

DIGITAL DIRECTORY OF SELECTED CONTEMPORARY GHANAIAN ARTISTS

By

JOSEPH FIIFI ESSEKU
DAE, B.Ed. (ART EDUCATION),
PGD (DISTANCE EDUCATION), PGD (GRAPHIC DESIGN)

**A Thesis submitted to the School of Graduate Studies,
Kwame Nkrumah University of Science and Technology, Kumasi
in partial fulfilment of the requirements for the degree of**

**MASTER OF PHILOSOPHY
(Art Education)**

Faculty of Fine Art, College of Art & Social Sciences

© August, 2010 Department of General Art Studies

DECLARATION

I hereby declare that this submission is my own work and that, to the best of my knowledge, it contains no material previously published by any other person nor material which have been accepted for the award of any other degree of the university, except where due acknowledgement has been made in the text.

Joseph Fiifi Esseku (20066830)
Student's Name and Index No.

..... Aug. 16, 2010
Signature **Date**

Certify by

Nana Amponsaa Opoku-Asare (Mrs)
Supervisor's Name

.....
Signature **Date**

Certify by

Dr Joe Adu-Agyem
Head of Department's Name

.....
Signature **Date**

ABSTRACT

This study adopted the experimental research method to design a digital directory of selected contemporary Ghanaian artists as a means of promoting quality teaching and learning of art within the context of general education in Ghana and also make Ghanaian art and artists accessible to students, researchers and interested others. The approach involved direct interviews with five professional Ghanaian artists and art educators and documenting their works and creative achievements on Compact Disc to facilitate self-tutoring, research and effective teaching and learning of Painting, Packaging Design, Sculpture, Ceramics and Art Education. This study is based on the fact that Computerization is today the fastest spreading phenomenon sweeping across various fields of human endeavours and also proving to be indispensable in academic pursuits. The fact also remains that accurate as well as wrong and unauthenticated information can be downloaded from the internet by those who use this medium due to their inability to gain access to current books and other appropriate study materials. Besides, books on Ghanaian art and artists are simply unavailable. This interactive audio-visual medium has been produced to support application of computer technology to effectively promote knowledge sharing between practising professional artists and student artists in Ghanaian educational institutions. This medium can supplement fieldtrips which constitute the alternative means by which staff and students in High Schools and tertiary art institutions in Ghana source first-hand information on Ghanaian art. Making professional art educators and artists such as Ablade Glover, Ato Delaquis, Kofi Broni and Kwame Amoah, for example, who are world-renowned artists but whose lives and works feature cursorily in the General Knowledge in Art textbook that Visual Arts teachers in Senior High Schools totally

depend on to satisfy the theoretical and some practical requirements of the very programme that prepares Visual Arts students for tertiary art education in Ghana. This handy CD makes it possible for Visual Arts and Art Education students and researchers to access accurate information on Ghanaian artists or referred to a web page or CD that has this sort of information for their study. This brings into focus the essence of adopting Information and Communication Technology (ICT) as a tool or means for teaching and learning of art rather than having ICT taught in isolation in Ghanaian schools, in colleges, polytechnics and universities. The outcome of the study revealed that ICT can be used for the teaching of visual art as a mode of teaching and learning than mere teaching ICT in isolation to champion the introduction of ICT in the Ghanaian educational reform. Again the study brought to the fore that Visual Arts students and instructors accept the new paradigm teaching and learning is taking but have no requisite skill and knowledge to take up this challenge. Upon the outcome of the research, the researcher recommends that The Ministry of Education and Ghana Education Service should train teachers and ICT instructors to be conversant with software development, programmers and users need to be sought for specific purposes. For example building interactive compact discs on the various topics they teach, thereby encouraging students to use the computer in their learning process.

Fiifi Esseku
August, 2010

ACKNOWLEDGMENTS

The researcher gratefully acknowledges the cooperation and assistance received from the many individuals and institutions who contributed to this research. Special recognition is given to the following:

Nana Amponsaa Opoku-Asare, Mrs, for her patience and tactful supervision of this work; the students and teachers of Winneba Senior High School, AME Zion Girls' High School, Winneba; the 2010 First Year B.Ed. Digital Art students and First Year BA Graphic Design Students of University of Education, Winneba, for willingly disrupting their studies in order to contribute to this research; Dr S. K. Amenuke, (Senior Lecturer in Art Education, KNUST), Mr Kwame Opoku-Bonsu (Lecturer in Sculpture, KNUST), Mr Benjamin Menyah (Lecturer, Painting Dept., UEW-Winneba), Mrs J. J. Stuber (Senior Lecturer, Communication Design, KNUST) and Mrs Vesta E. Adu-Gyamfi (Dean, Industrial Art/Senior Lecturer, Integrated Rural Art and Industry Dept., KNUST) who, despite their tight schedules, agreed and made time to be part of the population studied and were interviewed and also offered me advice.

I finally wish to pay special tribute to the following people whose interest in, and contribution to this project has been inspirational: Ato Kwamina, Kodwo Amissah, Dr Rudolf Steiner, Auntie Marian, Prince Asamoah a.k.a. Tompoo, Payin and Kakra, and Adjoa Kokwe.

Fiifi Esseku
August, 2010

TABLE OF CONTENTS

<i>Title</i>	<i>i</i>
<i>Declaration</i>	<i>ii</i>
<i>Abstract</i>	<i>iii</i>
<i>Acknowledgments</i>	<i>v</i>
<i>Table of Contents</i>	<i>vi</i>
<i>List of Figures</i>	<i>ix</i>

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study	1
1.2 Statement of the Problem	3
1.3 Objectives	5
1.4 Research Question	5
1.5 Delimitation	5
1.6 Definition of Terms	6
1.7 Abbreviations	10
1.8 Importance of the Study	11
1.9 Organization of the Rest of the Text	13

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1 Overview	15
2.2 Education Reform and ICT Policy in Ghana	15
2.2.1 The ICT Factor in Ghana's Education reform	19
2.3 ICT in Education	22
2.4 Digitisation	24
2.4.1 Preserving Intellectual Content	27
2.4.2 Methodologies for Digital Preservation	27
2.5 New Avenues of Collaboration	31
2.6 History of Preserving Information	33
2.6.1 Chained Books	33
2.6.2 Archives	34
2.6.3 Advantages of Digital Technology	36

2.6.4 Library	...	...	...	...	...	...	...	...	37
2.7 The Fragility of Cultural Memory in a Digital Age	...	...							37
2.8 Lost Textual Treasures	...	...	...	...	...	...	...	...	38
2.9 The Preservation of Information	...	...	...	...	...	...	...	...	40
2.9.1 A Mountain of Material	...	...	...	...	...	...	...	...	41
2.10 Preservation Options	...	...	...	...	...	...	...	...	41
2.11 Antique Books	...	...	...	...	...	...	...	...	44
2.12 Electronic Documentation of Ideas	...	...	...	...	...	...	...	...	45
2.13 The Future of Digitisation	...	...	...	...	...	...	...	...	46
2.14 Website	...	...	...	...	...	...	...	...	46
2.14.1 World Wide Web	...	...	...	...	...	...	...	...	47
2.15 Microsoft Visual Basic	...	...	...	...	...	...	...	...	48
2.16 Authoring	...	...	...	...	...	...	...	...	49
2.17 Summary	...	...	...	...	...	...	...	...	49

CHAPTER THREE: METHODOLOGY

3.1 Introduction	...	...	...	...	...	...	...	...	51
3.2 Qualitative Research Method	...	...	...	...	...	...	...	...	51
3.2.1 Advantages of Qualitative Research	...	...	...	...	...	...	...	...	52
3.2.2 Characteristics of Qualitative Research	...	...	...	...	...	...	...	...	55
3.3 Instrumentation	...	...	...	...	...	...	...	...	56
3.4 Data Collection	...	...	...	...	...	...	...	...	56
3.5 Interviews	...	...	...	...	...	...	...	...	57
3.6 Observation	...	...	...	...	...	...	...	...	58
3.7 Experimental Research	...	...	...	...	...	...	...	...	59
3.8 Population Studied	...	...	...	...	...	...	...	...	60
3.9 Designing the Digital Directory	...	...	...	...	...	...	...	...	60
3.10 Data Analysis Plan	...	...	...	...	...	...	...	...	62

CHAPTER FOUR:

PRESENTATION AND DISCUSSION OF FINDINGS

4.1	Introduction	...	...	...	...	...	...	...	63
4.2	Interactive CD Design	...	...	...	...	...	...	...	63
4.2.1	Interactive CD Design and Authoring	...	...	...	...	...	...	...	63
4.2.2	Problem Definition and Clarification	...	...	...	...	...	...	...	64
4.2.3	Programme Design and Coding	...	...	...	...	...	...	...	65
4.3	Pre-test of CD and Response of Visual Arts Teachers	...	...	...	...	...	...	...	82
4.4	The Need for the Compact Disc	...	...	...	...	...	...	...	83
4.5	Objective of the Activities	...	...	...	...	...	...	...	84
4.6	Tools	...	...	...	...	...	...	...	84
4.7	Pre-testing of Compact Disc	...	...	...	...	...	...	...	84

CHAPTER FIVE:

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1	Summary	...	...	...	...	...	...	...	91
5.2	Conclusions	...	...	...	...	...	...	...	92
5.3	Recommendations	...	...	...	...	...	...	...	94

REFERENCES	97
-------------------	-----	-----	-----	-----	-----	-----	-----	-----	----

APPENDICES	103
-------------------	-----	-----	-----	-----	-----	-----	-----	-----	-----

LIST OF FIGURES

Fig 1	Screen showing a launched Visual Basic interface...	64
Fig 2	Screen showing a form of a program ...	65
Fig 3	Screen showing Properties window ...	66
Fig 4	Screen showing the collage editing process of the background picture ...	68
Fig 5	Screen showing the finished edited background picture to the desired dimension in Adobe Photoshop ...	68
Fig 6	Screen showing Homepage in Adobe Photoshop ready to be sliced into pieces for use in Visual Basic	69
Fig 7	Screen showing Photographs of the various artists are also imported before the slicing is done and exported into VB	69
Fig 8	Screen showing the individual artist's page in Adobe Photoshop. This page as a template for other pages ...	70
Fig 9	Screen showing the artist portfolio page in Adobe Photoshop ...	70
Fig 10	Screen showing the gallery page in Adobe Photoshop ...	71
Fig 11	Screen showing the contact page in Adobe Photoshop ...	71
Fig 12	Screen showing pre loader page in Adobe Photoshop ...	72
Fig 13	Screen showing pre loader page imported into VB showing its codes ...	73
Fig 14	Screen showing the complete loader page in VB ...	73
Fig 15	Screen showing artist page imported into VB ...	74
Fig 16	Screen showing the completed gallery page in VB showing sample works ...	75
Fig 17	Screen showing the completed gallery page in VB ...	75
Fig 18	Screen showing the completed artist portfolio page in VB ...	76
Fig 19	Screen showing the completed homepage in VB ...	76
Fig 20	Screen showing a semi complete artist page in VB ...	77

Fig 21	Screen showing another semi completed artist page in VB	...	77
Fig 22	Screen showing a completed artist page running from the auto run CD	... ...	78
Fig 23	Screen showing contact page finished off in VB	... ...	78
Fig 24	Screen showing the compilation of the Programme ready to burn onto a compact disc in VB	... ...	81

CHAPTER ONE

INTRODUCTION

This chapter gives an account of what necessitated this study. It also outlines broad areas that the researcher could have also discussed. Technical terms and abbreviations used in this report have been clarified for easy understanding of the content. The importance of the study and the organization of the rest of the chapters have also been explained.

1.1 Background to the study

It is an undeniable fact that Information and Communication Technology (ICT) plays a very important role in the development of every nation these days. This is because growth is induced by the flow of information and this realization has led most economies to evolve into knowledge based ones. Developing countries have realized this and are rigorously pursuing the use of ICTs as a platform for socio-economic development. But are these countries getting it right? May be yes, maybe not. It is also true that the critical workforce of these developing countries are the youth who are graduating from the polytechnics, the universities and professional training institutions but are these graduates trained adequately to handle critical information in a knowledge based world?

The indication is that understanding technologies of the information age only as technological artefacts or machines that store information, and therefore relevant to just a group of people may not be enough. Neither can globalisation be seen simply as an extension of the national picture or confined to the "developed world" or overseas

markets for the developing economies to be brought to follow suit. It is also not just understanding of other cultures. In the words of Selwyn (1998), "it is the context in which individuals and families live". In the discussion of globalisation therefore, technology, financial structures, the environment, education, culture, society and in fact all facets of our lives are interconnected.

The implications of the emergence of this new global economy for the nature and purpose of educational institutions are therefore very serious. Thornburg (1999) as cited in Tinio (2003, p.2) states that "As the half-life of information continues to shrink and access to information continues to grow exponentially, schools cannot remain mere venues for the transmission of a prescribed set of information from teacher to student over a fixed period of time. Rather, schools must promote "learning to learn," that is, the acquisition of knowledge and skills that make it possible for one to learn over the lifetime, with very little involvement of a teacher. "Furthermore, the illiterate of the 21st century," according to futurist Alvin Toffler (1980), "will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn." These are the kinds of opportunities the new technology promises to offer. To this effect, teachers have the vital role of helping all learners to see beyond their local lives to acquire an integrated global world view.

It is an open fact that ICT collapses time; things go fast. The responsibility of the art educator is therefore how to make use of these technologies to enhance educational programmes or perhaps, to redefine art education programmes so that students can become up-to-date in the creation of art as well as the use of information rather than be obsolete and passive consumers of information technology or media.

In the field of art, there has been a rapid development of new multi-disciplinary communications technologies in recent times. Digital channels interconnect with traditional media. It is in the light of this that Thornburg (cited in Tinio, 2003, p.4) predicts that "those who can exploit both the old and the new successfully will require extensive visual, verbal and technical skills. The new communication culture will be led by artists of agility and intelligence with the expertise to respond to constantly evolving needs".

Teachers of art need to realize therefore that information technology is not only the concern of some subjects in the educational sector. In all areas of art, design, illustration, painting, sculpture, and textiles, technology is developing at great speed and very soon, without the appropriate skills in ICT, creative ideas alone will be of little value and not appreciative in its duty as a means of teaching and learning as advocated. It is essential to prompt art educators in Ghanaian Senior High Schools and tertiary institutions to define a framework for the appropriate and effective integration and use of ICT in their teaching schedules.

1.2 Statement of the problem

Computerization is today the fastest spreading phenomenon sweeping across the entire globe at an amazing speed. It has not only secured permanent places in various fields of human endeavours but is also persistently proving to be indispensable in academic pursuits.

University students in Ghana are presently beginning to accept the fact that the best as well as wrong unauthenticated information can be obtained from the Internet, considering the student's handicapped state of not being able to afford the cost of appropriate study materials at the bookshops in the country. Books on Ghanaian art and artists are simply unavailable. In particular, there are no interactive audio-visual media to support application of computer technology to effectively promote knowledge sharing between practising professional artists and student artists in Ghanaian tertiary institutions. For these reasons, fieldtrips constitute the means by which staff and students in tertiary art institutions source first-hand information on Ghanaian artists.

Professional art educators and artists such as Ablade Glover, Ato Delaquis, Kofi Broni and J. K. Amoah are world-renowned personalities whose lives and works feature cursorily in the General Knowledge in Art textbook that Visual Arts teachers in Ghanaian Senior High Schools totally depend on to satisfy the theoretical requirements of the very programme that prepares Visual Arts students for tertiary art institutions in Ghana. It is a great handicap for students of art education, artists and art educators in the nation's universities to be unable to introduce or refer someone to a web page or CD that has the information they need. It is in the direction of making the teaching of Information and Communication Technology (ICT) in Ghanaian Schools as a tool or means of teaching and learning than ICT is being taught in isolation.

This study focuses on the design of a digital directory of five selected contemporary Ghanaian artists as a complement to the General Knowledge in Art textbook to aid the teaching and learning of the topic "Contemporary Ghanaian Artists in Ghana" in

particular. Packaged as a compact disc, which is a handy medium that can be carried around, the study offers a means of raising the image of art educator in Ghana. This compact disc can be used with a personal computer at home, school, library or classroom. The rationale is to make available to teachers and students of General Knowledge in Art more up-to-date data on Ghanaian art and artists.

1.3 Objectives

1. To design interactive software, generate and upload the digital images, profile, photographs of each artist and create a gallery of the artists.
2. To transfer the software onto a compact disc for the use of Senior High and tertiary Art Education students.

1.4 Research question

1. How will a digital directory of contemporary Ghanaian artists on a CD ROM contribute to the use of ICT in the teaching/learning goal of the Senior High Schools and tertiary institution's Visual Arts programme?

1.5 Delimitation

The study is limited to documenting the lives and works of Benjamin Menyah (Painting), Mrs Vesta Elizabeth Adu-Gyamfi (Ceramics), Mrs Janet Joyce Stuber (Communication and Packaging Design), Kwame Opoku-Bonsu (Sculpture), and Dr Sylvanus Kwame Amenuke (Art Education) on Compact Disc for use as a tool for quality Visual Arts education in Ghana.

1.6 Definition of terms

To make this project understandable to users, the following technical terms are explained as follows:

Authoring: The process of creating a DVD or a CD from multimedia source materials

BASIC: Acronym for Beginners' All-purpose Symbolic Instruction Code

Central Processing Unit: A microscopic circuitry that serves as the main information processor in a computer.

Click: To tap on a mouse button, press it down and then immediately release it. Clicking is usually performed to select or deselect an item or to activate a programme or programme feature.

Code: Sometimes referred to as Script, it is a programming language which computers use for communication in terms of operation.

Communication medium: A means for recording and transporting a message or information. It is a channel or path for sending a message between communicators.

Computer: A programmable, multiuse machine that accepts data - raw facts and figures - and processes or manipulates them into information that can be used, such as summaries, totals, or reports.

Data: Distinct pieces of information, usually formatted in a special way

<i>Desktop:</i>	An on-screen work area that uses icons and menus to simulate the top of a desk.
<i>Dialogue Box:</i>	In a computer's graphical user interface, it is a box that appears on a display screen to present information or request input. Typically, dialog boxes are temporary -- they disappear once the requested information has been entered.
<i>Digital Image:</i>	An image comprising discrete units or pixels (picture elements) that a computer can interpret. Each pixel has a single bit depth and tonal value.
<i>Digital Technology:</i>	The study and development of devices that store and manipulate numbers.
<i>Disc:</i>	A round plate on which data can be encoded.
<i>Double-Click:</i>	Tapping a mouse button twice in rapid succession. The second click immediately follows the first, otherwise the programme interprets them as two separate clicks rather than one double click.
<i>Hard copy:</i>	A printout of data stored in a computer. It is considered hard because it exists physically on paper, whereas a soft copy exists only electronically.
<i>Hard disc:</i>	A magnetic disc on which computer data can be stored.
<i>Hard drive</i>	The mechanism that reads and writes data on a hard disc
<i>Hard:</i>	A term used to describe anything that is permanent or physically exists.
<i>Hardware:</i>	Objects that can actually be touched, like the systems unit, display screens, keyboard, mouse, disc drives, printers etc.

<i>Icon:</i>	A small picture that represents an object or programme.
<i>Information technology:</i>	The broad subject concerned with all aspects of managing and processing information with the computer.
<i>Intranet:</i>	Is the generic term for a collection of private computer networks within an organization. An intranet uses network technologies as a tool to facilitate communication between people or workgroups to improve the data sharing capability and overall knowledge base of an organization's employees.
<i>Keyboard:</i>	The set of typewriter-like keys that enables the entering of data into a computer. Computer keyboards are similar to electric-typewriter keyboards but contain additional keys.
<i>Monitor:</i>	Another term for display screen. The term monitor, however, usually refers to the entire TV-like box, whereas display screen can mean just the screen.
<i>Mouse:</i>	A device that controls the movement of the cursor or pointer on a display screen.
<i>Multimedia:</i>	A computer software that combines either all or some of the following media: Text, Images (illustrations, photos), Sounds (voice narration, button clicks), Animation, Video, and Virtual Reality (3-D environments, QuickTime VR).
<i>Operating system:</i>	A programme that manages the computer and the various resources and devices connected to it so that they may be used by other programmes

<i>Personal Computer:</i>	A computer designed to be used by a single person at a time. In technical terms, a term given to all IBM compatible computers that run Windows and DOS.
<i>Printer:</i>	A device that prints text or illustrations on paper.
<i>Programme:</i>	In computing, a programme is a specific set of ordered operations for a computer to perform. Programmes can be characterized as interactive or batch in terms of what drives them and how continuously they run.
<i>Screen:</i>	The display part of a monitor.
<i>Search engine:</i>	An internet search engine allows the user to enter keywords relating to a topic and retrieve information about Internet sites containing those keywords.
<i>Soft:</i>	Things that is intangible or easily changed.
<i>Software:</i>	Also called computer programmes, they are instructions that cause the computer hardware-the machines-to work.
<i>Teaching/Learning:</i>	Material Presentation tools used to facilitate understanding of content (Chalkboards, whiteboards, handouts, flip charts, overhead transparencies, slides, computers, computer-drawn visuals, computer animation).
<i>Technological artefacts:</i>	All the various gadgets that have emerged out of the current digital technology.
<i>Technology:</i>	General term for the processes by which human beings fashion tools and machines to increase their control and understanding of the material environment.

Telecommunication systems: All the electromagnetic devices and systems for communicating over long distances.

Window: An enclosed, rectangular area on a display screen.

Word Processor: An application programme for manipulating text-based documents, the electronic equivalent of paper, pen, typewriter, eraser, and most likely, dictionary and thesaurus.

1.7 Abbreviations

Abbreviations used in the text are explained as follows:

.bmp	-	Bitmap
CD	-	Compact Disc
CPU	-	Central Processing Unit
DOS	-	Disc Operating System
DSL	-	Digital Subscriber Line
DVD	-	Digital Video Disc
FTP	-	File Transfer Protocol
GIF	-	Graphics Interchange Format
HTML	-	Hypertext Markup Language
HTTP	-	Hypertext Transfer Protocol
IBM	-	International Business Machines
ICT	-	Information and Communications Technology
IT	-	Information Technology
.jpg/.jpeg	-	Joint Photography Expert Group
LAN	-	Local Area Network

LCD	-	Liquefied Crystal Display
MS	-	Microsoft
OS	-	Operating System
PC	-	Personal Computer
PDF	-	Portable Document Format
RAM	-	Random Access Memory
ROM	-	Read Only Memory
VB	-	Microsoft Visual Basic
WAN	-	Wide Area Network
WWW	-	World Wide Web

1.8 Importance of the study

The study is intended to promote effective teaching and learning of techniques and history in the field of sculpture, ceramics, painting, graphic communication design, and allied Art disciplines through the reviewing of electronic media and documentaries on the selected world-class professional Ghanaian artists. This will encourage in-class discussion of the master-artists' techniques of art production, work ethics, management of tools and equipment, sources of inspiration, conceptualization and development of their works, and handling of their preferred media for art production by teachers and their students.

The CD is a convenient means to expose more staff and students in Senior High Schools and tertiary art institutions to demonstrations of best practices and techniques in studio art production. The information can also be adapted for online teaching and learning of General Knowledge in Art in both Senior High Schools and tertiary art

institutions. This is an effective strategy for developing the resource base required for excellence in art production and role-modelling for young artists in Ghana. This sophisticated instructional media can also enhance Institutional library services and make professional artists easily accessible to staff and students of Art.

Art educators, artists and student artists alike can access the directory without necessarily browsing the Internet. Researchers can attest to the fact that collecting and gathering information in the form of video, photos, theses or biographical work comes with its own challenges: the issue of dusty pages of books, discoloured photographs, destroyed video strips, documents being too bulky to carry about. All this could be eliminated with a compact disc that offers an easily accessible directory of contemporary Ghanaian Artists that can be conveniently carried about. This documentation format can give the Senior High School art students an extra ICT learning period and advantage over their other counterparts who only study ICT as a subject on the school timetable. Apart from the scheduled ICT time slot, Visual Arts students will be encouraged to spend more time seeking information that is relevant to their studies.

The directory will provide art teachers and their students with the urge to integrate technology into the teaching, learning and creation of art. Also, it will encourage school authorities to see the need to structure educational goals that advocate the integration of ICT in other subject areas, so as to improve the students' motivation and academic achievement.

This interactive compact disc is guided by the observation that visual art students at all levels of their studies are missing greatly out in the much talked about ICT programmes that are run in Ghanaian senior high and tertiary schools. It provides framework for thinking about ICT also as a tool in the teaching and learning process (Wodtke 1993). It is designed primarily to demonstrate how certain basic artistic activities can be performed with the computer. However, the hope of the researcher is that the activities contained in this compact disc would motivate teachers and learners of visual art to embrace ICT and consider it as a tool which can open many doors in their artistic pursuits. For art educators with little or no experience in computing, and without the time to learn computing from the scratch could use this compact disc without much guidance. This compact disc is intended to serve as a top up to the existing work on contemporary art educators treated in the General Knowledge in Art Textbook.

1.9 Organization of the rest of the text

Chapter Two reviews literature on ICT and its application to Visual Arts education. The discussion includes definition of key issues on the topic, as well as classification and evaluation of information that other scholars and researchers have written on the application of ICT in various fields. Chapter Three discusses the methodology used in the research.

Chapter Four lays bare the procedure involved in the design of the digital directory based on the data obtained on the various artists. It also provides results of the pre-testing of the digital directory. Chapter Five summarizes the findings, draws conclusions and makes recommendations for effective integration of information and

communication technology in the Visual Art component of the Senior High School curriculum followed in Ghana.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Overview

This chapter focuses on literature reviewed on the subject of documentation from the archaic mode of preserving documents through to the modern technological or digital stage. It identifies the relevance and importance of the digital mode of storing, distributing and retrieving documents and its associated problems, and also links this to Ghana's educational system, its reform with ICT and how and why an artists' directory is required to implement the ICT policy currently in place in the Senior High Schools.

2.2 Education reform and ICT policy in Ghana

Ghana's pre-independence system of education has been reformed several times in the last five decades. The structure of education comprising six years of primary education, four years in middle school, five years of secondary school and four years of university education has changed. Until 1987, the 10-year elementary schooling (primary and middle school) constituted the first cycle of Ghanaian education. All students completing the tenth grade wrote the Middle School Leaving Certificate Examination conducted by the West African Examinations Council (WAEC), which was established in 1951 to conduct public examinations for British West Africa and Liberia (Amega-Selorm, 2009).

The post-independence system of education in Ghana was reformed in 1974 and with the aim to reduce elementary education from ten to nine years, with the four-year middle school shortened by a year while the level was designated as Junior Secondary

School (JSS). Pupils completing JSS were examined by WAEC in the Basic Education Certificate Examination (BECE). Successful candidates were admitted into a four-year Senior Secondary School (SSS) system. The rationale for this reform, as stated in the Dzobo Committee Report of 1973, was to bring about a new type of education that was consistent with national development.

Similar to the observations of the Phelps-Stokes Report of 1923 (<http://education.stateuniversity.com/pages/531/Ghana-EDUCATIONAL-SYSTEM-OVERVIEW.html>), the Dzobo Committee Report argued for the introduction of more vocational, science, and agricultural courses at the JSS level. Thus, while a general education was provided during the first six years of primary education, students attending JSS were to be given the chance to study a variety of practical courses. Those who showed propensity for practical education were to be encouraged to enter vocational and technical institutions, while the others continued with the curriculum associated with the traditional secondary school system. The four-year SSS curriculum ended with the standardized Senior Secondary School Certificate Examination, also conducted by WAEC. Successful candidates were admitted into tertiary institutions for further education in specialized fields. This 1974 reform was also reorganised in 1987 to arrive at 6 – 3 – 3 – 4 educational system of six years primary school, three-year JSS, three-year SSS and four-year university education.

While some Ghanaians have praised the government's courage to implement these reform policies, the new system has also been criticized. The main problem was that the central government tasked the local governments (district assemblies) to provide

for the workshop and laboratories anticipated for the JSS system. Critics feared the increased financial burden on the local communities, and argued that financial status disparities would make children in well-to-do communities to fare better than those in the least endowed areas. The reality of the past 10 years, however, has been that many well-to-do parents have sent their wards to the private JSS institutions that opened in the urban communities rather than public schools. The rationale was that the better endowed private schools would better prepare children to gain admission to the prestigious senior secondary schools.

On the one hand, it has been observed that the increased establishment of the private JSS was consistent with the privatization of the national economy that characterized the 1980s (Amega-Selorm, 2009). On the other hand, critics see the trend in education as favouring the wealthy and widening the gap between the “haves” and the “have-nots”, since in the end, better preparatory secondary education makes it easier to gain admission into the nation's universities. Ironically, it has also been argued in some quarters that those with influence have coveted the few government scholarships that are to go only to the very bright students (Amega-Selorm, 2009).

