

Awareness Level of Environmental Aesthetics on KNUST Campus, Kumasi, Ghana: A Descriptive Account

Steve Kquofi^{1*} Reuben Glover²

1. Department of General Art Studies, Faculty of Art, UPO Box 50, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
2. Department of Publishing Studies, Faculty of Art, UPO Box 50, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

* E-mail of the corresponding author: skquofi@yahoo.co.uk /kofikquofi@gmail.com

Abstract

An interest in the aesthetics of the environment is part of a broader response to environmental problems, and creating public awareness is a pragmatic positive action towards environmental issues. The purpose of this paper is to find the level of awareness and perception of the beauty of the natural as well as the built environments of Kwame Nkrumah University of Science and Technology (KNUST) campus, Kumasi, Ghana, aimed at promoting environmental protection. The study provides a descriptive account of the awareness of environmental aesthetics through the employment of a quantitative methodology. A questionnaire was designed and distributed to students and staff as the sole data collection instrument and analysed to identify whether or not people were aware of the aesthetic aspects of the environment and whether or not this awareness could impact positively on the protection of the environment. A significant gap in the literature regarding the awareness of the nature of environmental aesthetics was identified. The criticality that such conscious awareness of the beauty of the environment is asserted, with a view towards illuminating various aesthetic elements in various environmental goods and working towards improved aesthetic natural and built environments.

Keywords: awareness, environmental aesthetics, built environment, natural environment

1. Introduction

Awareness of environmental aesthetics contributes to environmental protection and restoration of biological and ecosystem diversity through the sustainable use of natural resources and increased designation of protected areas (Tyrvaäinen et al, 2003). 'Environmental aesthetics', which is a vital that area of aesthetics that focuses on philosophical questions concerning appreciation of the world at large (Carlson, 2003; Dutton, 2005; Smout, 1991; Arriaza et al, 2004), plays significant roles in environmental protection. The world is constituted not simply by some particular objects but by environments (organic and inorganic) themselves. By extension, however, environmental aesthetics extends beyond the narrow confines of the arts and beyond the appreciation of works of art to the aesthetic appreciation of human-influenced and human-constructed as well as natural environments. On KNUST campus, the awareness and perception of environmental aesthetics is limited to only the built environment owing to ignorance and lack of interest in things of aesthetic value. The term, 'environmental aesthetics' in this paper is used to refer to both the natural and built environments and how their beauty is appreciated.

This purpose of this paper is to document research undertaken to discover the level of the awareness and perception of 'environmental aesthetics' among an elite group of people. The study focused on Kwame Nkrumah University of Science and Technology (KNUST) campus, Kumasi within one particular geographical region (Ashanti Region) of Ghana. The study identified perceptions that anticipate the need to introduce environmental aesthetics education in the educational system of Ghana. The significance of this study lies in the researcher's intention to contribute new knowledge to two significantly under-investigated areas in this field: the awareness of environmental aesthetics among the elite in Ghana; and the study of environmental aesthetics as an umbrella subject in the education system.

Environmental aesthetics provides all humans an opportunity to cover aesthetic investigation of our experience of all sorts of environments, human made as well as natural. This investigation may embody such diverse fields as city planning, landscape architecture and environmental design, and it is significant because, whether applied to natural or built environments, it directly challenges the aesthetics of the environment around us. This is imperative because an awareness of the aesthetics of the environment is part of a broader response to environmental problems... and this public awareness positively affects the overall creative and collaborative action in solving environmental issues (Carlson, 2003; Konijnendijk, 2008; Qingping, 2006).

