchers aimed at producing cubist-inspired textile installation projects targeted at biodiversity conservation education. The four procedural steps in the Aesthetico-Action research cycle (Figure 1) developed by Cora Marshall (2010) were followed in the production of the textile installation projects. It is an 'action research that involves reflexive art-making, processes, and responses and requires both reflection-in-practice and reflection-on-practice' (Marshall, 2010:81).

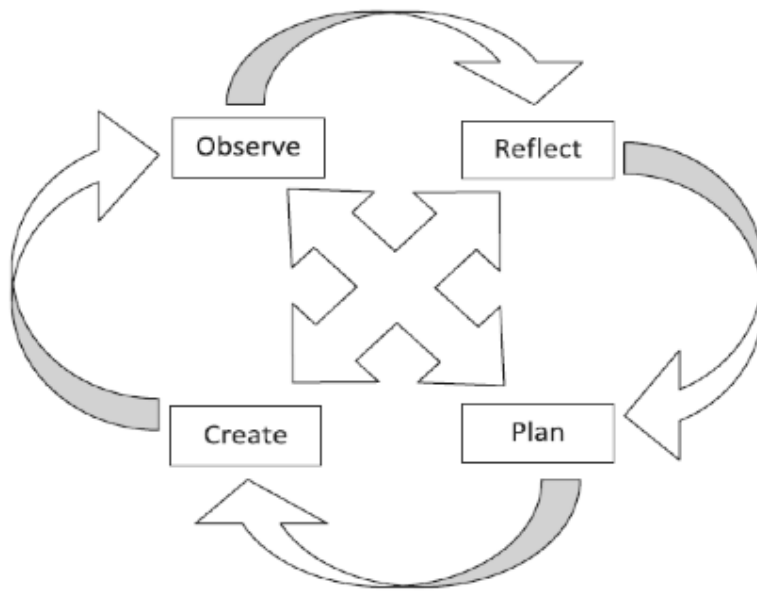


Figure 1. Aesthetico-Action Research Cycle. Source: Cora Marshall (2010).

In the *Observation* stage, we observed the possibility of creating installation projects with textile materials through careful observations of existing textile art installations. At the *Reflection* stage, we generated various ideas and possibilities of the installation with different textile materials. We also reflected on the numerous campaigns on biodiversity conservation, the prioritized anthropogenic activities by the Ministry of Lands and Natural Resources of Ghana to know the suitable themes for the installation projects. Also, deep reflections of the cubist concept as well as on the appropriate textile materials for the installation projects were contemplated. In the *Planning* stage, the creative ideas were put into fruition. Several compositions of the themes for the installation projects were made. Preliminary sketches of the thoughts on the different themes for the biodiversity conservation education, and the compositional techniques that show the cubist characteristics were made. The final sketch was selected from the different compositions through a rigorous process of selection by consultations with skilled artists in the Department of Painting and Sculpture in the Kwame Nkrumah University of Science and Technology, Ghana. The final sketch in pencil was digitally produced and corrected using the Adobe Photoshop program. In the final *Creating* stage, the procedural steps for producing the final camera-ready composition were executed as planned. That notwithstanding, new ideas that creatively portrayed the principal objective of the textile installation project were considered in the production of the final projects.

The views on the final installed textile projects were solicited through extensive on-site interview sessions with the exhibition attendants during the exhibition of the final textile installation projects at the forecourt of the College of Art and Built Environment in the Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. The views were video-recorded, transcribed, and analyzed qualitatively. The questions on the interview guide that was developed inquired from

the exhibition attendants who were recruited conveniently due to their availability and readiness (Etikan, Musa & Alkassim, 2015) to share their viewpoints on the suitability of the textile installation projects as viable tools for biodiversity conservation education. A total of twenty-six (26) exhibition participants shared their views which were analyzed qualitatively through the representations of the key ideas expressed through thick quoting to represent their voices (Le Compte & Schensul, 1996). The study participants consisted of seven (7) lecturers and seventeen (17) students in the College of Art and Built Environment in the Kwame Nkrumah University of Science and Technology, Ghana as well as two park officers at the Resource Management Support Centre of the Forestry Commission in the Ministry of Lands and Natural Resources, Ghana.

Results and Discussion

This section of the paper shows the procedural steps used for the production of the two textile installation projects were executed. Also, it presents discussions of the subjects or themes for the two textile installation projects as well as the qualitative discussion of the views expressed by the study participants after the exhibition where the two textile installation projects were mounted.