It is observed that there continues to be opportunities, however, for education expansion in Ghana. Advanced vocational and technical education is available through various polytechnic institutes. Nursing and teacher training are now offered exclusively to post-secondary candidates. Professional training in accounting and management courses can also be obtained outside the universities. In fact, the compression of the second cycle of education resulting from the reforms has tremendously swollen the university application pool ([17](http://</p></div><div data-bbox=)

[education.stateuniversity.com/pages/531/Ghana-EDUCATIONAL-SYSTEM-OV](http://education.stateuniversity.com/pages/531/Ghana-EDUCATIONAL-SYSTEM-OVERVIEW.html)

[ERVIEW.html](http://education.stateuniversity.com/pages/531/Ghana-EDUCATIONAL-SYSTEM-OVERVIEW.html)">Ghana-Educational System—overview). In the past decade, it was typical for SSS graduates to wait for two years before gaining admission to university programmes but the public universities responded to this severe bottleneck by admitting more students than they normally would. With limited space available in the old facilities, larger classes and overcrowding in student residence halls occurred, thus creating tension between students, university administrators, and the government.

The birth of the 1987 education reform in the country facilitated rapid advancement in the educational sector and also ensured that students had sound and comprehensive knowledge to face the challenges of the world. The 2007 education reform (Amega-Selorm, 2009), places great emphasis on Information and Communication Technology (ICT) and Science and Technology in the curriculum of Junior High School (JHS) which specifies the study of English, Mathematics, Social Studies, Integrated Science (including Agricultural Science), a Ghanaian language, Technical/Vocational and Agricultural Education and Training (pre-technical, vocational), Information and Communication Technology (ICT) and French shall be taught. Also at the Senior High School (SHS), the core subjects shall be English, Mathematics, Integrated Science, Social Studies and ICT.

In addition to the Core Subjects at the SHS, every school candidate must offer ONE of the following courses: Agriculture, Business, Technical, Vocational, (Home Economics or Visual Arts), or General (Arts or Science). Special attention will also be given to the training of teachers in Technical, Vocational, Agricultural, Special Needs

Education, Guidance and Counselling, Information and Communication Technology (ICT) and French.

2.2.1 The ICT factor in Ghana's education reforms

Over the past two decades, there has been considerable debate over the extent to which ICT is transforming the economies of the world. Central governments, businesses and international organizations have invested heavily in ICT in anticipation of greater productivity increase and economic transformations. ICT is now regarded as a Utility such as water and electricity and hence has become a major factor in socio-economic development of every nation. ICT now plays a major role in education, learning and research in general, agriculture, health, commerce and even in poverty alleviation by generating or creating new jobs and investment opportunities (<http://www.modernghana.com/news/54283/1/practical-application-of-ict-to-enhance-university.html>). This declaration and indeed other opinions shared by others point to conclusive evidence that ICT has some real and material applications for countries like Ghana because countries can leverage ICT to totally transform and modernize their economy.

Ghana has since independence in 1957 made significant strides in its educational system. The education landscape in Ghana today is the result of major policy initiatives. Amega-Selorm, (2009) outlines some of the laws, policy documents and reports, which have helped in meeting the educational needs and aspirations of the people emanating from the following:

- The Education Act of 1961
- The Dzobo Report of 1973

- The New Structure and Content of Education 1974
- The Education Commission Report on Basic and Secondary Education (1987/88).
- The Education Reform of 1987/88
- The University Rationalization Committee Report of 1988
- The Free Compulsory Universal Basic Education, 1996
- The FCUBE Policy Document and of Operations, 1996
- The Ghana Education Trust Fund - GET Fund Act 2000
- The New Education Reform (takes off September, 2007)

Indeed this new educational reform have not only helped in structurally transforming the education system but also improved considerably, access, quality of teaching and learning, infrastructure, as well as management efficiency. Despite the successes these reforms have had on the educational landscape of Ghana, it has not done much to address the need of the nation in terms of producing a human capacity with all the requisite training in ICT. Realizing this, the government started introducing computers into Senior Secondary Schools in the late 1990s (<http://www.ginks.org/CMSPages/GetBizFormFile.aspx?filename=41ca3eaf-dc3-471e-9d0d-eed3cea4210b.pdf>).

In response to the ICT revolution and its impact on the rapid development of world economies, The Ministry of Education Science and Sports committed itself to make Ghana a key player in today's digital age and embarked upon a to streamline computer studies in secondary schools based on a draft ICT policy and development of a curriculum for ICT training and examinations. In addition, efforts have been made to

provide telephone facilities in all Senior High Schools and Training Colleges to enable them have access to the Internet. The present government has not been left out in this drive: ICT continues to be an elective subject apart from the core ICT at the Senior High Schools and it is studied from SHS 2-4.

By introducing elective ICT in the Senior High Schools among other things, it is expected that the knowledge and skills gained in this course will prepare students to pursue ICT programmes in further education and develop the basic skills needed for the ICT job market. The ICT syllabus therefore covers selected topics which offer hands-on activities to help students acquire the required ICT skills (CRDD, Ministry of Education & Sports, 2008).

The most recent educational reform adopted the Anamuah-Mensah Committee report (Ministry of Education & Sports, 2006) to introduce a 11-year Basic Education comprising two years of Kindergarten, six years of Primary and three years of Junior High School education, and four years of Senior High School education. The Anamuah report also acknowledged the mastery of Information and Communication Technology (ICT) as a priority subject because skills in ICT have become crucial for the survival of the global world. In this respect, the government has made efforts to extend the national broadband backbone connectivity throughout the country to facilitate the development of ICT infrastructure in schools. This is expected go a long way to solve some of the ICT access problems in Ghanaian schools. (<http://www.ghanaweb.com/GhanaHomePage/education/artikel.php?ID=122293>).

Looking at the Anamuah-Mensah committee report on education, ICTs have been introduced into the curriculum of the Senior High Schools as a core subject and also to have it done as an elective. This is commendable indeed. It will help students who want to train entirely in ICT have the requisite training before entering tertiary institutions for a complete ICT training. This will produce a human capacity with all the requisite training in ICT to fill the country's new challenges. It is however, very important to make sure that the tertiary institutions have adequate ICT infrastructure to help the Senior High School graduates develop more knowledge and skills for the job market. It is also paramount that the schools have professional trained teachers who have ICT skills for this reform to succeed.

Converting the chapter on Contemporary Ghanaian Artists in the General Knowledge in Art textbook used in Senior High Schools into a digital format is therefore very necessary to encourage Visual Arts students to use the computer as a learning tool and for such an interesting topic to be taught in an interactive manner instead of being taught as a theory lesson. This format also ensures a critical link between Visual Arts and ICT rather than have each subject taught in isolation as is currently the case in the Senior High Schools.

2.3 ICT in education

Information and communication technology (ICT) has become, within a very short time, one of the basic building blocks of modern society. Many countries now regard understanding ICT and mastering the basic skills and concepts of ICT as part of the core of education, alongside reading, writing and numeracy. The phrase ICT is unique to education. Other than in schools and colleges, people simply talk about IT

(information technology). It is in the context of learning that there has been an additional emphasis on the capacity of IT machines to both provide information and communicate it (Galloway, 2007). Even then, people in education may still distinguish between IT and ICT, the former being the tools and skills for the job, and the latter being what you do with them. So computers, cables, the internet, wireless connections, handheld devices, digital cameras and even mobile phones can be termed IT while word-processing, emailing, videoconferencing and searching on the internet will be ICT. Some people also talk of IT as being the skills for using the tools while ICT is the use that those skills are put to.

ICT permeates the business environment, it underpins the success of modern corporations, and it provides governments with an efficient infrastructure. At the same time, ICT adds value to the processes of learning, and in the organization and management of learning institutions. UNESCO therefore aims to ensure that all countries, both developed and developing, have access to the best educational facilities necessary to prepare young people to play full roles in modern society and to contribute to a knowledge nation (UNESCO, 2002). It is in line with this that now computers are no longer placed in isolated rooms with locked doors to be opened only by an ICT teacher. Instead, subject-area teachers, administrators, and librarians all use computers and other ICT equipment whenever these are needed in their work places.

Ideally, the same is true for students. In and out of lessons, they use computers when needed: in classrooms, auditoria and labs, in the library, in rooms available for project activities and homework preparation. The entire school is thus immersed in the *information space*. Computers in teachers' and students' homes (school laptops and

notebooks, shared by teachers, is one option) play an important role in the learning environment.

Libraries and archives have stemmed the tide of cultural memory loss. We rely on them to track our genealogies, to understand what science has discovered, to appreciate the stories people told a hundred years ago. Even seemingly trivial, ephemeral, or innocuous information that libraries maintain has unanticipated uses.

Society, of course, has a vital interest in preserving materials that document issues, concerns, ideas, discourse and events. We may never know with certitude how many children Thomas Jefferson fathered or exactly how Hitler died. However, to understand the evils of slavery and counter assertions that the Holocaust never happened, we need to ensure that documents and other raw materials, as well as accumulated works about our history survive so that future generations can reflect on and learn from them. The Soviet Union stands as an example of a society in which history was routinely rewritten and pages of encyclopaedias were cut out and replaced according to current political whim. The ability of a culture to survive into the future depends on the richness and acuity of its members' sense of history.

2.4 Digitisation

The digitisation of our cultural heritage brings together various sectors of the academic community in a manner unprecedented in traditional library structures. Scholars are creating or using electronic resources to further their research; distance learning models prompt teachers to gather Web resources in an online learning environment and publishers are integrating print with digital editions to reach wider

audiences. The support of computer and information specialists in the application of new technologies to develop and manage Humanities resources is sustained by librarians and archivists seeking to improve access to and the preservation of digital information that represents resources of contemporary culture and scholarship (O'Toole, 1990).

Ackerman and Fielding (1995) note that with the global trend towards a knowledge-based economy, the future wealth of nations is calculated increasingly on the education of its people and not on its natural resources. To meet the demand for knowledge which is seen as a key to prosperity, the goal of higher education is to provide opportunities for lifelong learning, to create second chances. To achieve the goal of this social contract, the collaborative effort of all those involved in Humanities research is aimed at high quality education and information accessibility to all people, regardless of social class, the ability to pay, or their location.

The digital library initiative was developed to utilise digital methods to preserve and to make accessible fragile and under-utilised visual resources; to promote the use of digital media in the university and wider scholarly community; and to conduct research that advances the creation, management, preservation and use of digital resources. Digital technology lends itself to the objectives of the library community, with a long history of electronic co-operation, in joint catalogues, and levels of interoperability enabling the interrogation of remote databases (Bearman and Hedstrom, 1993). The advantages of digital technologies are apparent in providing remote access to a unique collection of primary research materials.

The digital conversion of the historic photograph collection is a case in point. A resource used heavily for research purposes, repeated browsing of the photograph album has resulted in an alarming physical condition. While the primary objective of limited handling is achieved in digital conversion, the concept of digital libraries is far greater than reformatting and digital preservation is achieved in complementary strategies. Firstly, digital conversion to international benchmark standards enables fast download speeds for satisfactory on-line access while large uncompressed masters are committed to archival storage. “Metadata” are created for each image, based on the Dublin Core Metadata Initiative (Adams, 1995) for electronic resources. Quite simply, metadata is information that records the meaning, context or purpose of other longer information. A record is created in a short, consistent form that can be shared (Guarino, Nicola & Welty, 2002).

Secondly, metadata are useful for all kinds of resource discovery, in using and accessing digital collections in a user-friendly way. Other emerging standards such as Extensible Markup Language (XML) (Adams and Brown, 1996), Text Encoding Initiative (TEI) (American Geological Institute, 1994 National Geoscience Data Repository System Phase II); and, Encoded Archival Description (EAD) (Atkinson, 1986) have found similar application in the digital library. Finally, the conservation treatment of individual albums and the construction of protective phase box enclosures is conducted, with due consideration for the specific requirements of environmental control for the archival storage of artefacts comprising photographic materials.

2.4.1 Preserving intellectual content

Preservation digitisation has focussed on reformatting rapidly deteriorating materials, with the aim of preserving the intellectual content as separate from the medium or carrier. Because one is able to make repeated copies of digital files without the informational loss associated with analogue copies, the impact of the technology is beguiling. No longer does the life expectancy of materials seem limited to the durability of the medium since the digital data can be copied repeatedly without loss.

The separation of the information and the object however, takes on a new meaning in the digital environment. Complete digital conversion comprises two processes: the capture by scanning of digital data, and the creation of the associated metadata wrapped as a digital object and stored using containers to hold the objects and related software modules. The integrity of the digital file is threatened by alterations to the contextual data file, and the loss of the linking mechanism between the two is equivalent to the deletion of the contextual information (Bearman, 1989). This is indeed the assurance of preserving intellectual content without losing the material when it is copied several times while its content is preserved.

2.4.2 Methodologies for digital preservation

Digital resources are tomorrow's heritage. Digital libraries develop strategies and methodologies for digital preservation to ensure long-term access to that heritage. Preservation strategies can thus be described within a framework for the long-term storage, maintenance and accessibility of a digital object. Three potential strategies defined for digital preservation are technology preservation, technology emulation and the migration of digital information (Bearman, 1996).

1. Technology preservation involves

- data storage on a stable medium, and in a suitable environment;
- refreshing or copying of the data to new media as required;
- maintaining the data integrity of the containerised digital data and associated contextual information file;
- preserving the original software applications required to access the data types preserved;
- providing the operating systems on which the original applications running and,
- preserving the hardware platform on which the operating system was designed.

The predictable result of technology preservation is a veritable museum of obsolete computing equipment, and is considered only as a relatively desperate measure, where digital resources cannot be converted to independent formats and migrated forward.

Notable differences between digital and paper-based materials present new challenges in maintaining access to digital resources. Digital resources are machine-dependent; they require specific hardware and software for retrieval. The rate of change in technology demands that actions are taken within a much shorter timeframe. Strategies for long-term preservation are integral to the process of creation as noted above. Although digital materials are threatened primarily by technological obsolescence, physical deterioration of the unstable media is inevitable without suitable storage conditions and deliberate preservation management (Bearman, 1995).

2. Bearman and Hedstrom (1993) note that technology emulation differs from the technology preservation strategy in the design of emulator platforms that mimic the operating system and hardware environment in which the original applications were designed. A highly specialised strategy, the success of emulation is associated with a high level of risk in the dependence on the technical ability of a software engineer, if indeed such a person could be found, considering the unlikely commercial viability of emulating a specific environment.
3. The third strategy of digital preservation is the migration of digital information. This is based on the premise that it is only worth preserving those resources that can be accessed on current computer systems. This is achieved by ensuring that data is created or migrated to a format that is platform independent and then migrated from one generation of computer technology to the next. Given the rate of change in that landscape, digital migration is not an option; it is an essential strategy comprising a number of tactics.

The transference of data from less stable to more stable media is an irony in itself. The market forces driving changing modern media can be seen in an inverted relationship of a decreasing life expectancy to an increasing information density (Bearman and Sochats, 1995). A comparison of the Sumerian clay tablet to the magnetic disks of mainframe computers leaves one pondering the perspectives of progress. Indeed, paper and microfilm probably constitute the more stable option for media change, and the process is cheap and easy to implement. The danger lies in “flattening” or the loss of data

structures, graphics capabilities, and indexing relationships integral to complex data systems and which serve in the authentication of the document. Changing media is best prioritised as a backup strategy for digital preservation management.

Common experience of word processing packages has indicated that a reliance on backwards compatibility is not always sufficient, and interoperability is more readily achieved in the use of a common interchange format, the American Standard Code for Information Interchange (ASCII) or Rich Text Format (RTF). The loss of formatting is noticeable in figures and footnotes, which constitute the loss of valuable content. Always concerned with risk management, a preservation management strategy reliant upon interoperability and backwards compatibility would be dependent on the unknown future of the interchange formats selected, that may cease to be supported or replaced by new, richer formats.

4. The final migration strategy, fortunately also recommended as most appropriate for digital libraries, is the migration to standard formats that encode the complexity of the original formats. Text documents would thus conform to standards like SGML (Standard Generalised Markup Language) (ISO 8879) and Image Files Conform to Tagged File Formats (TIFF). TIFF is an acronym for **Tag(ged) Image File Format**. It is one of the most popular and flexible of the current public domain raster file formats and standard compression algorithms JPEG (Joint Photographic Experts Group) is a lossy compression method standardised by ISO. JFIF, which is what people

generally mean when they refer to "JPEG", is a file format created by the Independent JPEG Group (IJG) for the transport of single JPEG-compressed images.

Under this strategy, the onus is on the digital project manager to define preferred formats at the time of the creation of digital resources, and to limit the number of variable formats that may become necessary to migrate to future generations of computer technology.

2.5 New avenues of collaboration

The collaboration of a wide community of information professionals has been largely responsible for developing new strategies for preservation management of the digital information resources developed. Some of the factors noted impeding such collaboration merit consideration, and include problems of interaction within the organisation related to territoriality. A lack of informed support has been identified in the radical transformation of the information environment. While the digital revolution is unlikely to change the art, science and enduring values of librarianship, it has separated information from the physical locality of the library and changed the way we view academic libraries especially, as places to study, to get on-line and to pursue the normal rites of male-female bonding among students. The generational fear of change associated with techno phobia is steadily decreasing and possibly, by natural attrition. This could possibly be as a result of their positive identification as the psychoneurotic barrier to technological innovation in cultural institutions (Scott 1995).

Digital preservation policies and practices are not currently developed in Ghanaian libraries, and none that is known to the researcher has assumed responsibility for preserving materials in a digital form at all.

Digital technology is a central leadership issue of the current debate on information management. There are those who think that leadership on technological issues is simply a matter of establishing procedural guidelines. Others feel that the rapid rate of change and the sheer technological complexity of the digital environment render librarians and archivists helpless in influencing technological development. According to Hedstrom and Montgomery (1998), both perspectives are misleading. The former ignore the market forces in rapid IT development while those who prefer to “wait and see” how digital technology develops shirk their responsibility to contribute to the debate.

Preservation in the area of digital technology is a shared responsibility. For example, digital libraries centre on people involved in the Internet, the Web, multimedia, document imaging and other technologies that serve a constituency far wider than the University library system, or a Humanities research project. Each level has a different concept of digital preservation but it is in the digital library that their various efforts become focused on long-term access.

Publishers are major players in the digital arena, ranging from scholarly to large commercial publishers. Then there are hardware and software companies vying for their market share; computer scientists from corporations, academic departments and government associations. Academic staff are represented in the digital library arena

in almost all disciplines, in fields nominally unrelated to computer science but involved through a need to use digital technologies as a tool towards their own ends. All of these groups are involved in a dynamic field of digital library research, development and applications, and the diversity presents a breadth of knowledge for an exciting synergy in the creation of innovative resources of contemporary culture and research.

There is an ongoing need to work together as a community to establish measures to build capacity and increase expertise with issues of digital technology in higher education. A strong voice is needed to express the need for high quality education and information access to all people. A collaborative effort will most efficiently drive the development of needed products to grow a demand for commercial services and to build technically sustainable solutions that support international standards to meet the needs of digital preservation that will effectively secure long-term access to digital information resources.

2.6 History of preserving information

2.6.1 Chained books

Handwritten books and the earlier printed books were rare and valuable objects that had to be protected from theft, and so in the libraries of medieval monasteries and cathedrals, the large folios (books made of paper folded once) and quartos (with sheets folded into fourths) were chained to cupboards and could be used only at the attached desks. The long rooms of benches and stalls gradually gave way to wall shelving when printed books began to be produced in smaller sizes and became less

expensive. (* "library" Britannica Online. <http://www.eb.com:180/cgi-bin/g?DocF=micro/348/35.html>).

2.6.2 Archives

Traditionally, archivists and librarians have been keepers of the word: they have collected and maintained historical material. Archives house papers, organizational records, photographs, and other materials that document how an individual lived his or her life or how an agency functioned. The word *archives* refer both to the materials collected and to the place where these items are stored. According to O'Toole (1990), an array of archival repositories exists today, well beyond the better-known National Archives and Library of Congress. Collections may be found in state and local historical societies, academic institutions, research libraries, houses of worship, businesses, museums, cultural institutions, hospitals, and other organizations. The University of Iowa boasts four archives and manuscript repositories: the International Dada Archive, the Iowa Women's Archives, the Manuscript Division of the Special Collections Department, and the University Archives (<http://www.eb.com:180/cgi-bin/g?DocF=micro/348/35.html>).

Distinctions were not made between archival and library materials until the invention of the printing press during the 15th century (O'Toole, 1990). Prior to that time, records, manuscripts, and books were stored together. Archives described all collections of written records, not only those thought to have lasting value. The materials used to create these documents changed over time but the reason for saving them--for their enduring administrative and official usefulness--remained the same. O'Toole explains that in medieval and early modern Europe, as literacy increased, so

did the amount of records produced. Such historical materials became increasingly important to the societies in which they were created since they offered a more objective means for preserving important information.

The French Revolution is credited as the period when the ideas evolved that nations should care for their historical records and make them accessible to the public because these documents could be used to protect the rights of the people. Other Western countries followed suite. According to O'Toole (1990), in the United States of America, two traditions of archival record keeping emerged. The oldest which is the public-records tradition, has been in use since colonial settlement. According to this tradition, government authorities as public representatives create and maintain records of their activities to which citizens should have access. The historical-manuscripts tradition began in the late 18th or early 19th century. This approach involves the collecting of documents that are useful for studying the past. The founding of historical societies to collect such manuscript material originated with the establishment of the Massachusetts Historical Society in 1791 (O'Toole, 1990).

Most computer systems are bound to be obsolete in an even shorter period of time, which means that the information they have produced will not be accessible to successive generations of computer systems. Accordingly, in order to preserve electronic records, they must from time to time be migrated to new technological platforms (that is, be copied to new storage devices and in some cases converted to a format suitable for new computer systems).

Migration is the periodic transfer of digital materials from one hardware/software configuration to another or from one generation of computer technology to a subsequent generation. Punched card data processing has actually been used since Herman Hollerith first used it in conjunction with the 1890 U.S. population census (Ende, 1994). In 1928, IBM introduced the 80-column card using slotted holes. These became the dominant input medium for computers in 1950 and 1960, becoming obsolete in the mid-1980s.

Common cassette tapes were used for electronic data storage with early personal computers. In 1980 Sony Electronics introduced the 3.5 inch double-sided and double-density floppy disk and drive that held up to 875KB unformatted. Recordable Compact Discs are now becoming more common for use as a personal data storage medium. Iomega introduced the Zip disk in 1995. The Zip disk holds 100 megabytes of information, 70 times the capacity of most common floppy disks. Iomega's Jaz disk, introduced in 1996, holds 1 gigabyte of data (University Libraries, 1998).

2.6.3 Advantages of digital technology

As a means of recording and providing access to our cultural memory, digital technology has numerous advantages and may help relieve the traditional conflict between preservation and access.

- Digital technology affords multiple, simultaneous uses from a single original in ways that are simply not possible for materials stored in any other form.
- Digital technology also yields additional effective means of access. In full text documents, a reader can retrieve needed information by searching for words,

combinations of words, phrases or ideas. Readers can also manipulate the display of digital materials by choosing whether to view digital materials on a screen, store them on their computer or external media, or to print them.

With the growth of information technology and the development of paperless transactions, archivists have become increasingly concerned about the long-term preservation of electronic records. The content of an electronic record is recorded in a way and on a medium that cannot be directly accessed by a human being, and it is represented by symbols that must be decoded by a machine.

2.6.4 Library

Library refers to the collection of books used for reading or study, or the building or room in which such a collection is kept. The word derives from the Latin *liber*, meaning "a book," whereas a Latinized Greek word, *bibliotheca*, is the origin of the word for library in German, Russian, and the Romance languages (<http://www.eb.com:180/cgi-bin/g?DocF=micro/348/35.html>). Today's libraries frequently contain periodicals, microfilms, tapes, videos, compact discs, online services, and other materials, as well as books.

2.7 The fragility of cultural memory in a digital age

Our ability and commitment as a society to preserve our cultural memory are far from secure. Custodians of the cultural record have always had to manage the inherent conflict between letting people use manuscripts, books, recordings or videos, and making sure that they are preserved for future use. For works printed on acidic wood

pulp paper, as most books have been since 1850, the remaining lifetime of those materials are measured in decades, not centuries (Stukel, et al. 1988).

And what of the information we are now creating and storing using digital technology? In 1993, forty-five percent of U.S. workers were using a computer (United States Census Bureau 1993); the number is surely larger now. Virtually all printing and a rapidly increasing amount of writing is accomplished with computers. Professional sound recording is digital, and digital video is on the verge of moving from experimental to practical applications. (University Libraries, University of Iowa). It is clear that we all need to embrace the new digital culture which has since emerged to live and share our memories.

2.8 Lost textual treasures

Most Tibetan texts are very old and, if copies can be found at all, they are usually in a state of decay. Tibetan texts are published in "**pecha format**," on long, rectangular pages, unbound and printed on both sides. The front of one page and back of the next are usually read together. Pechas are often printed on rice paper or other poor quality materials, and are inadequately maintained due to a lack of facilities and poor economic conditions. The few texts which have been saved since the upheavals of the last few decades were themselves prepared in India using inexpensive non-acid-free paper or handmade rice paper (Nitartha, 2003). The print on the front of the page is often visible on the back side of the page, making it very difficult to read the text on either side. Yet, even this quality of printing is very difficult to obtain; many important texts exist only in traditional "woodblock" form.

Unfortunately, because of the changing times and situation, there are very few people who do the work of wood carving and printing. It is time consuming, low paying and very hard work. The craft is dying for these reasons and also because there is little interest in producing texts in a format that cannot readily be edited.

Another component of the Tibetan textual tradition is the existence of an oral commentarial tradition. Since the very beginning of formal education in India, teachers have used the oral medium to explain and comment on the basic teachings and practices of the tradition. Today oral commentaries serve both as a explanation of texts which are essential to fully understanding texts, and as independent sources of information not available in written texts. Thus, without oral explanation from those familiar with the traditions in which the texts are written, the meaning of the text remains partially inaccessible.

Nitartha (2003), further bring to light a more subtle problem that exists, even for the few physically-intact Tibetan documents: Tibetan literature remains nearly inaccessible to those untrained in traditional Tibetan educational systems. In addition to the traditional reliance on oral commentary, texts use extensive abbreviations (necessitated by the difficulties of printing), lack sectioning and references, and are obscured by oblique styles. In such cases, simply preserving the historical documents as ancient texts is not enough; effort must be made to preserve some of the key elements of the culture in which these texts were created and through which they can be understood by today's students. Otherwise the texts too easily can become mere historical curiosities.

2.9 The preservation of information

"Knowledge," said 18th-century English lexicographer and critic Samuel Johnson, "is of two kinds. We know a subject ourselves, or we know where we can get information upon it." (Johnson, as cited in Levin, 1993).

If he were with us today, doubtless Johnson would agree that there is no greater single source of information than libraries; particularly our large public and university research libraries. Within their walls is a cornucopia of material, documenting the history and culture of living societies and peoples long vanished. In addition to printed books, everything from illuminated medieval manuscripts and ancient maps to gramophone recordings and early cinema form a part of library collections around the world. Each of these items is a piece of information in the puzzle of civilization.

Fortunately, before we begun the 21st century, a time dubbed by some as "the information age," our major repositories of information are grappling with the substantial problem of preserving enormous collections that continue to grow. The staggering accumulation of items, the range of materials used, and the diverse methods needed to maintain those materials have complicated the task of preserving information. New and developing technologies may ultimately preserve the intellectual content of vast amounts of materials, yet no technology is likely to prove to be the one solution to the multiplicity of problems. In addition, the new technologies themselves raise their own preservation issues, broadening the responsibilities for those charged with their safekeeping.

2.9.1 A mountain of material

The sheer quality of materials makes the preservation task daunting. Less than a century and a half ago, the number of volumes in the libraries of U.S. colleges totalled little more than 270,000 (Levin, 1993). The Library of Congress acquired well over that amount in new volumes alone.

Among the priorities for many U.S. libraries is finding ways to cope with brittle books. The problem is the result of changes in manufacturing that occurred back in the mid-19th century when paper began being mass produced on machines that used wood pulp rather than rags. Wood pulp paper has chemical constituents that acidify over time when exposed to oxygen and other elements, and it becomes brittle much more quickly than rag paper.

2.10 Preservation options

One approach to the problem of large numbers of brittle books is a mass treatment system called mass deacidification (Ackerman & Fielding 1995). The process retards deterioration by neutralizing the acid contained in the paper. During the 1970s, the Preservation Research and Testing Office of the Library of Congress developed and patented a mass deacidification method using diethyl zinc (DEZ). Since that time other mass deacidification techniques have been developed not only in the United States, but also in Europe and Japan. The Library of Congress licensed the DEZ mass deacidification process to Akzo Chemicals, a Houston-based company which in 1987 designed and built a pilot Book Preservation Facility in Texas. Since then over two dozen institutions throughout the United States have sent items to the facility to be treated with the DEZ process (Levin, 1993).

Other university libraries, including those at Johns Hopkins and Harvard, have also made extensive use of the DEZ process at Akzo's Texas facility. During 1992 and 1993, the Harvard University Library mass deacidified approximately 16,000 maps and 10,000 books. Mass deacidification is designed to preserve both the object and the information it contains. But technology now makes it possible to preserve information apart from the original object. For many librarians today, "preservation" has come to mean saving the intellectual content of an object as opposed to the object itself. In practice this means copying or "reformatting" the material.