The theory of aesthetics is deemed important by scholars in order to deepen our understanding of the relationship between nature and humans. Consequently, the term *environmental aesthetics* has been developed by Carlson (2003) as a means to merge the irrational with the rational, that is, the aesthetics of beauty with the rationality of biodiversity. Carlson (2003) and Budd (2002) posit that nature “should” be appreciated through a rational understanding of the natural environment. This position gives a firm ground to all stakeholders in environmental conservation to decide the aesthetic benefits of different biodiversities. This theory supports the position that appreciation of the natural environment should be viewed from the perspective of ecological information as regards its constituent parts (Budd, 2002). In arguments about the awareness level of environmental aesthetics, those who are ecologically literate (in a scientific sense) would be in an advantaged societal position to make aesthetic judgments about the beauty of the natural environment in relation to its protection.

Despite the intrinsic value of the aesthetic benefits of the environment, the crux of the problem lies precisely on how we should understand and appreciate the value of the natural landscape and the beautiful (Carlson, 2003; Smardon, 1988, Dutton, 2005; Smout, 1991). While this has been well documented in the environmental ethics literature over the past decade (Hettinger, 2005; Carlson, 2003; Kitchen et al, 2002; Wohlwill, 1976; Konijnendijk, 2008), what is absent is the awareness and appreciation of the aesthetic aspects of the environment by humans.

The personality of the KNUST Campus not only depends on the manifestations of its inherent environmental characteristics, but also depends on the relationships arising from the interaction of human activities within the campus. Besides the environmental characteristics, people use their senses of sight, smell, sound and touch to collect information, interact with and understand the characteristics of their surroundings. As a result of this environmental awareness and cognition, environmental project planners take other factors into consideration beyond that of visual impression. This research study addressed this in order to understand the level of awareness of in relation to the aesthetics of the environment aimed at its protection and conservation.

1.1 Dynamics of Environmental Aesthetics Identified in the Literature

The natural environment provides distinct senses of colours, shapes, textures and sounds, and these senses vary as a consequence of the change of seasons, weather, or even time of a day (Miller, 2007). Sense of beauty derived from the natural landscape is associated with each individual. Lots of empirical studies indicate that the natural landscape provides great aesthetic enjoyments to the residents (Wohlwill, 1976; Jim and Chen, 2006; Hettinger, 2005; Mobley et al, 2009). It serves as ornaments or decorations for individual tastes or public enjoyments (Smardon, 1988). Simply through visual contact with nature, individuals can obtain immense pleasure and gratification. Aesthetic enjoyment is not always limited to visual experience. Immersed in some light scent emitted from certain vegetation is also a pleasant experience. Besides, sounds from the rustling leaves and whistling wind in the green space create a sense of peacefulness (Smardon, 1988; Tyrvaˆinen et al, 2003).

Awareness of environmental aesthetics tends to seek universal laws of human evaluation of the environment (Jim and Chen, 2006) and this clearly gives a distinction between the evaluation of objects and environments which parallels the environmental perception/cognition distinction. It is obvious that whereas the general meaning of aesthetics refers to the appreciation of objects which are bounded in space, often by an actual frame or display case, the environment extends infinitely and surrounds us. As one writer points out, “One can step back from a painting. In contrast, in a landscape the viewer is involved, environed, enwrapped, and surrounded. He can go in, and is likely to experience not only the landscape but perhaps also himself in an unusual and vivid way” (Porteous, 1996).

Several arguments have been put across at the relation of beauty to environmental protection. In this view, it is deduced that if judgments of environmental beauty lack objective grounding, they would be seen to be a poor basis

for justifying environmental awareness to promote its protection. Literature indicates that if aesthetic value judgments are personal and subjective there will be no way to argue that everyone ought to learn to appreciate or regard natural beauty as worthy of preservation (Marsden, 2003). The awareness of aesthetic aspects of the environment is either thoroughly relative or much less constrained than the aesthetic appreciation of art (Chan, 2010), which is much more subjective and relative. Such relativism would seem to be problematic for those hoping to use the environmental aesthetic value as support for environmental awareness (Hettinger, 2005; Mobley et al, 2009).