Project One: Golden Tragedy

This textile installation project is titled “The Golden Tragedy.” The demand for gold has grown due to the increase in emerging market economies (Baur and McDermott, 2010). This has led to the indiscriminate digging in search of this precious metal. People persevere to get the gold without thinking of the danger ahead. The gold rush has severe effects on the people and the biological diversities in the environment. Indiscriminate mining activities destroy the land, water bodies, animals, and plants (Akosa et al, 2002). Indigenous societies are attacked and pushed off their lands by gold-seekers. It has also attracted thousands of people from all over the world, especially Chinese nationals. Mining of gold requires hole-drilling in gold-bearing reef using a pneumatic rock drill, shovel, pickaxe, excavator, etc. The holes are filled with explosives which sometimes cause a serious accident to the miners, leading to loss of many lives and incapacitation. Illegal mining of gold popularly known as *galamsey* is carried out in some areas which are populated with biological diversities (Appiah et al, 2009). The crude method applied by the illegal miners mostly results in tragic accidents in the line of their operations. The *galamsey* activities cause environmental harm i.e., destruction of plants, animals, and polluting the water bodies with the mercury (Armah, Obiri, Yawson, Pappoe, and Akoto, 2010). Hence, this textile installation project sought to project the menace *galamsey* activities cause to the environment, thereby serving as a tool to sensitize the Ghanaian populace to desist from illegal mining operations that destroy the biodiversity in nature.

The work illustrates the activities that are carried out at illegal mining sites and the potential risks involved in such activities. Illegal miners busily washing gold and digging deep into the earth to extract the minerals have been depicted. Also, the excavators, shovels, mattocks, wheelbarrows, and other tools and materials used for illegal mining operations in Ghana are scattered in the composition. The possible dangers of illegal mining to the biodiversity, such as plants and animals

are shown, alongside the health dangers it exposes to humans. The researchers composed the scene and then used the analytical principle in cubism in breaking down the individual objects in the scenic representation into fragmented geometrical forms (Menon and Bai, 2018) to create a scene that when critically observed evokes creatively, the subject of illegal mining activities that destroy the rich biodiversity resources in nature (Figure 2). The geometrical shapes in the composition were traced and replicated on the wooden and polished cotton fabrics in various bright colors similar to the technique employed in synthetic cubism (Adom, 2014). They were carefully affixed onto the large canvas served as the support in an assemblage in a collage format (Figure 3). Deliberate silhouette and embellishments of the cotton fabric representations of each of the aspects of the composition resonate with the philosophical concepts in cubism (Janson, Davies, and Janson, 2011).



Figure 2. The Analytical Framework of the 'Golden Tragedy' Project in geometric framework.



Figure 3. Representation of the 'Golden Tragedy' of Synthetic Cubism Style. Source for Figures 2 & 3: Photographs by the researchers.

Project Two: Flora and Fauna Conservation

This project was inspired by Andre Derain's landscape painting titled 'Pinede-a-Cassis.' The images that were stylized in the work were the endangered species in Ghana such as elephants, antelope, African cat, pangolin, lions, horses, eagles, crocodiles, white neck vultures, parrots, zebra, hawks, trees, etc. After the realistic depiction of the composition, it was replicated and refined using the Adobe Photoshop program. To reproduce the composition in the analytical concept to show multiplicity views as postulated by the cubist philosophy (Einstein, 1929), the entire scene was put in grids. The scene was deconstructed and carefully reconstructed in various geometrical shapes to form an aesthetically pleasant framework (Adom, 2014). Each of the geometric shapes in the scenic representation was traced and cut out from the colorful cotton fabrics. The cut-out patterns were reinforced with Vilene and they were affixed at their appropriate spaces on the drawn composition on the canvas using fabric adhesive. The compositions of the colored cotton fabrics were made in such a way that it would reflect the diverse colored grid with monochromatic silhouettes evident in typical cubist work (Mennon and Bai, 2018).

This textile installation project was to educate the general public on the need to conserve the rich diversities of fauna and flora in the wild. It was to paint the imagery of life in the wild if we had all the now endangered species in the numerous forest reserves and wildlife sanctuaries in Ghana. Sadly, the green habitats of fauna species have been destroyed due to anthropogenic activities such as agricultural expansions, timber exploitations, mining, and other developmental projects such as the construction of roads and buildings for industries (Agyeman, Amponsah, Briamah & Lurumuah, 2012). Illegal hunting by some unscrupulous poachers has resulted in the killing of many of these endangered species. Similarly, the indiscriminate felling of trees by illegal chainsaw operators and the absence of regular afforestation projects in the patchy areas of some nature reserves in Ghana have depleted the rich flora diversities in Ghana. Therefore, the textile installation project was to educate the general populace of Ghana on the need to expunge all forms of negative activities that destroy the biodiversity in the environment.

Suitability of the Textile Installation Projects for Biodiversity Conservation Education in Ghana

A qualitative inquiry was made to find out the suitability of the two textile installation projects inspired by cubism for biodiversity sustainability education in Ghana. The researchers carried out on-site interviews among the exhibition attendees. The key ideas expressed by the twenty-six (26) total sampled study participants who attended the exhibition. Interestingly all the study participants expressed positive remarks about the potentials of using the textile installation projects for educating the general Ghanaian populace on biodiversity conservation. Some of the views also focused on the aesthetic characteristics and technical quality of the works.