Neither mass deacidification nor any single procedure can be considered the ultimate solution to the problem of brittle books. Because of the monumental number of endangered volumes now housed in the largest libraries of the United States (estimates range as high as 77 million), a multiplicity of approaches will be necessary (Levin, 1993).

The most established and standardized method of reformatting, both in the United States and elsewhere, is microfilming. First used in 1930, microfilming was originally utilized to increase access to materials that were not widely held (Levin, 1993). Only more recently has it been employed as a preservation tool. Today, for example, a book too brittle to sustain frequent handling can be microfilmed, thereby preserving the book's content as well as affording broader access to the information it contains. Retrieval and handling of microfilm can be more cumbersome than books, and while considered archival, microfilm itself is subject to wear and tear. In addition, it is not a reformatting option for many other media.

One reformatting option of increasing interest to libraries is digital technology. A wide range of materials, from printed pages and photographs to sound recordings and motion pictures, can be translated into laser-readable information and stored on optical disks where material can be copied electronically with no loss of quality (Powers, 2010). Optical disks provide easy access to the material and unlike other media do not suffer perceptible damage from frequent use. The technology permits originals to be removed from handling and to be preserved in environmentally controlled storage conditions. Among the storage devices utilizing digital technology are CD-ROMs (Compact Disk Read Only Memory) and WORM (Write Once, Read Many) optical disks, which can be recorded on once by the user and cannot be erased.

The potential of digital technology for vastly increased information access and preservation is significant, but problems remain. Equipment costs are expensive, and archival standards for optical disks have yet to be established.

Ironically, in the long term the life span of an optical disk may end up being far greater than the equipment that can read it. Today, the pace of technological change is so swift that machine obsolescence is a regular occurrence. Kenneth Harris, who spent over 20 years at the National Archives before coming to the Library of Congress, says that large institutions with materials on outdated media have to maintain obsolete equipment to retain access to items not reformatted on the latest technology. On this issue; Levin (1993) states that "At the National Archives and Library of Congress we have literally museums of audio, video, and imaging equipment to reformat materials that have been produced in the last 150 years" (p.96) implying that some experts have suggested that librarians and archivists using digital technology should be prepared to

make reformatting digital material onto newer technology a regular part of collections management.

Another solution for books and other paper materials may be doing no reformatting at all, or at least waiting until demand or condition justifies the copying. Improved storage conditions and microhousing of materials can lengthen the life of even brittle books and help postpone the day when reformatting becomes essential for preserving intellectual content. Called "phased conservation" by the Library of Congress, a maintenance program that targets deteriorating material for a variety of microhousing options can "buy time" for items in a way that efficiently utilizes limited resources (Levin, 1993). It is very daunting to know that much has not been done in this direction in our higher learning places and libraries in Ghana. The researcher is not refusing to acknowledge the effort though some of these tertiary institutions here in Ghana are doing to preserve and maintain students research work on the DSPACE held on the Kwame Nkrumah University of Science and Technology server.

2.11 Antique books

There are many projects underway that seek to digitize rare and precious old books (IBM <http://www.dlib.org/dlib/july97/vatican/07gladney.html>) and also projects, to convert old books to ASCII or machine readable form. The idea is to preserve the pleasures of reading an old book. This is similar in spirit to the common practice of preserving antique furniture and other items even though a particular antique may not be of museum quality.

2.12 Electronic documentation of ideas

From the very beginning, Latin culture and its heritage have given to the word document the meaning of instruction or proof. If one refers to the “official” definitions of the French Union of Documentation Organizations [l’Union Française des Organismes de Documentation] one ascertains that the document is defined as “all bases of materially fixed knowledge, and capable of being used for consultation, study, and proof” (Day et al, 2006). Documentation aims at recording structural particulars of hand bound books which are potentially of interest to those studying regional styles or the development and spread of binding techniques.

The ultimate conservation and utilization are determined by some general techniques and methods that apply to all documents— methods that are studied in national associations and at international Congresses. According to Day et al, (2006), Gutenberg’s invention has created such a voluminous and intense typographical production, especially in the last 100 years, that the problem of conservation and utilization of graphic documents became acute. Since the 17th century, the abundance of written documents has required a scientific method of prospecting [*prospection*] and of classifying books and manuscripts. As early as 1972, IBIS or the Issue-Based Information System has supported discussion by providing a facility for groups to document ideas and issues that result from brainstorming of issues raised in the context of architectural design (Kunz, 1970; Rittel, 1973).

2.13 The future of digitisation

Today, a growing portion of our cultural heritage is being created by individuals and corporations primarily or exclusively in digital form as Web pages, email discussions, or online publications. Because this is happening in a spontaneous, distributed manner both on the World Wide Web; and in local networks or servers beyond the reach of the Web, it can no longer be bound and controlled like a traditional library collection.

The processes of preserving digital information will vary significantly with the different kinds of objects; textual, numeric, image, video, sound, multimedia, simulation and so on being preserved. Whatever presentation method is applied, however, the central goal must be to preserve information integrity; that is, to define and preserve those features of an information object that distinguish it as a whole and singular work.

2.14. Website

A Website is a related collection of World Wide Web (WWW) files that include a beginning file called a home page. A web page is what is seen on the computer screen when you type in a web address, click on a link, or put a query in a search engine (http://searchsoa.techtarget.com/sDefinition/0,sid26_gci213352,00.html). A web page can contain any type of information, and can include text, colour, graphics, animation and sound. A website can consist of one page, or of tens of thousands of pages, depending on what the site owner is trying to accomplish. Generally, people look at websites for two primary reasons:

1. To find information they need. This could be anything from a student looking for pictures of frogs for a school project, to finding the latest stock quotes, to getting the address of the nearest restaurant.
2. To complete a task. Visitors may want to buy the latest best-seller, download a software program, or participate in an online discussion about a favourite hobby.

2.14.1 World Wide Web

The World Wide Web, according to Mantaro (2005), is essentially a document delivery system running over the Internet network. Connected to the Internet, Web browsing software running on computer can find and fetch documents located on Internet Web servers anywhere in the world. A company or an individual tells you how to get to their Web site by giving you the address of their home page. From the home page, you can get to all the other pages on their site. For example, the Web site for IBM has the home page address of <http://www.ibm.com>. The home page address actually includes a specific file name like *index.html* but, as in IBM's case, when a standard default name is set up, users do not have to enter the file name. IBM's home page address leads to thousands of pages. A Web site can also be just a few pages. Browsing the World Wide Web can snag you lots of information, more than you might expect. You do not have to know much about the "Web," or how it works, to browse fairly successfully (<http://www.fredmoor.com/design/what.htm>).

Since site implies a geographic place, a Website can be confused with a Web server. A server is a computer that holds the files for one or more sites. A very large Website may be spread over a number of servers in different geographic locations. IBM is a good example; its Website consists of thousands of files spread out over many servers in world-wide locations.

There is much software on the market today for designing and authoring interactive compact discs. These include Adobe Flash, Adobe Dreamweaver, Macromedia Dreamweaver, and Microsoft Visual Basic. The use of any of this software depends solely on the user's ability, knowledge of the software, its scripts or codes and availability. For this study the researcher settled for the Microsoft Visual Basic (VB). VB is a windows based software and one of the numerous Microsoft applications with common scripts: in this regard, the VB software does not need to be installed first. The end user does not require any third-party software like Adobe Flash Player and the Adobe Flash Direct X to enable him or her use the VB project. Again, this will make the resource easy to control in its delivery and more accessible to students, some of whom may not have good internet connectivity to download and install flash and multimedia players.

2.15 Microsoft Visual Basic

Opoku-Mensah (2010) defines Microsoft Visual Basic as BASIC, an acronym for Beginners' All-purpose Symbolic Instruction Code, was first developed as a teaching language. It is a flexible professional language that can be used to write practical Windows-based programs and build both simple and powerful corporate, commercial, and educational applications. Visual Basic can be used to produce simple arithmetic

games for school children, student records management, payroll and stock control programs for business entities, library management, and for national voters' register management. This programme does not require third party software like flash player pre-installed to enable it run as in the case of flash developed websites and must have high computer memory.

2.16 Authoring

Authoring also known as *authorware*, according to Mantaro (2005), is a program that helps you write *hypertext* or *multimedia* applications. By defining the objects' relationships to each other, and by sequencing them in an appropriate order, authors (those who use authoring tools) can produce attractive and useful graphics applications. Most authoring systems also support a scripting language for more sophisticated applications. The distinction between authoring tools and programming tools is not clear-cut. Typically, though, authoring tools require less technical knowledge to master and are used exclusively for applications that present a mixture of textual, graphical, and audio data.

2.17 Summary

The views expressed by the various sources indicate that ICT has not only expanded the way in which information can be generated and delivered but has provided a valuable opportunity to practice new learning techniques. Computers are making much impact in education in many places, providing a competitive advantage that has come to be essential in various aspects of competition.

In Ghana, educators and researchers seem to agree on the potential of ICT to have a significant impact on education. What is not really certain is the precise role ICT should play in education reform and how best to ensure that this potential is fulfilled. As Cuban (2001: 28) laments, “although promoters of new technologies often spout the rhetoric of fundamental change, few have pursued deep and comprehensive changes in the existing system of schooling...” This is true in the case of the Ghanaian schooling system as much has been said about ICT but then not much has been done in the schools to achieve this goal. In an attempt to contribute to fulfilling this goal, the researcher looks at one methodology to incorporate ICT in art education as discussed in the next chapter.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter describes the nature, scope and content of the digital directory created on “Contemporary Ghanaian Artists” to supplement information provided in the General Knowledge in Art textbook used in Senior High Schools in Ghana. The following sections describe the strategies adopted to find answers to the research questions outlined for the study. The qualitative research methodology was employed for this study. This method investigates the quality of relationships, activities, situations or methods.

3.2 Qualitative research method

The study adopted the qualitative research method with experimentation to develop a digital directory of five Ghanaian artists in the form of a CD. Best (1981) has described qualitative studies as those in which the descriptions of observation is not ordinarily expressed in quantitative terms but not suggesting that numerical measures are never used; rather, other means of descriptions are emphasized. Sidhu (2003) and Altrichter, Posch, and Somech (1995) explain that qualitative research emphasizes holistic description of whatever is being observed rather than comparing the effects of a particular treatment while Ary, Jacobs and Razavieh (2002) assert that qualitative inquiry seeks to understand human and social behaviour from the “insider’s perspectives”. This means that in qualitative inquiry, there should be vivid description of phenomena. According to Best (1995), qualitative inquiry seeks to portray the

complex pattern of whatever is studied in sufficient depth so that whoever has not seen it may have the opportunity to understand whatever is being studied.

3.2.1 Advantages of qualitative research

Natural Setting: As McMillan and Schumacher (1993) clearly state, qualitative research is a naturalistic inquiry which uses non-interfering data collection strategies to discover the natural flow of events and processes, and how participants interpret the data. Similarly, Hitchcock and Hughes (1995) indicate that qualitative research studies real world situations where there is no attempt to manipulate behaviour to satisfy any conditions. In qualitative research, the researcher allows conditions to flow at their own pace without any attempt to manipulate behaviour, besides being concerned with the description and explanation of phenomena as they occur in routine, ordinary natural environment (Blease and Cohen, 1990).

Human Instrument: In qualitative studies, the researcher is the primary instrument for collecting, gathering and analysing data Hitchcock and Hughes' (1995). Because the method studies human experiences and situations, researchers need an instrument flexible enough to capture the flexibility of that human experience. The human Instrument is essential in qualitative research to talk with the people in the setting, observe their activities and read their documents and written records, and to record the information in the field notes and journals, (Denzin and Lincoln, 1998).

Research roles: McMillan and Schumacher (1993) state that qualitative researchers become “immersed” in the situation and the phenomenon studied while assuming an interactive social role in which they record observations and interactions with participants in many situations, as Best (1991) indicates.

Description of Data: According to Cohen and Manion (1997), qualitative inquiry emphasizes data in the form of words rather than numbers. That is to say, emphasis is on rich description of people, events and whatever happens in the research setting. This means that in qualitative inquiry, data must be thoroughly described in detail so that “outsiders” may be able to understand whatever has been done. On the other hand, there is room for collection of data in numerical terms although this may be done in rare cases. This is in line with Hitchcock and Hughes’ (1995) assertion that qualitative research deals in words and meanings while seeking to maximize understanding of events and facilitating the interpretations of data. This brings in Ary, Jacobs and Razavieh’s (2002) explanation that the purpose of qualitative research which emphasises the typically rich descriptive and subjective character of data, makes qualitative data analysis a very different enterprise than statistical analysis.

Emergent Design: Cohen and Manion (1995) are of the view that in qualitative design, the researcher does not know or predict the outcome of a design as in quantitative inquiry where the outcome of a research is already determined. This is because in qualitative research, the researcher has a specific hypothesis in mind and can determine the outcome of the study whereas in qualitative inquiry, the design emerges as the study unfolds. Best (1991) also observe that it is worth mentioning that whatever can be learned at a particular time and setting are determined by the nature

and types of interactions that go on between the inquirer, the people and the setting and this is not predictable until the researcher has witnessed the proceedings.

As McMillan and Schumacher (1993) explain, qualitative research requires a plan for choosing sites and participants, and for beginning data collection. According to them, the plan is an emergent design in which each incremental research decision depends on prior information. The emergent design may in reality, seem circular as processes of purposeful sampling, data collection plan, and partial and final data analysis plans are simultaneous and interactive rather than discrete sequential steps.

Multi-method strategies: McMillan and Schumacher (1993) contend that qualitative researchers study participants' perceptive strategies (ethnographic observation or interview) and non-interactive strategies (use of documents). Erickson (1990) also points out that a combination of data sources (such as interviews, observation and relevant documents) and the use of different methods increase the likelihood that the phenomenon under study is being understood from various points of view. According to Cohen and Manion (1995), research strategies are flexible with various combinations of participant' observation, in-depth interviews and artefact collection. In this regard, most researchers make decisions about data collection strategies during the study and the multiple realities that are viewed are so complex that one cannot decide on a single methodology.

Inductive Analysis: Cohen and Manion (1995) declare that often, in qualitative analysis, data collection and analyses are done simultaneously so that essential information may not be lost or forgotten.

Concern for context: According to Ary, Jacobs and Razavieh (2002), qualitative inquiry is context bound in that human experience takes their meaning from social, historical, and cultural influences. Inquiry is thus defined within a particular context or setting. McMillan and Schumacher (1993) emphasize that other features of qualitative method derive from beliefs that human actions are strongly influenced by the settings in which they occur. As Tuckman (1994) says, qualitative study is a field work in that the researcher collects data over a prolonged period at a site or from individuals, making the ethnographic research able to develop context-bound data.

3.2.2 Characteristics of qualitative research

Sidhu (2003), Cohen and Manion (1995), and Hitchcock and Hughes (1995) have outlined the following as some characteristics of qualitative research.

- i. It requires on-going analysis of the data.
- ii. It incorporates room for description of the role of the researcher as well as description of the researcher's own biases of ideological preference
- iii. It is focused on understanding a given social setting, not necessarily on making prediction about that setting.
- iv. It demands that the researcher stays in the setting over time.

This study employed the qualitative inquiry approach mainly because data collected from and on the artists had to be described in the form of words rather than numbers or strictly in numerical terms. The design of digital directory required multi-method strategies including observation of real situations and in-depth interviews of the selected artists in order to solicit information to understand the processes involved.

The method therefore was the most appropriate means to document and digitalize information on the artists for the intended purpose of classroom use.

3.3 Instrumentation

Ary, Jacobs and Razavieh (2002) refer to instrumentation as a process used to solicit information in research. There are a number of research instruments but considering the nature of the study and the data required, interviews and observation were combined and found to be most suitable for the purpose of triangulation. As Cohen and Manion (1994) state, triangulation is the use of two or more methods of data collection techniques in a study while Brenner and Marsh (1985) assert that triangulation techniques in social sciences attempts to map out or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint.

The characteristics, advantages and disadvantages of these instruments were also taken into account in employing them to gather the requisite data for the study. Combining them made triangulation and validation of the data possible as different sources were consulted in order to overcome inherent weaknesses of each of the techniques to improve the authenticity of the study.

3.4 Data collection

Primary data collected for this study focused on the lives and works of five selected Contemporary Ghanaian Artists with reference to the General Knowledge in Art for Senior High Schools textbook used in teaching Visual Arts in Ghana and processing this into a digital directory as a CD as a means of updating the document for current

use in the teaching and learning of Visual Art. The researcher was the key instrument of data collection by means of personal interviews, field notes, 'conversations', on-site visits to the selected artists' studios/workshops, and field testing the CD and observing practical teaching situations in some classrooms in selected schools in Winneba to gather additional data.

Data on the artists were collected through direct but informal conversations held with the artists based on their person, education and works. The curriculum vitae of the artists were checked against the oral version via interviews. Data collected was processed with Microsoft Word and later PDF (Portable Document Format) programs. Field notes collected included bio data and pictures as well as field notes from informal interviews conducted with respondents were compiled into the Artists' Profile, and samples of their works gathered into a digital gallery.

3.5. Interviews

Interviews conducted for the study were informal and in the form of conversations (Fraenkel & Wallen 2000) with teachers, students and the selected Contemporary Ghanaian artists. They did not involve any specific type of sequence of questions or any particular form of questioning. The interviews which were conducted personally by the researcher primarily sought to find out what aspect of the Visual Arts topics for the Senior High School programme could be taught more effectively using the personal computer within the context of the ICT syllabus for schools. Selected art students, and teachers and some school Heads were also interviewed to seek their opinion on the need for a CD to teach the topic "Contemporary Ghanaian Artists" within the General Knowledge in Art syllabus. The contemporary artists' interviews

were an attempt at knowing them personally to enable me have an idea of who they are, samples of their works and their contributions to art education in Ghana. This enabled the researcher build a fresh list of contemporary artists of our time and process the data in a digital format for sustainable use.

3.6 Observation

Observation has a long tradition in the social sciences: for example, it has been extensively employed by psychologists (Irwin, 1980; Brandt, 1981; Liebert, 1995) and by educational researchers (Foster, 1996b). Looking from a more sociological perspective, Adler and Adler (1994) review five 'observational paradigms' which can be distinguished from the way observational methods have been used, and give several examples of each as follows:

1. Observation includes listening as well as looking and everyday face-to-face interaction depends heavily on both verbal and visual behaviour. Therefore, alongside observation, contemporary ethnomethodologists have directed much of their attention to conversation analysis, since they see language as the fundamental base of communication and social order. Using audio- and videotaping, they gather data that can be analysed later and repeatedly in minute detail, and the techniques of conversation analysis have been extended to interaction analysis (Heath and Luff 1996).
2. The use of video-based data can be seen as a method of supplementing other data. Williams and Clarke (2002) take up this issue of triangulation in classroom video research, and in particular, the contribution of the 'student

voice' to research methodology. They believe that validity is improved by providing extra sources of data to supplement video-based observation. Plowman (1999) also used a range of other data sources to triangulate with her video-based data, pointing out that video does not capture unobservable processes such as thoughts, attitudes, feelings and perceptions. Walker (2002) believes video-based data helps the reader to perform their own validity checks: ... access to the video ... shifts our gaze, exercises our capacity to triangulate and amplifies our appreciation of the complexities of classroom interaction" (p. 119). The researcher employed the video to capture the artist interviews in order to check against the other form of data collected.

3.7 Experimental research

The experimental method formally surfaced in educational psychology around the turn of the century, with the classic studies by Thorndike and Woodworth on transfer (Cronbach, 1957 cited in Ross and Morrison, 2004). The experimenter's interest in the effect of environmental change, referred to as "treatments," demand designs using standardized procedures to hold all conditions constant except the independent (experimental) variable (Calhoun, 1994). Experimental research designs include the following:

- True experimental (randomized trials)
- Quasi-experimental

In a true experimental design, the researcher randomly assigns the participants who are being studied (also called the subjects) to two or more comparison groups. Sometimes the comparison groups are referred to as treatment and control groups

(Creswell, 2002). Participants in the treatment group receive some type of treatment, such as a special reading program. Participants in the control group do not receive the treatment.

According to McMillan (2002), in a quasi-experimental design, the researcher does not randomly assign participants to comparison groups, usually because random assignment is not feasible. To improve a quasi-experimental design, the researcher can match the comparison groups on characteristics that relate to the dependent variable.

3.8 Population studied

The target population for this research work was Professional Ghanaian artists in the academia. Out of this population, the researcher was able to identify fifteen of them who were able and available for this project. Due to the technicalities involved in this project, and the heavy schedules of the selected artists, the researcher employed the convenient sampling technique to assess five contemporary artists in the academia in the fields of Painting, Ceramics, Graphic Design, Sculpture and Art Education as the sample on whom the digital directory is based.

3.9 Designing the digital directory

The digital directory provides the biography, works and images of the selected contemporary artists. A pre-loader page which takes the user to the homepage of the directory was created to allow the user to explore information on the various artists via their displayed photographs. Each displayed photograph has a link to the artist's exclusive page which gives the student access to the artists' biography, portfolio, a

return to the homepage or exit from that point. The user is able to print the artist's biography where a friendly version of this and the default printer pops up. The user is able to go to the gallery page which contains the entire artist's works from the main page. At this point, the user can decide to go back to look at a previous work, pause and exit from this page. The user can contact the artists only via the researcher through the contact page. This idea was adopted not to choke the artists with unsolicited emails in their inbox. Apart from the pre-loader page, contact and the home page, the other pages were built on a designed template by the researcher for the various artists.

Preparation of the artists' works

The works of the artists were photographed with a digital camera, scanned from books, scanned from slides with the aid of an image scanner and the personal computer. Video footages from the video camcorder was transferred to a personal computer, and finished off with Adobe Photoshop software on a computer. Adobe Photoshop was used to retouch, repair, sort, label the photographs and save them in .jpg or .jpeg (Joint Photography Expert Group: type of image file that is a standard on the internet) format with lower resolution than the large .bmp (bitmap) files created in windows by Paint which could be easily downloaded or run within the finished project. The researcher's decision to use .jpg was influenced by the low capacities and capabilities of personal computers used at the various Senior High Schools which will not be able to run smoothly with large files.

3.10 Data analysis plan

Results of the study was grouped into three: findings from the teaching and learning of Visual Arts with ICT in Senior High Schools, the design of the digital directory and the results from the pre testing of the digital directory on a compact disc. Details of this portion of the project are provided in chapter four.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter describes the nature, scope and content of the digital directory based on the topic “Contemporary Ghanaian Artists” in the General Knowledge in Art textbook used in the Senior High Schools and some tertiary institutions in Ghana. The interactive compact disc is a virtually self-paced study medium to run on a personal computer. It further gives an account of how the authoring of the pictures, works and biography of five contemporary Ghanaian artists was carried out.

4.2 Interactive CD design

4.2.1 Interactive compact disc design and authoring

A visual sketch of the digital directory (user interface) was made by outlining the main page, the linking pages, stage(s) at which to exit the compact disc, and navigating through the pages. This stage of the design was a major concern; users of this programme may be confused if the navigation is not set clear through the pages to enable the user find their way clearly to and fro. Secondly, VB is one of the numerous Microsoft applications with common scripts: in this regard, the VB project does not need to be installed onto a personal computer. The end user does not require any third-party software like Adobe Flash Player and the Adobe Flash Direct X to enable him or her use the VB project.

Thirdly, publishing an interactive compact disc rather than create a website was partly to make the resource easy to control in its delivery and more accessible to students, some of whom may have inadequate computer skill for effective use of the compact disc and good internet connectivity to download and install flash and multimedia players.

Accordingly, the compact disc was designed to be downloaded onto a Microsoft personal computer installed on an intranet directory for as long as required (a class period, a day's lesson or a month-long project). PDF versions of articles are easy to download and print; they have a shorter wait time and use less computer capacity in being taken up than if the item is being downloaded from the Internet. The PDF format does not require that a phone line be taken up to connect to the internet. When a student wishes to gain access to the artists, he or she could do this through the researcher from the contact page.

4.2.2 Problem definition and clarification

The fact that there is the need to thoroughly plan before any programme is started cannot be over emphasized. The first and major activity for a VB project therefore is the consideration of the problem at hand or the end-user clientele the final software is intended to serve or a general need the project is expected to meet.

There are basically two parts to any VB programme. The Visual part is the screen display – the user interface – assembled from ready-made components (called objects) such as buttons, whilst the Basic part is the code, which processes data and alters the

screen in response to the user's activity and/or other factors. The first step in using Visual Basic is launching it and creating new files as seen in Fig. 1.

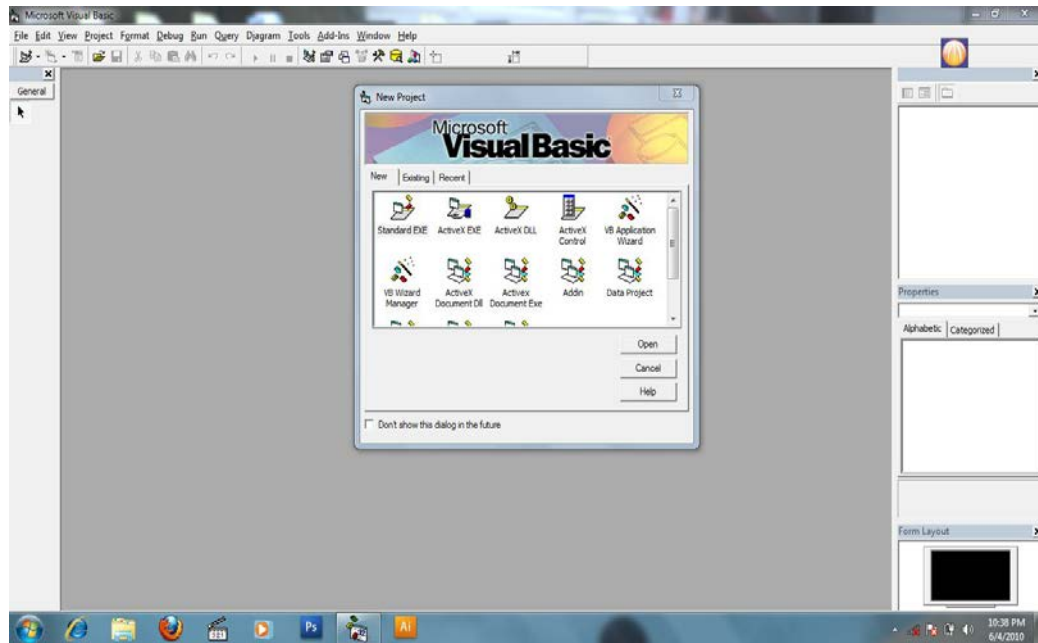


Fig 1: Screen showing a launched Visual Basic interface

The New Project dialog box appears. This dialog box prompts the student or user for the type of programming project he or her want to create. A new default standard project is clicked to open for the above Visual Basic environment.

4.2.3 Programme design and coding

This is the actual stage for creating a Visual Basic project. This involves three steps:

1. Creating or defining the User Interface
2. Setting the Properties
3. Writing (and Saving) Programme Code

1. Creating the user interface

The complete set of forms and controls used in a programme is called the programme user interface. The user interface includes all the menus, dialog boxes, buttons, objects, and pictures, that users see when they operate the programme. With a concluded layout or sketch of how the user interface will look like, and the VB controls that may be used a user interface is created using a VB form, and accompanying windows described below.

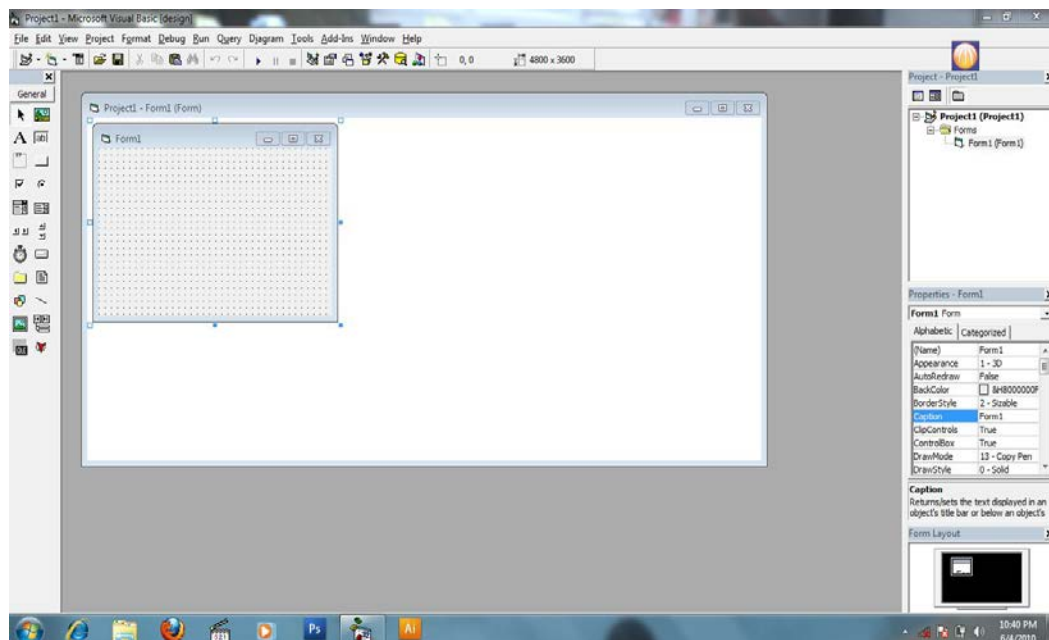


Fig 2: Screen showing a form of a programme

2. Setting the Properties

Properties are programmable characteristics associated with forms and their controls. You can set these properties either as you design your programme (*at design time*) or while you run it (*at run time*). You change properties at design time by selecting an

object, clicking the Properties window, and changing one or more of the property settings. To set properties at run time, you use Visual Basic programme code.