This research study makes a contribution to environmental issues through the investigation of the awareness level of the aesthetic aspects as well as the social benefits of the natural landscapes within the built environment, which includes recreational opportunities, aesthetic enjoyments, adjusting psychological well-being and physical health, enhancing social ties, and providing educational opportunities in Ghana, using data extrapolated from a study of KNUST Campus. The criticality that such conscious awareness of the beauty of the environment is asserted, with a view towards illuminating various aesthetic elements in various environmental goods and working towards improved aesthetic natural and built environments.

A major gap exists in the literature regarding the awareness of the nature of environmental aesthetics was identified. None of the aforementioned studies describe this in detail, and no literature has been located describing the level of awareness and perception among the elite and the need to study environmental aesthetics as part of the school curriculum in Ghana.

1.2 Research Questions

The study addressed the following research question and sub-questions:

What is the current level of awareness of environmental aesthetics on KNUST Campus in the Ashanti Region of Ghana?

1. How do personal experiences affect the awareness of the aesthetic aspects of the natural landscape and the built environment?

2. What is the nature of environmental aesthetics on KNUST Campus in the Ashanti Region of Ghana?

2. Method

A descriptive research study employing a quantitative methodology was used to address the research questions. The questionnaire was distributed to students, academic and non-academic staff to produce data for analysis in order to describe the level of awareness of environmental aesthetics on KNUST Campus of Ashanti region of Ghana aimed at promoting environmental protection.

2.1 Questionnaire as Research Instrument

A questionnaire instrument was deemed most suitable for use in this research as the main purposes of survey research identified by Gall, Gall, & Borg (2007) – to collect data about phenomena that are not directly observable, and to collect data about observable phenomena in a convenient way – are most applicable to this study.

Strengths of survey research include the ability to sample a large number of respondents from a wide geographical area at low cost, and also within a short amount of time (Gall et al., 2007). Limitations of survey research include not being able to probe deeply, and inability to clarify meaning of questions or responses of participants (Gall et al., 2007). These strengths and limitations are relevant to this research, with the strengths contributing to the decision for use of the questionnaire instrument. Limitations were addressed through the careful construction of the questionnaire with due consideration given to these aspects.

In designing the questionnaire, questionnaire items were derived from issues identified through a close examination of the relevant literature. Each questionnaire item serves to ascertain either: demographic information about respondents; information directly linked to one or more of the issues identified in the literature; or respondents' perceptions in relation to issues identified in the literature.

The two main response formats used throughout the questionnaire instrument were: close-ended, which simplify the quantification and analysis of results and require minimal effort from respondents (Bourque & Fielder, 1995); and

open-ended, which allow the respondent to respond freely using his or her own language, and used in instances where greater detail and more options for response are desired (Bourque & Fielder, 1995).

2.2 Participants

The target population of this research study consisted of students and staff from different departments with diverse backgrounds in KNUST. A sample of this population was obtained using proportional stratified cluster random sampling. As a combination of the cluster and stratification sampling methods (Wiseman, 1999), this enabled the researcher to select departments (i.e. clusters) rather than individuals found on KNUST Campus, and ensure that a proportional amount of identifiable subgroups (i.e. strata) were included in the sample.

In this study, the identified strata are university community and transfer points. Proportional stratified cluster random sampling is sampling in which 'clusters' of participants are selected by first identifying subgroups in the population, then drawing a random sample of clusters from each of these subgroups, ensuring that the proportion of clusters in each subgroup of the sample is equal to the proportion of clusters in the entire population. The sample in this study is all selected departments, and the potential participants were all students and staff within the selected departments. Actual participants were all potential participants who returned completed questionnaires to the researcher.

In order to ensure a minimum 95% confidence that the sample is representative of the population, a table of sample sizes required for selected populations (Wiseman, 1999) was consulted to determine the required minimum sample size for the population. Based on this approach and a predicted return rate of 55%, 50 departments were selected. It was estimated that in total approximately 800 students and staff in the selected departments would be contacted. Due to the fact that the sample consists of a large number of small departments (and the smaller the department the less staff at that department), a proportionately larger number of small departments were selected in order to investigate differences in perspectives across departments of different sizes.