Figure 4. Geometrical Framework of the 'Fauna and Flora Conservation' Textile Installation Project.



Figure 5. Representation of the 'Fauna and Flora Conservation' in Synthetic Cubism Style. Source for figures 4 & 5: Photographs by the researchers.

The rendering of the textile installation in the cubist style stimulates a great deal of thinking as you critically observe these creative pieces to be able to decipher their contents. The cubist approach to the work is very good as it encourages deep thinking that helps the viewer to ponder on thoughts of protecting nature's resources (Lecturer-4-Personal Interview, May 13, 2019).

This interesting cubist scenic composition prompts viewers to engage in a very thoughtful and intellectual discussion of the subject expressed in the work since the content is not easily recognizable at a first glance. However, I think this is a good way of motivating viewers to quietly ponder over the need to conserve biodiversity (Lecturer-1-Personal Interview, May 13, 2019).

The work is aesthetically captivating. The bright colors and their varying degrees in value, as well as the silhouette compensating neutrals, create an attraction stimulus to the work to understand the concept of nature protection (Lecturer-9-Personal Interview, May 13, 2019).

The flora and fauna conservation textile installation project put the viewer into a paradise garden full of numerous species of plants and animals that we hardly see in our environment due to their extinction. It solemnly speaks to the viewer to help bring back the splendor in nature by protecting the trees and animals in our environment (Park Officer-1-Personal Interview, May 13, 2019).

The 'Golden Tragedy' textile installation project presents the sad plight seen in areas where illegal mining (Galamsey) is carried out in Ghana. The negative implications of illegal activities in the composition that have been skillfully portrayed, such as illegal miners trapped in dug pits, the indiscriminate felling of trees, and the scraping away of the greenery as well as pollution of water bodies. It only makes the viewer meditate on the particular actions she/he must take to halt these foul activities that only bring lasting pain to humans and mother earth! (Student-14-Personal Interview, May 13, 2019).

The cubist textile installations addressing the subject makes us [viewers] to quietly ponder on the grave consequences that the activities of Galamsey operators have on the things in nature. They speak to us on the need to preserve biodiversity. I think having copies of these textile installations in each of the nature reserves in the country would cleverly educate visitors at these places to protect biodiversity (Park Officer-2-Personal Interview, May 13, 2019).

Viewed from afar, the work looks like a printed fabric or photographs. Drawing closer to it, the viewer is quickly surprised with a beautifully depicted ideal and perfect forest [flora and fauna conservation installation project] that everyone would love to visit. Engaged in this interesting forest scene, the viewer is struck with the reality that this is only a wishful scene as many of our forests. It psychologically impacts on our conscience to help protect nature (Student-7-Personal Interview, May 13, 2019).

In terms of the technical quality of the two textile installation projects, the views expressed by the study participants show that the use of the cubism technique was appropriate. They asserted that it stimulated thinking, encouraged intelligent discussion of the subjects represented in the composition, and motivates them to pursue actions that would positively inure to biodiversity conservation. This corroborates with the view of Piccolo (2017) that when intrinsic values for nature

are developed, it warrants moral consideration for nature because such values are ecocentric. In terms of function, the textile installations have the potential of nurturing social values for nature conservation in viewers while gearing them on to prevent every activity that would put the health of humans and the environment into danger (Rolston, 2006). The park officers also suggested the use of the textile installation projects as tools for education in all the nature reserves in Ghana. Aesthetically, the study participants mentioned that textile installations have attractive stimuli that make viewers develop intrinsic values, and these intrinsic aesthetic values help humans in making moral choices that favor biodiversity conservation (Brady, 2006). The findings confirm that the cubism inspired textile installation projects would aid in biodiversity conservation among the Ghanaian populace.



Figure 6. The Installation of the Cubism-Inspired Textile Projects for Biodiversity Conservation. Source: Photographed by the researchers.

Conclusion

The study has shown the possibility of developing viable textile installation projects that could be used in biodiversity conservation sensitization, campaigns, and education in Ghana. These textile installations arts when skilfully designed and produced has great potentials on nurturing aesthetic and intrinsic values for protecting biodiversity in the environment. The study tasks all textile artists to explore the use of conventional and non-conventional textile materials in producing interesting 2-D and 3-D installation projects that would aid in the education for avoiding all negative activities that destroy or reduces the numbers of rich biodiversity in the environment. The Ministry of Lands and Natural Resources via their allied agencies such as the Forestry Commission and the Environmental Protection Agency should collaborate with expert textile installation artists in Ghana to produce textile installations to be used for educating the public on the need to conserve biodiversity. These textile installation works should be mounted at various tourist sites such as nature reserves, parks, and gardens in Ghana to sensi-

tize the visitors on the benefits of protecting the biodiversity in the environment. Temporary installations of textile projects tailored for biodiversity conservation must be mounted in schools and other public squares to encourage the Ghanaian citizenry to take practical steps in protecting biodiversity and helping others to also conserve the biodiversity in the environment.

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