With the Properties window opened, properties by way of values are changed on the Characteristics window (property settings) of the user interface elements on the launched form as in Figure 3. A property setting is a characteristic of a user interface object. For example, you can change the text displayed by a text box control to a different font, font colour, point size, or alignment.

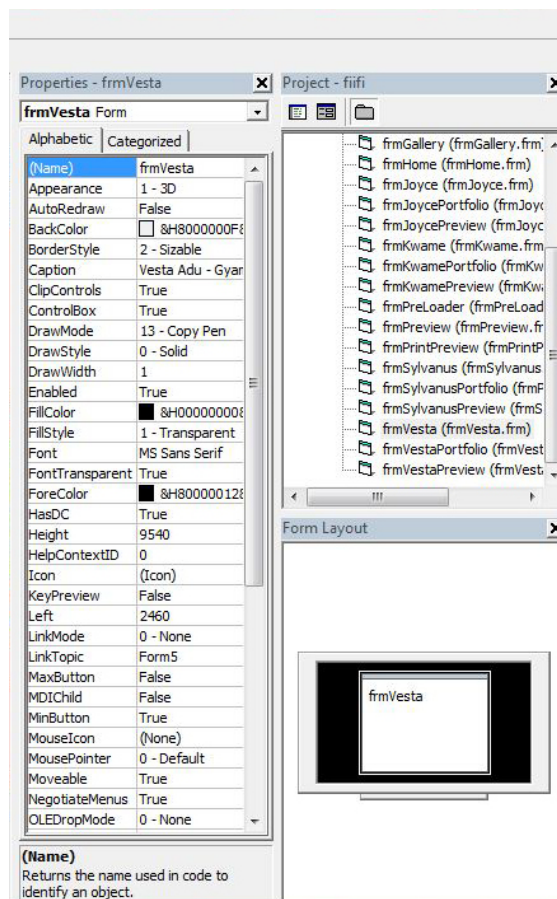


Fig 3: Screen showing Properties window

Background Preparation

The background picture is a collage of painting stitched together with Adobe Photoshop and sliced for individual pages to be used in Visual Basic later. This is captured in Figure 4 through to Figure 12, showing the Adobe Photoshop user interface indicating the various parts which were put together for the project. Adobe Photoshop is a Paint Programme that is, an application programme that creates graphics as bit map-images stored as collections of pixels (dots) rather than as discrete lines, curves, and other such shapes deGraft-Yankson (2006). Unlike CorelDraw, Adobe Photoshop treats a drawing as a group of dots and is particularly appropriate for freehand drawing. It also provides tools for images that require lines, curves, and geometric shapes. Unlike CorelDraw, this programme does not treat any shape as an entity that can be moved or modified as a discrete object without losing its identity. For fine details, Adobe Photoshop has a facility that enables pixel-by-pixel modification of a paint pattern or a small segment of a drawing.

Adobe Photoshop can be used for more than just photo editing and design. Despite its name, Photoshop is one of the ever-expanding range of tools available to painters, illustrators, and plain doodlers. These tools give users the freedom to express themselves and create fun pictures.

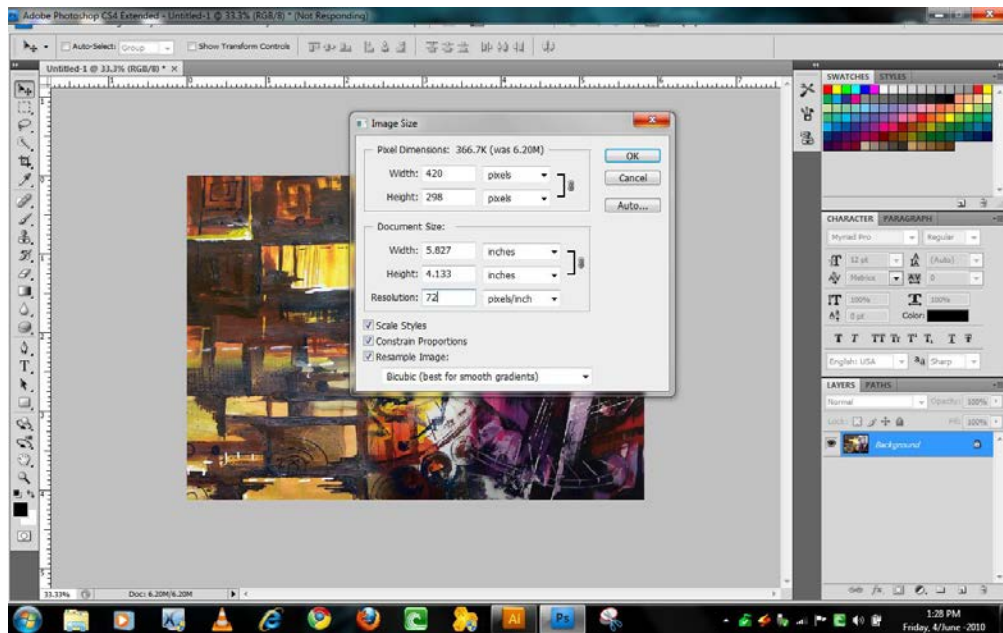


Fig 4: Screen showing the collage editing process of the background picture.

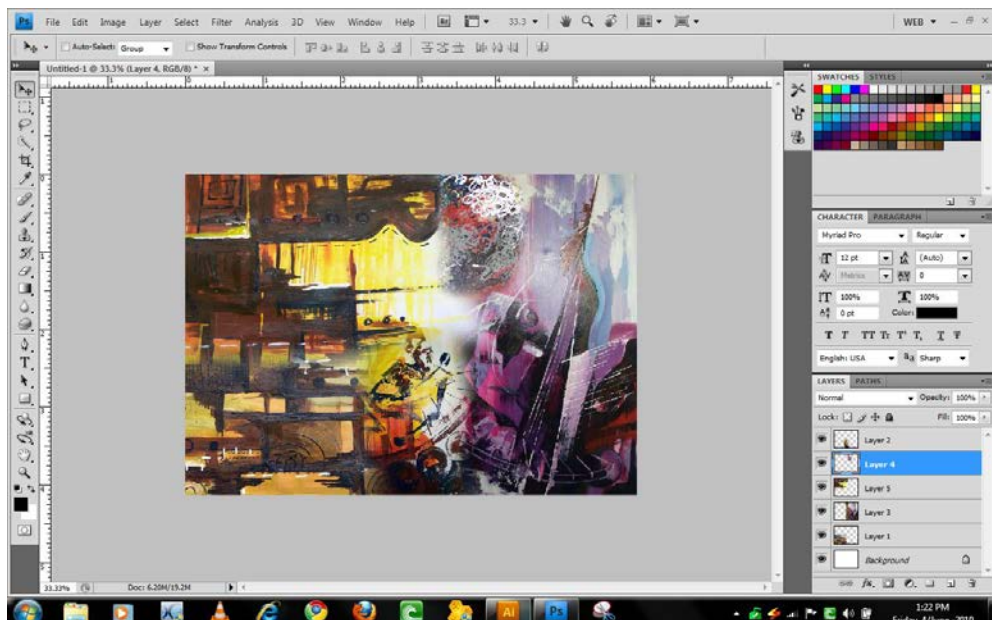


Fig 5: Screen showing the finished edited background picture to the desired dimension in Adobe Photoshop.

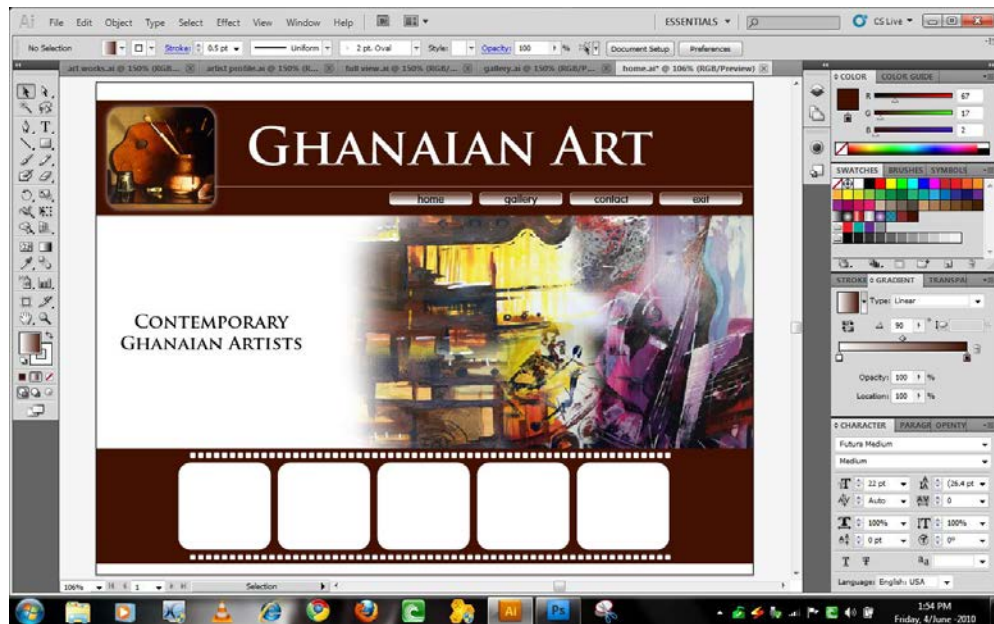


Fig 6: Screen showing the Homepage in Adobe Photoshop ready to be sliced into pieces for use in Visual Basic.

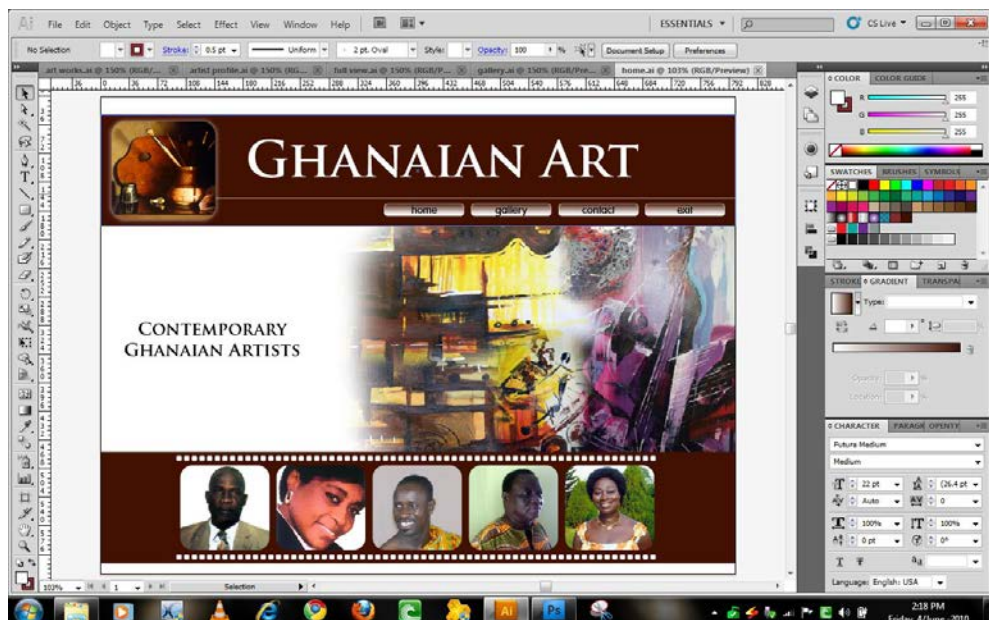


Fig 7: Screen showing photographs of the various artists which are also imported before the slicing is done and exported into VB.

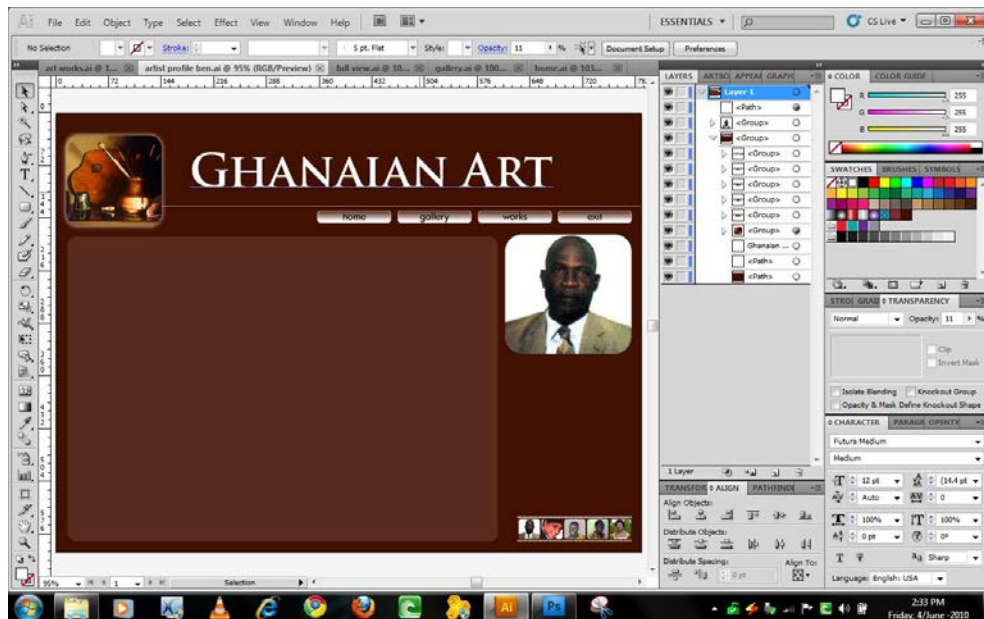


Fig 8: Screen showing the individual artist's page in Adobe Photoshop as a template for other pages.

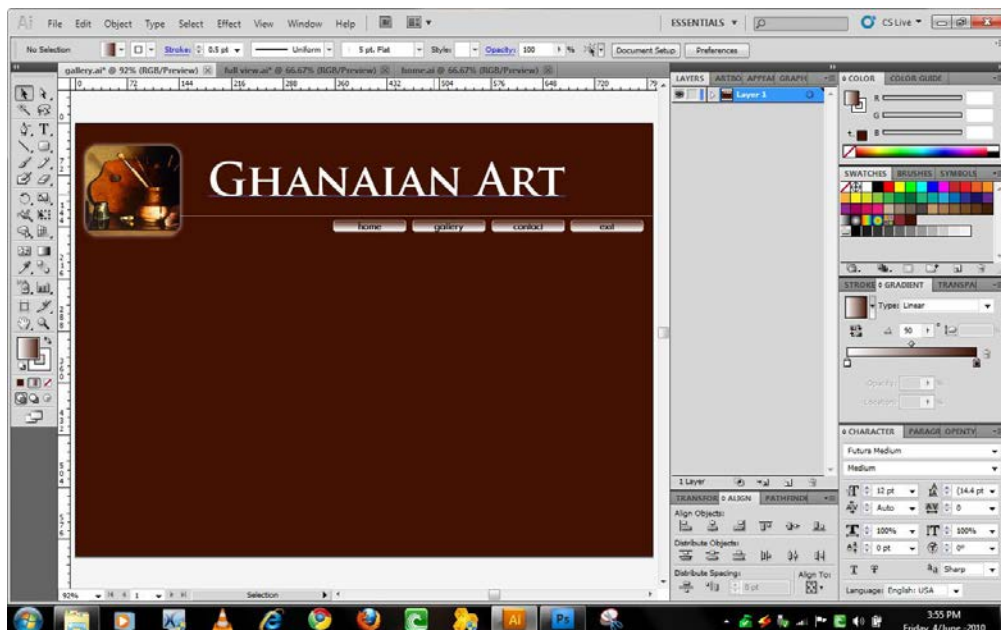


Fig 9: Screen showing the artist's portfolio page in Adobe Photoshop.

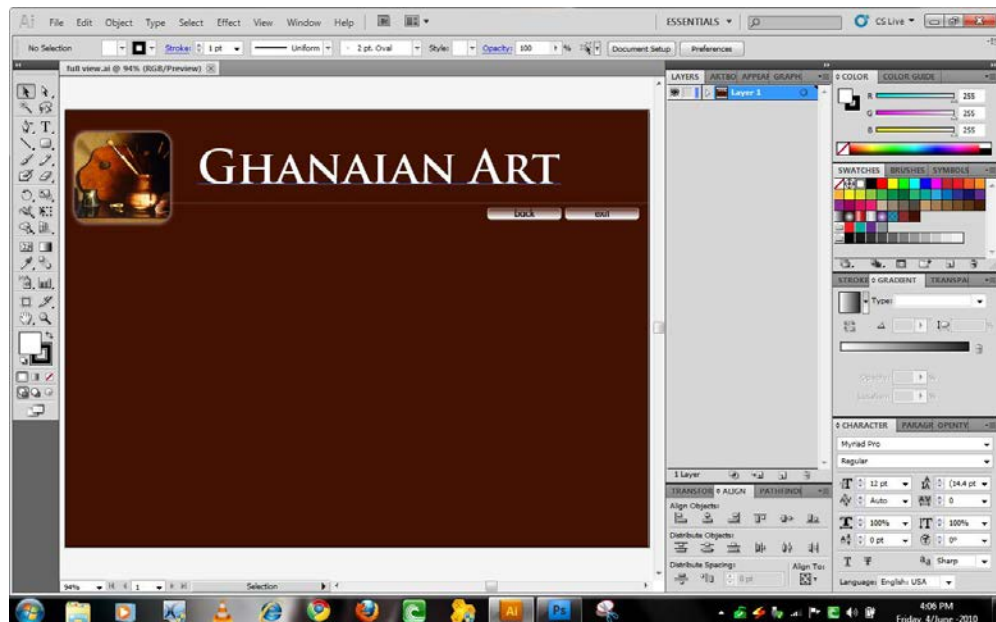


Fig 10: Screen showing the gallery page in Adobe Photoshop.

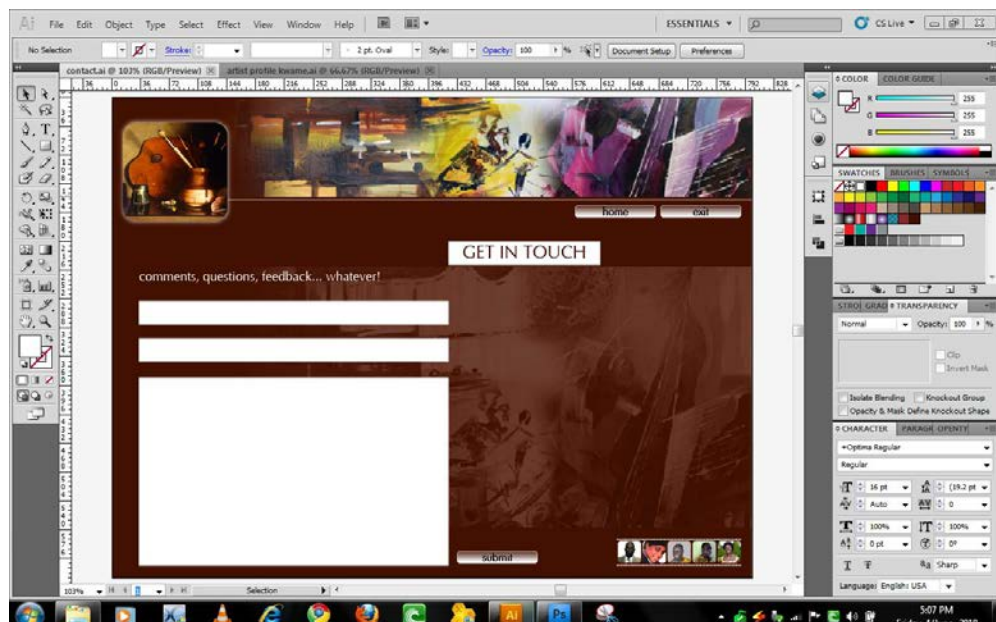


Fig 11: Screen showing the contact page in Adobe Photoshop.

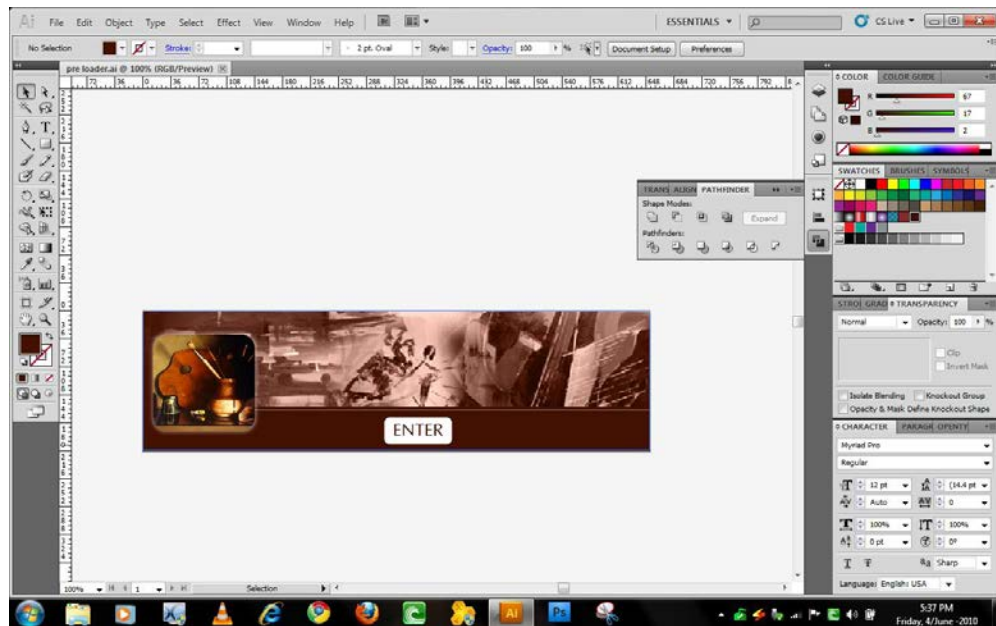


Fig 12: Screen showing the pre loader page in Adobe Photoshop.

3. Writing (and Saving) the Programme Code

Individual pages of the project are written in codes, alongside saving the work by typing a programme code for one or more user interface elements. The first to begin with is the pre-loader. The project is finished by typing programme code for all the user interface elements. Figures 13-23 illustrate the processes the researcher employed in working in Visual Basic.

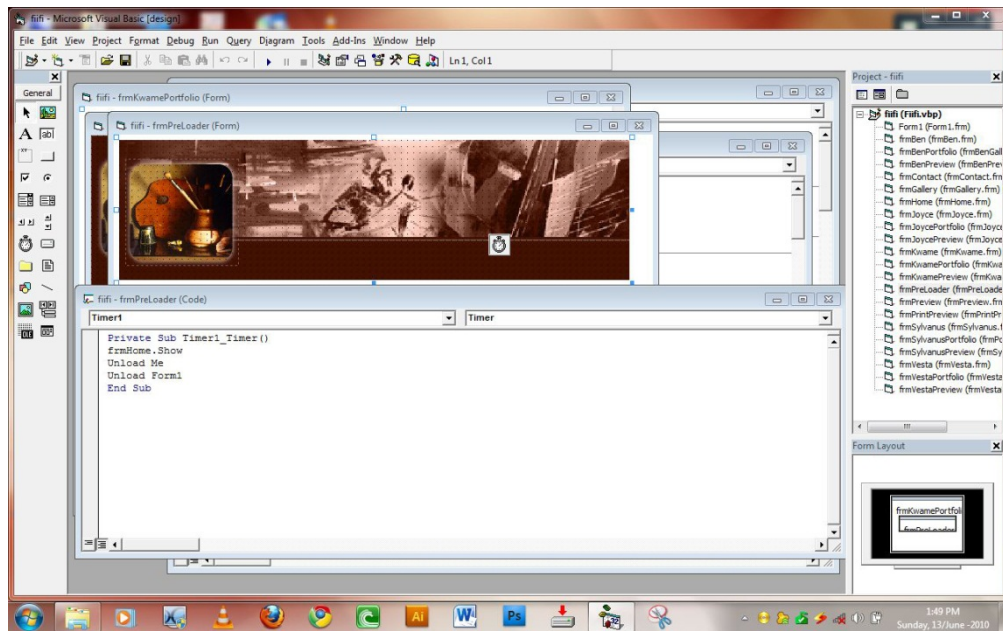


Fig 13: Screen showing the pre loader page imported into VB with its codes.

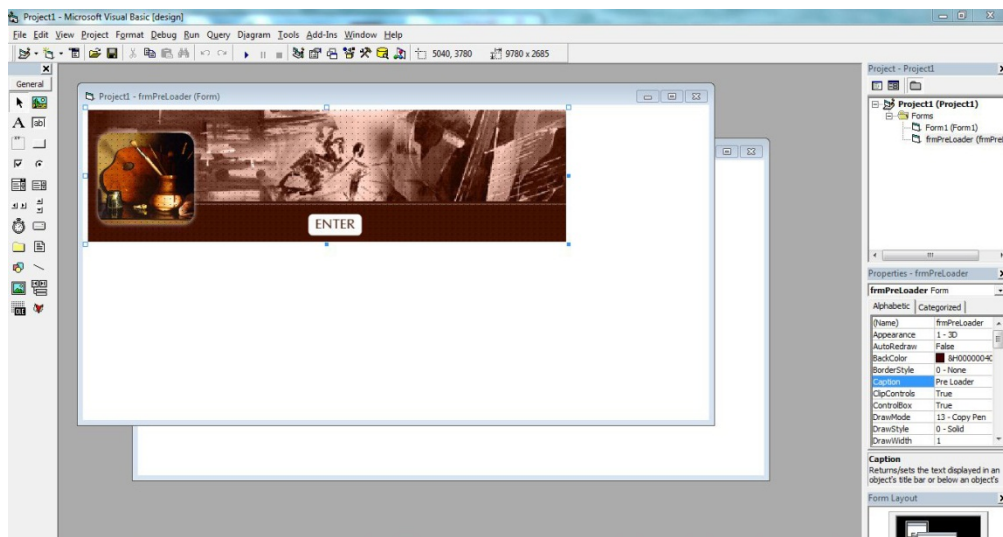


Fig 14: Screen showing the complete loader page in VB

After the complete of a programme or a good stopping point is found, the project and its form(s) are saved to the hard-drive with the Save File As and Save Project As commands on the File menu.

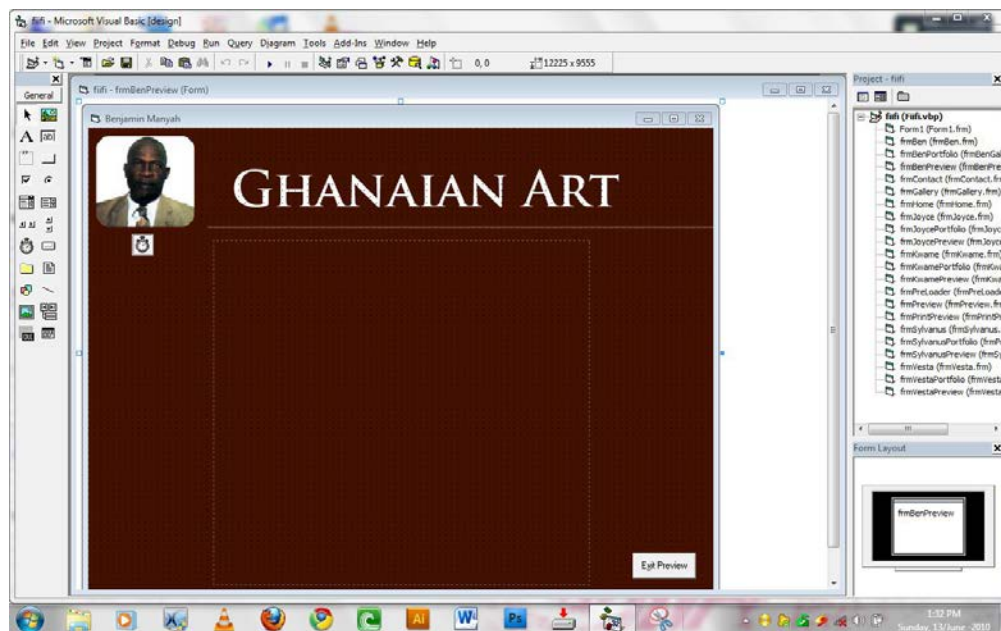


Fig 15: Screen showing artist page imported into VB.

Since Visual Basic is not a design programme but rather a scripting language, it has a lot of restrictions when it comes to the design of an interface for a project. Visual Basic therefore allows .jpeg formats to be imported into it to allow for the design aspect it lacks and scripts codes assigned to the imported file format.