By the end of the data collection timeframe, 66 questionnaire instruments were returned to the investigator. This equates to a return rate of 13.2%. This being less than the estimated return rate of 55%, around which the sampling methodology was based. The author acknowledges that representativeness of the data to the target population is limited. Such limitations were primarily due to the time constraints of students and most staff. This study obtained the viewpoint of both students and staff. The questionnaire instrument utilised mainly close-ended item formats, which are restrictive and thus limit the information that is collected and subsequently analysed.

Respondents were representative of a wide range of contexts. Slightly more respondents were from large departments (40.9%) or medium departments (36.4%) compared to small departments (22.7%). This was to be expected given that smaller departments have fewer students and staff on the faculty. With regards to department size, less than half (30.3%) of respondent students and staff belong to a department of students population of 20 or less, while a large proportion (66.6%) belong to a department of students population of 50 or more. There was a reasonably even representation of participants across each category.

2.3 Procedure

2.3.1 Questionnaire distribution and collection

Initial contact was made with heads of departments in the sample to seek permission to involve students, academic and non-academic staff in this research. Once this permission was obtained, letters to the deans were distributed describing the research. In order to maximise response rates, follow-up procedures were undertaken. Approximately one week after the questionnaires were distributed to each department, the researcher phoned the heads to check whether there were any queries or concerns. This phone call also served to politely and enthusiastically remind the heads of the importance of this research.

2.3.2 Data analysis

Data were pre-coded in the questionnaire prior to distribution, with numerical codes assigned to each possible response for each variable. Data from completed and returned questionnaires was entered directly into a SPSS data set by the researcher, minimising entry errors and inconsistencies and simplifying the process of preparing data for analysis by this package.

The data set was ‘cleaned’ prior to conducting data analysis by checking for and correcting any identifiable errors in the data set through examining the distribution of each variable and detecting any out-of-range or unrealistic values, then locating the cases containing these values and checking against the original questionnaire. Descriptive analysis was conducted on the cleaned data set in SPSS. The distribution of responses on each variable was analysed and possible relationships between variables were explored.

3. Results and Discussion

The discussion has been organised into sub-sections to reflect the key issues identified in the literature. This has been done within the bounds of addressing each research sub-question.

3.1 Sub-question 1: *How do personal experiences affect the awareness of the aesthetic aspects of the natural landscape and the built environment?*

The majority of respondents were female, aged 20-55 years old, who had their pre-university and university education in Ghana

3.1.1 Students’ and staff’s personal experience in the environment and its aesthetics

39 (59.1%) respondents indicated that they have a personal interest in natural landscapes, 44 (66.7%) in only built environment, 24 (26.4%) in both natural and built environments, and 21 (31.8%) in aesthetics. Dutton (2005) asserts that aesthetic experience of this world is the subject matter of environment aesthetics. It is conceivable that lack of experience or interest in environmental goods may also present a barrier to effective appreciation and visual consciousness of the aesthetic aspects of the environment.

Participants were asked to indicate the extent of their personal experience and involvement in any environmental aesthetic education during their pre-university or university education on a scale of 1-5, with 1 representing “none” and 5 representing “great deal”. Half or more of respondents in this study indicated that the extent of their personal experience and awareness of the aesthetics of the environment was none or limited in relation to only natural landscape (30.0%), only built environment (68.1%), and aesthetics (69.7%), and close to half indicated the same for all the three categories (48.5%). Overall, respondents reported more awareness in built environment and aesthetics than in natural landscape.

This is consistent with the findings of Dutton (2005) in relation to natural landscape and Hettinger (2005) in relation to aesthetics, with Chan’s (2010) finding that only 21% of respondents felt that they experienced environmental aesthetics, and Carlson’s (2003) finding that approximately 50% of respondents were aware of their encounter with the natural landscape and the built environment, and 32% could not vividly indicate the aesthetic aspects of the natural environment.