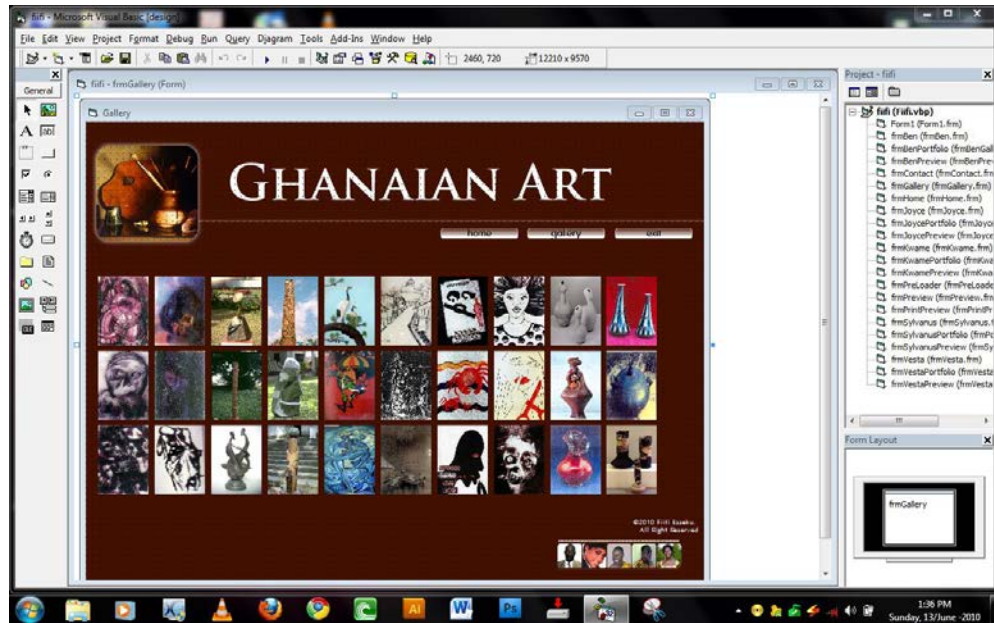


Fig 16: Screen showing the completed gallery page in VB showing sampled artists.

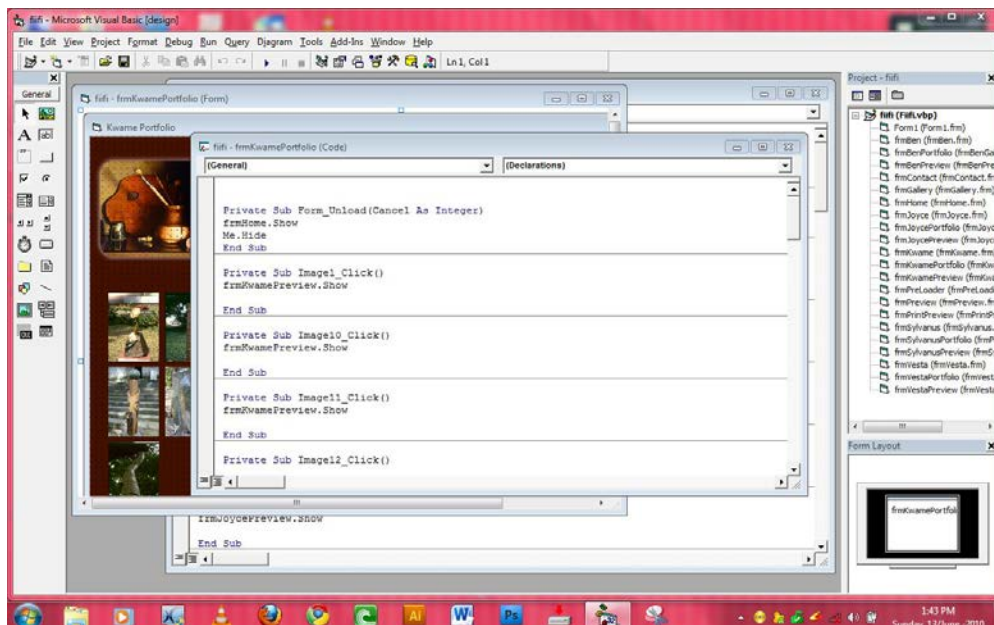


Fig 17: Screen showing the completed gallery page in VB.

Figure 17 shows the written codes that enable the slideshow to take place.

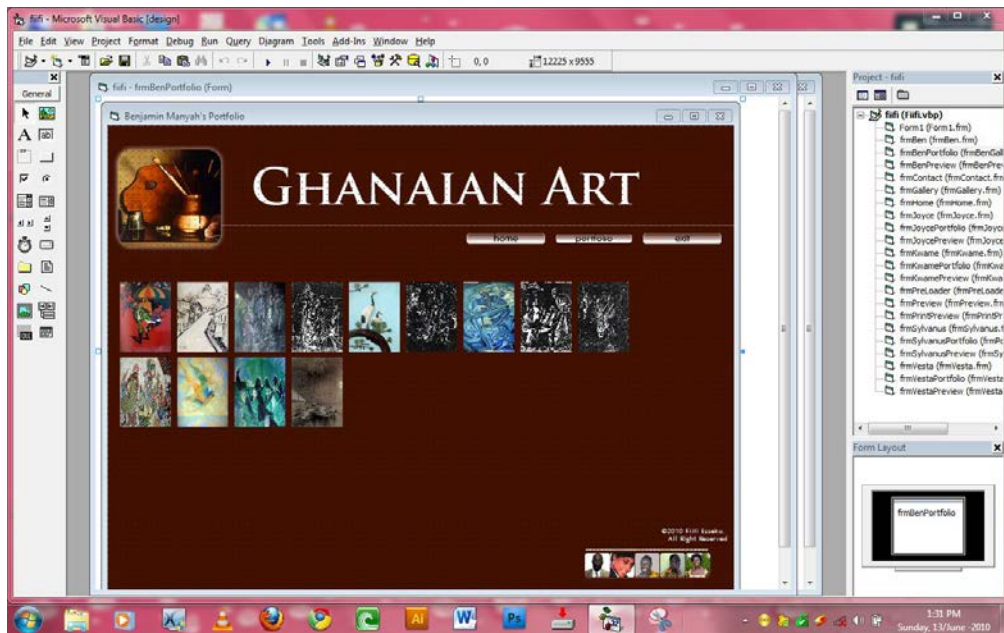


Fig 18: Screen showing the completed artist portfolio page in VB.

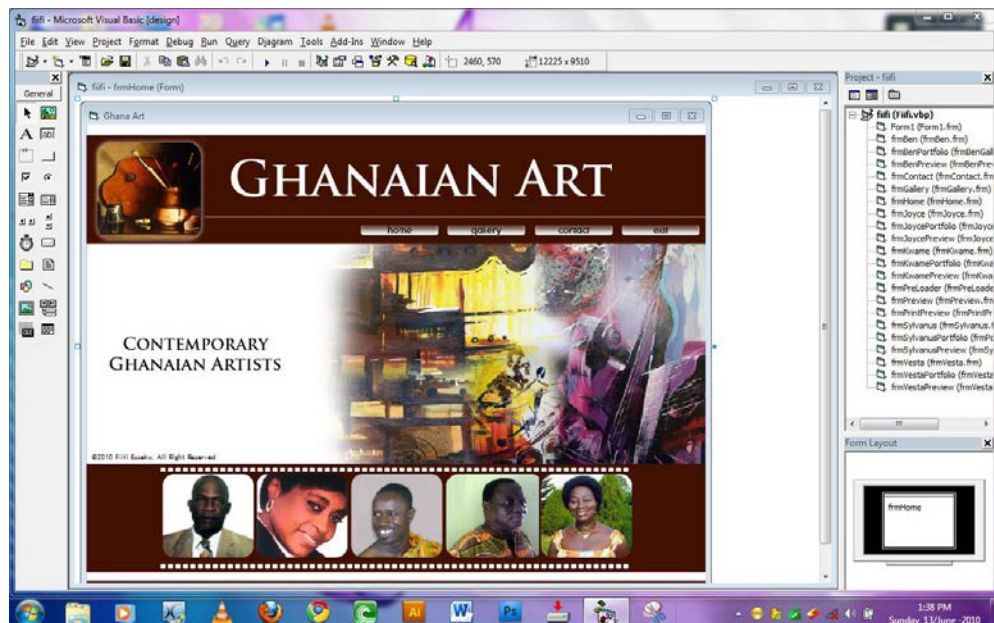


Fig 19: Screen showing the completed homepage in VB.

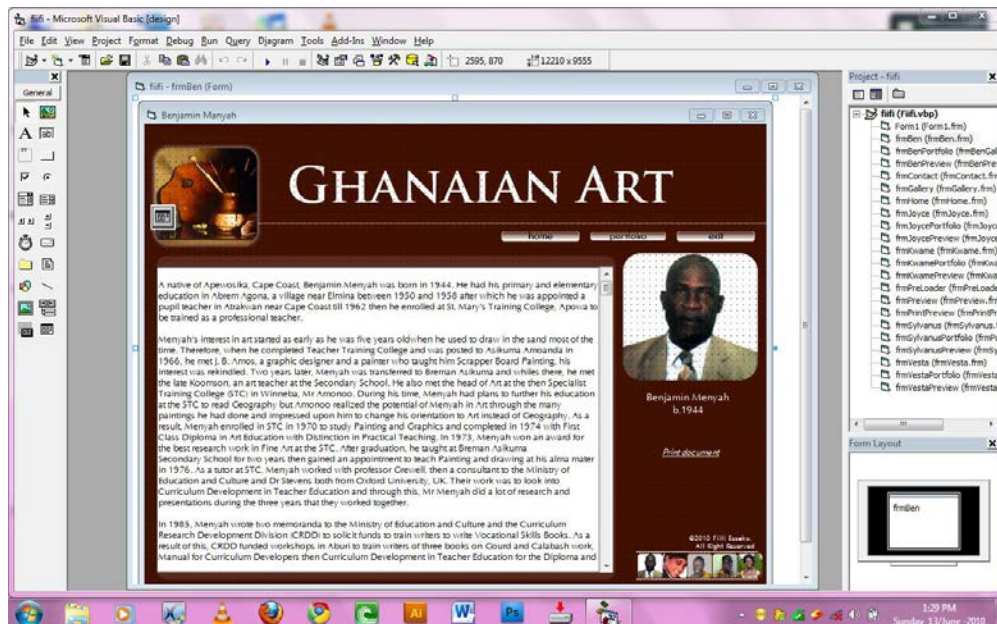


Fig 20: Screen showing a semi complete artist page in VB.

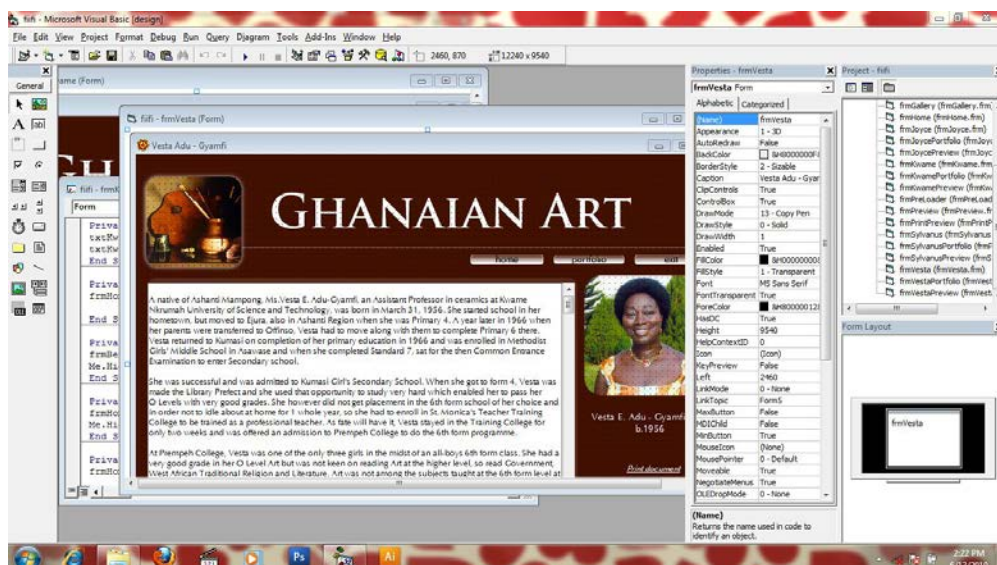


Fig 21: Screen showing another semi completed artist page in VB.

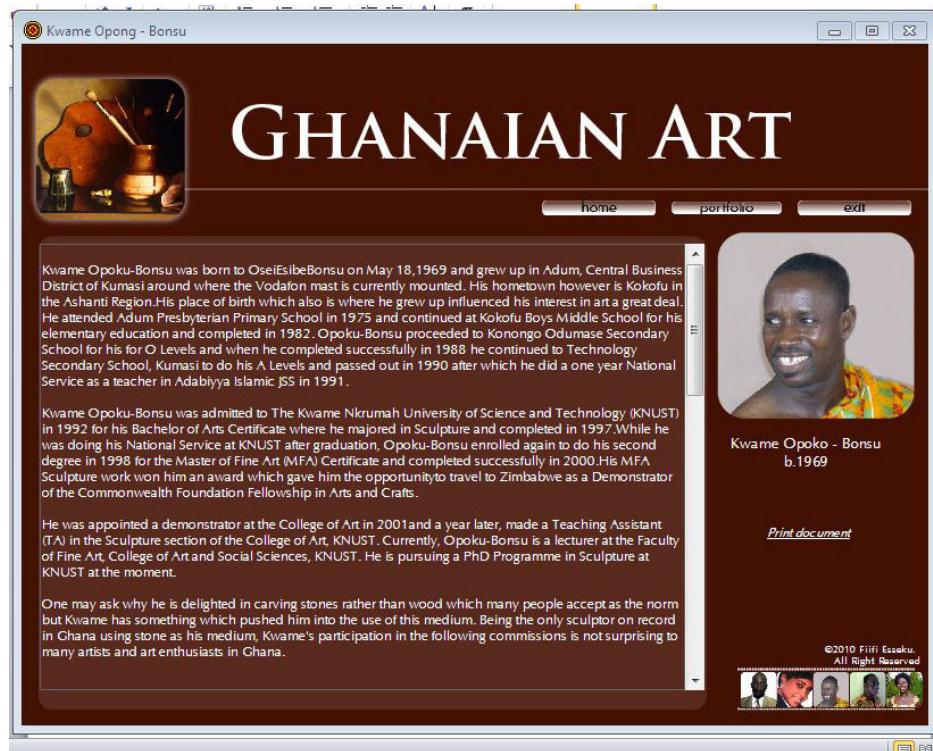


Fig 22: Screen showing a completed artist page running from the auto run CD.

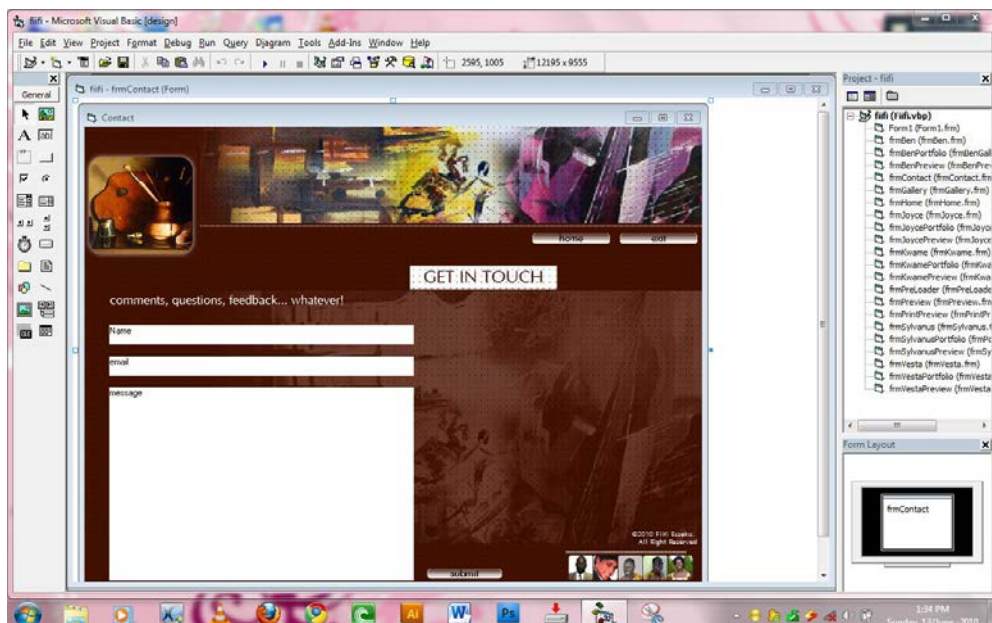


Fig 23: Screen showing contact page finished off in VB.

It is worth mentioning the ease and challenges the researcher encountered during the execution process of the project. It was with ease to work in the design software. The researcher had done a visual sketch of the project's interface and has a very good working knowledge of the Adobe Photoshop software which made it easy to work. It was not same in the Visual Basic programme where the researcher was not very sure how it was going to turn up in one personal computer from other till it had been pre-tested.

5. Programme Testing and Debugging, and Compiling

After creating a working version of the project, it was tested carefully with Senior High School students and 1st year University students all in Winneba in a classroom setup situation to verify that it works correctly, devoid of all bugs (or errors). When the project was ready for the targeted user, the researcher compiled it into an executable programme with all the necessary documentation to allow for revision of the programme if necessary, then this process is repeated, and goes through what is referred to as the Software Development Life Cycle.

Testing involved checking it against a variety of real-life operating conditions to determine whether a programme works correctly. A problem that stops programme from running or producing the expected results is called a software defect (bug). Programming bugs (errors) come in three varieties:

1. *Syntax errors* are those that appear while you write the code. Visual Basic checks your code as you type it in the **Code Editor** window and alerts you if you make a mistake, such as misspelling a word or using a language element improperly.

Syntax errors are the most common type of errors. You can fix them easily in the coding environment as soon as they occur.

2. *Run-time or Execution errors* are those that appear only after you compile and run your code. These involve code that may appear to be correct in that it has no syntax errors, but that will not execute. For example, you might correctly write a line of code to open a file. But if the file is corrupted, the application cannot carry out the **Open** function, and it stops running. You can fix most run-time errors by rewriting the faulty code, and then recompiling and rerunning it.
3. *Logic errors* are those that appear once the application is in use. They are most often unwanted or unexpected results in response to user actions. For example, a mistyped key or other outside influence might cause your application to stop working within expected parameters, or altogether. Logic errors are generally the hardest type to fix, since it is not always clear where they originate.

Programme Compiling

After finishing and testing the created programme, the researcher compiled it into an executable (.exe) file to run in the Windows setup after which a name and icon for the project were defined and burned (electronically written) onto a compact disc with the aid of installed DVD writer on a personal computer as shown in Figure 24.

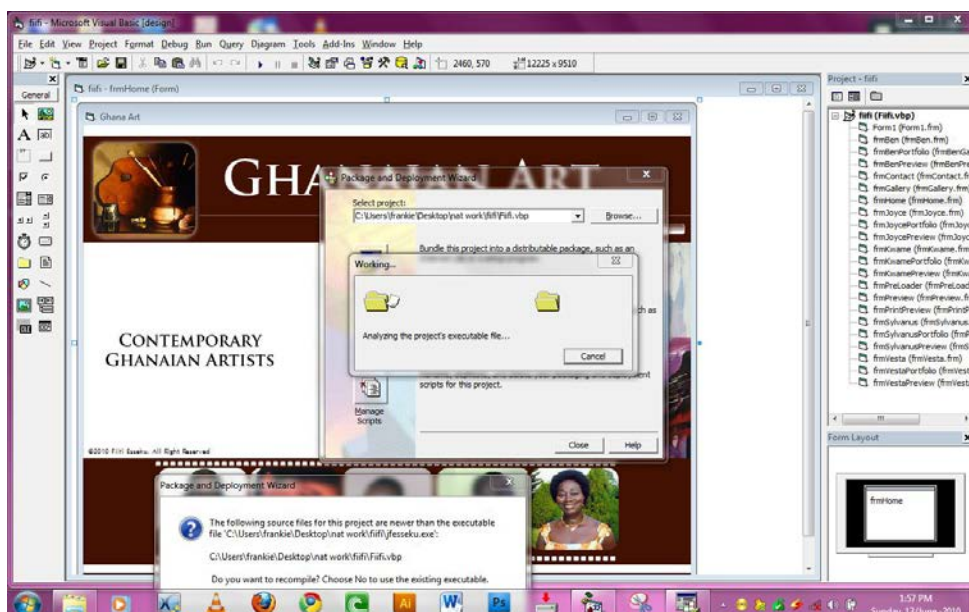


Fig 24: Screen showing the compilation of the programme ready to burn onto a compact disc in VB.

4.3 Pre-test of cd and response of visual arts teachers

Pretesting the CD involved nine teachers comprising two females and three males of the A.M.E. Zion Girls' Senior High School and Winneba Senior High Schools, and four male lecturers at the Art Department of University of Education, Winneba. These teachers were interviewed and also introduced to the new technology as a set of tools to compliment the availability of ICT within art and design (and specifically within the art department). The CD was reported as a positive force, which can enhance motivation and self-esteem for teachers and student alike.

4.4 The need for the compact disc

The compact disc seeks to draw attention to the computer as a tool for the teaching and learning of art in Ghanaian Senior High Schools and also tertiary art institutions. This has been necessitated by the observation that information technology as they are pursued in Ghanaian senior high schools today concerns itself mainly with word processing, and therefore makes very little impact on the teaching and learning of Visual Arts and encouraging students and students to use the personal computer to learn.

The use of the computer to learn about art history, manipulating the computer, moving the mouse and so on, - may appear to be a form of play but the underling factor is that, this basic experience of involvement with little regard for results can be an educative one. The computer makes it possible for learners to engage in many creative activities and finding the possibilities of using the personal computer in learning in their other subjects very quickly and at very little cost, it offers a much broader opportunity for experimenting and in-depth practice.

It is with this understanding that the researcher considers the activities outlined in this compact disc as capable of enhancing the teaching and learning of art. Insight gained from basic use of computers for learning art will put teachers and students in a better position to appreciate the usefulness of the computer and for that matter information technology in art education. What follows in this section is a justification to the fact that information technology means more than learning how to type with the computer.

4.5 Objective of the activities

The activities contained in the compact disc aim at motivating students to use the computer to learn art. Since it is much faster and child centred to use the computer for learning art in this regard, the activities in the compact disc would promote spontaneity in students' ability to learn. The compact disc therefore aims at introducing the computer to students as a tool for learning art. This would lead students to explore further the area and possibility of using the personal computer for learning other subjects as they utilize the concepts acquired from the use of this tool. From this exploration, students would be able to appreciate what they can create, contribute to the development of art, appreciate the works of the selected artists on the compact disc with the computer as well as what others can do. In other words, they would begin to see the computer not only as machine that always comes up with similar solutions to problems (as when it is being used solely for word processing) but also that which can promote divergent thinking.

4.6 Tools

The major tool for this study is the Personal Computer (PC), which is the most popular type of computer in Ghana. Besides, PCs are compatible to a wide range of software – from high tech 3D simulations to integrated word processors and encyclopaedias. Personal computers, which are also known as IBM compatible computers, are easy to use and are found in all the schools that have ICT centres. This is not to say that the Apple Macintosh is inferior in any way. On the contrary, Macintosh is many times considered a better piece of equipment for use by artists. The only drawback to the Macintosh would be the lack of some of the more popular

and less expensive software that is usually released for PCs first, and of course the fact that it is more expensive.

4.7 Pre-testing the directory

Pre-testing of the digital directory on a compact disc was done with eight Visual Art students of Winneba Senior High School, 12 students of A. M. E. Zion Girls' Senior High School in their various schools, and the first year Art Education class of the University of Education, Winneba. The idea was to find out the practicability of the interactive digital directory and to link up the activities on the compact disc with the kind of Art Education curricula followed at the two levels. The first year Art Education class were made up of 17 females and 32 males. The Senior High School groups consisted of students in Forms One, Two and Three while the tertiary group were first years.

The pre-testing involved a series of activities. These students had already had introductory lessons in computing from their IT classes. Students' previous knowledge on the use of the personal computer was reviewed. At this stage, the researcher had to take them through good mouse handling skills. This activity was carried out in ten days of two hour sessions per day. Some of the students did not turn up at some training sessions because they were either busy with other activity or attending to personal issues. This absenteeism did not actually have any effect on the performance of the students' mouse handling technique because they already had knowledge of the personal computer usage.

The researcher also had to revise the students' previous knowledge on the parts of the PC. It was a very smooth session because they had learnt the basic components of computers – hardware (the systems unit, monitor, keyboard and mouse) and software (the Windows operating system) in their various ICT lessons in their schools. They were also conversant with basic operations such as booting, launching a programme, creating files, typing, saving, opening files, closing files, exiting programmes and shutting down the computer. The students could also practice the skills of clicking and moving of objects. Above all, all students were Visual Arts students.

After the revision of students' previous knowledge, the activities that followed were in two sections. The first one comprised the introduction of topic "Contemporary Ghanaian Artists" as indicated in the General Knowledge in Art textbook. The second was guiding students in locating the CD-ROM (drive 'D') of the personal computer and how to open the drive. The researcher took the students through the best method to handle compact disc which included how to pick it and place in the drive. Students were taught how to handle the cd by placing one finger in the hole in the centre of the CD and placing the other fingers wide open to grab the CD by the edge. This knowledge was important for handling of the CD to prolong its shelf life.

The students had to be taught to do this during the introductory session; it came up that most of the compact discs could not be read after it had been used for some time due to poor handling. Time here was relative; because it is based on the number of times a compact disc was used. It was clear that the surface of the disc had scratches and the best way to avoid this embarrassing situation is a good knowledge of handling and storing discs. After this the students placed the compact disc into the drive 'D'

and had them start automatically. The students were instructed to wait till the pre-loader finished loading before they clicked on the 'Enter' window to explore the directory. Students were led through the navigations to the various artists' biography pages, their portfolio, the gallery pages and the contact pages. It was explained to the students that, the researcher will rather to be reached on behalf of the artists so that the various artists will not be flooded with emails as a courtesy.

The activity came to an end by summarising the lesson and asking students five questions which included

- a. How many Ghanaian artists were treated in this project?
- b. Name any two of these artists.
- c. Name two works each by the artists treated in this project.
- d. Who is Dr S. K. Amenuke, where does he come from and now lives?
- e. Who is Mrs J. J. Stuber? Mention only one contribution she has made to the packaging industry in Ghana.

The students found it fun as they just clicked on an artist's image and then the biography to answer these questions. These questions were not in a particular pattern. Where students could not get the answer right, they were guided through the artist's page to find the answer. Students were instructed to print only one of the five biographies of the artists each due to the cost of ink cartridges and its availability.

The initial stages of the activities were quite hectic; getting an appropriate time which suits each partner in this case; with many students having advanced knowledge of the use of the personal computer, they were eager to operate the PCs and would not listen

for instructions. With the help of the various art teachers available in the senior high schools, this was brought under control. In spite of all that, everyone was in high spirit right from beginning to the end, and none of the students expressed any desire to quit at any point in time. Throughout the exercises, none of the students was absent for more than two days. Students were given the opportunity to discuss some of the problems they faced whilst working. General advantages and disadvantages they perceived in the use of computers for the learning of this topic were also discussed.

Challenges of the project

- Computer specification: The common problem faced by the students was the slow nature of the computer to respond to commands when a button was clicked. This affected the compact disc not being recognised by the computer. This problem was mainly due to the CD-ROM lens being weak and out of use.
- Time: Students were confronted with many links to the various pages, and keeping track of the various pages they visited and the ability to connect to any page from any point within a short time. It therefore became obvious by the end of the entire exercise that the students needed more time to grasp the basic skill for browsing computer programme systematically and keeping track of their environment.

Apart from the two major problems, even though the students fumbled with going to a particular artist's portfolio and went to the gallery page and had to spend much time locating a particular work and also following instruction to print to a particular printer on the intranet set up by the researcher, every exercise was very much like fun to the students.

The students identified one major disadvantage in the use of the Computer for art instead of traditional tools: Affordability/availability of computers in appropriate specifications. Whereas one needs just the book to read, doing the same thing with technology demands not only a computer but other peripherals like the printer and a working CD-ROM. Where it is not available means no practice exercises could be done. Students were so worried that they only had to be at the computer laboratory before they could use the compact disc. They could not even work on their own in their schools because the appropriate specifications of the computer were not available and they would not be able to print. The need for not just a computer but one that has a good CD-ROM and a printer attached so the text could be copied, saved and printed later, was therefore a major disadvantage.

Benefits of the project

The students mentioned among many things, all the exciting effects and fun way of learning quickly. Those listed include the following:

No Soiling: The fact that one can use the compact disc without soiling it was very impressive. There was no need to tidy the tables at the end of a lesson.

Fastness: Learning with the computer is very fast. Students do not need to flip through pages when they want a particular piece of information; they just click on the right link to take them to the desired portion.