Viewing the findings of the present study in light of Dutton’s (2005) and Hettinger’s (2005) assertion, lack of aesthetic experience may impact negatively on the awareness level and appreciation of the aesthetic aspects of both the natural and built environments.

3.1.2 Adequacy of pre-university education in aesthetic appreciation through visual art subjects

26 (39.4%) respondents indicated that they undertook no visual art subjects within their pre-university education course, while 4 (6.1%) indicated that they had undertaken one art subject, 14 (21.2%) had undertaken two art subjects, and 21 (31.8%) more than two art subjects.

Consistent with this, the results of this study indicated that the majority of respondents felt their exposure and interest in visual art subjects during their pre-university education was inadequate, while with regards to parental approval and societal recognition, a slim majority felt their aesthetic education through the visual art subjects to be ‘adequate’. Overall, respondents believed emphasis on their pre-university education to be more in science subjects than in visual art subjects. This is consistent with responses indicating that more time was allocated to science subjects than to visual art subjects.

The environmental indicators for the aesthetics of biodiversity and cultural environment are hinged on attitudes towards visual art during pre-university education, which strengthens the deep interest of individuals concerning things of aesthetic value. In Ghana, attitudes towards visual art education are not encouraging because it has never

been among developmental areas of top priority (Amenuke, 1979; Ntiforo, 1974). This has made individuals entering the profession feel undervalued among their peers undertaking the science courses. It can thus be projected that for a large percentage of students in Ghanaian pre-university education, the amount and quality of visual art education they receive is not commensurate with that of the sciences. This has had negative impact on the aesthetic skills of most people in the Ghanaian society in relation to appreciating the aesthetic aspects of the natural environment.

3.1.3 Interest in aesthetic appreciation

Beauty of the natural environment has often been viewed as a somewhat vague and subjective matter (Hettinger, 2005; Carlson, 2003; Chan, 2010). Lack of interest in appreciating the aesthetic aspects of the biodiversity in relation to cultural as well as the built environments has been identified as an offshoot of the low interest developed in pre-university visual art education in Ghana. It must be indicated that experience in elements and principles of design in visual art education helps individuals to acquire the skills aesthetic appreciation of the world around them.

Two essential indicators have been identified to impact upon most Ghanaians: background experiences in visual art prior to pre-university education in relation to environmental aesthetics; and negative attitudes towards visual art education in Ghana (Amenuke, 1979). The factors have greatly impacted Ghanaians' ability to appreciate the beauty inherent in the natural environment.

When asked what contributed to their lack of interest in aesthetic appreciation of the natural environment, 48.5% of respondents identified inadequate exposure and skill in pre-university visual art education as a contributing factor, 12.1% indicated negative attitudes towards visual art subjects, 4.5% poor guidance and counseling on importance and benefits of visual art education, 16.7% low personal interest, and 7.6% lack of trained visual art teachers at the basic level. This is consistent with the literature sourced that indicates negative attitudes towards visual art education in Ghana as one of the two main contributing factors to low interest in aesthetic appreciation of the natural environment.

The laws of nature indicate that the environment and its constituents are created things that have numerous qualities embedded in them for appreciation. Responses indicating low interest in appreciating the natural environment, however, were most prominent in relation to the beautiful built environment as well as visually appealing landscaping. This is overwhelming considering that overall respondents indicated greater love and admiration for artistic creations found in the environment. Again, this seems counterintuitive because the complex nature of the environment, however, renders it somehow difficult for one to fathom its aesthetic characteristics. Nevertheless, aesthetics abounds in every animate and inanimate objects found in our surrounding, and the natural environment is no exception.

Overall, even though the majority of respondents did not receive adequate pre-university education in visual art, which sharpens one's skills and interest in aesthetic appreciation of the natural environment, most of the respondents indicated some level of appreciation of the aesthetic aspects and benefits of the built environment as opposed to the natural biodiversity.