It was evident during the pre-test that one particular tab was not functioning, the display window was small, preview window was small and the users had no control to see a previous work, or move to the next image as this activity was solely done by the project. These problems were however, taken care of in the final project. The overall evidence from the students' performance in the pre-testing exercise is that students of art in Ghanaian Senior High Schools and tertiary institutions can use the computer effectively to learn on their own and at their own pace.

Taking a snapshot of the educational reforms that Ghana has had so far, including the most current report which is the Anamuah-Mensah committee report which lays more emphasis on information communication technology usage in Ghanaian schools, it can be seen that this digital directory can supplement the teaching and learning materials that would make the teaching and learning process in the Visual Arts more effective and more fun and hence easy for students to gain more knowledge and skills on the programme.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

This study has examined the extent of use of Information and Communication Technology Education (ICTE) in the light of Art Education in Ghanaian Senior High Schools and tertiary institutions but more in line with the teaching and learning of General Knowledge in Art. The study also involved pre-testing the suitability of the outcome for the intended purpose. The study revealed that ICT programmes in schools do not have direct benefits for teaching and learning of any specific subject area. The major concern of ICT in schools is Word Processing and only a few of the schools are fully connected to the Internet, and a few have some sort of allocations for specific content areas. Even in such schools, teachers hardly lay hands on the relevant software and other instructional materials that would really make sense of the entire programme. In the specific case of Visual Arts, it became obvious that there is very little progress in effective integration of ICT into art education in schools, even while there is an acceptable notion that there are obvious areas in art where the computer can function as a great tool.

Based on these findings, a sample topic on contemporary Ghanaian artist have been produced as an interactive compact disc which emphasises teaching and learning of art via computer technology. It is designed to promote the significant role computers are supposed to play in the teaching and learning of art in Ghanaian high schools and tertiary institutions. The activity highlighted reflects a basic use of the computer that provides fundamental concepts and skills for applying computer technology in the

study of art history. Three main software applications were used in building this interactive compact disc. These were Microsoft Word, Microsoft Visual Basic and Adobe Photoshop for processing the information and data collected from the sampled artists, building the interactive CD and retouching the pictures respectively.

Two major issues were addressed in the project:

1. identification of appropriate tools that support the teaching and learning of art through the computer.
2. application of computer concepts and skills in teaching and learning of some of the theory topics of art as well as the practical topics.

The interactive compact disc has been tested by selected Visual Arts students in Winneba and A.M.E. Zion Girls' High Schools and First Year University of Education, Winneba Art Education students who take art history and their performance have been recorded in the report.

5.2 Conclusions

This research has revealed that all the hype about Information Technology in Ghanaian Schools is on Word Processing. The furthest any school has gone so far has been to get hooked to the net. This in the view of the researcher is highly inadequate if the intentions of the government, stakeholders and school authorities are really to make information technology a tool in the teaching and learning process, and to prepare students for the technology driven world of our times.

It is evident from the way the government, stake holders, schools and instructors are handling the issues of IT that the kind of IT training provided in Ghanaian schools is only adequate to render our nation a full-time consumer of IT products. This is because whilst development of software and even some hardware components is becoming commonplace in other countries, what we witness here is a continuous stuffing of schools and offices with expensive computers just for word processing.

The researcher is therefore of the view that the use of computers in schools should go beyond Word Processing or even Internet browsing. After all, how much skill does one need to be able to type or look for information on the World Wide Web? Besides, it would be highly unproductive for any nation to consider information technology or any other technology in terms of its benefit to the end user. There must be a greater emphasis on how individuals can come out with original ideas and results through the computer.

What has been documented in this study is intended to help the art student see the computer from another perspective other than word processing, by using the computer to work more efficiently as artists. Even where schools have been fortunate enough to get connected to the internet, the art students, instead of browsing only for information, should project towards the development of database, building interactive software and website designs. Using the computer as a tool for the teaching and learning of art at the senior high school and tertiary level can serve as a take-off board for art students to venture into more contemporary domains of art such as computer graphics, digital painting, designing games, animation and web designing. This way,

we may not be branded as mere beneficiaries of the products of technology, but benefactors as well.

This study therefore considers IT education (for the art student and art teachers and instructors) as a way of developing and fashioning out skills acquisition in the light of modern technological environment. In other words, knowledge and skills in the traditional way of teaching and learning art need to be supplemented with computer skills, thus making technology significant in the lives and plans of the art student – the future artist.

5.3 Recommendations

The confusion in school information technology programmes begins at the software level and what subjects could be taught using the computer. Ideally, the only software which needs to be taught collectively is the operating system, for example Windows. Apart from the operating system which permits the application software to function on the computer, application software is intended to develop skills in a range of computer applications such as typing, calculating, tabulating, analysing, modelling, drawing and painting. In the particular instance of art education, ICT in schools should project towards the use of the computer for self-expression and learning other art topics. The researcher therefore makes the following recommendations:

1. Heads of schools that establish ICT centres should be prepared to acquire software and programmes such as CAD, DIY, 3D Modeling, Animation, Autodesk, Sage Peachtree, SimuRide Professional Driving Simulator that can be applied across the key learning areas in the schools. Presently ICT centres stock only Microsoft

suite and Encarta that are only used during the ICT lessons and not programmes or software that could be used by other subject areas like the Home Economics, Visual Arts, etc.

2. The Ministry of Education and Ghana Education Service should train teachers and ICT instructors to be conversant with software development, programmers and users need to be sought for specific purposes. For example building interactive compact discs on the various topics they teach, thereby encouraging students to use the computer in their learning process.
3. The major concentration of IT should be on the use of the computer in the teaching and learning of topics, for example, interactive compact discs for teaching art history to students. The general ICT training programme in the Senior High Schools and the tertiary institutions should therefore be very concise and the basic skills should be taught within the first few days of the programme to make room for streamlining the programme to specific subject areas in the subsequent days that follows. The following topics are considered enough for the general ICT programme:

1. *Hardware*

- Recognition of basic system components and connections (monitor, keyboard, CPU, printer, speakers)
- Operation of a printer - changing cartridges, loading papers, etc.
- Recognition of input devices (keyboard, mouse).

- Recognition of output devices (connecting an external speaker, printer, etc.)
- Starting up (booting) and shutting down systems.

2. *Software*

- Understanding basic operating system functions or software
 - sending a print command
 - auto run
 - clicking, double clicking,
 - operating the multimedia software (sound control, insert, eject and play compact disc)

3. *Telecommunication*

- Using of basic functions of a World Wide Web (www) browser and search engines to search and locate information, for example, activating link, moving forward and back, printing page, downloading page as the project does.
- Sending and receiving an email message.

4. *Subject area studies – Art*

- Identification and uses of categories of application software and programme for teaching Art (both Windows and Mac OS).
 - Interactive software either pre-installed or run from a compact disc.

REFERENCES

- Ackerman, M. S., & Fielding, R. T. (1995). "Collection Maintenance in the Digital Library." Proceedings of Digital Libraries '95, Austin, Texas, June, pp. 39-48.
- Adams, M. O. (1995). "Comments on draft report on digital archiving." Electronic mail correspondence addressed to John Garrett and Donald Waters, November 2.
- Adams, M. O. and Brown, T. E. (1996). "Historical Narrative on Data from the 1960 Census." Unpublished report. Washington, D.C.: Centre for Electronic Records, National Archives and Records Administration. April 3.
- Adler, P. A., & Adler, P. (1994). Observational Techniques. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 377-392). Thousand Oaks, CA: Sage.
- Akyeampong, K. (2004). Aid for Self-Help Effort?: Developing sustainable alternative route to Basic Education in Northern Ghana. Forthcoming in Special Issue of *Journal of International Co-operation in Education* Hiroshima University, CICE, Japan.
- Altrichter, H., Posch, P. & Somech, B. T. (1995). *Introduction to the Method of Action Research*. London. Routledge,
- Amega-Salorm, C. Internet Research: The New Educational Reform and ICT. <http://www.ginks.org/CMSPages/GetBizFormFile.aspx?filename=41ca3eaf-cdc3-4471e-9d0d-eed3cea4210b.pdf>. [Retrieved 04, August, 2009]
- American Geological Institute (1994). National Geoscience Data Repository System. Phase II: Planning and Pilot Study Proposal. Alexandria, Virginia: American Geological Institute. *Approaches*. Thousand Oaks: SAGE Publications.
- Ary, J. & Razavieh, B. (2002). 6th ed., *Research in Education*. London. Wadsworth Group.
- Atkinson, R. (1986). "Selection for Preservation: A Materialistic Approach." *Library Resources & Technical Services* 30 (October/December): 341-353.
- Barlow, J. P. (1994). "The economy of ideas." *Wired* (March): 84-90, 126-129.
- Battye, S. & Ntangaar, M. M. (2004). *The Challenges and Prospects of Epublishing in Africa, the E-Book Project at Makerere University*, Paper presented to the 5th World Congress of the International Drama /Theatre and Education Association (IDEA), Ottawa, Canada.
- Bearman, D. (1989). *Archival Methods*. Archives and Museum Informatics Technical Report, vol. 3, no. 1. Pittsburgh: Archives and Museum Informatics.

- Bearman, D. (1995) *Archival Strategies*. Pittsburgh: Archives and Museum Informatics.
- Bearman, D. (1996) "RLG/CPA Report." Electronic mail correspondence addressed to Margaret Hedstrom, February 19-26.
- Bearman, D. & Hedstrom, M. (1993). "Reinventing Archives for Electronic Records: Alternative Service Delivery Options." In Margaret Hedstrom, ed. *Electronic Records Management Program Strategies*, Archives and Museum Informatics Technical Report, No. 18, pp. 82-98.
- Bearman, D. & Ken, S. (1995). "Metadata Requirements for Evidence." Draft paper available <http://www.oclc.org:5046/conferences/metadata/requirements.txt>. [Retrieved August 8, 2009]
- Bennett, S. (1995). "Comments on Draft Report." Electronic mail correspondence addressed to ARCHTF-L, October 23 1995.
- Best, J. W. (1981). *Research in Education*, 4th ed. Englewood Cliffs, New Jersey: Prentice Hall Inc.
- Blease, D. & Cohen, L. (1990). *Research Methodology and Statistical Techniques*. New York: Deep and Deep Publications.
- Brenner, S. & Marsh, H. W. (1985). *Conducting Educational Research*. U.S.A: Hartcourt Brace and Company.
- Butler, Meredith A. (1997). Issues and challenges of archiving and storing digital information: preserving the past for future scholars. *Journal of Library Administration* 24, No. 4 61-79.
- Calhoun, E. F. (1994). *How to use action research in the self-renewing school*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Cohen, L. and Manion, L. (1995). *Research Method in Education*, 2nd ed. London: Croom Helm.
- Conklin, J. (1988). gIBIS: A hypertext tool for exploratory policy discussion. Paper presented at the Conference on Computer-Supported Cooperative Work (CSCW '88), Portland, Oregon, September 26-28: ACM Press.
- Creswell, J. W. (2002). *Research design: Qualitative, quantitative, and mixed method approaches*. Thousand Oaks: Sage Publications.
- Cuban, L. (2001), *Oversold and Underused: Computers in the Classroom*. Cambridge, Massachusetts: Harvard University Press.
- Day, R. E., Martinet, L. with Anghelescu, H.G. B. (2006). *What Is Documentation? English Translation of the Classic French Text by Suzanne Briet*. Lanham, Maryland, Toronto and Oxford. The Scarecrow Press, Inc.

- deGraft-Yankson, P. (2006). *Basic Handbook on ICT for Visual Art*. Accra. Black Mask Ltd.
- Denzin, N. & Lincoln, Y. (1994). Entering the field of qualitative research. *Handbook of Qualitative Research*. Thousand Oaks. Sage Publications.
- Denzin, S. & Lincoln, R. (1998). *Research and the Teacher*. New York: Routledge.
- Dillon, W. R., Madden, T. J., et al. (1993). *Essentials of Marketing Research*, Irwin, Homewood, Ill.
- Ende, J. (1994). 'The Number Factory: Punched-Card Machines at the Dutch Central Bureau of Statistics', *IEEE of the History of Computing*, Vol. 16, No. 3, p.15
- Erickson, F. (1990). *Qualitative Methods for Research on Teaching*. New York. McMillan Publishing Co. Inc.
- Foster, M. (1972). An Introduction to the Theory and Practice of Action Research in Work Organizations. *Human Relations*, **25** (6): 529-556
- Fraenkel, J .R. & Wallen, N .E. (2000). *How to Design and Evaluate Research in Education*. New York: The McGraw-Hill Companies.
- Galloway, J. (2007). *Primary ICT for Teaching Assistants*. USA and Canada: Routledge.
- General News of Wednesday, 11 April 2007. New Education Launched. <http://www.ghanaweb.com/GhanaHomePage/education/artikel.php?ID=122293>. [Retrieved November 1, 2009]
- Ghana Education Service (2004). *WSD Status Report*. Ministry of Education, Accra.
- Guarino, N. & Christopher W., (2002). Evaluating Ontological Decisions with OntoClean. *Communications of the ACM* (February 2002), 45:2, 61-65.
- Halasz, F. G., (1988). Reflections on Notecards: Seven issues for the next generation of hypermedia systems. *Communications of the ACM*, 31(7), 836-852, July.
- Halasz, F. G., Moran, T. P., & Trigg, R. H. (1987). Notecards in a nutshell. *SIGCHI Bulletin*, pp. 45-52
- Harrington, Richard M. (2009) *Understanding Adobe Photoshop CS4: The Essential Techniques for Imaging Professionals*. Berkeley, CA. Peachpit Press.
- Heath, C. & Luff, P. (1996). Documents and professional practice: 'bad' organisational reasons for 'good' clinical records. In *CSCW '96: proceedings of the 1996 ACM conference on Computer supported cooperative work*, pages 354-363, New York, NY, USA. ACM Press.

- Hedstrom, M. & Montgomery, S. (1998). Digital preservation needs and requirements in RLG member institutions. In <http://www.thames.rlg.org/preserv/digpres.html>
- Heinemann Educational Books Ltd, London, p. 244.
- Hitchcock, G. & Hughes, D. (1995). 2nd ed., *Research and the Teacher*. New York. Routledge.
- International, N. (2003, June 23). *New York Educational Cooperation*. Retrieved March 03, 2011, from The Nitartha Library for Nlanda West: <http://www.nitartha.org/collections.html>
- Kunz, W. & Rittel., H. W. J. (1970). *Issues as Elements of Information Systems*. Studiengruppe fur Systemforschung, Heidelberg, Germany / University of California at Berkeley.
- Leigh, T. W. & McGraw, P. F. (1989) 'Mapping the Procedural Knowledge of Industrial Sales Personnel: A Script Theoretic Investigation', *Journal of Marketing*, vol. 53, pp. 16-34.
- Levin, J. (1993). Getty Conservation Institute Newsletter Volume 8, Number 2, Summer/Fall
- Libraries: "Types of libraries: ARCHIVES" Britannica Online. library" Britannica Online. <http://www.eb.com:180/cgi-bin/g?DocF=micro/348/35.html> [Accessed 30 September 2008].
- Lobo, M. L. (1992). 'Observation: A valuable data collection strategy for research with children', *Journal of Paediatric Nursing*, vol. 7, no. 5, pp. 320-328.
- Mantaro, M. (2005). *FrontPage 2003: The Missing Manual*. USA. O'Reilly Media, Inc.
- McMillan, H. J. & Sehumacher, S. (1993). *Research in Education*. New York. HarperCollins College Publishers.
- McMillan, J. H. (2000). *Educational research: Fundamentals for the consumer* (3rd ed.), New York: Addison Wesley Longman.
- Minichiello, V., Aroni, R., Timewell, E., & Alexander, L. (1990). *In-depth Interviewing: Researching people*. Hong Kong: Longman Cheshire Pty Limited.
- Moser, C. A. & Kalton, G. (1971). *Survey Methods in Social Investigation* (2nd ed.). London: Heinemann
- Opoku-Mensah, E. (2010). *Visual Basic Made Easy for Tertiary Education*. Kumasi. African Premier College.
- O'Toole, J. (1990). *Understanding Archives and Manuscripts*. Chicago: Society of American Archivists

- Patton, M. Q. (1990). *Qualitative evaluation and research methods*. Newbury Park: Sage Publications.
- Plowman, L. (1999). Using Video for Observing Interaction in the Classroom. Spotlight 72, Scottish Council for Research in Education. Retrieved 28 November 2003 from <http://www.scre.ac.uk/spotlight/spotlight72.html>.
- Powers, A. (2010). *Understanding SAMI 1.0*. Redmond, WA. Microsoft Corporation.
- Punch, K. F. (1998). *Introduction to Social Research: Quantitative and Qualitative*. London: Sage.
- Rittel, H. J. & Webber, M. M. (1973). Dilemmas in a General theory of planning. *Policy Sciences*, 4 1551-169.
- Robson, C (1993). *Real World Research*, Oxford, England. Blackwell Publishers.
- Ross, S. M. & Morrison. G. R. (2004). Experimental research methods, In D. J. Jonassen (Ed). *Handbook of research on educational communications and technology*, 2nd ed., (pp. 1021-1043). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Sayed, Y, Akyeampong, K. & Ampiah, J.G. (2000). "Partnership and Participation in Whole School Development in Ghana" *Education through Partnership* 4(2), 40-51 ISSN 1364-4203.
- Selwyn, N. (1998), A Grid for Learning or a Grid for Earning. The Significance of the Learning Grid Initiative in UK Education. *Journal of Education Policy*. Paper No. 100280. Vol. 10, No.2. pp 1 - 9.
- Shulman, L. S. (1988). Disciplines of inquiry in education: An overview. In Richard M. Jaeger (ed.), *Complementary methods for research in education*. Washington, DC: American Educational Research Association, p. 3-17.
- Sidhu, K. S. (2002). *Methods of Research in Education*. New York. Sterling Publishers.
- Sofaer, S 1999, 'Qualitative Methods: What Are They and Why Use Them?', *Health Service Research*, vol. 34, no. 5, pp. 1101-1118.
- Streitz, N., et al., (1992). Sepia: A cooperative hypermedia authoring environment. Paper presented at the ACM conference on Hypertext, Milan, Italy: ACM Press.
- Stukel, J. J. et al., (1988). *Book Preservation Technologies*. U.S. Congress, Office of Technology Assessment, OTA-0-375. Washington, DC: U.S.: Government Printing Office.
- Tang, J. C. & Leifer, L. J. (1988). A framework for understanding the workplace activity of design teams. Paper presented at the Conference on Computer-Supported Cooperative Work (CSCW '88), Portland, Oregon: ACM Press.

- Thibadeau, R. & Benoit E. (1997) D-Lib Magazine, September 1997.
<http://www.ul.cs.cmu.edu/antique>
- Thornburg, D. (1999), Technology in K-12 Education: Envisioning a New Future. Retrieved 12th November, 2008 from <http://www.air-dc.org/forum/abthomburg.htm>.
- Tinio, V. L. (2003), ICT and Education. Manila: Foundation for Information Technology Education and Development (FIT-ED).
- Toffler, A. (1980). *The Third Wave*, New York: Bantam Books
- Tuckman, B. W. (1994). Conducting Educational Research. New York. Harcourt Race College Publishers.
- UNESCO (2002), Information and Communication Technology in education: A Curriculum for Schools and of Teacher Development. France.
- United States Census Bureau (1993) <http://rlg.org/ArchTF/tfadi.referenc.htm#USCB93>.
- University Libraries, U. o. (1998, October 03). *Preservation: Digital and Electronic Media*. Retrieved March 03, 2011, from Keeping Our Word: Preserving Information Across the Ages:
<http://sdrc.lib.uiowa.edu/exhibits/keeping/electron.htm>
- Walker, R. (2002). Case Study, Case Records and Multimedia. Cambridge Journal of Education. 32(1), 109-127.
- Webster, M. (1985). Webster's Ninth New Collegiate Dictionary, Meriam - Webster Inc.
- Whole School Development Training Document (1999): Whole School Development: Training for Head teachers and other Stakeholders. Teacher Education Division (TED)/Ghana Education Service (GES)
- Williams, G. & Clarke, D. (2002). The contribution of student voice in classroom research. Paper presented at the annual meeting of the South African Association for Research in Mathematics, Science and Technology Education. Durban: South Africa.
- World Bank (1996) *Basic Education Sector Improvement Program* Report No. 15570-GH, Washington, The World Bank.
- World Bank (2004) Improving Primary Education in Ghana: An Impact Evaluation, Washington, The World Bank.
- Yeboah, V. (1990) Educational Reform in Ghana, Address for USAID Conference on Educational Reform in Africa - Sept. 9-15 in Lome, Togo, Accra, Ministry of Education.

<http://education.stateuniversity.com/pages/531/Ghana-EDUCATIONAL-SYSTEM-OVERVIEW.html>. Ghana Educational System –overview. [Retrieved March 26, 2009]

http://palimpsest.stanford.edu/byform/mailling-lists/bookarts/1994/07/msg_00083.html [Retrieved October 13, 2001]

<http://sdrc.lib.uiowa.edu/exhibits/keeping/> [Retrieved March 3, 2011]

http://searchsoa.techtarget.com/sDefinition/0,,sid26_gci213352,00.html [Retrieved May 25, 2005]

<http://www.dlib.org/dlib/july97/vatican/07gladney.html> [Retrieved January 7, 2002]

<http://www.fredmoor.com/design/what.htm> [Retrieved April 10, 2005]

<http://www.modernghana.com/news/54283/1/practical-application-of-ict-to-enhance-university.html>. Practical Application of ICT to Enhance University Education in Ghana. [Retrieved August 10, 2010]

<http://www.oclc.org:5046/conferences/metadata/requirements.txt>. [Retrieved February 7, 2010]

APPENDIX Ai: Curriculum Vitae - Benjamin Menyah

CURRICULUM VITAE

BENJAMIN MENYAH

Senior Tutor

(Teaching Drawing, Basic Design, 2- Dimensional Art Media and On-Campus Teaching Practice)

Department of Art Education

University of Education, Winneba (UEW)

P.O. Box 25, Winneba, Ghana.

Email: benmenyah2008@yahoo.com

Personal Information

Date of Birth : 12th February, 1944
Place of Birth : Apewosika (near University of Cape Coast) Village, Cape Coast.
Nationality : Ghanaian
Marital status : Married with 3 children. Aged: 37, 35, 27
Religion : Christian
Languages Spoken : English, Fanti

Academic/Professional Qualifications

1995 3 – Year Counterpart Training in Curriculum Development in Teacher Education (UCEW in Collaboration with Commonwealth Fund for Technical Co-operation).

Education

University/College	Subject Studied	Title	Grade
1993-1995 University College of Education of Winneba	Curriculum Development in Teacher Education	3-Year	Pass
1970-1974 Specialist Training College, Winneba	Art Education	4-Year Diploma	1 st Class with Distinction in Teaching
1962-1966 St. Mary's Training College, Apowa	Primary Education	Teachers Certificate "A"	Pass with Distinction in Teaching

Employment

Date	Institution	Position	Rank
2004-Present	University of Education, Winneba	Art Education Tutor	Senior Tutor
1994-2003	University College of Education, Winneba	Art Education Tutor	Senior Tutor
1992-1994	University College of Education, Winneba	Art Education Tutor	Teaching Associate
1991-1992	Specialist Training College, Winneba	Head of Dept. Painting	Assist. Director (GES)
1986-1991	Specialist Training College, Winneba	Head of Dept. of Painting	Principal Superintendent (GES)

1977-1986	Specialist Training College, Winneba	Tutor, Dept. of Painting	Senior Superintendent. (GES)
1976-1977	Specialist Training College, Winneba	Tutor, Dept. of Painting	Superintendent (GES)
1974-1974	Breman Asikuma Secondary School	Head, Dept. of Art Educ	Superintendent (GES)
1969-1970	Catholic Middle School, Gomoa Eshiem	Class Teacher also in Charge of Sports And Music	Teacher's Cert. "A"
1968-1969	Catholic Middle School, Breman Asikuma	Class Teacher also in Charge of Sports and Music	Teacher's Cert. "A"
1966-1968	Catholic Middle School, Breman Amaonda	Class Teacher also in charge of Sports and Music	Teacher's Cert. "A"
1959-1962	Catholic Primary School, Attrankwa Via Elmina	Headteacher	Pupil Teacher
1958-1959	Catholic Primary School, Attrankwa Via Elmina	Class Teacher	Pupil Teacher
1997	Developing Indigenous African Pictures: The Role of the Art Educator. In Ghana Educational Media and Technology		Accra: City Publications Ltd.

Magazine/Newsletter Articles

2009	Major Milestones of UEW Alumni Association into the Next Decade	UEW: ALM Publications
2008	Alumni for Sustainable Development of UEW	UEW: ALM Publications
2007	UEW Alumni Magazine in Born!	UEW: ALM Publications
2007	Sons of UEW (dedicated to the late Dr Opoku Fianko, UEW Alumni of Great Promise)	UEW: ALM Publications
1999	Decentralization in Education: Can it succeed in Ghana? (Education Alert Vol. One Issue 2)	UCEW: Educalert Publications
1999	The Necessity for Change: UCEW Perspective (Editorial GEMTA Vol. One Issue 2)	UCEW: GEMTA Publications
1999	Major Milestones of GEMTA into the Next Millennium (GEMTA News Vol. 2)	UCEW: GEMTA Publications
1998	Establishing a Teaching University: An Insider's View (GEMTA News Vol. 2)	UCEW: GEMTA Publications
1998	Aggrey Calls on UCEW (GEMTA News Vol. 3)	UCEW: GEMTA Publications
1998	The Man Yankah (GEMTA News Vol. 2)	UCEW: GEMTA Publications

1998	Restructuring GEMTA News to a Continentalist Dimension	UCEW: GEMTA Publications
1998	Technology Gadgets: Can they be a Panacea in Producing the Educated?	UCEW: GEMTA Publications
1997	Trail Blazers Performs at the National Theatre	UCEW: GEMTA Publications

Papers Presented at Workshops/Seminars/Conferences

- 2007 **Art Education: An Integrated Approach** – at a workshop for Cultural Educators in the Greater Accra Region, 21.7.007
- 2007 **Exhibition: Planning and Preparation** – at a Workshop for Cultural Educators in the Central Region, 6.12.007
- 2006 **Resources for Visual Art Education** – at a workshop for Cultural Educators in the Greater Accra Region, 13.10.06
- 2006 **Vocational Skills Exhibition: Planning, Preparation and Mounting for National Cultural Festivals** – at a workshop for Cultural Officers in the Central Region, December, 6
- 2005 **Assessment of Vocational Skills at the JSS and SSS Levels at Schools National Festival-** workshop for Regional Cultural Coordinators of GES at GESDI, Ajumako.
- 2004 **UEW Autonomy: Opportunities and Challenges for the Art Educator** at Dept. lecture, North Campus Assembly Hall, UEW
- 2003 **The Student: Our Vital Resource** – Seminar for selected Senior Secondary Schools in the Central Region of Ghana at Adisadel College , Cape Coast.
- 2002 **The Socio-Traditional Usage of Beads in Ghana.** During the Visitation of University of Nebraska – Lincoln, USA at UCEW on May 28, 2002.
- 2002 **Art Education for All: New Key to Ghana's Future** – at African Circle of Artists Conference in Enugu, Nigeria May,2002.
- 2002 **Rationale for Art Education** – Presentation during the 35th African University Day Celebration at UEW
- 2001 **The Picture – maker's Responsibility to the State:** at Pan – African Circle of Artists Conference in Enugu, Nigeria.
- 2000 **Consortium of the Arts for Sustainable Development** – at Culturalfest 2000, UEW.
- 2000 **Ghana Arts in Perspective** at Symposia 2000 by African, Western and Oriental Art Professionals in Osaka and Tokyo-Japan.
- 1999 **Pictorial Murals** – at a workshop on **Using Media to Teach: the Case for Radio Lectures/ Tutorials at UCEW.**
- 1999 **Meeting the Challenges of Art Educators in the Next Millennium** – at a National Conference of Ghana Art Teachers Association at Winneba Secondary, 9 – 12 August, 1999.
- 1998 **Equipping the Cultural Officer for Effective Fieldwork** – at a workshop for Regional Cultural Coordinators of GES, GESDI, Ajumako 6 – 11 December, 1998
- 1998 **Monitoring and Evaluation of the Vocational Skills** – at a workshop for Regional Cultural Coordinators of GES, GESDI, Ajumako 6-11 December, 1998
- 1998 **Appreciation of Visual Art works** – at a workshop for Basic School Teachers in Accra – Tema Metropolis at the National Theatre, Accra 28th August, 1998.