3.2 Sub-question 2: What is the nature of environmental aesthetics on KNUST Campus in the Ashanti Region of Ghana?

The degree of awareness of environmental aesthetics

Environmental aesthetics has been described as the appreciation of the world at large (Carlson, 2003; Marsden, 2003; Hettinger, 2005; De Groot, 1994). This world is constituted not simply by some particular objects but by environments (organic and inorganic) themselves, which reflect in the aesthetic appreciation of human-influenced and human-constructed as well as natural environments. It is noted that developing some level of knowledge in the creative or visual arts at the basic education level gives people the requisite skills to transfer the acquired knowledge into appreciating the larger world in which the natural environment is found. Hence, lacking these skills renders them to be unaware of the beauty around them.

In this study, respondents were asked to appraise the current degree of awareness of the aesthetics of the environment of KNUST Campus as either 'extremely good', 'good', 'satisfactory', 'poor' or 'no idea'. The large majority of responses representing 68% of the respondents who had some background in visual arts at the pre-tertiary level indicated 'good'. In terms of those who never had any background in visual art but have interest in aesthetically

pleasing environments, the second largest number of responses, indicated 'satisfactory' representing 25%, while those who seemed not to have any interest in environmental aesthetics stated 'no idea' representing 7%.

The study revealed that a small number of the respondents considered aesthetics as most frequently focusing on works of art and other similar objects that are explicitly desired for human sensory enjoyment, which could not embrace the natural environment. This position stemmed out of lack of exposure to activities in pre-tertiary education in visual art for those respondents. But the majority of the respondents noted that aesthetic appreciation is not limited to art but rather it concerns the world at large. Also, it was found out that the majority of respondents were aware of the socio-biological underpinnings appreciation of the environments as well as the inherent characteristics of aesthetic values grounded in the natural and built environments.

It was noted that more than three-quarters of respondents indicated that they only developed interest in aesthetic activities and products later when they got exposed to artistic activities at the university level, especially at KNUST where visual art is pursued up to a PhD level, because they had long had a wrong perception that the visual arts were a preserve for the average students who could not engage their intellectual capabilities in 'difficult' subjects like the sciences, engineering, mathematics, law, etc. (Amenuke, 1979). Unlike works of art, which visually stimulate the sensibilities of viewers, 30% of the respondents were unaware of the aesthetic aspects of the natural environment because of lack of skills in aesthetic appreciation in relation to biodiversity. Apart from the built environment, which the 80% of the respondents were quick to regard as a creative work done by man, they were also unaware it forms part of the larger environment around man.

Where respondents reported having interest in the beauty of the natural environment and were aware of its aesthetic values and physical characteristics, in the majority of cases they reported having taken some creative art courses during their pre-tertiary education making them develop deeper interest in appreciating the natural environment because the environment serves as the source of creativity to them. Eighty-five percent of these respondents consist of fine art students of the Faculty of Art in KNUST and 15% consists of students from other disciplines. It can be assumed that having a background in creative or visual art sharpens one's ability to be fully aware of the aesthetics of the environment.

Nearly 95% of respondents reported that the nature of environmental aesthetics on KNUST campus showcases social benefits of the natural landscapes within the built environment, which includes recreational opportunities, aesthetic enjoyments, adjusting psychological well-being and physical health, enhancing social ties, and providing educational opportunities. Only 4% reported that apart from the numerous trees which are biologically beneficial, the landscaping should be enhanced further. Very few respondents, representing 1%, indicated that the streams and ponds on KNUST campus should be developed for recreational purposes in order to enhance the aesthetic qualities of those biodiversities.