- 1998 **Is the Emphasis on Science Education the Answer to National Development in Ghana?** At Nigeria Association of Educational Media and Technology International Convention at University of Lagos, Yaba 2-6 November, 1998
- 1997 **Improving Skills in Teaching: UCEW Perspective** – presentation at Ghana Educational Media and Technology International Conference at UCEW.
- 1995 **The Man J.T.N Yankah** – at a Forum of Amalgamated Hall (UCEW) Counsellors and Counselees.
- 1995 **Improving Aesthetic Response to Pictures in Winneba Schools: A Case Study** – at a Symposium of Researchers from UCEW and UCC at North Campus Assembly Hall, UCEW.
- 1994 **Problems Related to the Status of the Art Educator**-at Pan African and Interdisciplinary Colloquium on the Living and Working Conditions of the Artist and Cultural Policy Development in Africa in Congo Brazzaville, 17-23 July, 1994
- 1994 **The Role of Ghana Art Teachers Association (GATA) in the Changing Social Scientific and Technology Age** – at Ghana National Association of Teachers (GNAT) Sponsored Seminar for Resource Persons for all subject Associations at Hotel Cisneiros, SOGAKOPE, June 30 – July 3, 1994.
- 1993 **Survey of the Practical Duties and Responsibilities of Primary Head teachers** – during a workshop for a team of writers for the proposed Headmaster's Manual at the South Campus Conference Room, University College of Education, Winneba.
- 1992 **Teaching Bead – making in Junior Secondary Schools** – during Training of Trainers' workshop for Junior Secondary School Teachers at Anglican Training College, Kumasi.
- 1992 **Modalities of S.T.C. Participation in Indutech '92' Exhibition** – to Director, Specialist Training College, Winneba.
- 1992 **Report on MOE and GES Participation in Indutech '92' Exhibition** – to Director, Specialist Training College, Winneba.
- 1992 **Preparation of Teaching/Learning Aids in Life Skills** – during Training of Trainers' workshop of Primary School Teachers at Kumasi Technical Institute.
- 1992 **Report on In – Service Training Course for Vocational Skills and Life Skills Teachers in Junior Secondary School** held at Presbyterian J.S.S, Agona Swedru from 11 – 26 May, 1992 – during the official closing ceremony.
- 1992 **Report on Senior Secondary School Visual Arts Syllabus** – during a workshop for Trainers at the Teacher's Hall, Ghana National Association of Teachers, Accra.
- 1992 **Validated Achievement Test for Picture – making for Junior Secondary School** – during two Workshops on Validated Achievement Tests for Junior Secondary Schools organized by National Planning Committee for the Implementation of School Reforms (N.P.C.I.S.R).
- 1991 **The Role of Art Education Organiser in the Educational Reform** – during a Conference of Ghana Art Teachers' Association (Central Regional Branch) at Ministry of Education, Cape Coast.
- 1991 **Report on Ministry of Education and Ghana Education Service Participation in the National Expo'91**-to Director, Special Training College. Winneba.
- 1991 **Report to the Director, S.T.C. on The State of Affairs on Sculpture for Kwame Nkrumah Memorial Park Project**, at a Meeting in the Director's Office, Specialist Training College
- 1990 **From the Artists Congress 1990** – at Ghana Association of Visual Artist Confab, at UST, Kumasi.
- 1989 **Comment on the Suggested Picture – making Syllabus for Senior Secondary Schools**-during a workshop on the Validation of the Proposed Visual Arts Syllabus for Senior Secondary School organized by the National Implementation Committee of School Reform at Specialist Training College, Winneba.

- 1982 **Art and Crafts Education Policy** – at a seminar on Cultural Policy Formulation by Ministry of Culture and Tourism at the Arts Centre, Accra.
- 1981 **Art and Society** – at a symposium jointly organized by Ghana Art Teacher's Association (GATA) and Ghana Association of Artists (GAA) at the College of Art, University of Science and Technology, Kumasi.
- 1981 **African-ness in Picture – making in Ghanaian Schools** – during a workshop for Ghana Art Teacher's Association (GATA) at the College of Art, University of Science and Technology, Kumasi.

MEMBERSHIP OF PROFESSIONAL ASSOCIATIONS

- 2000-Present **Executive Member, the Pan-African Circle of Artists (PACA)**
- 1997-Present **Member, Nigeria Association of Educational Media and Technology (NAEMT)**
- 1996-Present **Secretary, Ghana Educational Media and Technology Association (GEMTA)**
- 1995-1999 **Secretary, Ghana Art Teachers Association (GATA)**
- 1994- Present **Fellow, Goethe Institution and Accra, Ghana.**
- 1995-1999 **Consultative Council of Teachers' Association (CCTA)**
- 1992-Present **Coordinator for Ghana, Foundation Afrique en Creation – Paris: France**
- 1992-Present **Chairman, National Arts Committee, Ghana Association of Visual Artists (GAVA).**
- 1992-1995 **Executive Member, Ghana University Sports Association (GUSA)**
- 1989-1994 **Acting Secretary, Ghana Art Teacher's Association (GATA)**

MEMBERSHIP OF COMMITTEES/BOARDS

- 2009 **Academic Counsellor, Dept. of Art Education, UEW**
- 2007 – to present **Editor-in-Chief, UEW Alumni Magazine**
- 2007-2009 **Member, UEW Governing Council**
- 2005-Present **President, UEW Alumni Association**
- 2004-2005 **Interim President, UEW Alumni Association**
- 2004-2006 **Chairman, Exhibitions Committee, Department of Art Education, UEW**
- 2004 **Chairman, Book Launch Planning Committee for the Faculty of GCSS Education, UEW.**
- 2000-2004 **Member, Health and Sanitation Committee, UCEW/UEW**
- 2003 **Secretary, Income Generation, Motivation and Funding Committee of First Annual Review Conference of the Faculty of GCSS Education, UCEW at Greenland Hotel, Agona Swedru.**
- 1999 **Member, Committee on Educational Forum, UCEW**
- 1999 **Member, Committee on Strategic Plan for the Department of Art Education, UCEW**
- 1999-Present **Managing Editor, Educalert (a periodic release of UCEW)**

1998-Present	Managing Editor, Ghana Educational Media and Technology Journal (GEMTJ)
1998-Present	Editorial Board Member, GEMTA News
1999	Coordinator, Trail Blazers (Drama Troupe of UCEW)
1997-Present	Editorial Board Member, UCEW Action Research Newsletter.
1995-1999	Chairman, Senior Member Staff Association Welfare Committee, UCEW.
1994-1998	Counsellor, Simpa (Amalgamated Hall)
1994-Present	Member, African Federation of Artists against Piracy (ACOP) Headquarters in Paris
1994	Secretary, University College of Education of Winneba Statute Review Committee (Ad hoc)
1993-1994	Chairman/Coordinator, Implementation Committee, School Attachment (SAP), UCEW
1992-2003	Exhibition Committee, Department of Art Education, UCEW.
1993	Member, Committee of Inquiry, Specialist Training College Audit Inspection Report
1993	Coordinator, Sculpture for Kwame Nkrumah Memorial Park. High Street, Accra
1992	Patron, Health, Recreation and Sports Club, UCEW
1991	Member, Committee on Textbooks (Task Force on Tertiary Reform)
1982-1991	Specialist Training College Representative on Cultural Policy Formulation for Ghana
1991	Member, Central Regional Cultural Display and Variety Entertainment Sub-committee Towards National Expo "91"
1978-1991	Chairman, College Exhibition, Specialist Training College, Winneba
1988	Operations Officer, Central Regional Indutech "88" Planning Committee
1986-1990	Member, Committee for National Award on Creativity and Originality.
1986	Operations Officer, Central Regional Inter-Tourism "87" Planning Council.
1987	Secretary, Agricultural Committee, Specialist Training College, Winneba.

COMMUNITY SERVICE

2008	Author, Sandwich r for Diploma in Picture-Making and Drawing
2007	Co-Designer – Mascot for UEW
1980-Present	Chief Judge –First and Second Cycle School National Cultural Festivals
2007	Contestant: Central Regional Logo (Ghana @ 50 Celebrations) with background information for all contestants of the Department of Art Education.
2005	Completed: Building for Menyah Memorial Museum on Arts Faculty –Kwaprow Road, UCC

2005	Consultant and Co-Designer, Relief Mural (Amphitheatre Monumental Project), South Campus, UEW
2004	Outline History of North Campus, University of Education, and Winneba for the Pro-Vice Chancellor, UEW
2003	Reviewer: Syllabus for 4-Year Bachelor of Fine Arts (B.F.A) in Painting for College of Art KNUST, Kumasi.
2002-2005	Reviewer: papers for publications in the Journal of University of Science and Technology (JUST)
2002	Renovation of Academic Hero. (Sculpture at the Frontage of Administration Block) , UCEW.
2002	Teenage Pregnancy (Book Cover Design) – Prof. A.B. Alhassan, UCEW.
2001	Exhibition Director, Acculturation in Ghana Art Education Exhibition to welcome West Virginia University Staff and Students in Ghana at Central Campus, UCEW.
2000	Exhibition Director, Acculturation in Ghana Art Education Exhibition to welcome American Peace Corps in Ghana at Teachers Resource Centre, Salt pond
1999	Logo (Identity) and Letterhead for Educalert (a periodic release of UCEW)
1999	The Academic Hero (Sculpture) at the Frontage of UCEW Administration Block (in Collaboration with North Korean Sculptors).
1999	Children at Play (Sculpture) at Greenland Hotel, Agona Swedru (in Collaboration with North Korean Sculptors).
1991-1997	Septet (Kwame Nkrumah Memorial Park) ;The Nurse (Ridge hospital); Mother's Love (AGC Headquarters); Portraits of V.Cs of University of Ghana(Legon) all in Accra, and Other Public Sculptures- GPTRU Office, Kumasi ; The Torch at Nkrumah's Tomb, Nkroful ; Dr. K. A Busia, Wenchi ;, Merss Saka and Animado, Abetifi Kwahu (in collaboration with North Korean Sculptors).
1998	¢50,000 Donation towards the Rehabilitation of UCEW Swimming Pool
1998	Logo (identity) of Ghana Educational Media and Technology Association
1999	Bill/Score Board for 15th Ghana University Games
1997	Citation for Efutu Rural Bank in Honour <ol style="list-style-type: none"> 1. Nii Tawiah Quaye Larbi, Paramount Chief of Awutu Traditional Area for Pioneering the establishment of Awutu- Emasa Rural Bank Ltd. 2. David Nana Larbi, for pioneering the establishment of Awutu-Emasa Rural Bank Ltd. 3. Mary Akua Abbey Quaye fo pioneering the establishment of Awutu-Emasa Rural Bank Ltd
1997	Thirty Thousand Cedis (¢30,000.00) Donation towards the Upkeeping of the Trial Blazers" (Drama Troupe of UCEW)
1994	Certificate for Counterparts Training in Curriculum Development in Teacher Education for UCEW counterpart Trainees in Curriculum Development.
1994	Co-Designer, Tutor Information Sheet (TIS) for School Attachment (SAP) Task Sheet <ol style="list-style-type: none"> 2. Analysis of Primary/Junior Secondary school/Senior Secondary School Curriculum.

1994	Designer, School attachment (SAP) Task Sheet 4: Report Writing for the 3-Year Diploma .
1994	Designer, Tutor Information Sheet (TIS) for School Attachment (SAP). Task Sheet 4: Post School – visit Discussion and Assessment of Report writing.
1994	Author, A Situational Report, School Attachment (SAP) for UECW.
1990-1994	Examiner, (Team Leader) for Basic Education Certificate Examination in Basketry.
1993	End of 1992-1993 Report, School Attachment (SAP) for UCEW
1989-1991	Wrote the 1st Draft for the Post-Diploma B.Ed Syllabus for Leatherwork, Jewellery, Drawing and Painting, for the Department of Art Education, S.T.C
1983	Participated in Revising the Art Education Diploma Syllabus by a combined team of External assessors and Tutors of the Department of Art Education, Specialist Training College, Winneba.
1982	Held seminars and symposia on “The Use of Local Materials for Art Expression in Schools “in Teacher Training Colleges in the Central Region.
1979	Proposed the creation of Art and Cultural Ministry for Ghana currently National Commission on Culture

MAJOR WORKS DONATED TO GALLERIES, INSTITUTIONS AND PRIVATE HOMES

1. **Inside the Gym** – Mural donated to the Department of HYPERS, UCEW
2. **National Culture** – Mixed Media – Medani Estudio, Galeria de Arts, Madrid, Spain
3. **Purification Rite II** – Mixed Media – Media – Estudio, Galeria de Arts, Madrid, Spain.
4. **Fish Market- Pastel on black paper** – Commonwealth Institute, London
5. **Open Air Market** – Mosaic, Commonwealth Institute, London.
6. **A School of Art and Design** – Mural at the Entrance gate of the Department of Art Education, S.T.C'
7. **Purification Rite 1** – Mixed Media – Office of the Vice Chancellor, UEW, Winneba
8. **This is Central Region** – mural art the entrance gate to the Central Region Pavilion Indutech “88” Exhibition.
9. **Get Involved in the Green Revolution** – Oils on Plywood with Ghana Association of Writers (GAW)
10. **Escort the Angry Souls Home** – Mixed Media on Plywood with Ghana Association of Writers (GAW)
11. **Portrait of Kofi Sanyo** – Oils lost at the College Exhibition Hall, Specialist Training College, Winneba
12. **Mother and Child – Collage** – Ghana National Commission on Children.
13. **Advance Teacher Training College, Winneba, Silver Jubilee** – Mixed Media – In Aid of the Silver Jubilee Celebration of Advance Teacher Training College, Winneba.
14. **Seasons’ Greetings** – Kente and Bottle College – Fififing Sako, Chief of Economic Commission of Africa.
15. **Woman Thinking about the Meaning of Death** – Pastels – Rev. Prof. Dzobo, Former Moderator, Evangelical Presbyterian Church of Ghana.

16. **Charity that Heals and Soothes** – Collage – Daniel McGaffic Director, US Information Service.
17. **Thank you – Kente Collage** – Dr. Agovi, African Studies. Legon.
18. **Citation in Memory of J.P. Brown** – illustrious Son of the Central Region – J.P. Brown's family, Tantri, Cape Coast.
19. **Royal Regalia (for the Chief of Travel world)** – US Ambassador, Accra
20. **Tuesday at Mungi Beach** – Charcoal and chalk – Mrs. Esi Sutherland Addy, Deputy Secretary, Higher Education.

MAJOR WORKSHOPS/SEMINARS ATTENDED

- 2006 - 2007 **Action Research Workshop** for UEW lecturers at Central Campus, UEW
- 2004 ICT Workshop: **Designing Multi-Media Presentation with Power Point** at UEW
- 2004 **Counselling Skills used Techniques Workshop** for academic Counselling at UEW
- 1999 **Workshop on Bead-making for JSS Pupils** towards 1999 African University Day Celebration at North Campus, UCEW in November 12, 1999.
- 2000 Public lecture on **2000 Milestone: Preparing the University for the Third Millennium** – at UCEW, Winneba on November 12, 1999.
- 1999 Academic Staff Enrichment Workshop on **Techniques for Writing Proposal for Winning International Grants** at UCEW, Winneba from 12-15 October, 1999.
- 1999 **Delivery of Lectures and Tutorials on Radio Windy Bay 98.3 (FM. Lectures)** – by Dr. J.L. Adeyanju, Educational Resource Centre, UCEW, 16-20 September, 1999.
- 1999 **Method of Teaching Art Professionals** – by Dr. S.K. Amenuke, Department of Art Education, UCEW.
- 1999 **Assessment and Evaluation of University Students** – by Prof. R. Manford and Prof. L. O. Osafhinti, South campus, 9th August, 1999.
- 1999 **Education Information, Communication and Technology for Sustainable National Development** – at Nigeria Association of Education Media and Technology International Convention. 2nd -6th November, 1999.
- 1998 **2-Day UTAG Congress** at Sasakawa Centre, University of Cape Coast.
- 1997 **Educational Media and Technology for Sustainable National Development** – at Ghana Educational Media Technology Association Meidan Conference, UCEW, 2nd – 6th November, 1999.
- 1996 **A Qualitative Enquiry Research in Progress** – by David Stephens, ODA, Education, Advisor.
- 1995 **Time Management** – Organised by Institute for Educational Development and Extension (IEDE) of Winneba.
- 1996 **Writing Action Research Proposal** – by David Stephens, ODA, Education Advisor.
- 1995 **Visual Art Teachers in the On – going Education Reform** – 1st Annual Workshop of the Reconstituted Ghana Art Teachers Association at Accra Academy.

- 1995 **Continuous Assessment at the Basic Education Level and Teacher Training College: Challenges and Strategies for Improvement** – organized by the Institute of Education, University of Cape Coast.
- 1994 **Proverbs: The Acme of Traditional Wisdom** – By Prof. Kwesi, Yankah, University of Ghana.
- 1994 **African Poetry in the C20th** – by Prof. Kofi Anyidoho, University of Ghana, Legon.
- 1994 **Themes in African Novels** – by Mr. Charles Angmor, UCE, Winneba
- 1994 **Action Research and Research Tradition from Quantitative to Qualitative** – organized by Institute for Educational Development and Extension (IEDE), UCEW.
- 1994 **Ten-day Printmaking Workshop** – organized by the Goethe Institute and the Centre for National Culture (CNC), Accra.
- 1994 **The Role of Distance Learning in Distance Education** – by Prof. Drummond of East Washington University.
- 1994 Workshop on the **Writing of Distance Education Material and Track “B” Syllabuses for Post-Diploma B.Ed and Diploma s**
- 1994 **Culture and the Learning Process: The Case of an African –Centered Curriculum** – organized by Eastern Washington University and University of Cape Coast.
- 1993 **Child to Child (Approach to School)** – organized by Institute for Educational Development and Extension, University College of Education, Winneba.
- 1993 **Staff Development Seminars** – Organised by Monitoring Unit of the Education Ministry for the Academic Staff of the University College of Education, Winneba.
- 1992 **Time Tabling and Space Utilization: The Case of UCEW** –by Dr. S.D. Awolabi, Ministry of Education, Accra.
- 1992 **Education as a Subject in Teacher Preparation** – by Mr. C. Akwesi, University of Cape Coast.
- 1992 **University Financing** – by Mr. K. Adu-Narfo, Finance Officer, University of Science and Technology, Kumasi.
- 1992 **Ghana Education Service and the University College** – by Mr. Atta-Quayson, Deputy Director General, Ghana Education Service.
- 1992 **Teacher Training in the Community** – by Mr. Stephen Baidoo, District Director of Education, Winneba.
- 1992 **Extra Curricula Activity in Teacher Development** – by Dr. B Hayford, University of Cape Coast
- 1992 **Issues in Curriculum Development: Continuing and Distance Education – The Indian Example** – by Prof. J.S. Grewal, Consultant to Ministry of Education, Accra.
- 1992 **African Unity: A Liberation of the Mind** – Constituent Congress of Pan – African Writers Association (PAWA) under the aegis of OAU and UNESCO.
- 1989 **Teacher Education and its Agencies in Ghana** – organized by Institute of Education, University of Cape Coast, under the auspices of Professional Board of the Institute of Education and the Faculty of Education, University of Cape Coast.
- 1986 **Intra-African Tourism** – by Filifing Sako, Economic Commission for Africa.
- 1986 **Promotion of Domestic Tourism and in the Social Dimension** – by Prof. R. W. Wylie of Simon Fraser University, Canada.

- 1986 **Tourism Financing, Mobilizing Internal and External Resources** – by Spanish Tourism official.
- 1986 **Manpower Development and Training in Tourism** – by Mr. Serge Dilpech of International Labour Organization.
- 1986 **Contemporary American Painting** – by Mr. W.L. Lawson, Guest United States Painter.
- 1984 **General Scope of Art Education and the Scope of Art Education Diploma** – by Dr. S.K. Amenuke, Senior Lecturer, University of Science and Technology, Kumasi.
- 1984 **What to Look for in a Work of Art** – by Mr. G. Amegatcher, Lecturer, University of Science and Technology, Kumasi

EXHIBITIONS

On the International Scene

- 1995 (solo) **Towards Film Making on the African Continent** – North Campus, UCEW, documented
- 1994 (Solo) Side Attraction Exhibition towards **Panafest '94', North Campus, UCEW.**
- 1992 (Solo) **Indutech '92' Exhibition** – Trade Fair Site, Accra.
- 1988 (Group) **Indutech '88' Exhibition** - Trade Fair Site, Accra.
- 1988 (Group) **Inter-Tourism '86' Exhibition** - Trade Fair Site, Accra.
- 1986 (Group) **Towards Ghana's Exhibition on Contemporary Art** – IFA Gallery, Bonn, West Germany
- 1982 (Group) **Ghanaian Arts in Contemporary Styles** – Kaiser Centre, Galleries, Oakland, USA
- 1977 (Group) Towards the 2nd **World Black Festival** – Lagos, Nigeria.

At the National Level

- 1996 (Group) Towards **NAFAC '98'** – Centre for National Culture, Cape Coast
- 1994 (Group) Towards **National Farmers Day** – National Sports College, Winneba.
- 1992 (Group) Towards **National Expo '92' Exhibition** - Trade Fair Site, Accra.
- 1991(Group) Towards **GIFEX'91' Exhibition** - Trade Fair Site, Accra.
- 1991 (Group) Towards **Launching of the New Cultural Revolution** – Black Star Square, Accra
- 1982 (Group) Towards, **Invitation Exhibition** – organized by Ghana Association of Writers (GAW)
- 1982 (Group) Towards **Ghana's Silver Jubilee Exhibition** – Black Star Square, Accra. Filmed by NAFTI and used for Social Security and Insurance Calendar, 1982.
- 1980 (Group) Towards **City Criers in the Courtyard of Conscience III** (A tribute to the 49 Ghanaians who were suffocated to death in Cote d'Ivoire prisons) – Kwame Nkrumah Conference Hall, Accra.

At the Local Level

2004 (Solo)	Towards 37th African University Day Celebration , Science Education Grounds, UCC.
2003 (Group)	Towards 36th African University Day Celebration , UCEW
2002 (Group)	Towards 35th African University Day Celebration , UCEW
2000 (Group)	Towards the 5th Congregation of UCEW , South Campus, UCEW
1999 (Group)	Towards the 4th Congregation of UCEW , South Campus, UCEW
1999 (Group)	Acculturation of Ghana: <ol style="list-style-type: none"> 1. To Welcome American Peace Corps in Ghana at Teachers Resource Centre, Saltpond 2. To Welcome West Virginia University Staff and Students at Central Campus, UCEW
1998 (Group)	Towards African University Day Exhibition , South Campus, UCEW
1998 (Group)	Towards Efutu-Awutu-Senya District Farmers Day Fair , North Campus, UCEW
1995 (Group)	A Requirement for the Award of Diploma in Filmmaking for Ermias Woldeamalk (Student of NAFTI)
1994 (Group)	Edwin: the Art Educator's Vision- Martin Luther King Junior Library, Accra and Filmed by NAFTI
1995(Group)	Side Attraction Exhibition Towards Panafest '94' , Dining Hall Top, North Campus, UCEW
1992 (Group)	Towards Specialist Training College Profile , Martin Luther King Junior Library, Accra
1991 (Group)	Towards Winneba District Cultural Festival , Advance Teacher Training College, Lounge.
1990 (Group)	Towards Functional Literacy , Assembly Hall, Specialist Training College, Winneba
1988 (Group)	A Call to Arms to Save the Black Race , Cape Coast Castle.
1987 (Group)	Towards Education Reform , Assembly Hall, Specialist Training College, Winneba.

HOBBIES

1. Educational Journalism
2. Drawing
3. Aqua-culture

REFERENCES

1. The Vice-Chancellor
Prof. Akwasi Asabere –Ameyaw
University of Education
Winneba
2. Ag. Head, Department of Art Education
University of Education
P.O. Box 25
Winneba

.....
Benjamin Menyah

May, 2009

APPENDIX Aii: Curriculum Vitae - Kwame Opoku-Bonsu

CURRICULUM VITAE

Kwame Opoku-Bonsu (Sculptor/Lecturer) – BA ART, MFA (Sculpture)

ADDRESS

COLLEGE OF ART AND SOCIAL SCIENCES
KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY (KNUST)
KUMASI – GHANA
TEL- +233-51- 63711
CELL- +233-243-706-981
E-MAIL- sopoku.art@knust.edu.gh

Date of Birth	-	18 TH MAY, 1969
Town and Country of Origin	-	KOKOFU, ASHANTI REGION-GHANA
Marital Status	-	SINGLE

Education/Certificates

1998-2000	Master of Fine Art (MFA-Sculpture)	-	KNUST, KUMASI
1992-1997	Bachelor of Arts (BA (Hons) Art)	-	KNUST, KUMASI
1988-1990	'Advanced Level' Certificate (WAEC)	-	Technology Secondary School, KNUST, Kumasi– Ghana
1983-1988	'Ordinary Level' Certificate (WAEC)	-	Konongo Odumasi Secondary School, Konongo– Ashanti, Ghana
1975-1982	Elementary School Education	-	Adum Presby Primary/Boys Middle School, Adum, Kumasi – Ghana

Previous Employments/ Job Experiences

Year	Institution	Position
1991	National Service Scheme-Adabiyya Islamic JSS	Teacher
1998	National Service Scheme – KNUST	Service Person
2001	Sculpture Section, College of Art, KNUST	Demonstrator
2002	Sculpture Section, College of Art, KNUST	Teaching Assistant

Current Employment

2002 - Faculty of Fine Art, College of Art and Social Sciences, KNUST - **Lecturer**

Pending Education s/Certificates

2006-	PhD. Sculpture	-	KNUST, Kumasi
-------	-----------------------	---	---------------

Exhibitions

2007	SANSA International Artists' Workshop Exhibition	Kokrobite Institute, Accra
2005	Adwinasa Gallery Maiden Exhibition	Silicon Hotel Kumasi

2004	12 Contemporary Artists of Ghana	Copenhagen, Denmark
2004	12 Contemporary Artists of Ghana	Artists' Alliance, Accra, Ghana
2004	SANSA International Artists' Workshop Exhibition	Alliance Francaise, Kumasi
2004	SANSA International Artists' Workshop Exhibition	Alliance Francaise, Accra
2003	SIGNATURES	Alliance Francaise, Kumasi, Ghana
2002	Adinkra Values in Stones	Ghana High Commission Chancery, Harare, Zimbabwe
2001	MFA Thesis Exhibition	College of Art, KNUST, Kumasi –Ghana
2000	Bertrand and Friends	College of Art, KNUST, Kumasi –Ghana
1997	Pan-African Festival Exhibition	Cape Coast – Ghana

Commissions

1998	Alter / Mural (Participant)	- St. Anthony Catholic Diocese – Obuasi, Ashanti
1999	Fountain / Murals / Sculptures (Participant)	- Trade Fair Company, La, Accra
2004	Memorial (Participant)	- Sekyere Rural Bank (Hqtrs), Jamasi, Ashanti
2005	Fountain (Participant)	- Ebenezer Methodist Society, Bantama, Kumasi
2006	Bust Memorial (Participant)	- Akim Bosome Rural Bank (Hqtrs) Akim Swedru.
2007	Statue of St. Patrick (Participant)	- St. Patrick Hospital, Offinso, Ashanti
2007	Statue of St. Dominic (Participant)	- St. Dominic hospital, Bator, Volta Region.
2007-9	Kwame Nkrumah (Colossal statue) (participant)	- KNUST, Kumasi
2008	Signages and Coats of Arms (Participant)	- The Appeals Court Complex, Kumasi
2009	Outdoor Stone Sculpture (Participant)	- Peduase Logde (Aburi, E/R, Ghana)

Workshops

2004-	SANSA International Artists' Workshop
2004-	KNUST Pedagogical Workshop for Lecturers
2007-	SANSA International Artists' Workshop
2009-	GOGLOBAL (RCA/KNUST) Product Design Workshop (Committee Member/Resource Person)
2009-	SANSA International Artists' Workshop (Committee Member/Resource Person)

Awards

2000-	Commonwealth Foundation Awards in Arts and Crafts
-------	---

Residencies/Fellowships

2002	Commonwealth Foundation Fellowship in Arts and Crafts Chapungu Sculpture Park, Harare, Zimbabwe
------	---

Membership/ Fellowships

Commonwealth Foundation Fellowship	-	Fellow
University Teachers Association of Ghana	-	Member
Senior Common Room of Republic Hall, KNUST	-	Fellow

Positions Occupied

2004/5- Co-ordinator - Master of Fine Art, Department of Painting and Sculpture

2004/5-2008/9- Co-ordinator - Master of Fine Art, Department of Painting And Sculpture

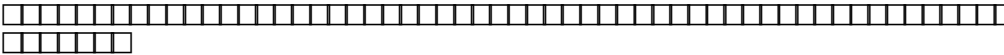

2006/7- Golden Jubilee Planning Committee (KMA-Ashanti Region) – CASS Rep.

1. 1x1 squares: 100 squares

2. 2x2 squares: 25 squares

3. 4x4 squares: 6 squares

4. 100x100 squares: 1 square

- 
- 
- Polygonal Approaches to Stone Carving
- Pathology of Drapery Representation in Ghanaian Figurative Public Sculptures.
- Prospects of Stone as Sculpture Material in Ghana
- Prospects of Replacing Wood with Stones in Ghanaian Craft/Airport Art
- Recreating some Established Myths, Legends and Art Forms in Stone.
- Combining Stones with Bronze
- Public Sculptures in Ghana (Overview) (Region by Region)
- Relief Murals in Indigenous Ghana
- Animal Forms in Contemporary Academic Oriented Sculpture
- Essence and Durability vrs Weight and Affordability –The Ghanaian Sculpture Market.
- Prevailing Trends in Ahwiaa Wood Carvings.

- Unsigned, Untitled Piece by Anonymous Artist. Attributions/Annonimity, etc.
- Presenting Purely Polychrome Situations in Monochromatic Sculpture Materials. i.e. Flags, Weather, Landscapes etc in Wood, Stone, Plaster Sculptures.
- Stone Sculpture Representations.



Referees

Ben Offei-Nyako
College of Art and
Social Sciences
KNUST-Kumasi
Ghana

Prof H. B. Ato Delaquis
College of Art and
Social Sciences
KNUST-Kumasi
Ghana

Prof Ablade Glover
Artists Alliance Gallery
La
Accra
Ghana

APPENDIX Aiii: Curriculum Vitae - Vesta E. Adu-Gyamfi

CURRICULUM VITAE

Name: Vesta E. Adu-Gyamfi (Mrs)
Date of Birth: 31ST March 1956
Hometown: Asante Mampong
Nationality: Ghanaian
Marital Status: Married with Four Children
Language Spoken: Akan (Twi) and English

Key Qualifications

Mrs Vesta E. Adu-Gyamfi has academic qualifications in Art. She has master's Degree in Ceramics and Ceramic Sculpture from the Rochester Institute of Technology, Rochester, N.Y., U.S.A. She has skills in capacity building in Planning, Appraisal, Implementation and Monitoring of Integrated Rural Art and Industries. Even though as Artist, her professional and practical interests are also in Gender Issues in Rural Development, (BIRD), Kwame Nkrumah University of Science and Technology, Kumasi. Mrs Adu-Gyamfi teamed up with experienced and renowned local and external researchers to work on various projects including the DFID Kumasi Natural Resources Management and JICA on forest Management.

Educational Records

1996: African Senior Scholar Research in Porcelain, Indiana University
1986 – 1988: MFA (Ceramics/Ceramic Sculpture)
Rochester Institute of Technology, Rochester, New York, USA.
1977 – 1981: BA (Hons) Art
University of Science and Technology (now Kwame Nkrumah University of Science and Technology) Kumasi, Ghana

Summary Work History

Dec. 2007: Scrutineer for the Election of Professorial and Non-Professorial Members of Council.
Dec. 2007: Member, National Women's Movement Committee of the Apostolic Church – Ghana.
2006 to date: Dean, Faculty of Industrial Art, CASS, KNUST
2005 to 2006: Vice Dean, Faculty of Industrial Art, CASS, KNUST
2005 to 2006: 2nd Trustee, National Executives of National Association of Local Authorities of Ghana under Ministry of Local Government and Rural Development

- 2003 to date:** Technical Specialist – Promoting Partnership with Traditional Authorities Project (PPTA) Technical Specialist of the Evaluation Team for the selection of a Consultant for Identification of Cultural Heritage Assets within the Paramountcies in Ashanti.
- 2003 to 2005:** Member, Board of Directors, Ghana Airways
- 2002 to 2005:** Deputy Vice Dean, College of Art, Kwame Nkrumah University of Science and Technology.
- 2002 to date:** Board Member, Centre for National Culture, Kumasi.
- 2002 to date:** Government Appointee to Kumasi Metropolitan Assembly.
- 2002 to date:** Member, Disciplinary Committee, Kumasi Metropolitan Assembly.
- 2002 to date:** Member, Education Sub-Committee, Kumasi Metropolitan Assembly.
- 2002 to date:** Member, Works Sub-Committee, Kumasi Metropolitan Assembly.
- 2002 to date:** Member, Social Sub-Committee, Kumasi Metropolitan Assembly.
- 2002 to date:** Member, Committee on Local Government.
- 2002 to date:** Board Member, Wesley College, Kumasi
- 2002 to date:** Member, National Education Committee, The Apostolic Church –Ghana.
- 2002 to date:** Patroness, Apostolic Ladies Club.
- 2000 to date:** Resource Person - Population and Family Life Education.
- 2000 to date:** Board Member, Apostolic Bible College, Kumasi
- 1999 to date:** Head of Department, Integrated Rural Art and Industry, College of Art, Kwame Nkrumah University of Science and Technology.
- 1999 to 2003:** Director, Centre for Cultural Studies, Kwame Nkrumah University of Science and Technology
- 1997 to date:** Senior Lecturer.
- 1997 to date:** Cognate Board member at Faculty of Agriculture, University of Science and Technology, Ghana
- 1996 to date:** Co-ordinator for Beads Project. Coordinating affairs between the local bead making groups and the college of Art in Kumasi.
- Jan. 1996 – July 1996:** Visiting Assistant Professor (Lecturer), Indiana University, Bloomington, Indiana USA
- Jan. 1996 – Dec. 1996:** Visiting African Senior Scholar (Visiting Lecturer)
- 1990 – 1998:** Hall Tutor of Female students' Residence. Africa Hall, Counselling, Tutorials and General coordination of the student Development at the University of Science and Technology, Kumasi, Ghana.
- Oct. 1995 – Dec. 1995:** Part-time Lecturer and Artist in Residence at the Graduate Research Centre, Institute of Education. University of Sussex, Brighton, U.K.
- 1995 (Oct.-Dec.):** Tutor at Falmer high School, Brighton, England.
- 1993 – 1995:** Cognate Board Member, Board of Directors, Kumasi Girls' Secondary School, Ghana.
- 1994 – 1998:** Executive Member (Treasurer) Universities Teachers' Association of Ghana, U.S.T. Branch.
- 1991 – 1996:** Head of Section, Rural Art and Industry (Diploma program)

- 1988 to date:** Supervisor of students' research projects and project reports.
- 1985 to date:** Assistant Professor of Ceramics/Clay works. Rural Art Section, University of Science and Technology, Ghana.
- 1985:** Lecturer, Rural Art and Industry.
- 1983 – 1985:** Assistant Lecturer. Taught Folk Art, Clay work and Research into Art Craft and Technology in Rural Ghana.
- 1981 – 1963:** Dance Instructor (University of Science and Technology), Ghana. Taught Ghanaian Traditional and Folk Dances to both undergraduate and graduate students.
- 1981 – 1982:** Part-time Dance Instructor for the University Primary School and Technology Secondary School, Kumasi, Ghana.

Since 1996, Mrs Adu-Gyamfi has teamed up with both Local and External Experienced and Renowned Researchers and Trainers to undertake several researches for the DFID, Kumasi Natural Resources Management Research Project (K.N.R.M.R.P), Centre for Developing Areas Research (CEDAR) and Institute for Renewable Natural resources (IRNR) and has also undertaken training program in Rural Sociology.

Literary Research

- 2001:** The Changing Urban-Rural Interface of African Cities, Conceptual Issues and an Application to Kumasi, Ghana.
- 1988:** The Integration of Contemporary American Ceramics and Ghanaian Traditional Pottery.
- 1981:** Experiments in Locally Obtainable Raw Materials for Glazes.
- 1981:** University of Science and Technology Students Dance Ensemble.

Research and Consultancies

- 2007** Member, Planning Committee of the National Festival of Arts and Culture
- 2006:** Member, Planning Committee, Yaa Asantewaa Festival
- 2006:** Member, Regional Jury, Ashanti Regional Tourism Awards
- 2002:** Planning Committee Member, Kwame Nkrumah University of Science and Technology Golden Jubilee Anniversary.
- 2002:** Member, Committee on the Organisation of Cultural Busts and Plaques Day, Kwame Nkrumah University of Science and Technology.
- 1996:** Development of land use and livelihoods strategies, Details research phase includes: Household Survey; Wealth Ranking, Family Case studies; Community Based Group Study; Homeless Study and Land Tenure Studies
- 1996:** Further Knowledge of livelihoods affected by Urban transition; Kumasi, Ghana (Kumasi Natural Resource Management Research Project)
- 1997:** Participatory Land use and Environmental Planning in Kumasi Peri-Urban Interface; DFID/Natural Resources Institute (NRI) U.K.
- 1998:** Member of research team on Planning and Development project in North Anlo of the Volta Region – Bureau of Integrated Rural Development, K.N.U.S.T.
- 1998 to date:** Core researcher, Watershed Management in Kumasi; Centre for Developing Areas Research (CEDAR); Department of Geography, Royal Holloway, University of London.

- 1998:** Core member of a research team on DFID sponsored Peri-Urban Interface study to establish the relative wealth of households within certain communities to provide the basis for the selection of households for case studies across a range of socio-economic spectrum.
- 1998:** Core researcher; Japan International Co-operation Agency (JICA) program on Socio-economic and cultural conditions survey for the study on the Reserve Forest Management in Transitional Zone in Ghana.
- 1999:** Core-researcher into Homeless in Kumasi Peri-urban area under the DFID sponsored Kumasi Natural Resources Management Research Project (Peri-Urban Interface).

Scholarships and Fellowships

- 2001:** USAID Grant – International Workshop on Bamboo Handicraft Techniques, Its Tools and small Machines, Zhejiang, Sichuan of China.
- 1995:** UNESCO – ASCHBERG Bursaries for professional development program. European Ceramic Work Centre. The Netherlands.
- 1995 – 1996:** J. Williams Fulbright Senior Scholar Award. Indiana University, Bloomington, U.S.A
- 1986 – 1988:** ITT Scholarship (International Telephone and Telecommunications).
- 1988:** Wallace Memorial Library Award for the Best Ceramic Design. Rochester Institute of Technology, U.S.A.
- 1980:** W.C. Owusu Award. Best Traditional Pottery Design, College of Art, University of Science and Technology, Kumasi, Ghana.
- 1971 – 1975:** Ghana Cocoa Marketing Board Scholarship.

Exhibition

- 2002 April:** Presentation – Collaboration between Ghana National Association of Garages and Kwame Nkrumah University of Science and Technology, Kumasi.
- 2002 Nov.:** Staff/Students show, ATAG Village, Pavilion X, Trade Fair Accra
- 2001 Dec.:** Staff Exhibition – College of Art, Kwame Nkrumah University of Science and Technology
- 1996 (July-Sept.):** Women of Clay (Vrouwen van Aardewerk) AfriKacentrum Rijksweg, Cadier en Keer, The Netherlands.
- 1996 (Nov.-Dec.):** The Adu-Gyamfi Show. Austin Harvard Gallery, Rochester, New York, U.S.A.
- 1996 (Aug.-Sept.):** Sankofa Exhibition, Radford Hope Memorial Gallery, Indiana University, Bloomington, Indiana, U.S.A.
- 1995 (October):** Europe Keramisch Werk Centrum (ELWC) S-Hertogenbosch, The Netherlands.
- 1994:** Opening Exhibition. Natural Gallery, Accra, Ghana.
- 1993:** 1st Women Artist of Ghana Exhibition, College of Art, U.S.T., Kumasi, Ghana (Group Exhibition)

- 1992:** National Festival of Arts and Culture Exhibition (NAFAC) The Great Hall, U.S.T., Kumasi, Ghana
- 1992:** First Exhibition of Ghanaian Women Artist. College of Art, UST, Kumasi, Ghana.
- 1988:** African in American and American in African. Austin Harvard Gallery, Rochester, U.S.A.
- 1998:** Graduate show. Rochester Institute of Technology, U.S.A.
- 1987:** International Students Exhibition. Rochester Institute of Technology, Rochester N.Y., USA (Group Exhibition)
- 1987:** School of American craftsmen Exhibition, New York, U.S.A. (Group Exhibition)
- 1981:** Commonwealth Art Exhibition. London, England. (Group Exhibition)
- 1981:** Ghana Association of Visual Art (GAVA). National Cultural Centre, Kumasi, Ghana.
- 1980:** World Craft Exhibition. Italy (Group Exhibition).

Conferences/Seminar/Workshops

- 2007 Oct.:** Resource Person at a Workshop for Visual Arts Teachers held on Friday 26th October 2007 at Achimota School, under the theme "The Visual Arts Education and the 2007 Education Reforms; Perceptions, Realities and Challenges.
- 2007 Sept.** Presentation on "Tourism Opens Doors for Women" at 2007 World Tourism Day Celebration at the Centre for National Culture, Kumasi
- 2007 Sept.:** Resource Person at a Workshop for Assembly Women held on 6th September 2007 at Lasab Hotel, Kwadaso – Kumasi, under theme "How to be an effective Assembly Member".
- 2007 June:** Participant, Workshop on Managerial Leadership Skills Development held on 11th June 2007 at Anyinam Lodge, Obuasi.
- 2007 May:** Participant, Steering Committee meeting of the Cultural Initiative Support Project held on 6th May 2007 at the National Commission on Culture.
- 2005 Nov.:** Presentation on "The Craft Industry and the Tourism Business in Ghana: Prospects and Challenges" at a Workshop on Culture and Tourism in Ghana at the Great Hall, KNUST, Kumasi.
- 2005 Oct.:** Participant, 14th Biennial National Delegates Conference of National Association of Local Authorities of Ghana from the 18th to 21st October 2005, at Institute of Local Government Studies. The theme for the conference was "Effective Mobilization of District Assemblies Revenue – A Sure Way for Efficient Service Delivery".
- 2005 Oct.:** Participant, Roundtable discussion on "Enhancing the effectiveness of lower level local governance structures for effective grassroots participation in local governance" at Miklin Hotel, Kumasi
- 2005 Sept.:** Participant, Pan African Women Inventors and Innovators Conference, Exhibition and Award at Accra International Conference Centre in Accra from September 7 to 9, 2005
- 2005 May:** Presentation on "Promotion of Culture through Education – Visual Arts Perspective" at National Conference on Culture and Education at Elmina Beach Resort, Elmina from Sunday 15th to Saturday 21st May 2005.
- 2004 Sept.:** Presentation on "Improving Academic Performance in Schools – The Role of Assemblies" at the Conference of Managers of Educational Units (COMEU) held at Christian Village, Santasi, Kumasi.

- 2004 Sept.:** Presentation on “The Ghanaian Contemporary Visual Art Exhibition” at Brandsalen Frederiksberg, Denmark.
- 2002 July:** Presentation on African Growth and Opportunity Act (AGOA).
- 2002 April:** International Consultative Workshop on Ghana’s Cultural Policy.
- 2002 May:** Lecture – “The Philosophy of Ghanaian Traditional Dance”.
- 2002 Dec.:** Training workshop for Government Appointees and Assembly Members.
- 2001 Feb.:** Presented a paper: Manual on Water Management. CEDAR/Department of Geography, Royal Holloway, University of Science and Technology, Ghana.
- 2001 April:** Design Development Seminar, Trade Fair Conference Room, Accra
- 2001 May:** International Workshop on Livelihoods Affected by Urban Transition. Paper presented: “Characterisation of the Poor in Peri-Urban Kumasi”. Acted as a Rapporteur. Presented a paper: “Changes in Community Structures and Social Network”.
- 2001 Oct.:** Training Workshop on Bamboo Handicraft Techniques, Its Tools and small Machine.
- 2000:** Seminar – “Projects, Poverty and Development: Recipient Management of Development aid” at Bureau of Integrated Rural Development, University of Science and Technology, Kumasi, Ghana 19th January 2000.
- 2000 Feb.:** Kumasi Natural Resources Management Research Project Final Workshop: Developing Sustainable Livelihoods and Natural resources use in Peri-Urban Kumasi.
- 1999:** Resource Person, 3-day workshop for researchers, development practitioners, policy makers and beneficiaries on collaborative forests Management in Brong Ahafo Region. A product of JICA/Forestry Department Project on Socio-economic and Cultural Conditions Survey for the study of the Reserve Forest Management in the Transitional Zone in Ghana.
- 1999Sept.-Dec:** Workshop on University Teaching, Assessment and Course Design Organised by Oxford Centre for Staff and Learning Development, Oxford Brookes University, Oxford, U.K.

Capabilities

- Mounting of academic and skill training for local level planners and indigenous craftsmen.
- Data collection, assessing the potentialities, constraints and analysing development in rural environments.
- Social planning in undertaking socio-economic studies for the formulation of projects, as well as conducting research into women in Development issues.
- Conducted research into locally obtainable ceramic raw materials for glazes.
- Conducted research into Porcelain as a medium of Art.
- Provision of general extension of services including co-ordination of local bead workers and the college of Art.
- Consultancies for higher institutions in the country viz. University of Ghana, Legon, Kwame Nkrumah University of Science and Technology, Kumasi, University of Cape Coast and University of Development Studies, Tamale.
- Social Planning in undertaking Socio-economic Studies for the Formulation of Projects, as well as Conducting Research into Women in Development Issues.

- Data Collection, Assessing the Potentialities Constraints and Analysing Development in Rural Environments.
- Adjudicator, Basic Schools – Inter Cultural Festival, Kumasi.

APPENDIX Aiv: CV Update – Dr S K Amenuke

CV Update

1. Dr S.K. Amenuke has been at the fore front of issues concerning Visual Arts Education since 1983.
2. He led a national Panel to design the present SHS Visual Arts programme by raising each individual discipline to stand on its own rather than the previous crafts. (1986)
3. Dr Amenuke served on the National Planning Committee for the Implementation of School Reforms 1986-1994 representing Visual Arts.
4. As a Curriculum Specialist in Visual Arts, Dr Amenuke is the leader in all Visual Arts Curriculum issues in Ghana, Basic, Secondary & Colleges of Education.
- ~~5. Dr Amenuke~~
5. Dr Amenuke has been the Chief Examiner in Visual Arts Education for the University of Education since its STC days till 2005.
6. Has been the Chief Examiner ~~in~~ ⁱⁿ Visual Arts for Colleges of Education (former Teacher Training Colleges) since 1980
7. Dr. S.K. Amenuke has supervised several Ph.D Dissertations and M.Phil, MA. Thesis

NB

- My C.V. got soaked in a Flood in my house last year when the roof was being changed and it rained suddenly. I have not recomposed a new one yet.

Dr SK Amenuke

- Dr Amenuke is married with 3 children.
The first son is a young Dr at Komfo Anokye Teaching Hospital
The lady is JHS 2 (2yrs)
Beside Baby is Primary 2 (7yrs)

DEPARTMENT OF GENERAL ART STUDIES, KNUST.

DR. S.K. AMENUKE

PRESENTATION OF CONFERENCE PAPERS/ATTENDANCE

- (i) Amenuke, S.K., Diploma Teacher Training Colleges, Visual Arts Conference. "Basic Design for Diploma Colleges, Ghana" GES Training and Course Unit, Saltpond, February 8 – 12, 2006.
- (ii) Amenuke, S.K. Academic Research Retreat for Senior members of the Department of General Art Studies, KNUST. "Culturally based Curriculum Development in Visual Arts for Ghana" Anyinam Lodge, Obuasi, July 16 – 18, 2007
- (iii) Amenuke S.K. Education Reform Conference on Curriculum Development "Development of Creative Arts Syllabus for Primary Schools, Ghana," Ajumako, Feb. 12 – 15, 2007.
- (iv) Amenuke S.K. Education Reform Conference on Curriculum Development. "Development of Basic Technology Education Syllabus for Junior High Schools, Ghana" Ajumako, March 10-20 2007.
- (v) Amenuke, S.K. Diploma Teacher Training Colleges, Visual Arts Conference, "Fundamentals in Visual Arts for Teacher Training Colleges" GES, Training and Course Unit, Saltpond, Feb. 13-18, 2008

TEACHING

As a professional in General Education and Art Education, my approach to teaching is purely professional. My teaching is guided by two philosophies:

- a. Pragmatic Philosophy is relevant to the choice of solution option in the current world i.e. it emphasizes discovery learning, project approach to learning, understanding (as opposed) to rote memorization: my emphasis is on application of knowledge.
- b. Reconstructionist Philosophy i.e. Problem Solving. Society is moving rather fast in the face of globalization, and information technology. One cannot therefore predict problems of the future. The student must therefore learn to be a problem solver. Learning therefore focuses on critical and independent thinking so that the graduate should be capable of solving societal pressing problems.

Consideration is given to the education of the whole person through Art Education. Students do not merely take my courses, but get educated through the courses. This means that efforts are made to ensure that each student acquires intellectual knowledge, social knowledge, psychological knowledge, spiritual knowledge, aesthetic knowledge. These make anyone wholly educated.

My Pedagogical Strategies emphasize basic profile dimensions:

- ❖ Acquisition of knowledge and understanding i.e. ability to remember, recall, identify, define, describe, list, name, match, state principles, facts and concepts.
- ❖ Understanding i.e. ability to explain, summarize, translate, rewrite, paraphrase, give examples, generalize, estimate or predict consequences based on a trend.
- ❖ Application of Knowledge i.e. ability to use knowledge by application, analysis, synthesis and evaluation e.g. application of rules, methods, principles, theories etc to concrete situations. The student should be able to break down material into component parts to differentiate, compare, distinguish, outline, separate, and recognize logical facilities and inferences from facts.
- ❖ Synthesis i.e. ability to put parts together to form a whole, ability to compile, compose, devise, revise, design, organize, create, generate, discuss etc.
- ❖ Evaluation i.e. ability to appraise, compare, features of different things, make judgments, contrast, criticize, justify, support, discuss, conclude and make recommendations. The student should be able to judge the worth or value of entities

Mastery Learning

Based on the principle of learning by understanding, I set myself a performance standard of 70% - 80%. This means that at least 70% of the class I teach at any time must be able to perform at least 70% - 80% of the tasks I set them.

SUPERVISION OF GRADUATE THESIS

PhD Art Education

1. Frimpong Kwaku Duku: Evaluation of the University Art Education Programmes in Ghana
2. Atiase Edem Cleveland: Aesthetic and Educational underpinnings of Signs and Symbols among Central Ewes of Ghana
3. Senyo Kumatse: A philosophical discourse on the Asafo of Avatime and its implications for Art Education
4. J. B. K. Aidoo: A model for the development of Visual Arts apprenticeship education in Ghana.
5. Amissah Rexford: Anniversary and Ceremonial cloths of selected Institutions in Ghana: An appraisal.
6. Avoke Edinam (Mrs.): Evaluation of the Internship component of the Teacher preparation Programme in the University of Education, Winneba.
7. Dedume Victor: Artistic and Educational values of the Kusakokor Initiation Rites of Avatime.
8. Cobblah Elizabeth: Evaluation of Teacher Education in Ghana.

V. C's Initiative

9. Asubonteng Kwabena: Improving the Quality of Ghanaian Indigenous leatherwork: Alternative strategies
10. Okpattah Vicentia: Evaluation of Off Loom weaving in South Tongu in the Volta Region of Ghana: Implications for Art Education.
11. Essuman Michael: A critical study of Text Book publishing for Primary Education in Ghana.

MA Art Education (Year 2)

12. Abraham Boakye-Amponsah: Achieving Quality Education in Ghana: The role of Ghana's Publishing Industry.
13. Adu-Adjei Charles: Evaluation of the Pre-Vocational Skills programme in Teacher Training Colleges, Ghana.
14. Frimpong Allan Kay: Evaluation of the UTDE programme, Ghana
15. Amesimeku Manasseh: Comparative study of Kete weaving at Agotime Kpetoe and Anlo Afiadenyigba in the Volta Region
16. Larbi Alexander: Apprenticeship in Leather Tanning: Selected centres in Ghana.
17. Boamah Gyamfi Michael: Commemorative bust of the Provost, CASS, KNUST
18. Achina-Adjei Stephen: Evaluation of picture making in Senior High Schools in Sekyere East District

MA Art Education (Year 1)

19. Gyekye-Ampofo Martin: Public Education on Environmental degradation through Painting
20. Adu-Asaber Andrew: Quality and learning of Leatherwork at the Senior High School level in Kumasi
21. Richmond Agyeman Boafo: The impact of Lesson Notes preparation on teaching

CONTRIBUTION TO KNOWLEDGE

Amenuke S. K. Academic Research Retreat for senior members of the Department of General Art Studies, KNUST. Presentation: "Culturally based Curriculum Development in Visual Arts for Ghana", Anyinam Lodge, Obuasi, July 16 – 18, 2007.

Amenuke S. K. Panel Leader: "Development of the New Creative Arts Syllabus for Primary Schools in Ghana", Ajumako, May 6 – 20, 2007

Amenuke S. K. Panel Leader: "Workshop on Development of the New Creative Art and Technology Syllabus" for 38 Diploma Colleges in Ghana, GES Training and Course Unit, Saltpond, September 2008

Publication

Basic Design and Technology Textbook for Junior High Schools in Ghana. Books1, (2) and 3 plus Teacher's Guide Books1, (2) and 3
These books are Co-Authored and published by Unimax McMillan Ltd. London 2008

SERVICE

Workshop on the Development and Review of School Syllabuses:

Subject: Creative Arts for Primary Schools

Venue: GESDI, Ajumako

Date: May 6 – 20, 2007

Workshop on the Expert and Stakeholder Review and finalization of I-TVET Syllabus

Subject: I-TVET Syllabus for Junior High Schools

Venue: GESDI, Ajumako

Dates: September 16 – 22, 2007

Workshop on the Development and Revision of Senior High School Syllabuses

Subjects: General Knowledge in Art

Picture Making

Graphic Design

Basketry

Dates: April 13 – 27, 2008

Service to a Sister University (University of Cape Coast)

External Assessor, M.Phil Theses from the Institute of Educational Planning and Administration. *Faculty of Education, and the Department of Curriculum*

Chief Examiner in Visual Arts for 38 Diploma Teacher Training Colleges, under the supervision of the University of Cape Coast.

GHANA EDUCATION SERVICE

*In case of reply the
Number and date of this
Letter should be quoted*



HEADQUARTERS
P. O. BOX MB.45
ACCRA

My Ref. No. CRDD/104/VOL.15/18
Your Ref. No.

19TH JULY, 2008

Republic of Ghana

Dear Sir/Madam,

EXPERTS AND STAKEHOLDERS MEETING AND FINALISATION WORKSHOP:
SHS ELECTIVE SYLLABUSES PHASE II

Following the Expert Review/Trial Testing exercise of SHS Elective draft syllabuses in which you were involved, CRDD is organizing an Expert/Stakeholder Review Workshop towards finalization of the syllabuses.

You are being invited as an expert to share your views with the Visual Arts.....syllabus panel at the Workshop.

The workshop is scheduled as follows:

Venue:	GESDI, Ajumako
Date and Time of Arrival:	Sunday, 3 rd August, 2008 by 6:00 p.m.
Date and Time of Departure:	Wednesday, 6 th August, 2008

Accommodation and meals will be provided.

Your transport expenses will also be reimbursed.

We are by a copy of this letter asking permission from your Head of Institution/Organization to release you for this all important national assignment.

We apologize for any inconvenience that may be caused by this short notice.

Thank you.

SARAH AGYEMAN-DUAH (MRS)
DIRECTOR, CRDD
For: DIRECTOR-GENERAL, GES

Dr. S. K. Aremuke
College of Art
KNUST, Kumasi

cc: The Chief Director, MOESS
The Director-General, GES
The Deputy Director-General, GES
The District Directors Concerned
Heads of Institutions Concerned
Heads of Organizations Concerned



42 Ring Road South, Industrial Area
P. O. Box AN 10722
Accra-North
Ghana

Tel: 233 (0) 21 227443/223709/254479
Fax: 233 (0) 21 225215
info@unimacmillan.com
www.unimacmillan.com

16 February 2009

S K Amenuke
C/o Kwabena Agyepong
P O Box 10722
42 Ring Road South
Industrial Area
Accra North
Ghana

Dear S K Amenuke

**Basic Design & Technology for Junior High Schools
Pupil's Books 1 & 3 and Teacher's Guide 1, 2 & 3**

As the above book is now published, I have pleasure in enclosing with this letter three copies of each title for you to keep.

I would be grateful if you could notify us if you notice any errors, however small. This will enable us to correct these errors before we reprint. Please send any corrections to Dot Robertson, Editorial Services Manager by 18th May 2009.

With best wishes

Yours sincerely,

Lorna Johnson

Lorna Johnson
Publishing Assistant
Macmillan Publishers Ltd
Tel: +44 (0) 1865 405858
Fax: +44 (0) 1865 405858
Email: l.johnson@macmillan.com

Enc

Branch Offices:

Male Office
P.O. Box ER 384 Tamale
Tel/Fax: 233 (0) 71 26388
Mobile: 233 (0) 24 4746049

Koforidua Office
P.O. Box KF 2819, Koforidua
Tel/Fax: 233 (0) 81 21983
Mobile: 233 (0) 24 4757562

Cape Coast Office
P. O. Box UC 315, Cape Coast
Telephone: 233 (0) 42 36074
Fax: 233 (0) 42 36073
Mobile: 233 (0) 20 8120806

Kumasi Office
P. O. Box KS 11659, Adum-Kumasi
Telephone: 233 (0) 51 39284/39286
Fax: 233 (0) 51 39285
Mobile: 233 (0) 20 2110333 / 233 (0) 24 4667327

Basic Design & Technology

Pupil's Book 1

J.S. Addo
Kwao Adipah
Stephen Adu
Kwame Amenuke
S.K. Amoakohene
Alice Baffoe
Phyllis Forster
Ellen Olu
M.K. Tsorgali
Malcolm Watson



APPENDIX B: Digital Directory of Contemporary Ghanaian Artists CD