Respondents vividly reported that the presence of trees (as an aspect of the natural environment) on KNUST campus has multiple advantages such as economic and social in addition to environmental benefits; 80% were also aware that the natural landscape must be retained or deliberately planted in the built environment to serve renewable resource purposes. Invariably, the most obvious benefits of the natural landscape were the increase in atmospheric air quality (55.0%), the conservation of biodiversity (45%), reduction of noise pollution (15%) and a reduction in soil erosion caused by urban runoff (68.5%). Common knowledge of the benefit of natural landscape appears to be shared by all respondents, while evidence revealed that awareness of the aesthetic aspects of the natural environment seemed to be weak. Respondents were also aware that the natural landscape can increase shade, act as wind-breaks and provide several bio-physical benefits to mankind. Overall, all the respondents indicated that the natural environment can enhance our connection with ecological processes.

From the perspective of ecological impact, environmental aesthetics of the natural landscape is decidedly consumptive, in that so many people prefer to utilize the biodiversity for several activities such as picnics, parties, prayer grounds, etc. A large majority of respondents (students: 80%; teaching staff: 75%; non-teaching staff: 90%) indicated that the KNUST Botanic garden has served very useful socio-economic purposes to the university community as well as the general public due to its aesthetic values.

Half or more of the respondents indicated that in relation to beautiful landscaping, botanic gardens and trees planted as integral part of the built environment, they are able to appreciate the aesthetic values of the environment of KNUST campus, and in relation to environmental art such as sculptures and monuments as part of the built environment, more than half indicated that they were the things that made KNUST campus environment aesthetically pleasing. Overall, most of the respondents were more aware of the aesthetics of the human-constructed environment than the aesthetics of the natural environment. This is consistent with the findings indicating that respondents were most familiar and most aware of the aesthetics of human-influenced environment as compared to the aesthetics of the 'virgin' natural environment.

4. Conclusion

It has clearly emerged from the study that awareness of environmental aesthetics contribute immensely to environmental protection and restoration of biological and ecosystem diversity though the sustainable use of natural resources as well as participation in projects aimed at creating landscape gardens, public memorial gardens, forest reserves, parks, recreation grounds and botanic gardens. Also, being aware of the aesthetic benefits of the totality of the environment (both natural and built environments) promotes a sense of community by providing a convenient and attractive public place in which people can meet and share ideas as well as common goals (Konijnendijk, 2008). This confirms Carlson's (2003) and Kaplan's (1985) assumption that this practical activity can foster community spirit when environmental aesthetics is embedded in garden and tree planting projects to enhance the environment. Our data indicates relationships between aesthetics awareness of the environment and visual art education. The results support the assumption that aesthetic aspects of the environment and its appreciation as well as awareness can be enriched when one is exposed to experiences in visual art education.

The findings also show that aesthetic experiences of the environment and art, which are neither cognitive nor rational but practical and sensuous in essence, are becoming an intrinsic and necessary part of human existence. As a result, this insight of aesthetic awareness of the environment of the KNUST campus would definitely enlarge the frontiers of the world of aesthetics aimed at environmental protection. It is commonplace that environmental aesthetic that reveals historical context and serves as a platform for negotiation of pluralistic interests and perceptions in the beauty of the environment aimed at its conservation and protection would be well worth pursuing. Furthermore, strengthening the level of awareness of environmental aesthetics would complement and support valuation approaches that have the potential to capture a wider range of conservation practices that are invariably provided by all stakeholders in environmental awareness creation.

References

- Amenuke, S. K. (1979). Attitudes to Art and Art Education in Ghana. *Image. Journal of the College of Art*, Vol. 1, No. 5.: 26 - 29
- Arriaza, M., Canas-Ortega, J.F., Canas-Madueno, J.A., Ruiz-Aviles, P., (2004). Assessing the visual quality of rural landscapes. *Landscape Urban Plan*, 69, 115-125.
- Bourque, L. B., & Fielder, E. P. (1995). *How to conduct self-administered and mail surveys*. California: SAGE Publications.
- Budd, M. (2002). *The aesthetic appreciation of nature: Essays on the aesthetics of nature*. Oxford, UK: Oxford University Press.
- Carlson, A., (2003). Environmental Aesthetics. In E. Craig (Ed.), *Routledge Encyclopedia of Philosophy*. Routledge, London. <http://www.rep.routledge.com/article/MO47SECT1> [Accessed 16/07/2007].
- Chan, N.W. (2010). Impacts of human habitat development on the environment – Challenges and the way forward. *Malaysian Journal of Environment Management*. 11(2):3-20
- De Groot, R.S. (1994), "Environmental Functions and the Economic Value of Natural Ecosystems", in Jansson, A. M. Hammer, M., Folke, C. and Costanza, R. (eds.), *Investing in Natural Capital: The Ecological Economics Approach to Sustainability*", Washington, DC: Island Press, pp. 151-68.

- Dutton, D., (2005). "Let's Naturalize Aesthetics". <http://aesthetics-online.org/ideas/dutton.html>. [Accessed 16/06/2006]
- Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research an introduction* (8th ed.). USA: Pearson International.
- Hettinger, N., (2005). "*Objectivity in Environmental Aesthetics and Environmental Protection*". Charleston, USA. www.environmentalphilosophy.org/Hettinger. [Accessed 01/06/2006]
- Jim, C.Y. and Chen, W.Y. (2006), "Recreation-amenity use and contingent valuation of urban green space in Guangzhou, China", *Landscape and Urban Planning*, Vol. 75 Nos 1-2, pp. 81-96.
- Kaplan, R. (1985), "The analysis of perception via preference: a strategy for studying how the environment is experienced", *Landscape Planning*, Vol. 12 No. 2, pp. 161-76.
- Kitchen, L., P. Milbourne, T. Marsden and K. Bishop (2002) Forestry and environmental democracy: the problematic case of the south Wales valleys. *Journal of Environmental Policy and Planning* 4.2, 139–55.
- Konijnendijk, C.C. (2008). *The forest and the city: the cultural landscape of urban woodland*. Springer, Denmark.
- Marsden, T., P. Milbourne, L. Kitchen and K. Bishop (2003) Communities in nature: the construction and understanding of forest natures. *Sociologia Ruralis* 43.3, 238–56.
- Miller, R.W. (2007), *Urban Forestry: Planning and Managing Urban Green Spaces*, 2nd ed., Waveland Press, Long Grove, IL.
- Mobley, C., Vagias, W. M., & DeWard, S. L. (2009). Exploring additional determinants of environmental literature and environmental attitudes. *Environment and Behavior*, 42(4), 420-447. doi: 10.1177/0013916508325002
- Ntiforo, G. K. (1974). The Relation of Art to Society: It's Implication to Artists. *Image. Journal of the College of Art*, Vol. 1, No. 3.: 25 – 29
- Porteous, J. D. (1996). *Environmental Aesthetics: Ideas, Politics and Planning*. Routledge.
- Qinping, L. (2006). The Worldwide Significance of Chinese Aesthetics in the Twenty-First Century. *Frontiers of Philosophy in China*, Vol. 1, No. 1, pp. 33-40.
- Smardon, R.C. (1988), "Perception and aesthetics of the urban environment: review of the role of vegetation", *Landscape and Urban Planning*, Vol. 15 Nos 1-2, pp. 85-106.
- Smout, T. C., (1991). The Highlands and the Roots of Green Consciousness 1750-1990. *Proc. British Academy* 76.
- Tyrvaˆinen, L., Silvennoinen, H. and Kolehmainen, O. (2003), "Ecological and aesthetic values in urban forest management", *Urban Forestry and Urban Greening*, Vol. 1 No. 3, pp. 135-49.
- Wiseman, D. (1999). *Research strategies for education*. Scarborough: Wadsworth Publishing Company.
- Wohlwill, J. F., (1976). *Environmental Aesthetics: The Environment as a source of Affect*. In I. Altman and J. F. Wohlwill (eds.) *Human Behaviour and Environment*, Vol. 1, Plenum Press, New York.